

COMBUSTION CATALOG

Honeywell Thermal Solutions

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Honeywell

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7800 Series Product Selection Matrix

Product Selection Matrix for CE Sequence Primary/Programmer Relay Modules:

For 230 Vac nominal applications —

| Fuel | Burner Type | Relay Module Type |
|-----------------------|--------------------------------|-------------------|
| Single | Atmospheric with fan | EC7820 |
| Combination or single | On/Off Controlled Power Burner | EC7830 |
| Combination or single | Full Modulation Power Burner | EC7850 |

For 120 Vac nominal applications —

| Fuel | Burner Type | Relay Module Type |
|-----------------------|--------------------------------|-------------------|
| Combination or single | On/Off Controlled Power Burner | RM7830 |
| Combination or single | Full Modulation Power Burner | RM7850 |

Use the following pages to select the following *required* devices:

Relay Module, 1 per burner
Subbase, 1 per relay module
Purge Timer Card, 1 per relay module
Flame Amplifier, 1 per relay module

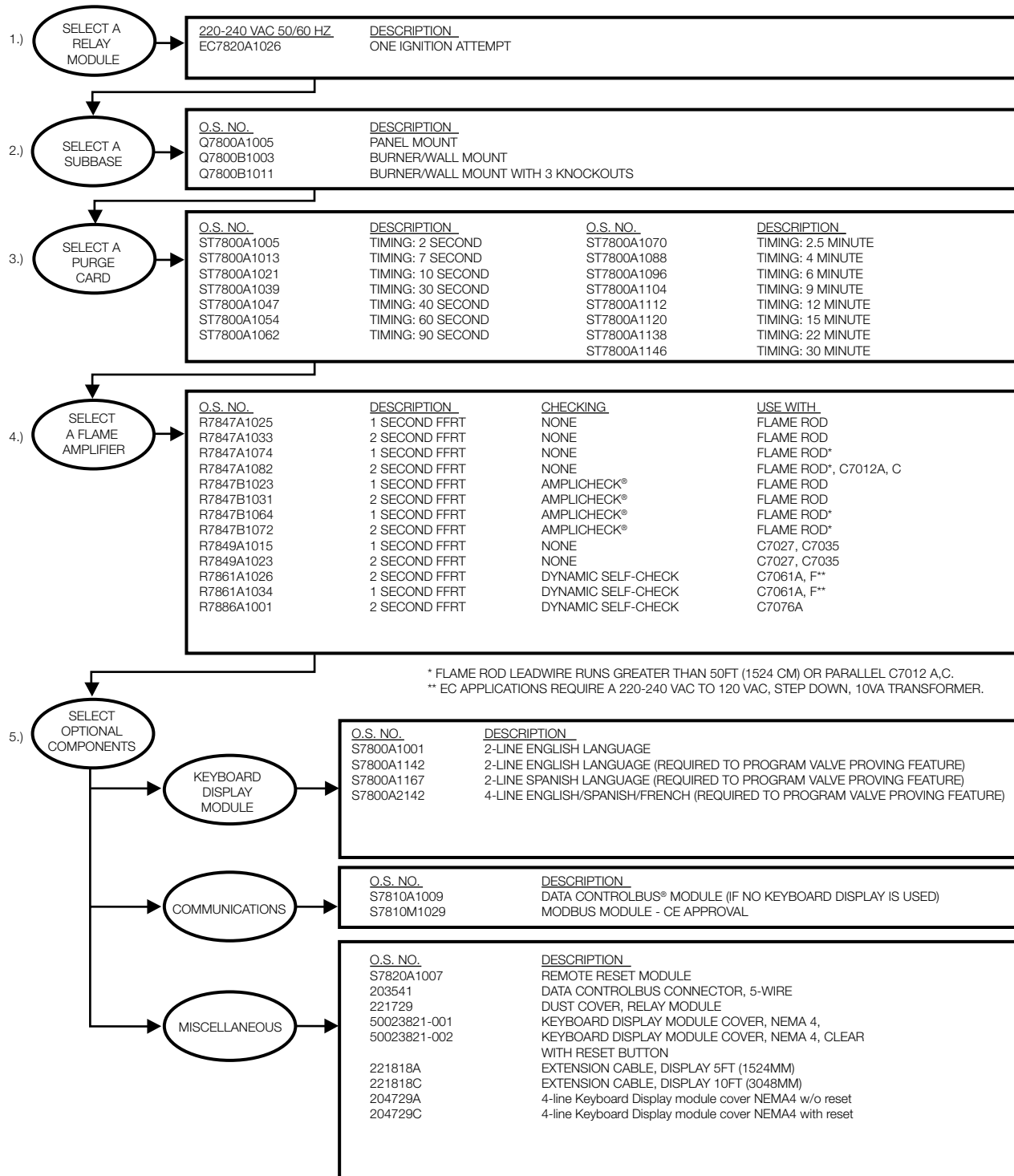
Some products are available only through Authorized Flame Safeguard Wholesalers and/or Distributors.

Use the following pages to select the following *optional* devices:

Keyboard Display module, up to 1 mounted to relay module, remote as desired network and ControlBus™ modules to service selected relays
Miscellaneous, as required to complete installation.

7800 Series Product Selection Matrix

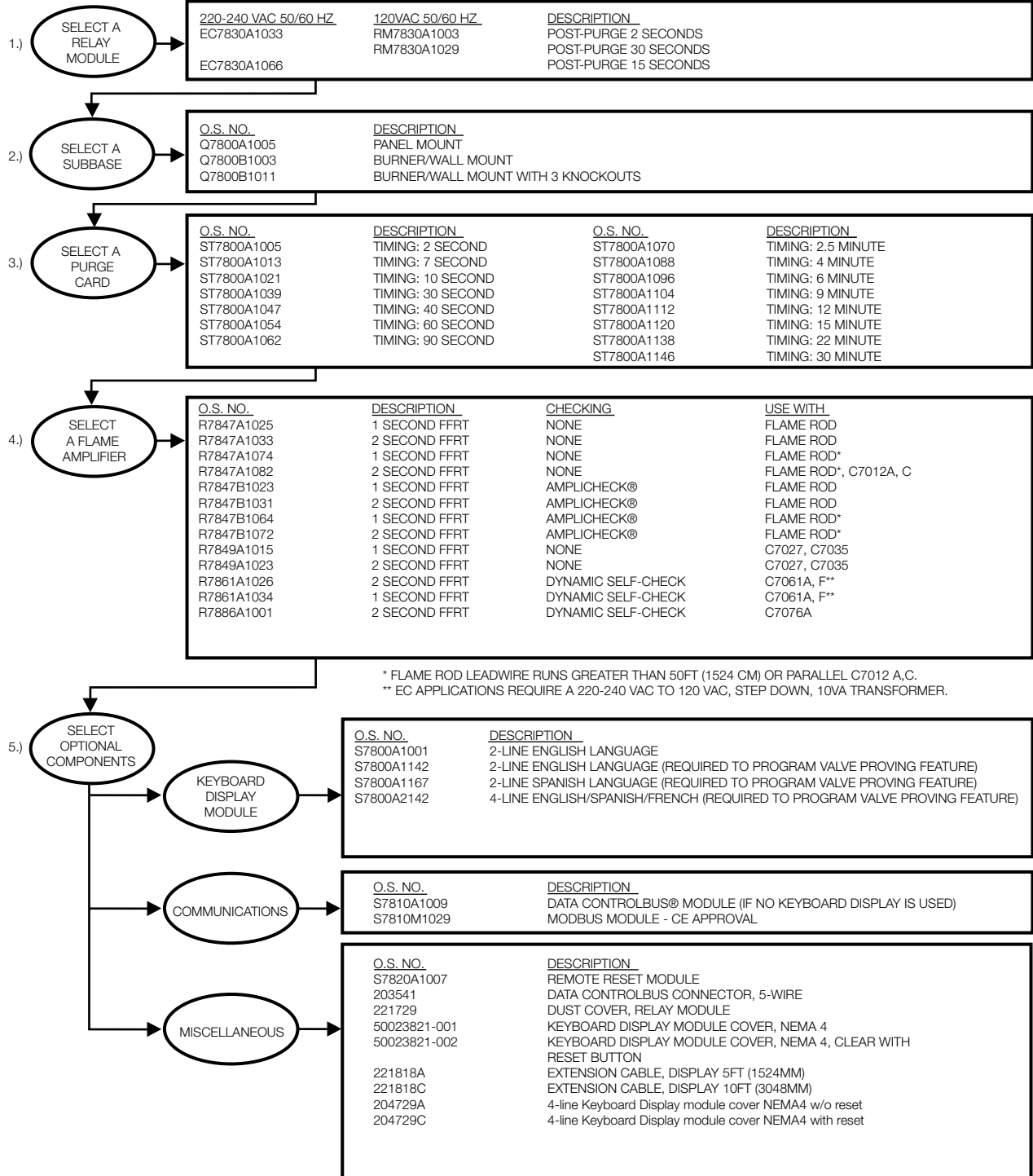
PRODUCT SELECTION MATRIX FOR EC7820 PROGRAMMER RELAY MODULES:



M15516G

7800 Series Product Selection Matrix

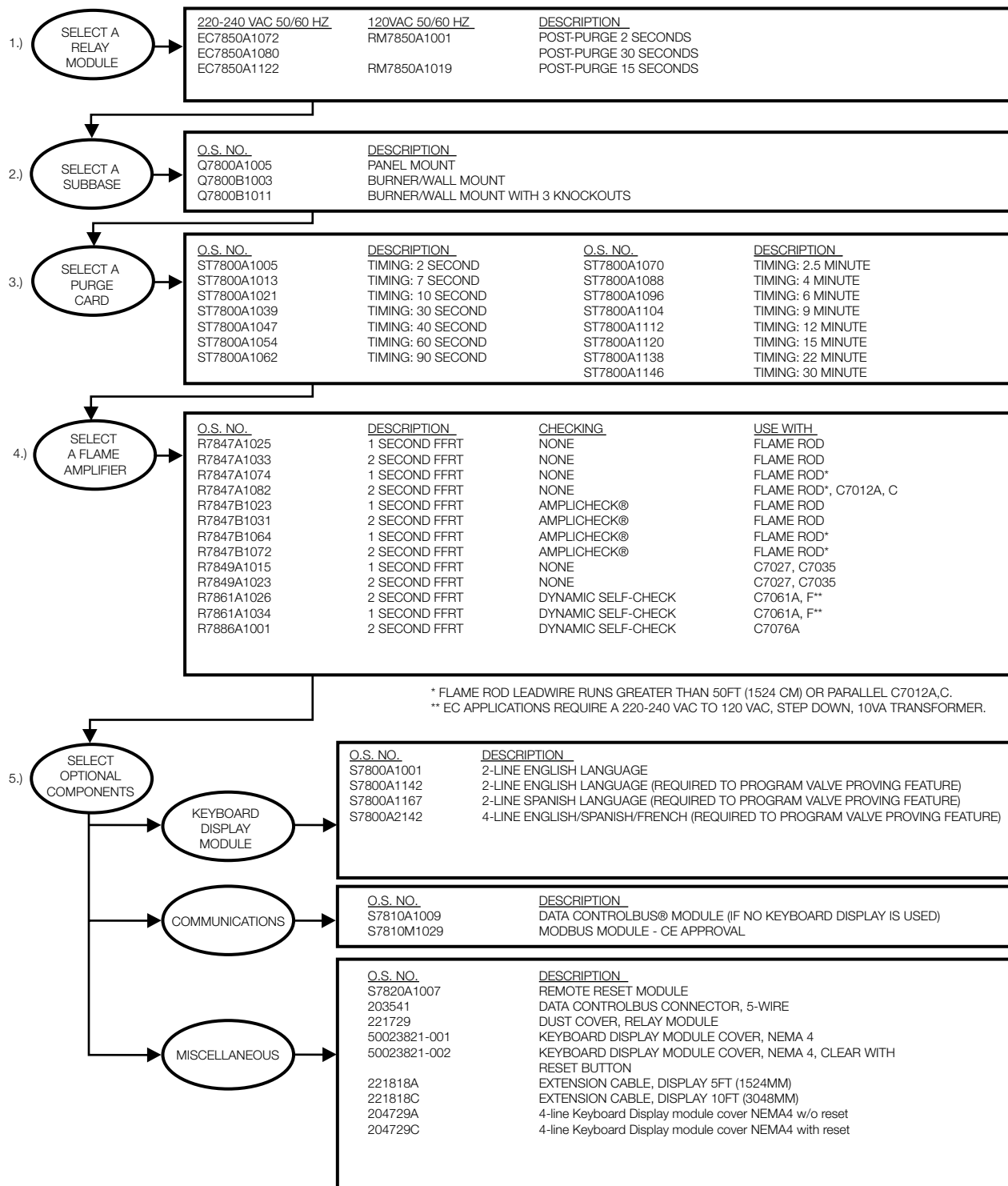
PRODUCT SELECTION MATRIX FOR EC/RM7830 PROGRAMMER RELAY MODULES:



M15517H

7800 Series Product Selection Matrix

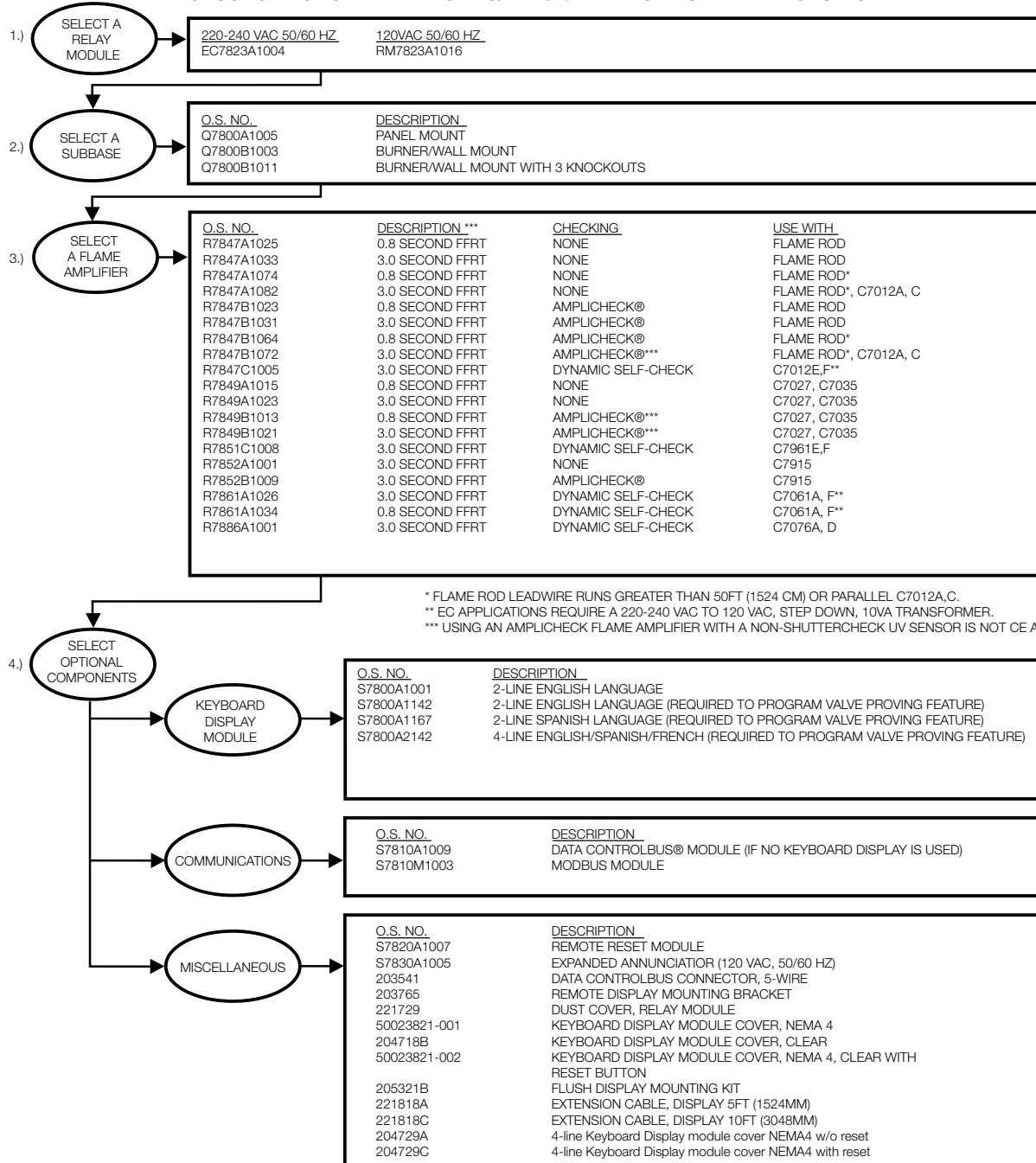
PRODUCT SELECTION MATRIX FOR EC/RM7850 PROGRAMMER RELAY MODULES:



M15519G

7800 Series Product Selection Matrix

PRODUCT SELECTION MATRIX FOR EC/RM7823 FLAME SWITCH RELAY MODULES:

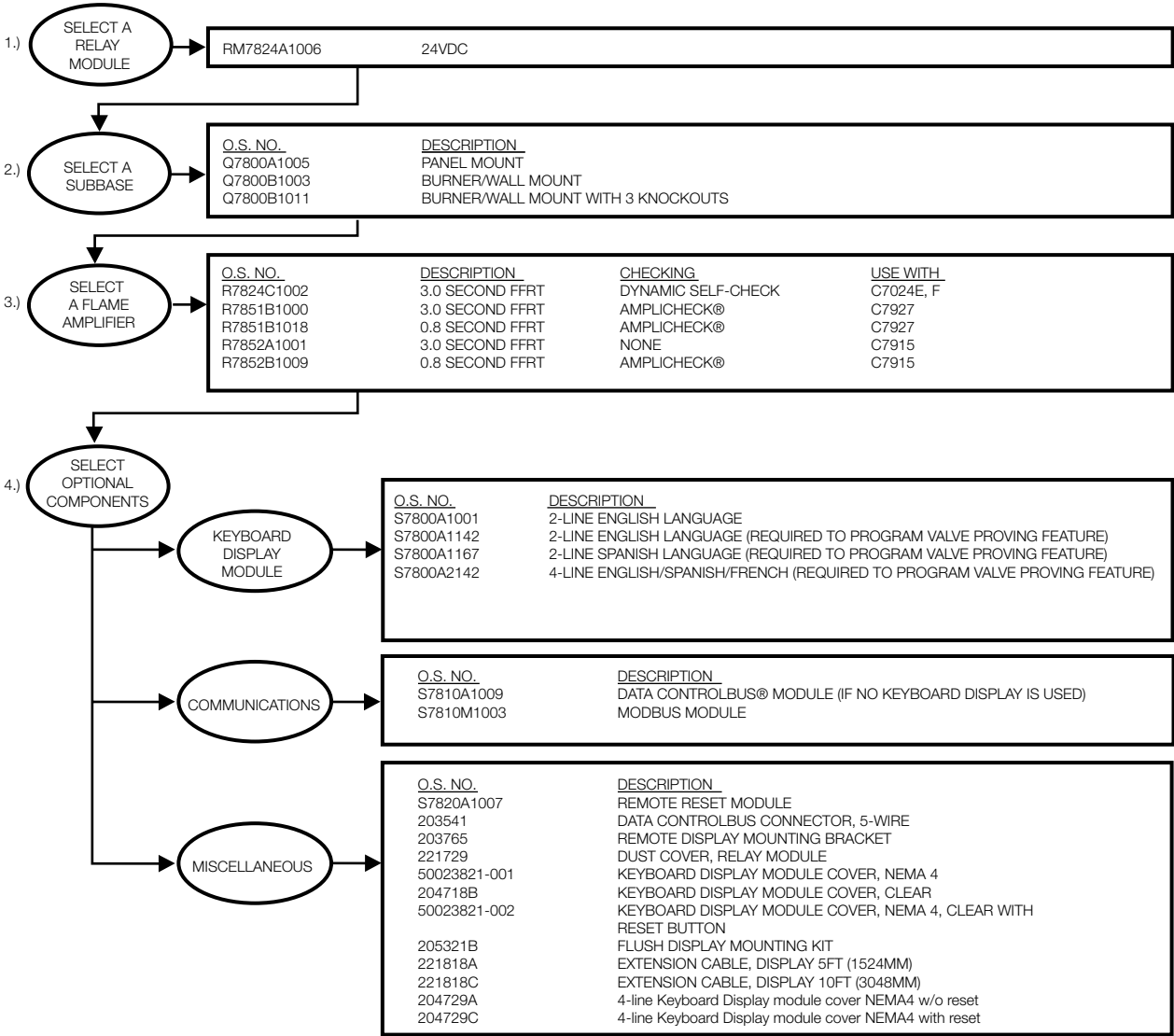


* FLAME ROD LEADWIRE RUNS GREATER THAN 50FT (1524 CM) OR PARALLEL C7012A,C.
 ** EC APPLICATIONS REQUIRE A 220-240 VAC TO 120 VAC, STEP DOWN, 10VA TRANSFORMER.
 *** USING AN AMPLICHECK FLAME AMPLIFIER WITH A NON-SHUTTERCHECK UV SENSOR IS NOT CE APPROVED

M15520F

7800 Series Product Selection Matrix

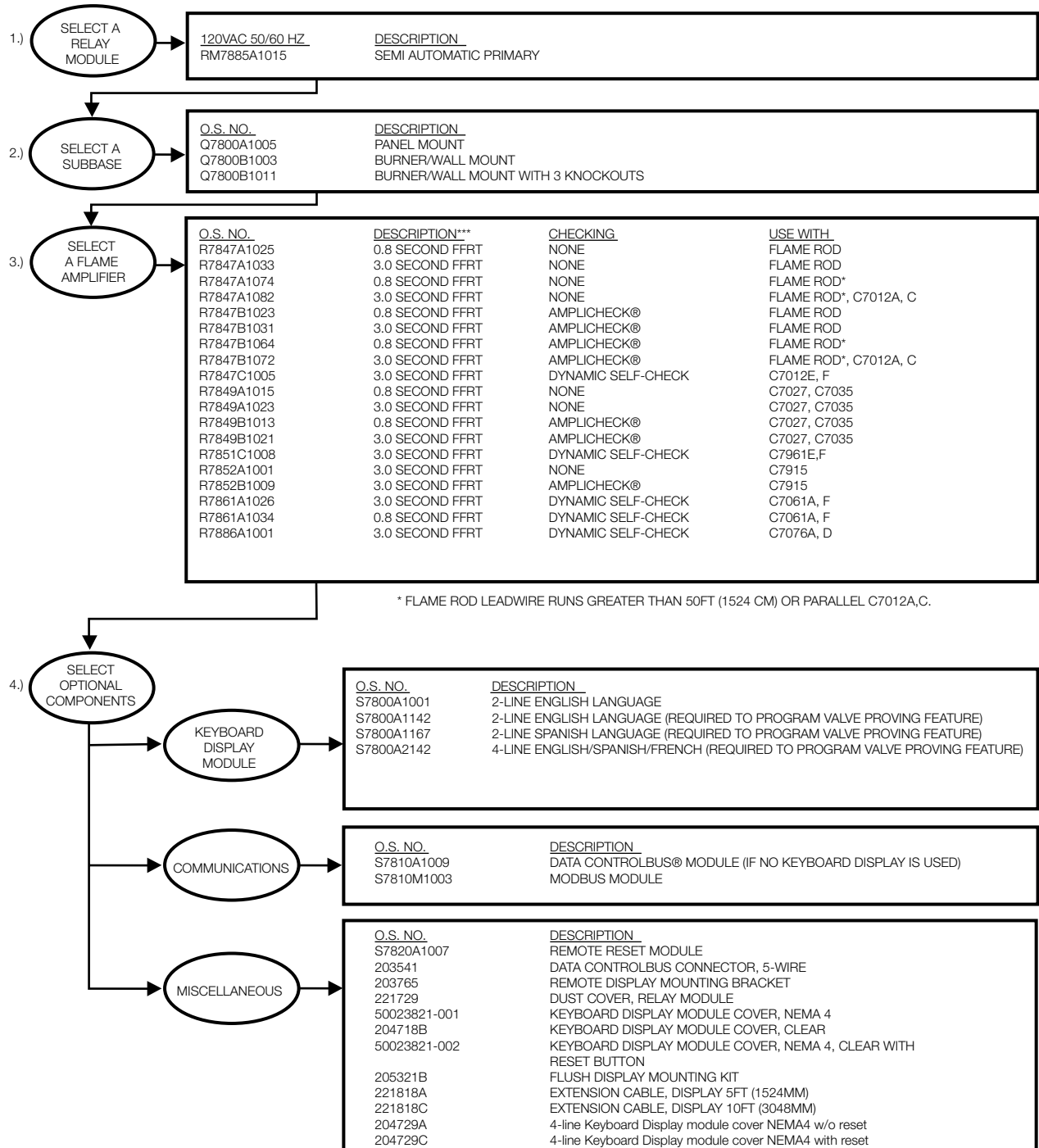
PRODUCT SELECTION MATRIX FOR RM7824A 24VDC PRIMARY CONTROL RELAY MODULES:



M15521D

7800 Series Product Selection Matrix

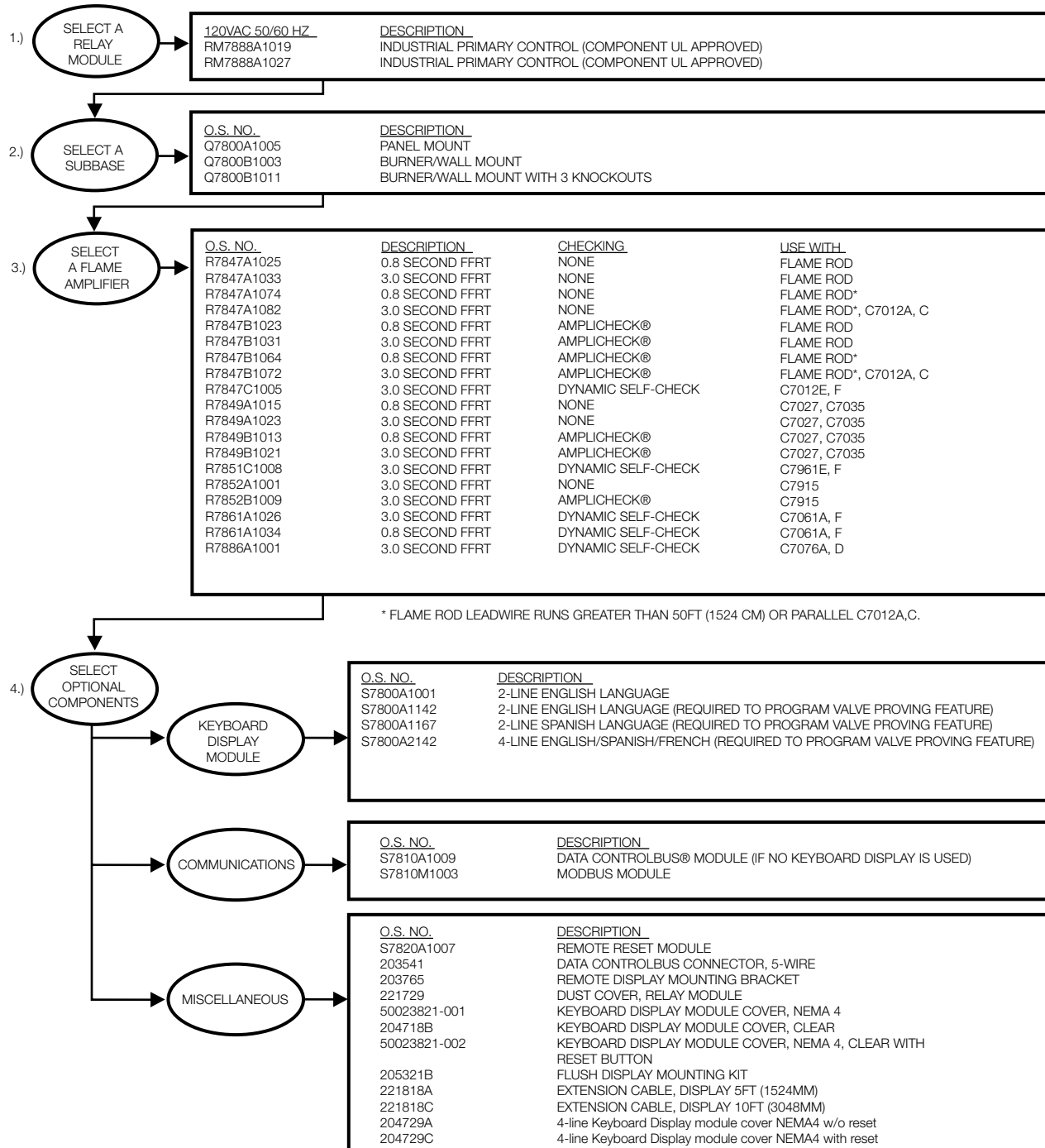
PRODUCT SELECTION MATRIX FOR RM7885 MANUAL START PRIMARY RELAY MODULES:



M15522F

7800 Series Product Selection Matrix

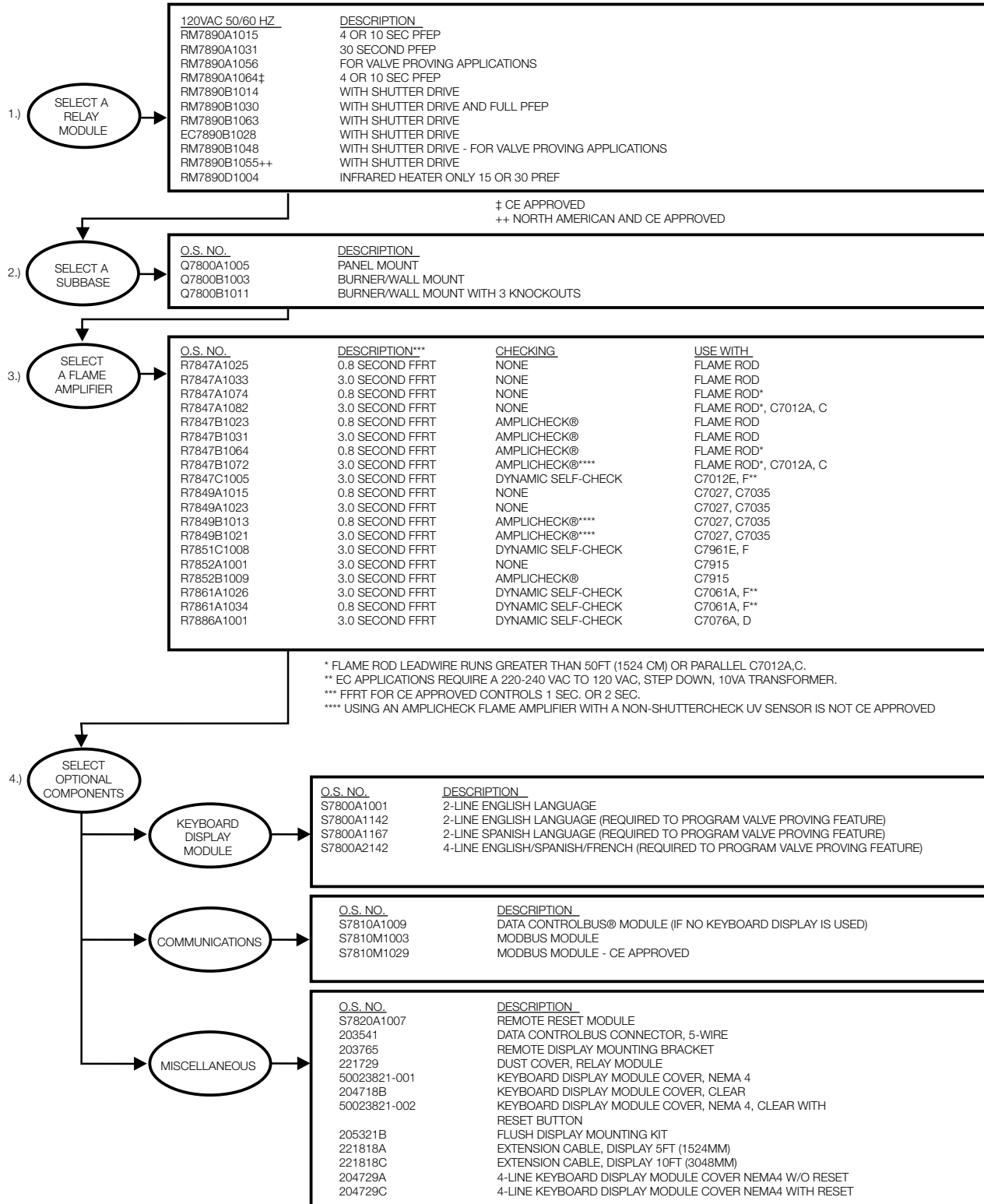
PRODUCT SELECTION MATRIX FOR RM7888A SPECIAL FUNCTION PRIMARY CONTROL RELAY MODULES:



M15523F

7800 Series Product Selection Matrix

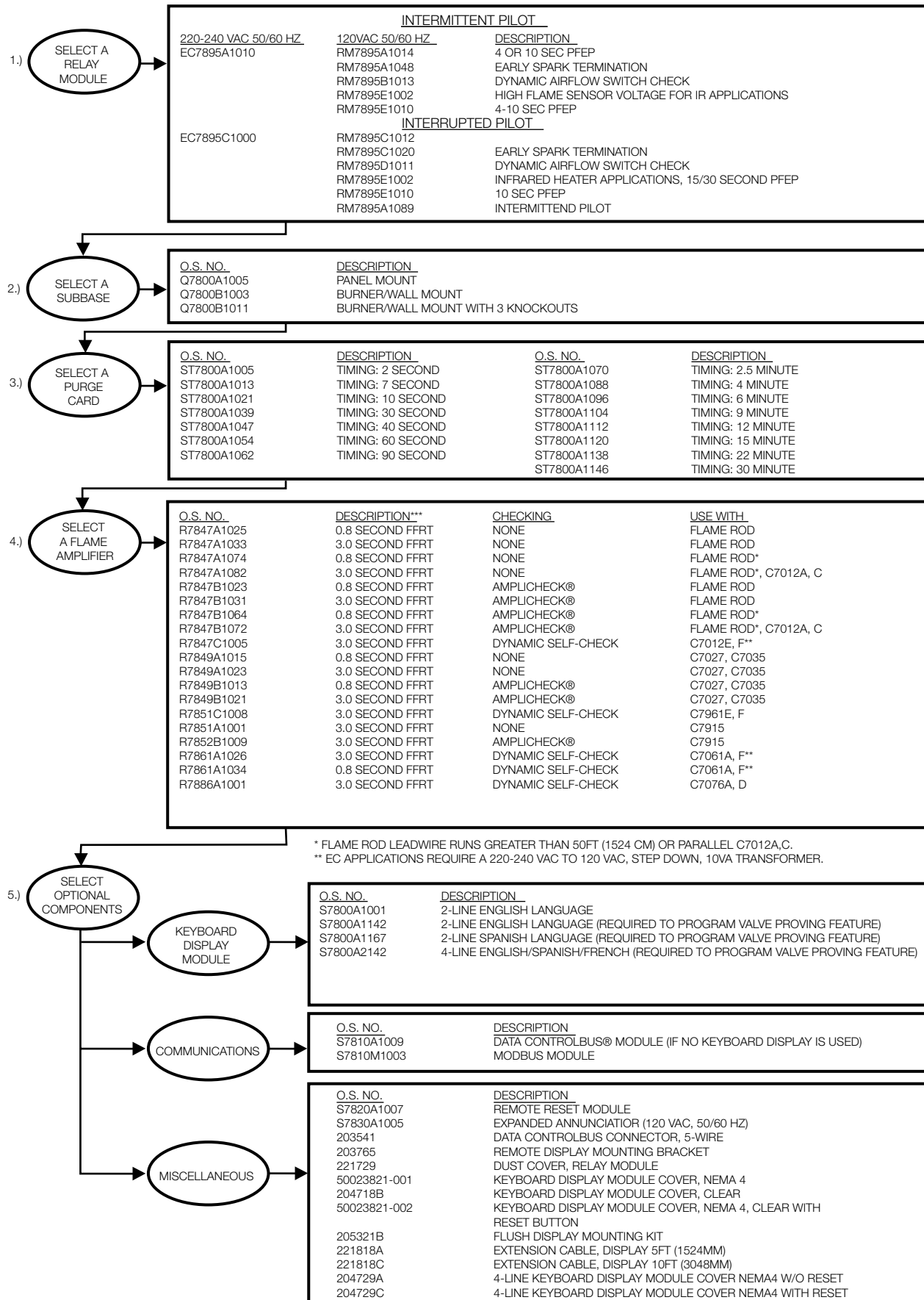
PRODUCT SELECTION MATRIX FOR EC/RM7890 ON/OFF PRIMARY CONTROL RELAY MODULES:



M15524G

7800 Series Product Selection Matrix

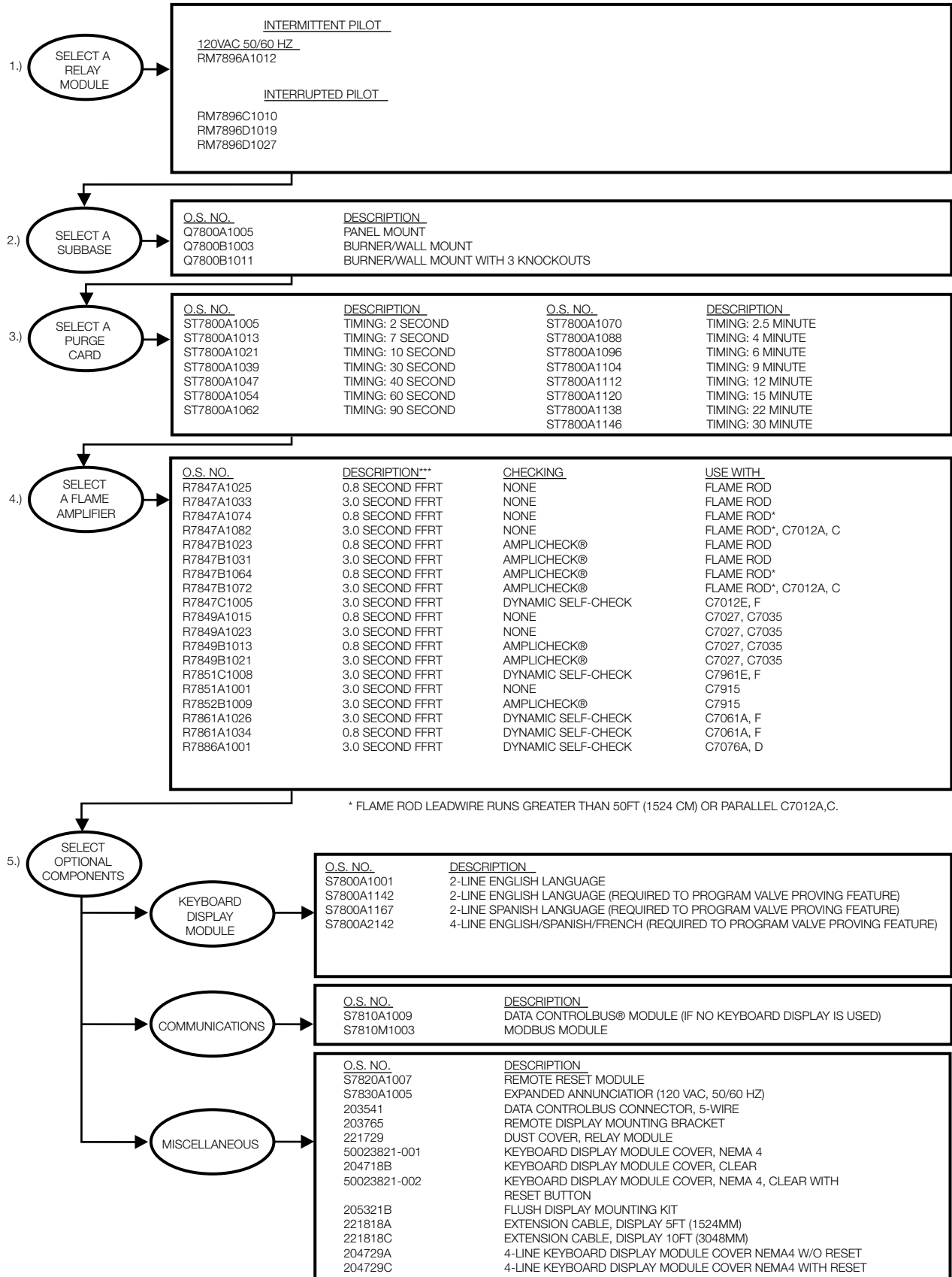
PRODUCT SELECTION MATRIX FOR EC/RM7895 ON/OFF WITH PURGE PRIMARY RELAY MODULES:



M15525F

7800 Series Product Selection Matrix

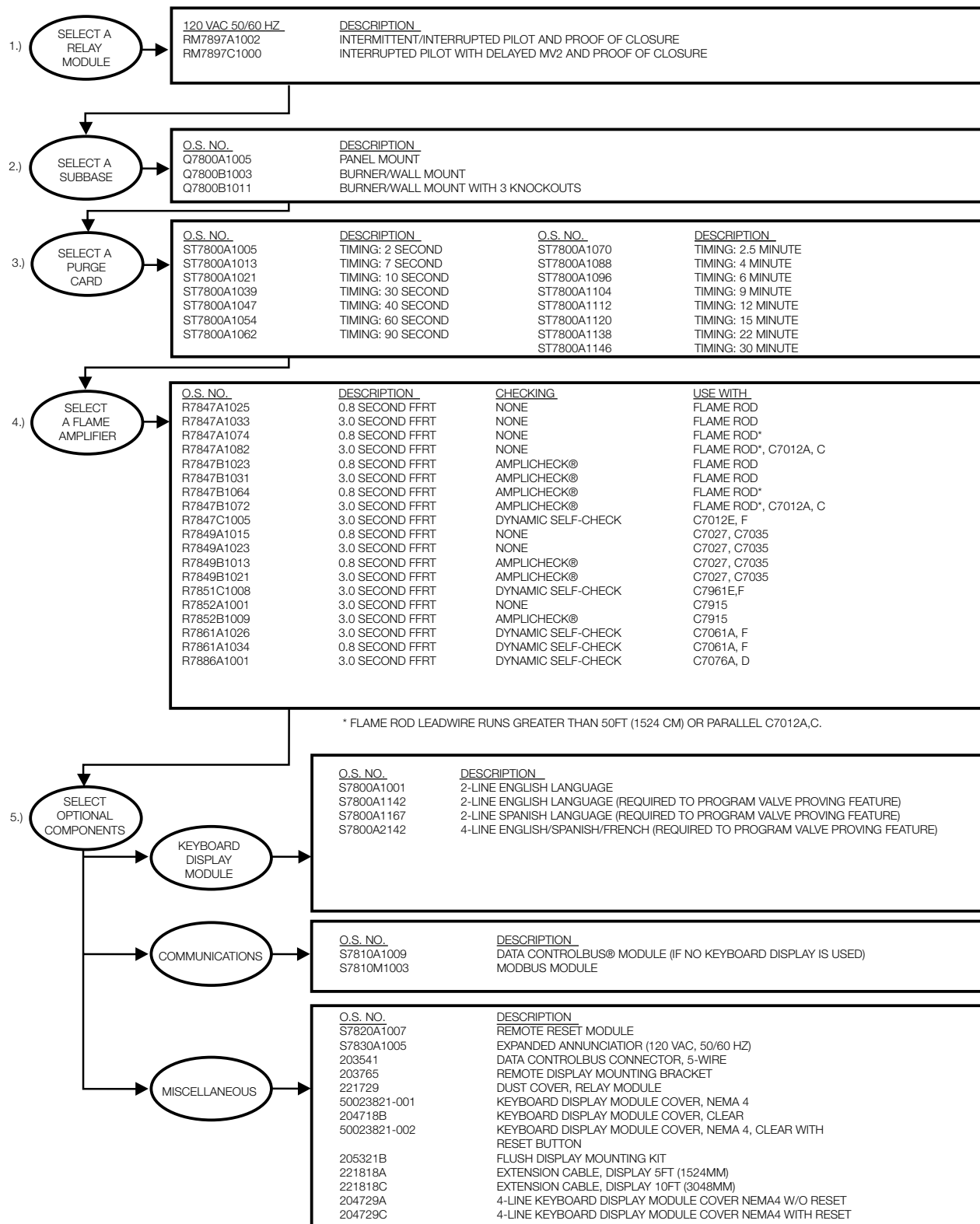
PRODUCT SELECTION MATRIX FOR RM7896 ON/OFF WITH PRE- AND POST-PURGE PRIMARY RELAY MODULES:



M13908B

12

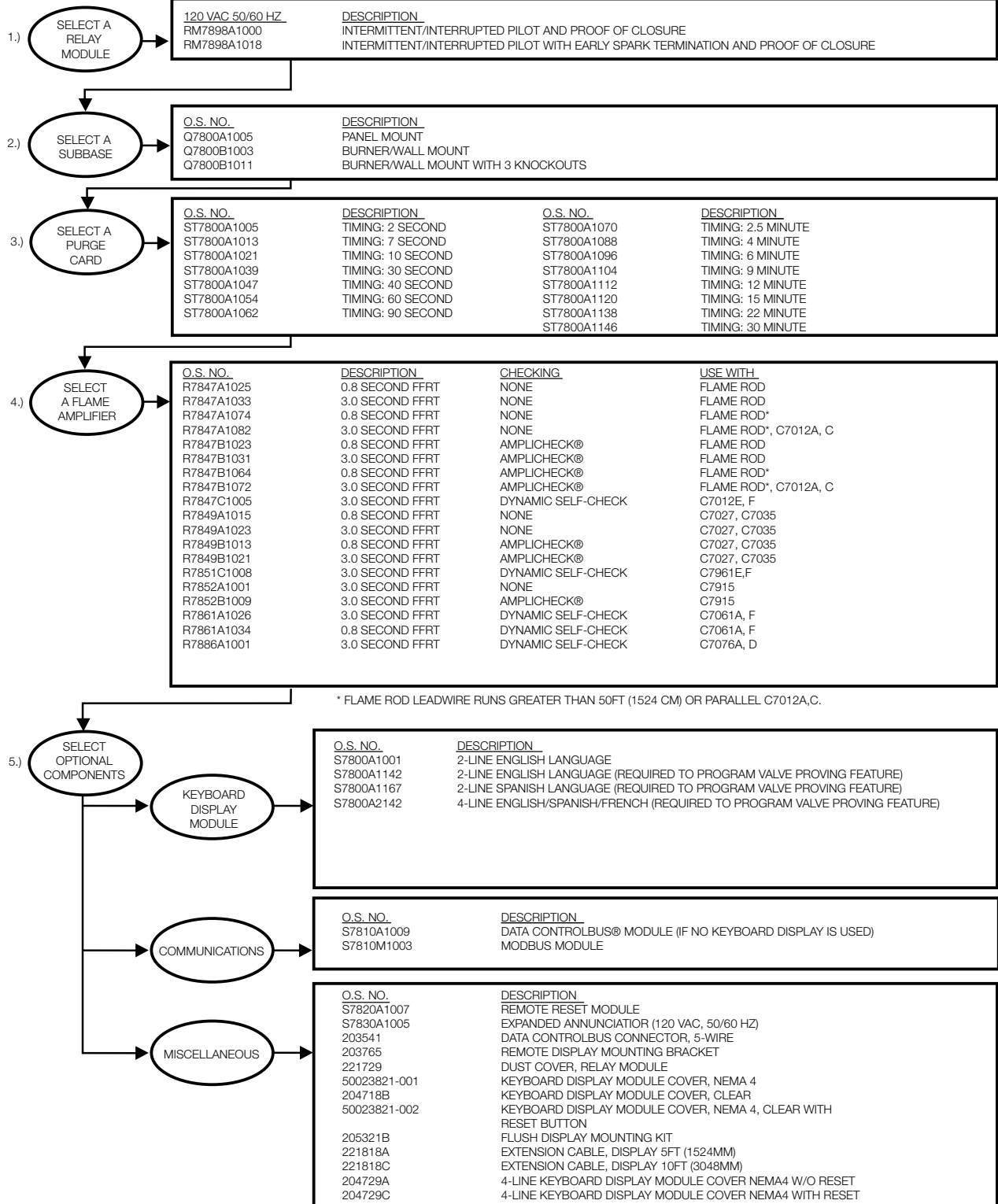
**PRODUCT SELECTION MATRIX FOR RM7897 ON/OFF WITH PRE- AND PROGRAMMABLE POST-PURGE
PRIMARY RELAY MODULES:**



M15526H

7800 Series Product Selection Matrix

PRODUCT SELECTION MATRIX FOR RM7898 ON/OFF WITH PRE- AND PROGRAMMABLE POST-PURGE PRIMARY RELAY MODULES FOR VALVE PROVING APPLICATIONS:



M23254C

7800 Series Product Selection Matrix

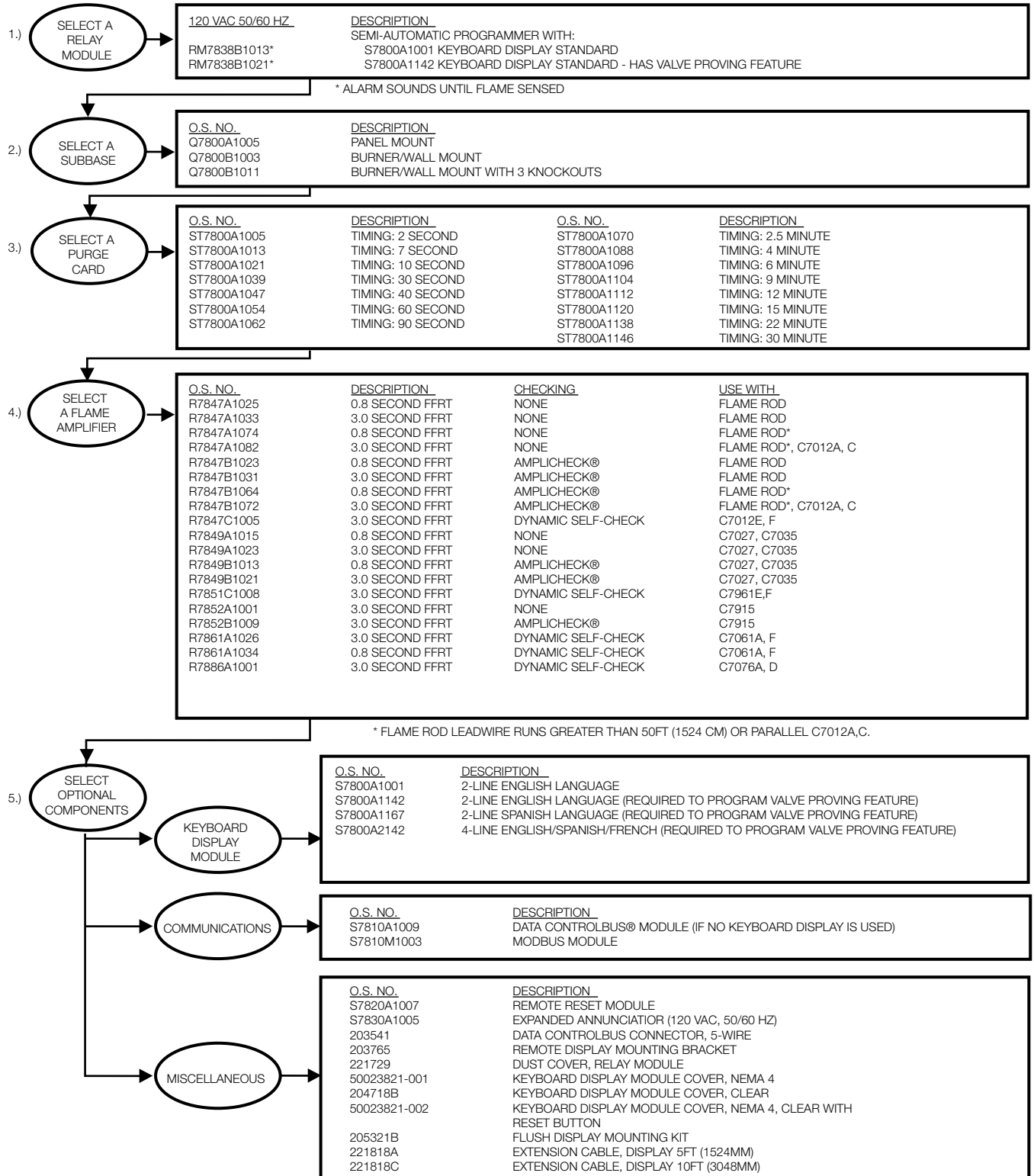
PRODUCT SELECTION MATRIX FOR RM7838A MANUAL START WITH PURGE INDUSTRIAL PRIMARY RELAY MODULE:



M15527F

7800 Series Product Selection Matrix

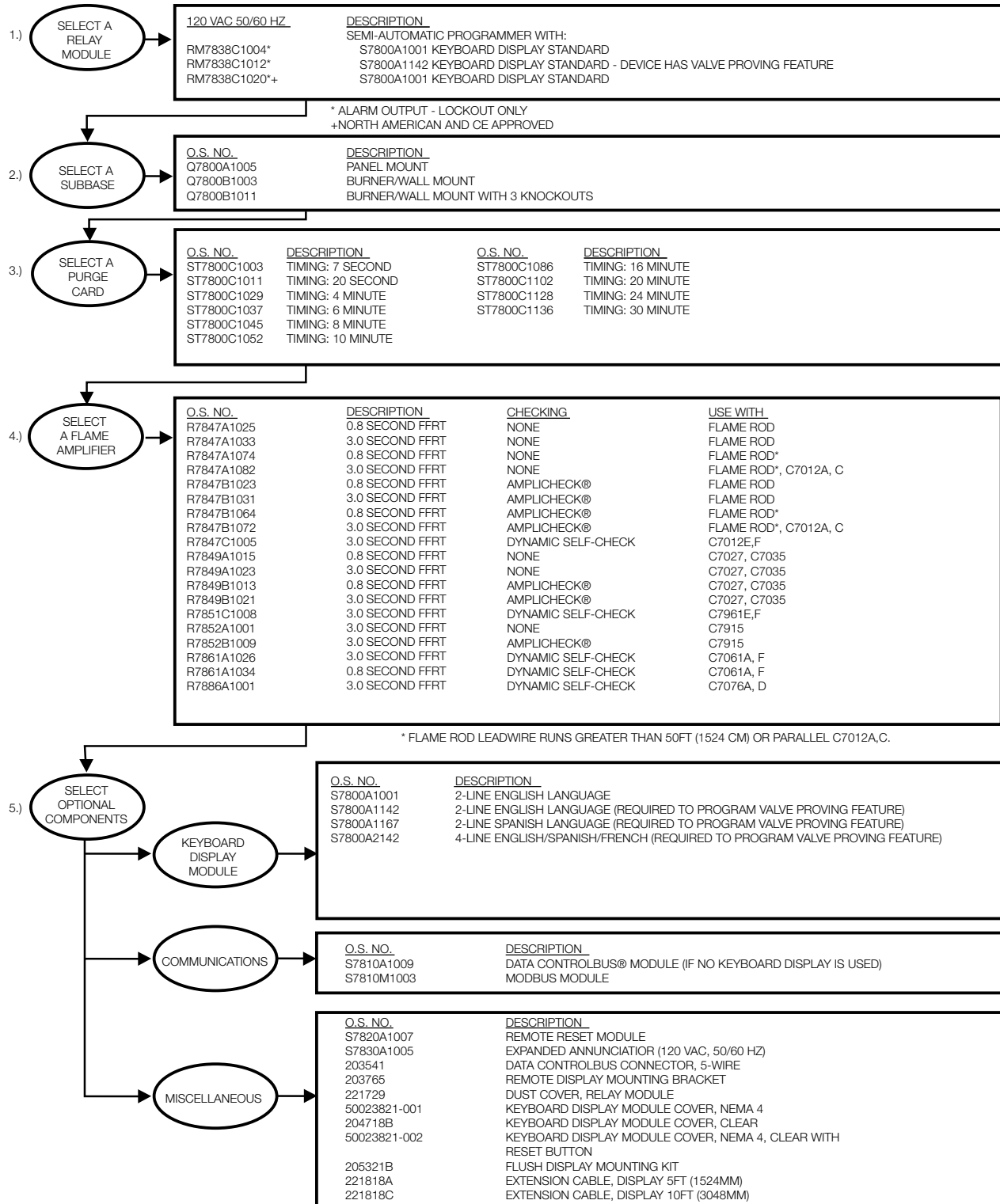
PRODUCT SELECTION MATRIX FOR RM7838B MANUAL START INDUSTRIAL PROGRAMMER RELAY MODULE:



M15528F

7800 Series Product Selection Matrix

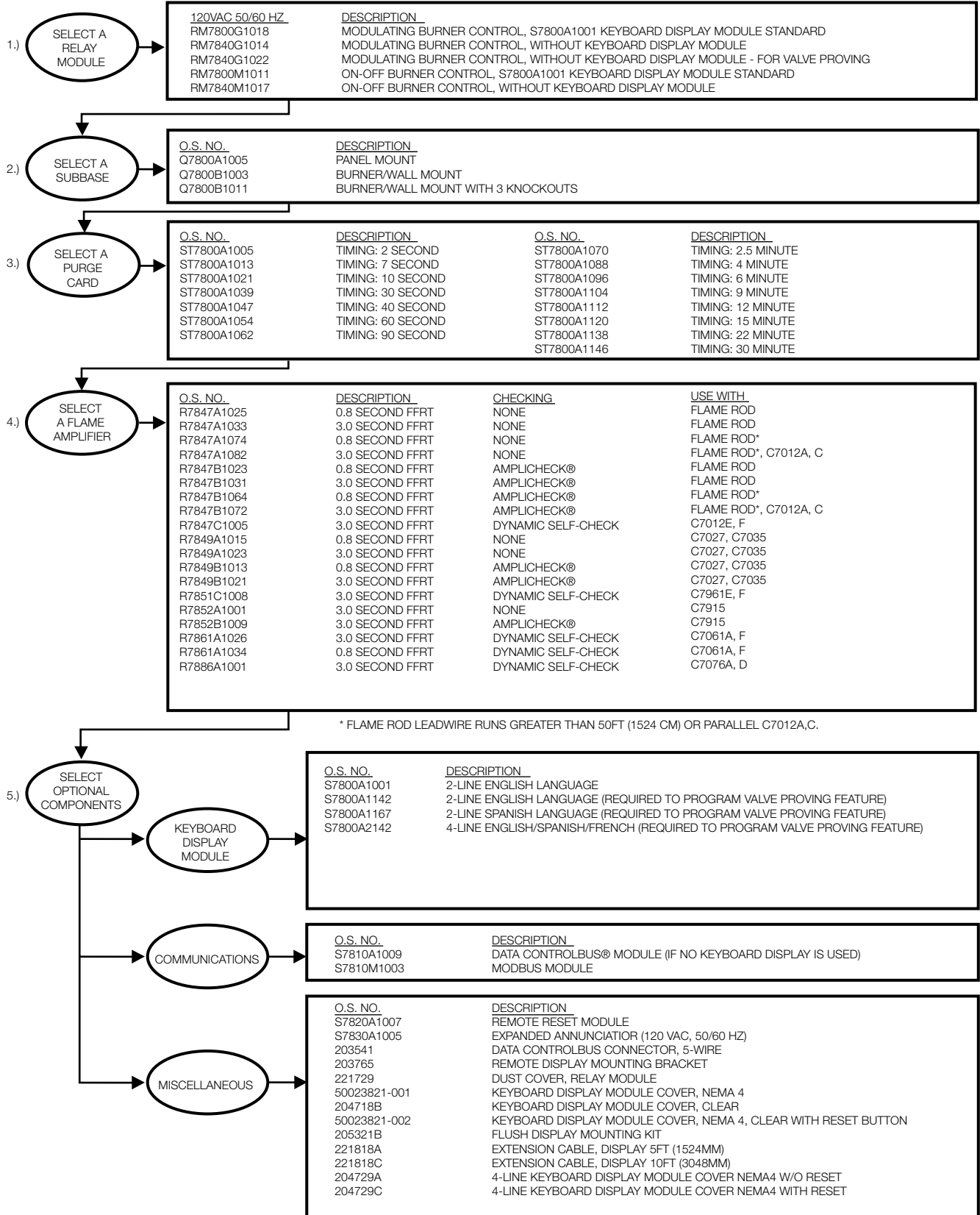
PRODUCT SELECTION MATRIX FOR RM7838C MANUAL START INDUSTRIAL PROGRAMMER RELAY MODULE:



M18830F

7800 Series Product Selection Matrix

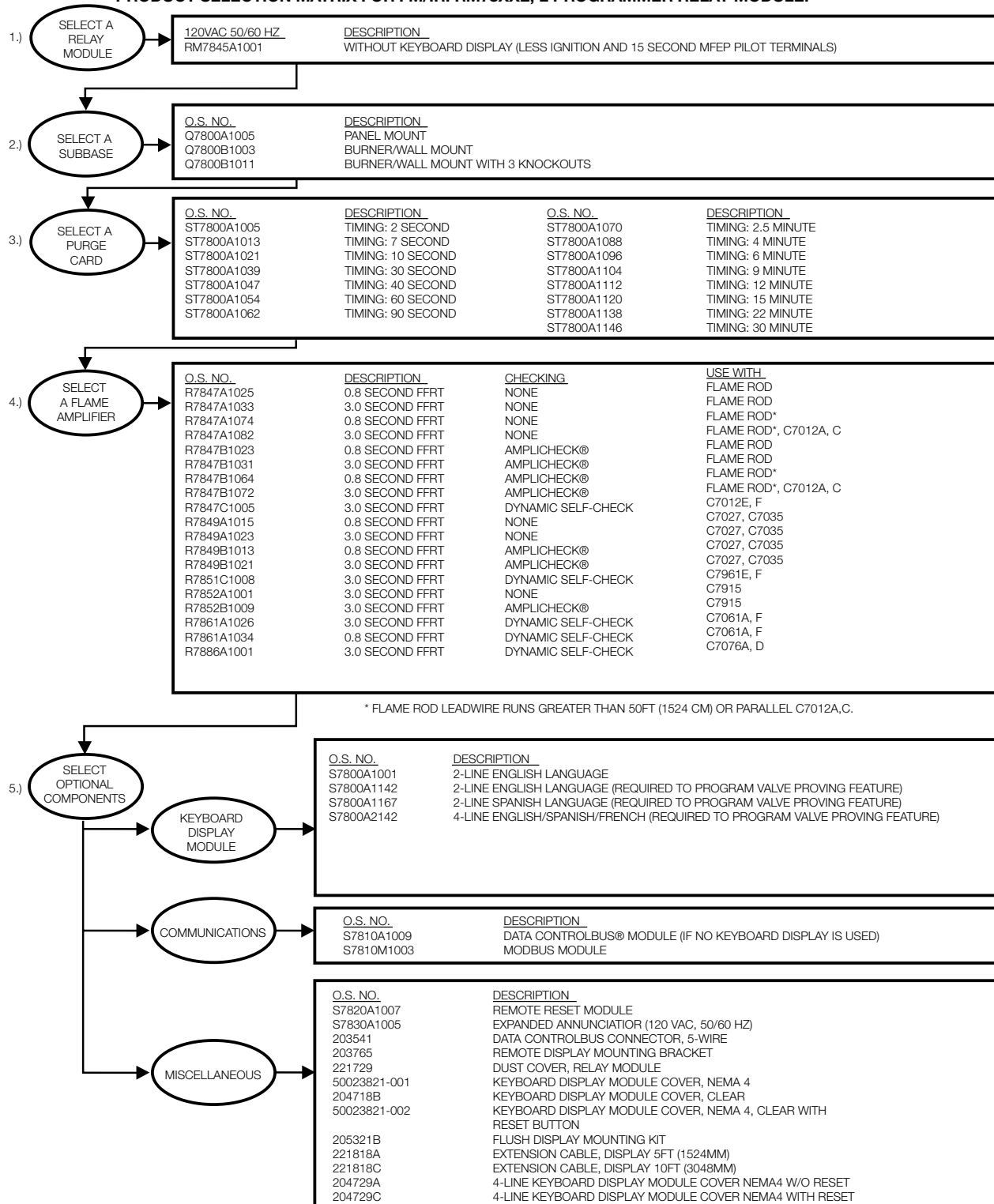
PRODUCT SELECTION MATRIX FOR UL/CSA RM78XXG,M PROGRAMMER RELAY MODULE:



M15529F

7800 Series Product Selection Matrix

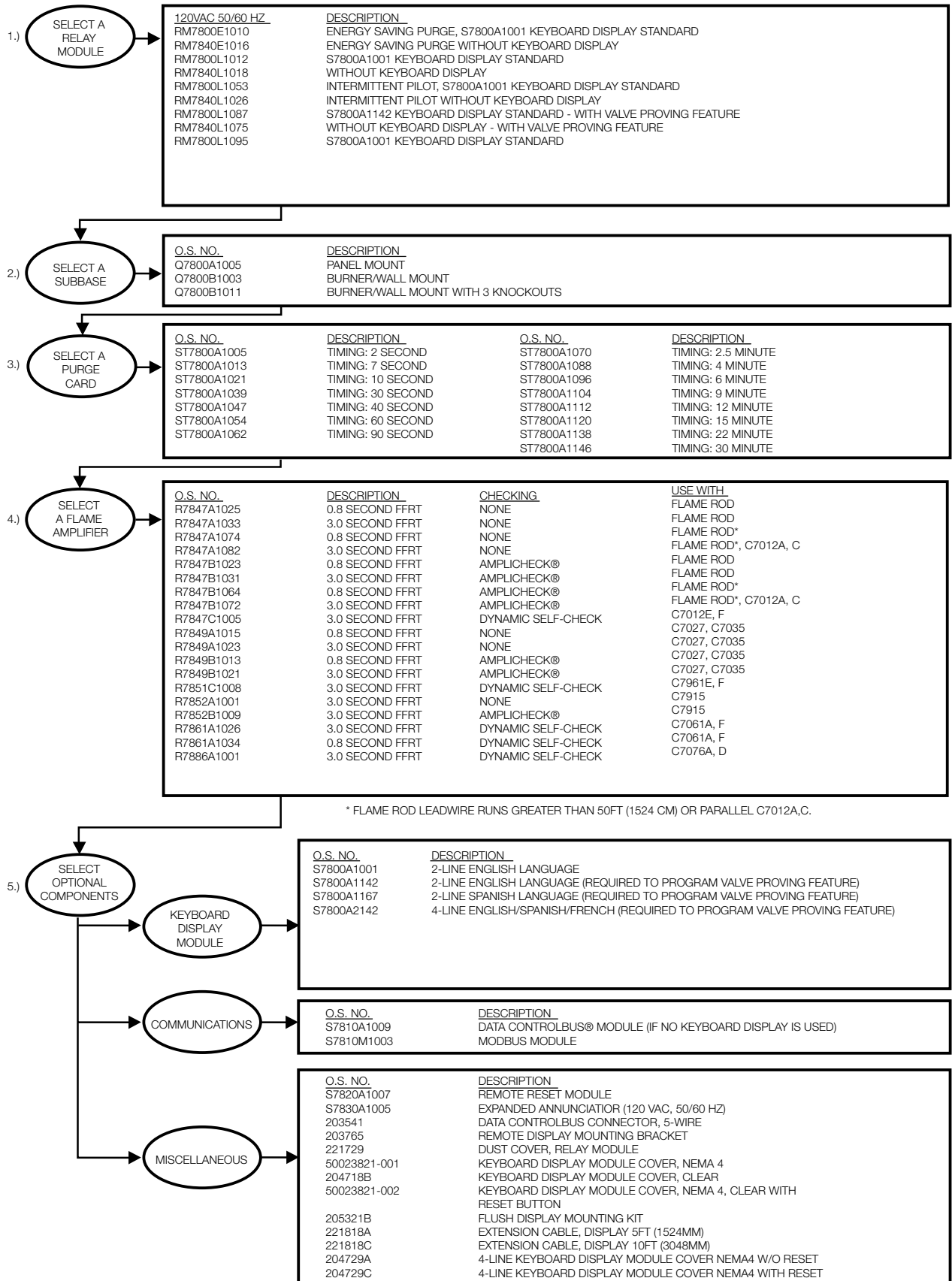
PRODUCT SELECTION MATRIX FOR FM/IRI RM78XXE, L PROGRAMMER RELAY MODULE:



M34645

7800 Series Product Selection Matrix

PRODUCT SELECTION MATRIX FOR FM/IRI RM78XXE, L PROGRAMMER RELAY MODULE:



M15530G

7800 Series Product Selection for legacy and competitor replacements

7800 Series Product Selection for legacy and competitor replacements

| Honeywell Device to be Replaced | Replace With | Amplifier |
|---------------------------------|--------------|------------------|
| RA890E, F | RM7895A | R7847A |
| RA890G | RM7895A | R7849A |
| R4795A, D/W-R7290 AMP | RM7895A | |
| R4795A, D/W-R7289 AMP | RM7895B | R7847A |
| R7795A | RM7895A | R7849 |
| R7795B | RM7895A | R7847 |
| R7795C | RM7895C | R7849 |
| R7796D | RM7895C | R7847 |
| R4140P | RM7895C | R7847A or R7849A |
| R4140Y | RM7895A | |
| Fireye Device to be Replaced | Replace With | Amplifier |
| TFM1, 2, 3H | RM7895A | R7847A |
| UVM1, 2, 3, 3H | | R7849A |
| UVM5 | RM7895C | R7849A |

IMPORTANT: For on-off, gas-fired systems, some authorities having jurisdiction prohibit the wiring of any limit or operating contacts in series with the main fuel valve(s).

CONVERSION CHART FOR RM7895 120 VOLT ONLY

| Q7800 TERMINAL | L1 | L2 | 3 | 4 | 6 | 7 | 8 | 9 | 10 | 21 | F | G |
|-----------------------------------|----------------|----|---|------|----|----------------|----------------|---|----|----|-----------------|----|
| Programmer to be Converted | | | | | | | | | | | | |
| RA890 (All) | 1 ^a | 2 | c | b, d | 6 | b | 3 ^d | 5 | 4 | — | F | G |
| R4795 (All) | a | 2 | c | 8, 7 | 1 | 6 ^b | 3 | 5 | 4 | — | F | G |
| R7795A, B | L1 | L2 | 9 | 8 | 16 | 3 | 5 | 6 | 18 | — | F | G |
| R7795C, D | L1 | L2 | 9 | 8 | 16 | 3 | 5 | 6 | 18 | 7 | F | G |
| R4140P | L1 | L2 | A | M | 3 | P | 5 | 7 | — | 6 | S1 | S2 |
| R4140Y | L1 | L2 | 9 | 8 | 4 | 3 | 6 | 7 | 5 | — | F ^e | G |
| Fireye: UVM/TFM (All models)/MII | 1 | 1 | A | 8 | 7 | 6 | 3 | 5 | 4 | — | S2 ^f | S1 |
| UVM-1 (Prior to 1968) | a | 2 | A | b, d | 1 | b | 3 | 5 | 4 | — | S ^f | S |
| UVM-2 (Prior to 1968), All others | a | 2 | A | 8 | 1 | 6 | 3 | 5 | 4 | — | S ^f | S |

^a Connect power to terminal L1.

^b If no airflow switch is used, jumper Q7800 terminal 6 to 7.

^c Replace low voltage alarm (if used) with line voltage alarm. Connect alarm directly to Q7800 terminal 3.

^d On power burners, identify burner motor wire on terminal 3 and connect it to Q7800 terminal 4.

^e Select amplifier to match detector being used.

^f On UVM models, the detector must be changed to a Honeywell C7027 or C7035.

REPLACEMENT DIRECTIONS:

1. Disconnect all power to programmer.
2. Remove old programmer from subbase (trade-in to Honeywell Authorized Flame Safeguard Distributor).
3. Mark all wires on subbase; i.e., wires connected to terminal "1" should be marked "1." Disconnect wires as they are marked.
4. Remove old subbase.
5. Mount Q7800A Subbase.
6. Connect wires to subbase per attached cross reference. Pay close attention to footnotes. For example: to convert a Fireye UVM-2 to a RM7895, the wire marked "A" would connect to terminal #9 on the Q7800. The wire marked "8" would connect to Q7800 terminal #8.
7. A superscript letter, such as "a" designates a footnote. Study these footnotes carefully.
8. Plug in the RM7895. Make sure you select the proper ST7800A Purge Timer and Detector for the application.
9. There are 2 wires on the amplifier section of the RM7895, which are used to select the desired trial for ignition timing and mode (lock-out or recycle). Refer to the RM7895 instruction sheet (form 66-1090) for assistance with proper selection.
10. If a low voltage controller is used on the RA890 or UVM-1, remove it and replace it with a line voltage controller. The line voltage controller should be connected in series with the limits.
11. If a low voltage airflow switch is used on the RM7895, it must be replaced with a line voltage airflow switch.
12. The following models are recommended for replacements:

Commercial/Industrial Combustion Controls

7800 Series Burner Controls

EC7820 Primary Control Meeting European Community Timings



Application: Primary Control

Interlocks: Lockout

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: 5 sec

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A, B Universal Wiring Subbases.

R7847, R7849, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 60 Hz ($\pm 10\%$), 50 Hz

AirFlow Check: User selectable

Second Stage Pilot Valve: Intermittent

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Integrated burner control for automatically fired gas, oil, or combination, single burner atmospheric with fan applications. Has automatic burner sequencing, flame supervising system status indication, system or self-diagnostics, and troubleshooting.

- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch. Interchangeable plug-in amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Non-volatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

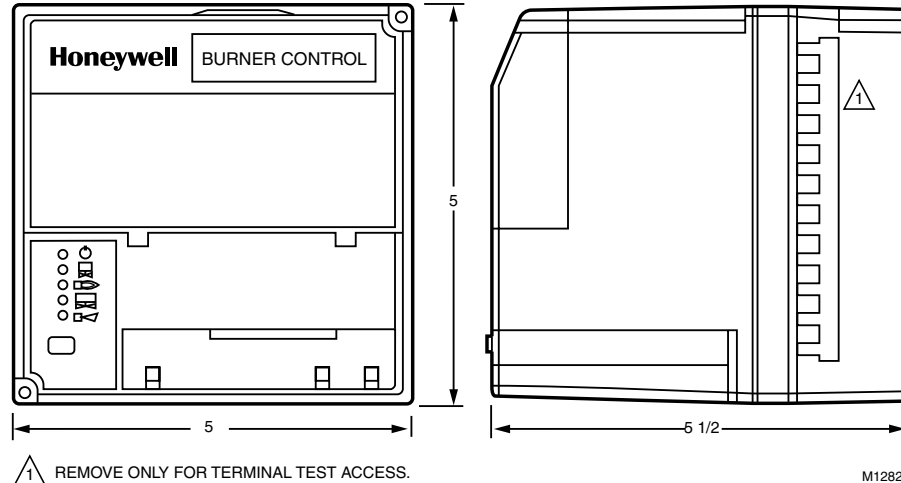
Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. 1V9AO.AF.

Approvals, Gastec/European: CE approved PIN-0063CT1466 against EN 298:2012 under GAR 2016/426.



Dimensions in inches (millimeters)



M12821

| Material Number | Voltage | Pilot Type | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|----------------------------|-------------|----------------------------------|-----------------------------------|---|
| EC7820A1026/U | 220 to 240 Vac (+10, -15%) | interrupted | 5 sec, or 8 sec, or Intermittent | 5 sec or 10 sec | 1 ignition attempt, Includes Modulation w/ Fan Output |

7800 Series Burner Controls

EC7830; EC7850; RM7830; RM7850 Programming Control Meeting European Community Timings



Microprocessor-based integrated burner control for full modulation applications. Provides automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics, and troubleshooting.

- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Non-volatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Application: Programming Control

Flame Establishing Period - Main: 3 sec, or 5 sec, or Intermittent

Flame Establishing Period - Pilot: 3 sec or 5 sec

Interlocks: Lockout

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A,B Universal Wiring Subbases.

R7847, R7849, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

AirFlow Check: User selectable

Second Stage Pilot Valve: Intermittent

Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep

with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

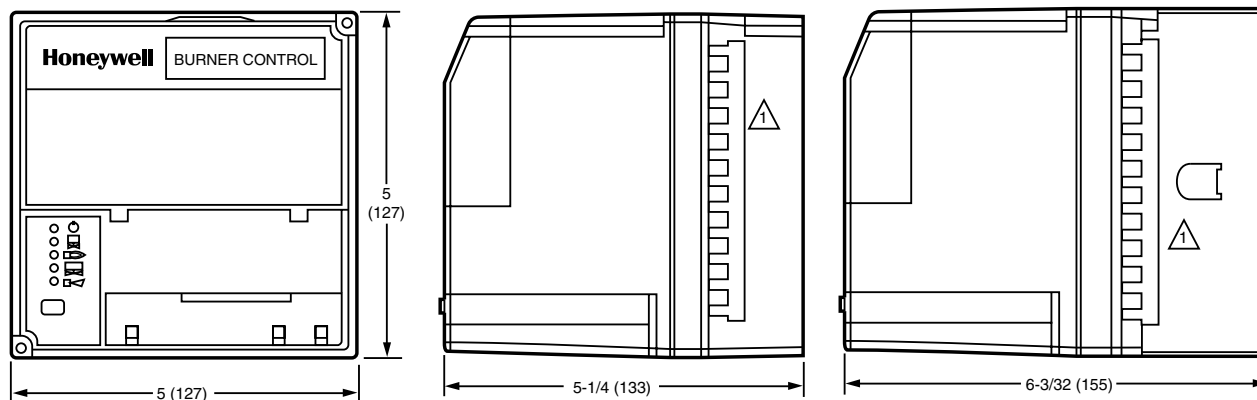
Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: EC7830, EC7850, RM7830-Report No. 1V9AO.AF; RM7850-Report No. J.I. OYOA9.AF

Approvals, Gastec/European: CE approved PIN-0063CT1466 against EN 298:2012 under GAR 2016/426..



Dimensions in inches (millimeters)



1 REMOVE ONLY FOR TERMINAL TEST ACCESS.

M15532A

| Material Number | Voltage | Frequency | PostPurge | Comments |
|-----------------|----------------------------|---------------------|-----------|---------------------|
| EC7830A1033/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | 2 sec | On/Off Power Burner |
| EC7830A1066/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | 15 sec | On/Off Power Burner |
| EC7850A1072/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | 2 sec | LHL-LF & HF Proven |
| EC7850A1080/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | 30 sec | LHL-LF & HF Proven |
| EC7850A1122/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | 15 sec | LHL-LF & HF Proven |
| RM7830A1029/U | 120 Vac (+10, -15%) | 50 Hz; 60 Hz (±10%) | 30 sec | On/Off Power Burner |
| RM7850A1001/U | 120 Vac (+10, -15%) | 50 Hz; 60 Hz (±10%) | 2 sec | LHL-LF & HF Proven |
| RM7850A1019/U | 120 Vac (+10, -15%) | 50 Hz; 60 Hz (±10%) | 15 sec | LHL-LF & HF Proven |

RM7800 Programmers



Application: Programming Control

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: 15 sec

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

AirFlow Check: User selectable

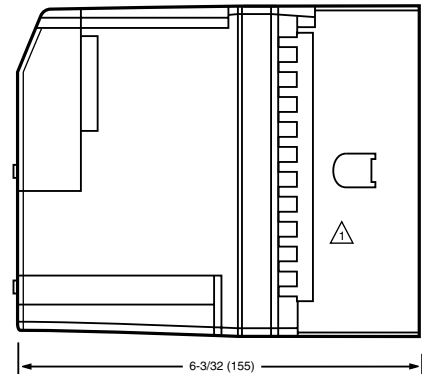
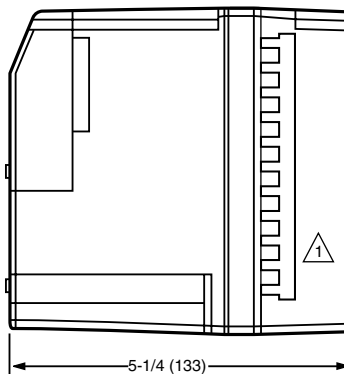
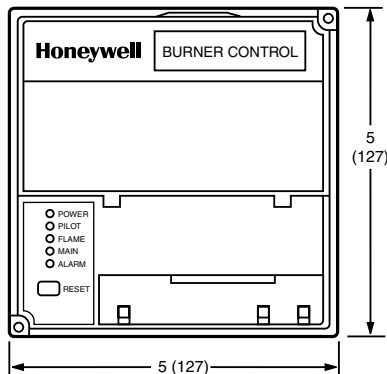
Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to $+140^{\circ}\text{F}$ (-40°C to $+60^{\circ}\text{C}$)


Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Dimensions in inches (millimeters)



MODULE WITH SUBBASE

M15518B

 REMOVE ONLY FOR TERMINAL TEST ACCESS.

Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- Includes Keyboard Display Module.

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. 1V9AO.AF.



| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Second Stage Pilot Valve | Interlocks | Comments |
|-----------------|---------------------|---|-----------------------------------|--------------------------|------------|--|
| RM7800E1010/U | 120 Vac (+10, -15%) | 10 sec or 15 sec | 4 sec or 10 sec | Interrupted | Lockout | Includes S7800 Display, LHL-LF & HF Proven |
| RM7800G1018/U | 120 Vac (+10, -15%) | 10 sec, or 15 sec, or 30 sec, or Intermittent | 4 sec or 10 sec | selectable | Running | Includes S7800 Display, LHL-LF Proven |
| RM7800L1012/U | 120 Vac (+10, -15%) | 10 sec or 15 sec | 4 sec or 10 sec | Interrupted | Lockout | Includes S7800 Display, LHL-LF & HF Proven |
| RM7800L1053/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Intermittent | Lockout | Includes S7800 Display, LHL-LF & HF Proven |
| RM7800M1011/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Intermittent | Running | Includes S7800 Display, On/Off-LF proven |

7800 Series Burner Controls

RM7800 Programmers with VPS



Application: Programming Control w/VPS

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A, B Universal Wiring Subbases.

R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

AirFlow Check: User selectable

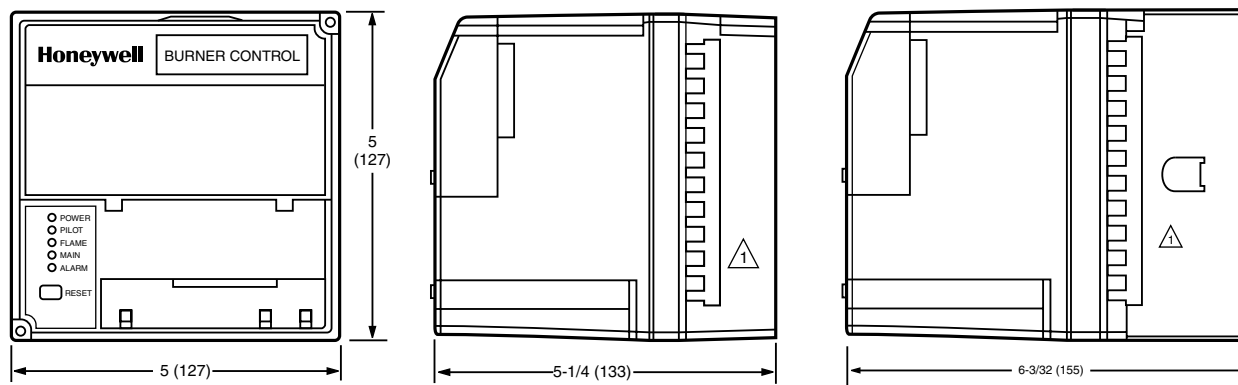
Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to $+140^{\circ}\text{F}$ (-40°C to $+60^{\circ}\text{C}$)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Dimensions in inches (millimeters)



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MODULE WITH SUBBASE

M15518B

Integrated burner control for gas, oil, coal or combination fuel single burner uses. With Valve Proving Feature. RM7800L comes standard with S7800A1142 Keyboard Display.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information. Power LED blinks fault code on Lockout.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- RM7800 comes with S7800A1142 Keyboard Display Module.
- Keyboard required to setup Valve Proving Feature and change post purge time.

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Factory Mutual: Report No. 1V9AQ.AF.

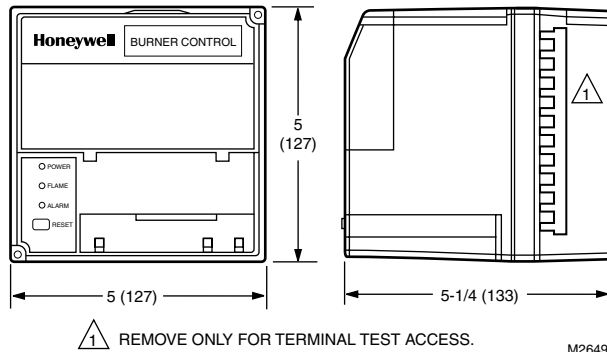


| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Second Stage Pilot Valve | Interlocks | Comments |
|-----------------|---------------------|----------------------------------|-----------------------------------|--------------------------|------------|---|
| RM7800L1087/U | 120 Vac (+10, -15%) | 10 sec or 15 sec | 4 sec or 10 sec | Interrupted | Lockout | Includes S7800A1142 Display, LHL-LF & HF Proven |

RM7823; EC7823 Flame Switch



Dimensions in inches (millimeters)



Microprocessor-based integrated flame switch for detecting a flame using rectification, ultraviolet (UV) or infrared (IR) source. Provides level of safety, functional capability and features beyond conventional controls.

- Can be fitted with any 7800 Series Amplifier to provide relay action from two single pole, double throw (SPDT) relays when flame is present or not present. RM7823A and EC7823 are a flame detector relays only.
- Suitable primary control must be used to provide safe-start check, safety lockout, load switching and other functions required in flame safeguard systems.
- Three LEDs to indicate power, flame and alarm.
- Access for external electrical voltage checks.
- Nonvolatile memory.
- Shutter drive output.
- Compatible with existing Honeywell flame detectors.

Application: Flame Switch

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Swiss RE: Acceptable,

GASTEC/European: CE approved against EN 298:2012 - PIN 0063CU1745 under GAR 2016/426

Comments: two SPDT outputs



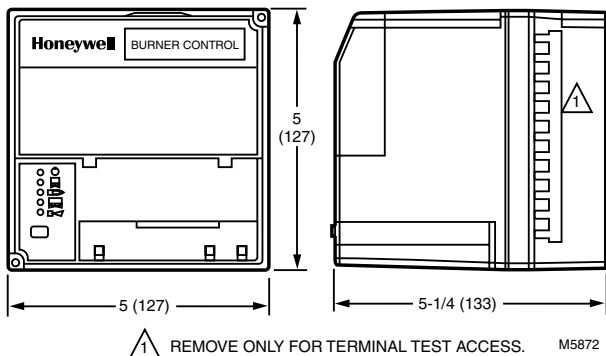
| Material Number | Voltage | Frequency | Approvals, Underwriters Laboratories Inc. | Approvals, CSA | Approvals, FCC | Approvals, Factory Mutual |
|-----------------|----------------------------|---------------------|---|--------------------------------|----------------------------------|---------------------------|
| EC7823A1004/U | 220 to 240 Vac (+10, -15%) | 60 Hz (±10%), 50 Hz | | | | Report No. OY0A9.AF. |
| RM7823A1016/U | 120 Vac (+10, -15%) | 50 Hz; 60 Hz (±10%) | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | FCC Part 15, Class B, Emissions. | Report No. OX4A5.AF. |

7800 Series Burner Controls

RM7824 On-Off Primary Control



Dimensions in inches (millimeters)



- 24 Vdc microprocessor-based integrated burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond the capacity of conventional controls.
- For use with R7824C Amplifier with C7024E, F Flame Detectors; R7848A, B with C7015A Flame Detectors; R7851B with C7927 Flame Detectors; or R7852A, B with C7915 Flame Detectors.
 - Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
 - Five LEDs provide sequence information.
 - Selectable recycle or lockout on loss of flame.
 - Shutter drive output for use with dynamic self-check flame detectors.
 - Access for external electrical voltage checks.
 - Plug-in flame amplifier.
 - Nonvolatile memory retains history files and lockout status after loss of power.

Application: Primary Control 24 Vdc
Required Components: Q7800A, B Universal Wiring Subbases. R7824 or R7848 Flame Signal Amplifier.
Pilot Type: intermittent
Vibration: 0.5 G environment
Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)
Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)
Weight lb. (kg): 1 lb 13 oz (0.8 kg)
Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.
Approvals, FCC: FCC Part 15, Class B, Emissions.
Approvals, Swiss RE: Acceptable
Approvals, Factory Mutual: Report No. OX4A5.AF.

| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot |
|-----------------|--------------------|----------------------------------|-----------------------------------|
| RM7824A1006/U | 24 Vdc (+10, -15%) | Intermittent | 4 sec or 10 sec |

RM7838A Manual Start Industrial Primary Control with Purge



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.

Application: Semi Automatic Primary Control with Purge

Interlocks: Running

PrePurge: Determined by ST7800A Purge Timer Card

Required Components: Q7800A, B Universal Wiring Subbases.

R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

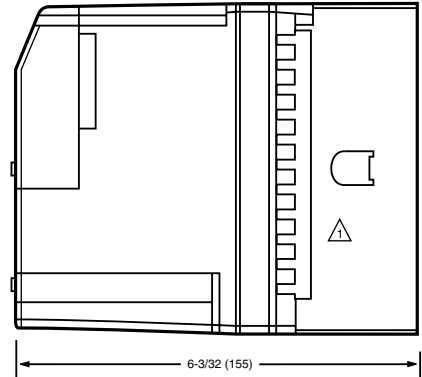
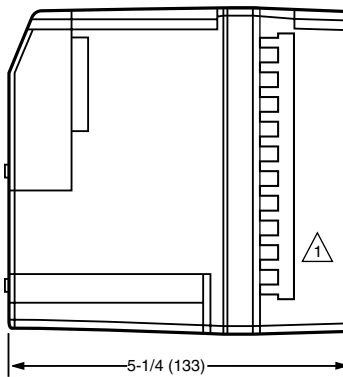
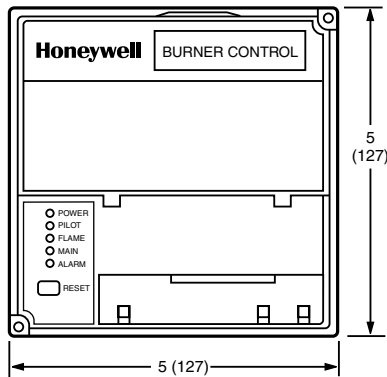
Pilot Type: intermittent

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to $+140^{\circ}\text{F}$ (-40°C to $+60^{\circ}\text{C}$)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Dimensions in inches (millimeters)



MODULE WITH SUBBASE

M15518B

REMOVE ONLY FOR TERMINAL TEST ACCESS.



Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, Control Safety Devices: Acceptable: CSD-1

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.

| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|---------------------|----------------------------------|-----------------------------------|------------------------|
| RM7838A1014/U | 120 Vac (+10, -15%) | Intermittent | 4 sec or 10 sec | Includes S7800 Display |

7800 Series Burner Controls

RM7838B, C Manual Start Industrial Programmers



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.

Application: Semi Automatic Programming Control

Interlocks: Lockout

Preignition: Yes

Early Spark Termination: Yes, 5 sec

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Pilot Type: interrupted

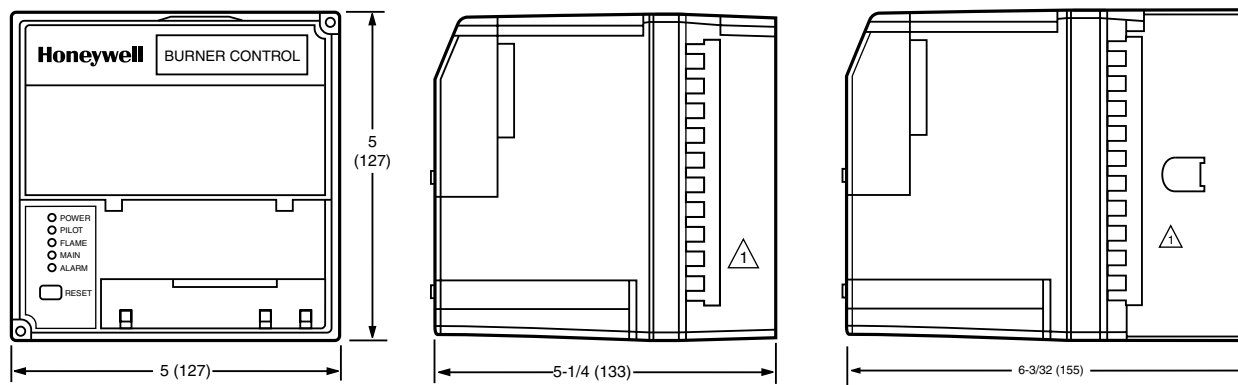
Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to $+140^{\circ}\text{F}$ (-40°C to $+60^{\circ}\text{C}$)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Dimensions in inches (millimeters)



REMOVE ONLY FOR TERMINAL TEST ACCESS.

MODULE WITH SUBBASE

M15518B

| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | PrePurge | Required Components | Approvals, Gastec/European | Comments |
|-----------------|---------------------|----------------------------------|-----------------------------------|--|---|-----------------------------|------------------------|
| RM7838B1013/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Determined by ST7800A Purge Timer Card | Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card. | | Includes S7800 Display |
| RM7838C1004/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Determined by ST7800C Purge Timer Card | Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800C Plug-in Purge Timer Card. | | Includes S7800 Display |
| RM7838C1020/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Determined by ST7800C Purge Timer Card | Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800C Plug-in Purge Timer Card. | Gastec EN268 Report 1156791 | Includes S7800 Display |

RM7838B, C Manual Start Industrial Programmers with VPS



Integrated burner control for industrial semi-automatically fired gas, oil, coal or combination fuel single burner applications. Includes Valve Proving Feature with S7800A1142 Keyboard Display.

- Functions include purge, burner pilot startup, flame supervision, system status indication, system or self diagnosis and troubleshooting.
- Delays admission of fuel to combustion chamber until pilot flame has been proven and then monitors the flame through the run period while providing system status indication.
- Includes S7800A1142 Keyboard Display Module.
- Five LEDs provide sequence information.
- Intermittent pilot valve.
- Interchangeable plug-in flame amplifier.
- Access for external electrical voltage checks.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Selectable pilot flame establishing period.
- Provides application flexibility and optional communication interface capability.
- Compatible with existing Honeywell flame detectors.
- With Valve Proving Feature and Programmable Post Purge Time.
- Power LED blinks a fault code on system lockout.

Application: Semi Automatic Programming Control w/VPS

Interlocks: Lockout

Preignition: Yes

PostPurge: programmed with S7800A1142 display

Early Spark Termination: Yes, 5 sec

Frequency: 50 Hz; 60 Hz (±10%)

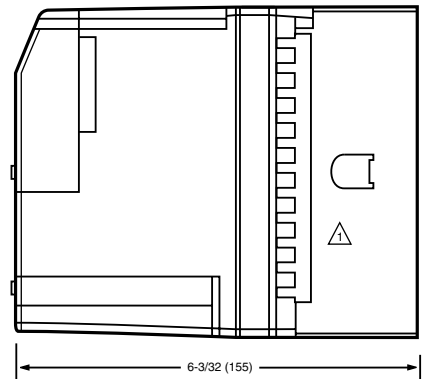
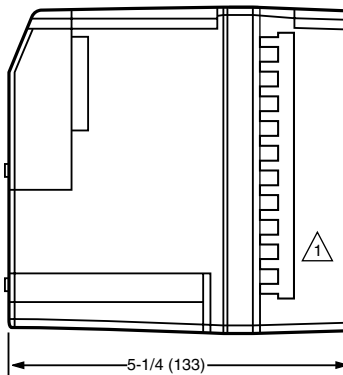
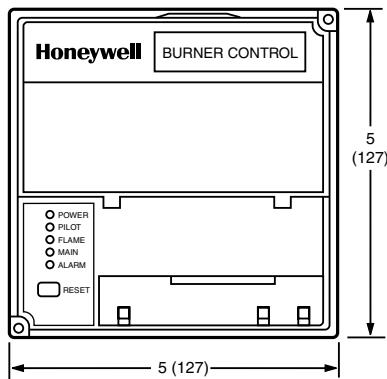
Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Dimensions in inches (millimeters)



MODULE WITH SUBBASE

M15518B

REMOVE ONLY FOR TERMINAL TEST ACCESS.



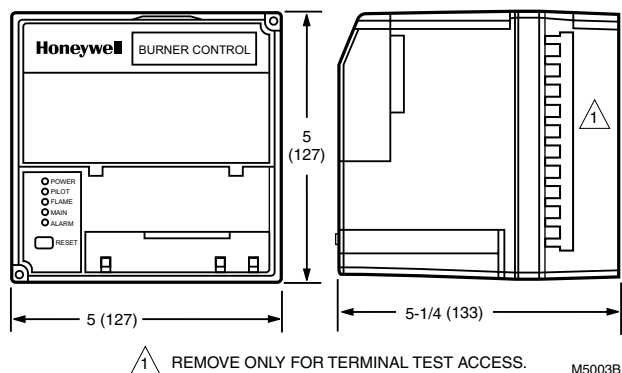
| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | PrePurge | Required Components | Comments |
|-----------------|------------------------|----------------------------------|-----------------------------------|--|---|--|
| RM7838B1021/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Determined by ST7800A Purge Timer Card | Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card. | Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation |
| RM7838C1012/U | 120 Vac (+10, -15%) | 10 sec or Intermittent | 4 sec or 10 sec | Determined by ST7800C Purge Timer Card | Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800C Plug-in Purge Timer Card. | Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation |

7800 Series Burner Controls

RM7840 Programmers



Dimensions in inches (millimeters)



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of RM7840 operation and fault information.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Application: Programming Control

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: 15 sec

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

AirFlow Check: User selectable

Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, Control Safety Devices: Acceptable: CSD-1

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.

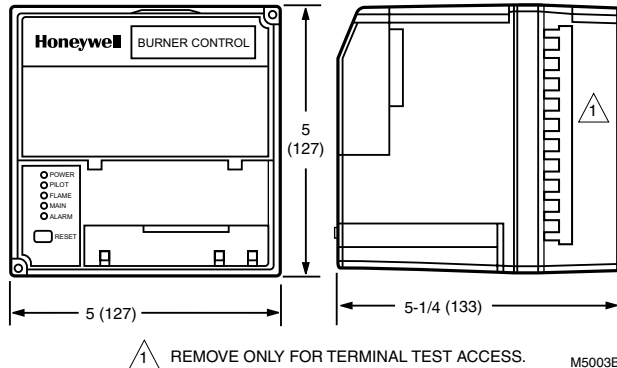


| Material Number | Interlocks | Second Stage Pilot Valve | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|------------|--------------------------|---|-----------------------------------|--------------------|
| RM7840E1016/U | Lockout | Interrupted | 10 sec or 15 sec | 4 sec or 10 sec | LHL-LF & HF Proven |
| RM7840G1014/U | Running | selectable | 10 sec, or 15 sec, or 30 sec, or Intermittent | 4 sec or 10 sec | LHL-LF Proven |
| RM7840L1018/U | Lockout | Interrupted | 10 sec or 15 sec | 4 sec or 10 sec | LHL-LF & HF Proven |
| RM7840L1026/U | Lockout | Intermittent | 10 sec or Intermittent | 4 sec or 10 sec | LHL-LF & HF Proven |
| RM7840M1017/U | Running | Intermittent | 10 sec or Intermittent | 4 sec or 10 sec | On/Off-LF Proven |

RM7840 Programmers with VPS



Dimensions in inches (millimeters)



Integrated burner control for gas, oil, coal or combination fuel single burner uses. Provides safety, functional capability and features beyond normal controls. With Valve Proving Feature. Requires S7800A1142 Keyboard Display.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and trouble shooting.
- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information. Power LED blinks fault code on Lockout.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information (optional).
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.
- RM7800 comes with S7800A1142 Keyboard Display Module.
- Keyboard required to setup Valve Proving Feature and change post purge time.

Application: Programming Control w/VPS

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Early Spark Termination: Yes, 5 sec

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

AirFlow Check: User selectable

Second Stage Pilot Valve: selectable

Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Approvals, FCC: FCC Part 15, Class B, Emissions.



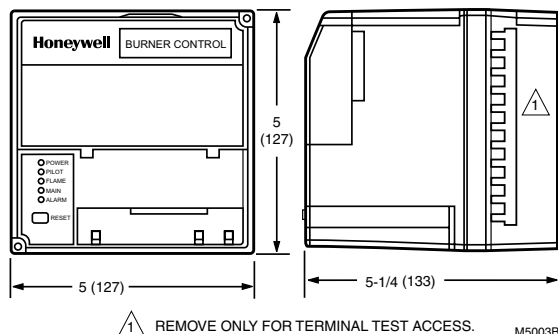
| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Interlocks | Comments | Approvals, Underwriters Laboratories Inc. | Approvals, Factory Mutual |
|-----------------|----------------------------|---|-----------------------------------|------------|---|---|---------------------------|
| EC7840L1014/U | 220 to 240 Vac (+10, -15%) | 10 sec or 15 sec | 4 sec or 10 sec | Lockout | Requires S7800A1142 Display, LHL-LF & HF Proven | | |
| RM7840G1022/U | 120 Vac (+10, -15%) | 10 sec, 15 sec, 30 sec, or Intermittent | 4 sec or 10 sec | Running | Requires S7800A1142 Display, LHL-LF Proven | Component Recognized, File No. MP268; Guide No. MCCZ. | Report No. 1V9AO.AF. |
| RM7840L1075/U | 120 Vac (+10, -15%) | 10 sec or 15 sec | 4 sec or 10 sec | Lockout | Requires S7800A1142 Display, LHL-LF & HF Proven | Component Recognized, File No. MP268; Guide No. MCCZ. | Report No. 1V9AO.AF. |

7800 Series Burner Controls

RM7845 Programmers



Dimensions in inches (millimeters)



Microprocessor-based integrated burner control for automatically fired gas, oil, coal or combination fuel single burner applications. Provides safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.

- Access for external electrical voltage checks.
- Application flexibility and communication interface capability.
- Five LEDs provide sequence information.
- Five function Run/Test Switch.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of RM7840 operation and fault information.
- Nonvolatile memory retains history files and lockout status after loss of power.
- Compatible with existing Honeywell flame detectors.

Application: Programming Control

Interlocks: Lockout

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: 15 sec

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

AirFlow Check: User selectable

Pilot Type: interrupted

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, Control Safety Devices: Acceptable: CSD-1

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

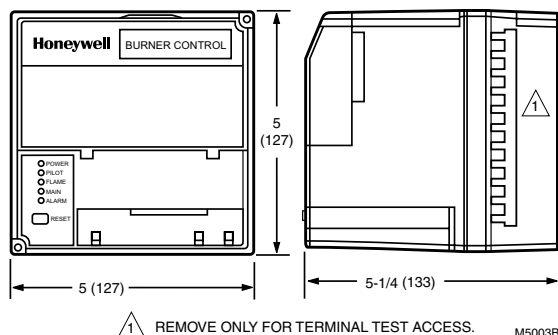
Approvals, Factory Mutual: Report No. 1V9AO.AF.

| Material Number | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|----------------------------------|-----------------------------------|--------------------|
| RM7845A1001/U | 10 sec | 4 sec or 10 sec | LHL-LF & HF Proven |

RM7885 Manual Start Industrial Primary Control



Dimensions in inches (millimeters)



Microprocessor-based integrated burner control for industrial semi-automatically fired gas, oil, coal, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Adaptable to continuous firing, high-low or modulating firing rate for semi-automatic burner sequencing.
- Operates with the following: Torch-ignited main burner or torch-ignited pilot using S445A Start-Stop Station, or conventional knee or foot operated station.
- Direct-ignition oil burner or electrically ignited pilot, using S445A Start-Stop Station.
- Five LEDs provide sequence information.
- Nonvolatile memory.
- Flame signal check during standby.
- Shutter drive output.
- Compatible with existing Honeywell flame detectors.
- Terminal provided for external alarm to sound on flame failure.

Application: Semi Automatic Primary Control

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Pilot Type: intermittent

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

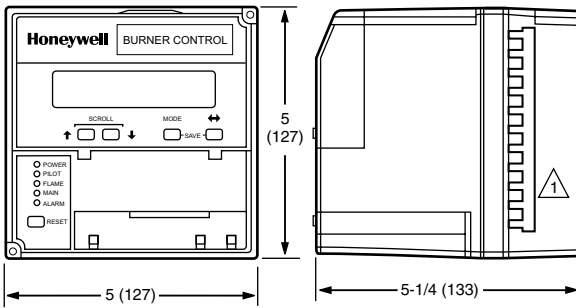
Approvals, Factory Mutual: Report No. OX4A5.AF.

| Material Number | Voltage | Flame Establishing Period - Main | Flame Establishing Period - Pilot |
|-----------------|---------------------|----------------------------------|-----------------------------------|
| RM7885A1015/U | 120 Vac (+10, -15%) | Intermittent | 15 min |

RM7888 PLC Adaptable Primary Control



Dimensions in inches (millimeters)



1 REMOVE ONLY FOR TERMINAL TEST ACCESS.

M9494

Integrated burner control for industrial process semi-automatically fired gas, oil, coal, or combination fuels for single and multiple burner applications. PLC Adaptable.

- Functions include automatic burner startup sequencing, five user selectable run sequences, four line-voltage sequence control inputs, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Requires a relay module, subbase, and amplifier for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display mounting, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Use with master system control which determines purge timing and confirms air supply and air flow.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.

Application: Primary Control - PLC Adaptable

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

Pilot Type: selectable

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 10 oz (0.7 kg)

Approvals, Factory Mutual: Approved.

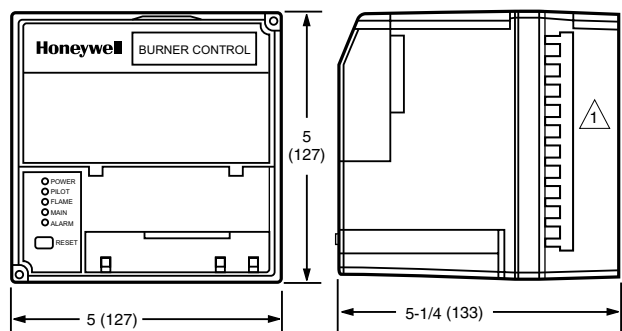
| Material Number | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|----------------------------------|-----------------------------------|---|
| RM7888A1019/U | 15 sec | 4 sec | Selectable sequences |
| RM7888A1027/U | 15 sec | 10 sec | For 10 sec DSI applications, selectable sequences |

7800 Series Burner Controls

RM7890 On-Off Primary Control with VPS



Dimensions in inches (millimeters)



1 REMOVE ONLY FOR TERMINAL TEST ACCESS.

M5003B

Integrated on/off primary burner control for automatically fired gas, oil or combination fuel single burner applications. Contains Valve Proving Feature. Requires S7800A1142 Display to program VPS feature.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
- Subbase and amplifier are required for operation.
- Power LED blinks Fault Code on lockout.
- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable relight or lockout on loss of flame.
- Contains Valve Proving Feature - require S7800A1142 Keyboard Display (not provided) to set up.

Application: On-Off Primary Control w/VPS

Preignition: Yes

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

Pilot Type: intermittent

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.

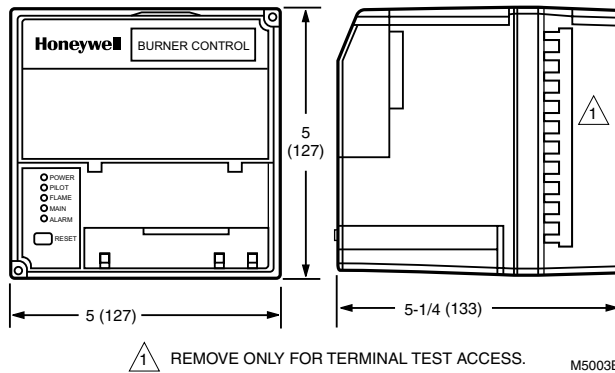


| Material Number | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Comments |
|-----------------|----------------------------------|-----------------------------------|---|
| RM7890A1056/U | Intermittent | 4 sec or 10 sec | Includes programmable VPS (Valve Proving Switch) check feature and blinking LED fault annunciation |
| RM7890B1048/U | Intermittent | 4 sec or 10 sec | Includes Shutter Drive Capability, VPS (Valve Proving Switch) check and blinking LED fault annunciation |

RM7890; EC7890 On-Off Primary Controls



Dimensions in inches (millimeters)



Microprocessor-based integrated primary burner control for automatically fired gas, oil or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.
- Subbase and amplifier are required for operation.

- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable relight or lockout on loss of flame.

Application: On-Off Primary Control

Flames Establishing Period - Main: Intermittent

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier.

Frequency: 50 Hz; 60 Hz (±10%)

Pilot Type: intermittent

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 13 oz (0.8 kg)

Approvals, Swiss RE: Acceptable



| Material Number | Voltage | Flame Establishing Period - Pilot | Approvals, Underwriters Laboratories Inc. | Approvals, CSA | Approvals, Factory Mutual | Approvals, Gastec/European | Comments |
|-----------------|----------------------------|-----------------------------------|---|--------------------------------|---------------------------|--|--|
| EC7890B1028/U | 220 to 240 Vac (+10, -15%) | 4 or 10 sec | | | Report No. 1V9A0.AF. | CE approval model EC7890B1028/U: PIN-0063CT1466 against EN 298:2012 under GAR 2016/426 | Includes Shutter Drive Capability |
| RM7890A1015/U | 120 Vac (+10, -15%) | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | | |
| RM7890A1031/U | 120 Vac (+10, -15%) | 30 sec fixed | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | | |
| RM7890A1064/U | 120 Vac (+10, -15%) | 4 or 10 sec | | | Report No. 1D0A1.AF. | | |
| RM7890B1014/U | 120 Vac (+10, -15%) | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | | Includes Shutter Drive Capability |
| RM7890B1030/U | 120 Vac (+10, -15%) | Fixed 4 or 10 sec PFEP | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | | Includes Shutter Drive Capability, Alarm sounds when Reset pushed. |
| RM7890B1055/U | 120 Vac (+10, -15%) | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | CE approval model RM7890B1055/U: PIN-0063CT1466 against EN 298:2012 under GAR 2016/426 | Includes Shutter Drive Capability |
| RM7890D1004/U | 120 Vac (+10, -15%) | 15 or 30 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Report No. OX4A5.AF. | | Higher Flame Sensor Voltage for Infra Red Heater Applications |
| RM7890B1048 | 120 Vac (+10, -15%) | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | | Report No. OX4A5.AF. | | Includes Shutter Drive Capability |
| RM7890B1063 | 120 Vac (+10, -15%) | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | | | | Includes Shutter Drive Capability |

7800 Series Burner Controls

RA890 Replacement Options using RM/EC7890 Components

The Honeywell RA890 Protectorelay® Flame Safeguard product line has reached end-of-life and is going to go obsolete the first quarter of 2020. Critical components have become difficult to source, limiting our ability to continue to build and offer this line to our customers.

| Obsolete Products | Replacement Products |
|--|--|
| The RA890 line of products will be replaced with comparable models in the RM/EC7800 SERIES* | |
| Group A RA890G1245/U, RA890F1304/U, RA890G1278/U, RA890G1040/U, RA890G1260/U, RA890F1288/U. | Group A 6 replacement kits that covers most RA890 applications. (see below for details on replacement kit sku numbers) |
| Group B RA890F1296/U, RA890F1270/U, RA890F1411/U, RA890G1286/U, RA890G1229/U, RA890F1346/U, RA890F1338/U, RA890F1718/U, RA890G1336/U, RA890F1387/U, RA890F1478/U | Group B Replacement components must be ordered separately. To replace the RA890 the following will be required: RM/EC7890 Flame Relay R78xx Flame Amplifier Q7800F1004/U Subbase adapter please reference below charts for replacement options |

Replacement components

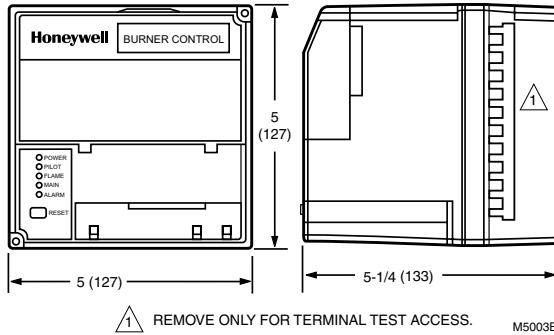
| RA890 MODEL | RELAY MODULE | SUBBASE | FLAME AMPLIFIER | REPLACEMENT OPTIONS | NOTES |
|--------------|---------------|--------------|-----------------|-------------------------|------------------|
| RA890G1245/U | EC7890B1028/U | Q7800F1004/U | R7849A1015/U | RA890K1245/U | Order KIT |
| RA890F1304/U | EC7890B1028/U | Q7800F1004/U | R7847A1025/U | RA890K1304/U | Order KIT |
| RA890G1278/U | EC7890B1028/U | Q7800F1004/U | R7849A1023/U | RA890K1278/U | Order KIT |
| RA890G1040/U | RM7890B1063/U | Q7800F1004/U | R7849A1023/U | RA890K1040/U | Order KIT |
| RA890G1260/U | RM7890A1015/U | Q7800F1004/U | R7849A1023/U | RA890K1260/U | Order KIT |
| RA890F1288/U | RM7890A1015/U | Q7800F1004/U | R7847A1033/U | RA890K1288/U | Order KIT |
| RA890F1296/U | EC7890B1028/U | Q7800F1004/U | R7847A1033/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1270/U | RM7890A1015/U | Q7800F1004/U | R7847A1025/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1411/U | RM7890B1063/U | Q7800F1004/U | R7847A1033/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890G1286/U | EC7890B1028/U | Q7800F1004/U | R7849A1023/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890G1229/U | RM7890A1015/U | Q7800F1004/U | R7849A1015/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1346/U | RM7890A1031/U | Q7800F1004/U | R7847A1033/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1338/U | RM7890A1031/U | Q7800F1004/U | R7847A1025/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1718/U | RM7890A1031/U | Q7800F1004/U | R7847A1033/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890G1336/U | RM7890A1015/U | Q7800F1004/U | R7849A1023/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1387/U | EC7890B1028/U | Q7800F1004/U | R7847A1033/U | Relay/Subbase/Flame Amp | Order Separately |
| RA890F1478/U | RM7890A1015/U | Q7800F1004/U | R7847A1025/U | Relay/Subbase/Flame Amp | Order Separately |

* Please contact your regional Honeywell sales representative for more information on replacement parts ordering process.

RM7895; EC7895 On-Off Primary Control with Prepurge



Dimensions in inches (millimeters)



Microprocessor-based integrated primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self diagnostics and troubleshooting.

- Subbase, amplifier, and prepurge timer are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUST™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Optional local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation. Selectable relight or lockout on loss of flame.
- Airflow switch check.

Application: On-Off Primary Control with Prepurge

Interlocks: Selectable

PrePurge: Determined by ST7800A Purge Timer Card

Required Components: Q7800 Universal Wiring Subbases, Flame Signal Amplifier and ST7800A Plug-in Purge Timer Card

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 15 oz (0.9 kg)

Approvals, Swiss RE: Acceptable

Used With: 7800 Series Amplifiers (Except RM7895E1002/U uses R7847 ONLY)

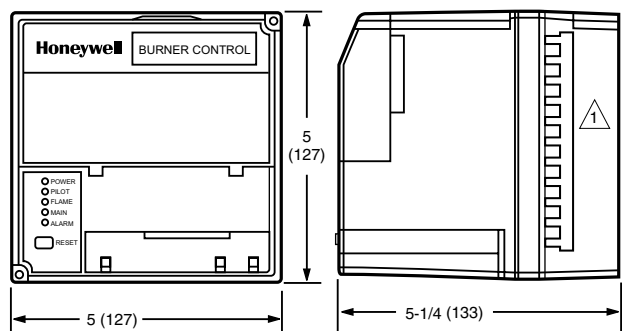
| Material Number | Voltage | Pilot Type | AirFlow Check | Delayed Main Valve | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Approvals, Underwriters Laboratories Inc. | Approvals, CSA | Approvals, Control Safety Devices | Approvals, Factory Mutual | Comments |
|-----------------|----------------------------|--------------|---------------|--------------------|----------------------------------|-----------------------------------|---|--------------------------------|-----------------------------------|---------------------------|--|
| EC7895A1010/U | 220 to 240 Vac (+10, -15%) | intermittent | | No | Intermittent | 4 or 10 sec | | | | Report No. 1D0A1.AF | |
| EC7895C1000/U | 220 to 240 Vac (+10, -15%) | interrupted | | Yes | 10 sec | 4 or 10 sec | | | | Report No. 1D0A1.AF | |
| RM7895A1014/U | 120 Vac (+10, -15%) | intermittent | | No | Intermittent | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | |
| RM7895A1048/U | 120 Vac (+10, -15%) | intermittent | | No | Intermittent | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | Includes ignition cut-out during PFEP and special sequence for early spark termination |
| RM7895B1013/U | 120 Vac (+10, -15%) | intermittent | Dynamic | No | Intermittent | 4 to 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | |
| RM7895C1012/U | 120 Vac (+10, -15%) | interrupted | | Yes | 10 sec | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | |
| RM7895C1020/U | 120 Vac (+10, -15%) | interrupted | | Yes | 10 sec | 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | Includes ignition cut-out during PFEP and special sequence for early spark termination |
| RM7895D1011/U | 120 Vac (+10, -15%) | interrupted | Dynamic | Yes | 10 sec | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | |
| RM7895E1002/U | 120 Vac (+10, -15%) | intermittent | | No | Intermittent | 15 or 30 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | Higher Flame Sensor Voltage for Infra Red Heater Applications |
| RM7895E1010 | 120 Vac (+10, -15%) | intermittent | | No | Intermittent | 15 or 30 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | | |
| RM7895A1089 | 100 Vac (+10, -15%) | intermittent | Dynamic | No | Intermittent | 4 or 10 sec | Component Recognized, File No. MP268; Guide No. MCCZ. | Certified, File No. LR95329-3. | Acceptable: CSD-1 | Report No. OX4A5.AF | 100 V version for Japan |

7800 Series Burner Controls

RM7896 On-Off Primary Control with Pre- and Post-Purge



Dimensions in inches (millimeters)



Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Provides level of safety, functional capability and features beyond conventional controls.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- 15 second postpurge.
- Five LEDs provide sequence information.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Delayed main valve.

Application: On-Off Primary Control with Pre- and Post-purge

Interlocks: Selectable

PrePurge: Determined by ST7800A Purge Timer Card

Required Components: Q7800A, B Universal Wiring Subbases.

R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Voltage: 120 Vac (+10, -15%)

Frequency: 50 Hz; 60 Hz (±10%)

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 15 oz (0.9 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.

| Material Number | Pilot Type | AirFlow Check | Flame Establishing Period - Main | Flame Establishing Period - Pilot | Delayed Main Valve | PostPurge | Comments |
|-----------------|--------------|---------------|----------------------------------|-----------------------------------|--------------------|-----------|---|
| RM7896A1012/U | intermittent | | Intermittent | 4 sec or 10 sec | No | 15 sec | Includes Pre- and Post-Purge. |
| RM7896C1010/U | interrupted | | 10 sec | 4 sec or 10 sec | Yes | 15 sec | Includes Pre- and Post-Purge. |
| RM7896D1019/U | interrupted | Dynamic | 10 sec | 4 sec or 10 sec | Yes | 15 sec | Includes Pre- and Post-Purge. |
| RM7896D1027/U | interrupted | Dynamic | 10 sec | 4 sec or 10 sec | Yes | 60 sec | Blinking Fault code LED, early spark termination when flame sensed, pre- and post-purge |

RM7897 Automatic Primary Control with Programmable Post-Purge



Microprocessor-based integrated full-function primary burner control for automatically fired gas, oil, or combination fuel single burner applications. Programmable Post-Purge. Requires S7800A1142 Display to program post-purge feature.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Five LEDs provide sequence information. Power LED blinks fault code on Safety Shutdown.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Delayed main valve.
- Programmable post-purge using S7800A1142 Keyboard Display (not provided).

Application: On-Off Primary Control with Pre- and Programmable Post-purge

Flame Establishing Period - Pilot: 4 sec or 10 sec

Interlocks: Selectable

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Required Components: Q7800A, B Universal Wiring Subbases. R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz (±10%)

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 15 oz (0.9 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, Control Safety Devices: Acceptable: CSD-1

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.



| Material Number | Voltage | Pilot Type | Delayed Main Valve | Comments | Used With |
|-----------------|---------------------|------------|--------------------|--|------------------------|
| RM7897A1002/U | 120 Vac (+10, -15%) | selectable | | Includes blinking LED fault annunciation feature | 7800 Series Amplifiers |
| RM7897C1000/U | 120 Vac (+10, -15%) | selectable | Yes | Includes blinking LED fault annunciation feature | 7800 Series Amplifiers |

7800 Series Burner Controls

RM7898 On-Off Primary Control with VPS



Application: On-Off Primary Control w/VPS

Flame Establishing Period - Pilot: 4 sec or 10 sec

Interlocks: Selectable

Preignition: Yes

PrePurge: Determined by ST7800A Purge Timer Card

PostPurge: programmed with S7800A1142 display

Required Components: Q7800A, B Universal Wiring Subbases.

R7847, R7848, R7849, R7851, R7852, R7861, or R7886 Flame Signal Amplifier. ST7800A Plug-in Purge Timer Card.

Frequency: 50 Hz; 60 Hz ($\pm 10\%$)

Pilot Type: selectable

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Integrated full-function primary burner control for gas, oil, or combination fuel single burner applications. Include Programmable Post-Purge and Valve Proving Feature. Requires S7800A1142 Display to program VPS and post-purge features.

- Functions include automatic burner sequencing, flame supervision, system status indication, system or self-diagnostics and troubleshooting.
- Subbase, amplifier and purge card are required for operation.
- Options include PC interface, keyboard display module, DATA CONTROLBUS™ MODULE, remote display module, first-out expanded annunciator, and COMBUSTION SYSTEM MANAGER™ software.
- Programmable post-purge.
- Five LEDs provide sequence information. Power LED Blinks Fault code on safety shutdown.
- Interchangeable plug-in flame amplifiers.
- Local or remote annunciation of operation and fault information.
- Nonvolatile memory retains history files and sequencing status after power loss.
- Optional remote reset capability.
- Optional report generation.
- Selectable recycle or lockout on loss of airflow or flame.
- Shutter drive output.
- Airflow switch check.
- Programmable post-purge and Valve Proving feature with S7800A1142 Keyboard Display (not supplied).

Approximate, Dimensions: 5 in. wide x 5 in. high x 5 1/4 in. deep with Q7800A Subbase x 6 3/32 in. deep with Q7800B Subbase (127 mm wide x 127 mm high x 133 mm deep with Q7800A Subbase x 155 mm deep with Q7800B Subbase)

Weight lb. (kg): 1 lb 15 oz (0.9 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. OX4A5.AF.



| Material Number | Voltage | Early Spark Terminations | Comments | Used With |
|-----------------|---------------------|--------------------------|--|------------------------|
| RM7898A1000/U | 120 Vac (+10, -15%) | | Includes blinking LED fault annunciation feature | 7800 Series Amplifiers |
| RM7898A1018/U | 120 Vac (+10, -15%) | Special Sequence | Includes blinking LED fault annunciation feature, with early spark termination | 7800 Series Amplifiers |

Q7800 22 Terminal Universal Wiring Subbases



Burner, panel or wall mount subbases for 7800 SERIES relay modules and S7830A Expanded Annunciator.

- Makes electrical connections for 7800 SERIES relay modules or S7830A Expanded Annunciator through bifurcated contacts.
- Provides terminals for field wiring.
- Twenty-two terminals.

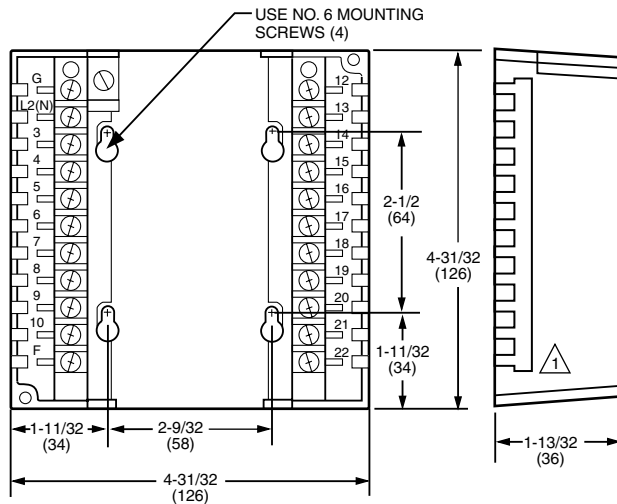
Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approvals, CSA: Certified, File No. LR95329-3.

| Material Number | Application | Approximate, Dimensions | Weight lb. (kg) | Approvals, Underwriters Laboratories Inc. | Comments | Used With |
|-----------------|------------------------|---|---------------------|--|---|------------------|
| Q7800A1005/U | Wiring Subbase | 4 31/32 in. wide x 4 31/32 in. high x 1 13/32 in. deep (126 mm wide x 126 mm high x 36 mm deep) | 7 oz (0.20 kg) | Component Recognized, File No. MP268; Guide No. MCCZ2. | Panel mount | |
| Q7800B1003/U | Wiring Subbase | 4 31/32 in. wide x 4 31/32 in. high x 1 13/32 in. deep (126 mm wide x 126 mm high x 36 mm deep) | 1 lb 3 oz (0.54 kg) | Component Recognized, File No. MP268; Guide No. MCCZ. | Burner/wall mount 2 knockouts each end | |
| Q7800B1011/U | Wiring Subbase | 4 31/32 in. wide x 4 31/32 in. high x 3 in. deep (126 mm wide x 126 mm high x 76 mm deep) | 1 lb 3 oz (0.54 kg) | Component Recognized, File No. MP268; Guide No. MCCZ. | Burner/wall mount 3 knockouts each end | |
| Q7800F1004/U | Wiring Adapter Subbase | 5 in. high x 5 in. wide x 1 3/4 in. deep (127 mm high x 127 mm wide x 44 mm deep) | 15 oz (0.43 kg) | Component Recognized, File No. MP268; Guide No. MCCZ2. | Burner/wall mount adapter subbase for RA890 | RM7890 EC7890 |

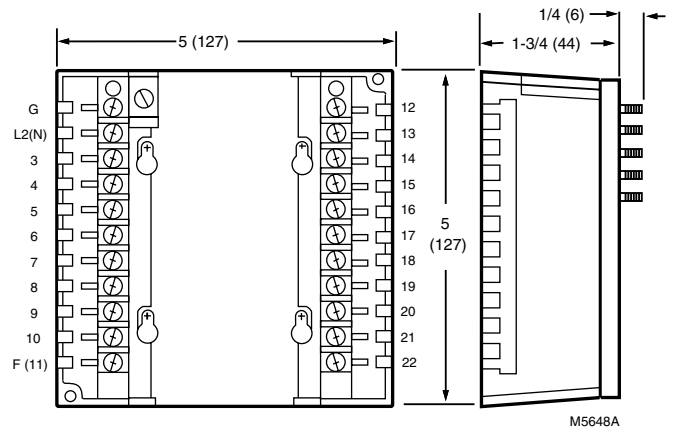
Q7800A dimensions in inches (millimeters)



1 OPTIONAL TERMINAL TEST ACCESS COVER.

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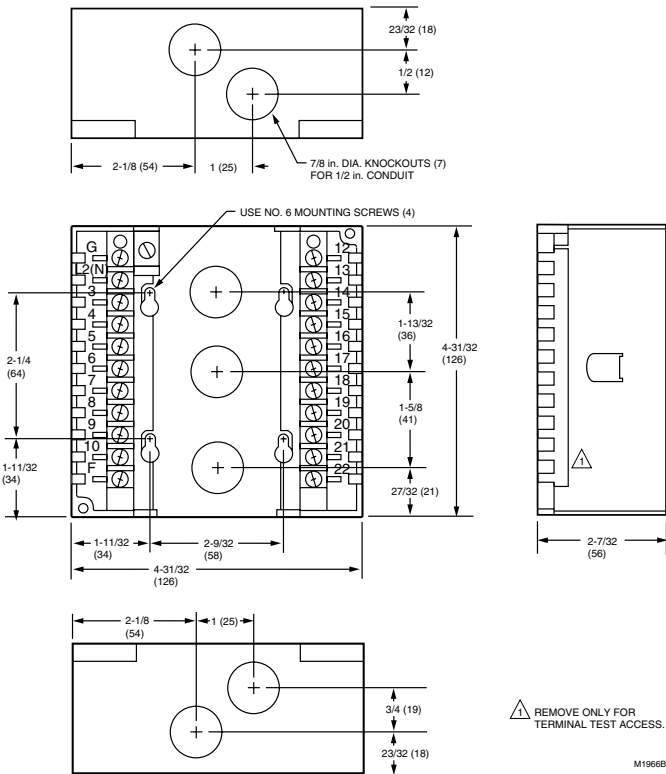
Q7800F dimensions in inches (millimeters)



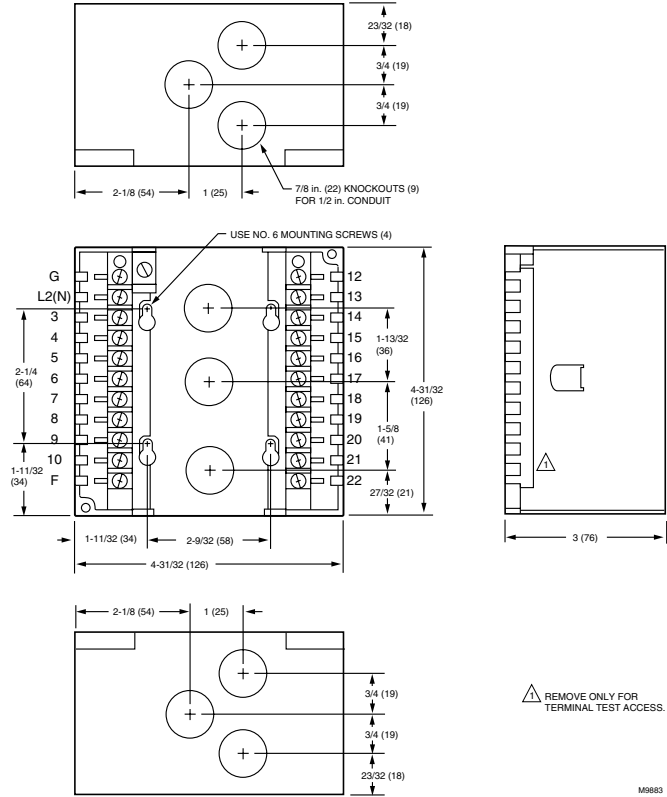
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7800 Series Burner Controls

Q7800B1003 dimensions in inches (millimeters)



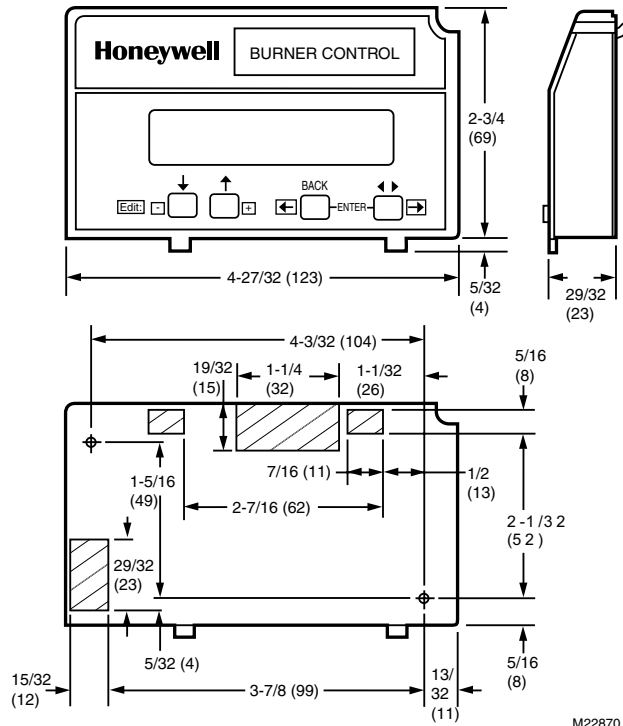
Q7800B1011 dimensions in inches (millimeters)



S7800 Keyboard Display Module



Dimensions in inches (millimeters)



M22870

Provides current status of burner sequence, timing information, hold information and lockout information, as well as selectable or preemptive messages.

- Application flexibility.
- First-out annunciation and system diagnostics provided by 2 row by 20 column Vacuum Fluorescent Display (VFD).
- S7800A1001 offers "Call Service" (Business Card) programmable message displayed when system lockout occurs.
- S7800A1001 series 5 and greater has selectable ModBus Feature.
- Local or remote annunciation of operation and fault information.
- First out expanded annunciation with 24 limit and interlock LEDs enhances keyboard display module information.
- Remote reset.

Application: Keyboard Display

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 4 27/32 in. wide x 2 29/32 in. high x 29/32 in. deep (123 mm wide x 73 mm high x 23 mm deep)

Weight lb. (kg): 4 oz (0.11 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, CSA: Certified, File No. LR95329-3.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Report No. 1V9AO.AF.

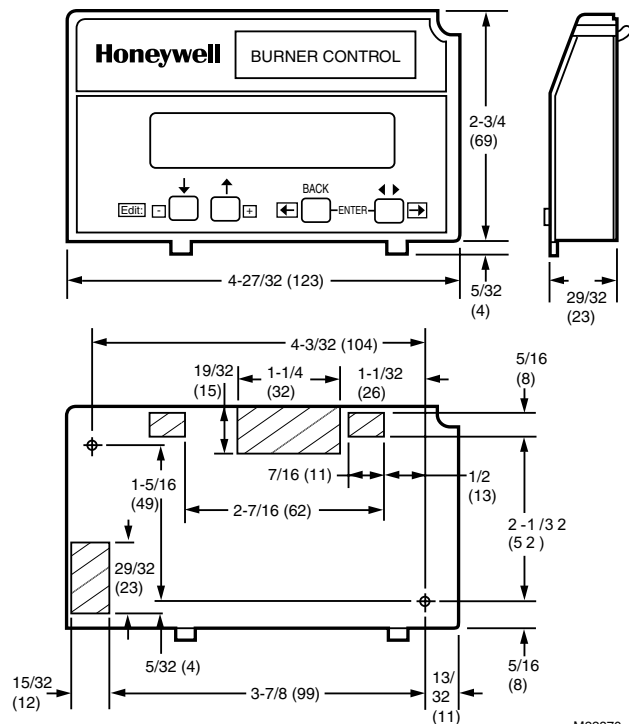
| Material Number | Voltage | Comments |
|-----------------|--|------------------|
| S7800A1001/U | 13 Vdc peak fullwave rectified (+20/-15%). | English Language |

7800 Series Burner Controls

S7800 Keyboard Display Module for VP Programming



Dimensions in inches (millimeters)



Provides current status of burner sequence, timing information, hold information and lockout information, as well as selectable or preemptive messages.

- Application flexibility.
- First-out annunciation and system diagnostics provided by 2 row by 20 column Vacuum Fluorescent Display (VFD).
- “Call Service” (Business Card) programmable message displayed when system lockout occurs.
- Local or remote annunciation of operation and fault information.
- First out expanded annunciation with 24 limit and interlock LEDs enhances keyboard display module information. Display can be Programmed to customize the expanded annunciator messages to the system.
- Required to program Valve Proving and Post Purge feature on selected 7800 Series devices.
- Can be setup for ModBus Communication.
- Provides burner controller data.
- Remote reset.

Application: Keyboard Display for VP setup

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate Dimensions: 4 27/32 in. wide x 2 29/32 in. high x 29/32 in. deep (123 mm wide x 73 mm high x 23 mm deep)

Weight lb. (kg): 4 oz (0.11 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ.

Approvals, CSA: Certified, File No. LR95329-3.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Swiss RE: Acceptable

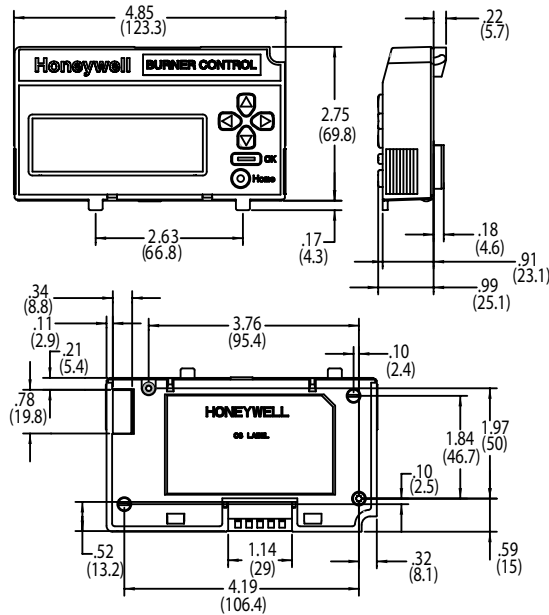
Approvals, Factory Mutual: Report No. 1V9AO.AF.

| Material Number | Voltage | Comments |
|-----------------|--|--|
| S7800A1142/U | 13 Vdc peak fullwave rectified (+20/-15%). | English Language, Capable of displaying special “Call Service” messages, allows setup of S7830A1005 Expanded Annunciator messages, used for VPS programming, and programming Post Purge on select 7800 Devices |
| S7800A1167/U | 13 Vdc peak fullwave rectified (+20/-15%). | Spanish Language with Valve Proving, Post-purge, “Call Service”, and Expanded Annunciator programming ability |

S7800 Keyboard Display Module 4-LINE LCD



Dimensions in inches (millimeters)



The S7800A2142 Keyboard Display Module is the newest and most intuitive way to interact with any 7800 Series Flame Relay module. The new display is packed full of features and best of all – it's compatible with all 7800 SERIES burner controls.

- Larger, easier to read hi-contrast backlit display
- View current system status, firstout remote annunciation, remote reset, report generation, fault information, burner control data, and real-time system
- Diagnostics with plain text explanations of how to fix potential lock-out issues.
- 3 language options with one part number – English, Spanish and French.

The new display offers many pass code protected enhancements including:

- Valve Proving Feature - Allows for programming the Valve Proving Control feature and timing.
- Post Purge Feature - Allows for programming the post purge time.
- Expanded Annunciator Set Up - Allows for naming the S7830 Expanded Annunciator terminals to match your system's drawings.

Application: Keyboard Display 4-line LCD

Vibration: 0.5 G environment

Operating Temperature: 0°F (-18°C) to +140°F (+60°C).

Storage Temperature: -22°F (-30°C) to +158°F (+70°C).

Humidity: 85% relative humidity continuous, noncondensing.

UL NEMA Class 4 rating when P/N 204729A, C NEMA 4 Cover is used.

Weight lb. (kg): 4 oz (0.12 kg)

Approvals, Underwriters Laboratories Inc.: File No. MP268, guide No. MCCZ.

Approvals, FCC: FCC Part 15, Class B, Emissions.

Approvals, Factory Mutual: Report No. J.I.1V9A0.AF. IRI: Acceptable.

Approvals, EN 60730

| Material Number | Voltage | Comments |
|-----------------|--|---|
| S7800A2142/U | 13 Vdc peak fullwave rectified (+20/-15%). | English, Spanish and French Language with Valve Proving, Post-purge, "Call Service", and Expanded Annunciator programming ability |

7800 Series Burner Controls

S7810A Data ControlBus™ Module



Supports remote mounting of S7800 Keyboard Display Module, personal computer communications interface and remote reset.

- Use with remotely mounted S7800 Keyboard Display Module.
- Installs directly on the front of 7800 SERIES Relay Modules.
- Provides communications bus interface and remote reset.

Application: ControlBus™ Module

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 4 27/32 in. wide x 3 11/32 in. high x 29/32 in. deep (123 mm wide x 84 mm high x 23 mm deep)

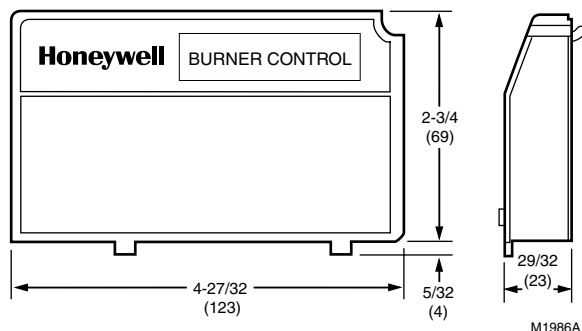
Weight lb. (kg): 4 oz (0.11 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ2.

Approvals, CSA: Certified, File No. LR95329-3.

Approvals, Factory Mutual: Report No. 1V9AO.AF.

Dimensions in inches (millimeters)



| Material Number | Voltage | Comments |
|-----------------|--|----------------------------------|
| S7810A1009/U | 13 Vdc peak fullwave rectified (+20/-15%). | Includes 203541 5-wire Connector |

S7810M ModBus Module



S7810M ModBus Module operates as ModBus RTU slave device.

- Provides ability to remotely mount the S7800 Keyboard Display Module.
- Installs directly on the front of 7800 SERIES Relay Modules.
- Provides ModBus communications bus interface.
- Remote reset.

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 4 27/32 in. wide x 2 29/32 in. high x 29/32 in. deep (123 mm wide x 73 mm high x 23 mm deep)

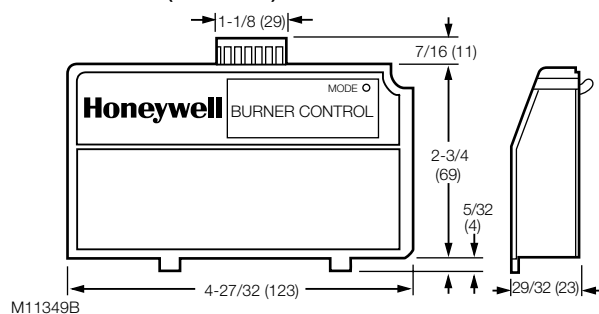
Weight lb. (kg): 4 oz (0.11 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ2.

Approvals, CSA: Certified, File No. LR95329-3.

Approvals, Factory Mutual: Report No. 1V9AO.AF.

Dimensions in inches (millimeters)

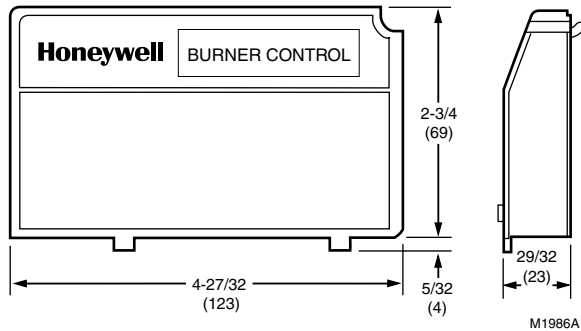


| Material Number | Voltage | Application | Comments | Approvals, Gastec/European |
|-----------------|--|---|--|-------------------------------|
| S7810M1003/U | 13 Vdc peak fullwave rectified (+20/-15%). | ControlBus™ Module-MODBUS | Includes 208727 8 pin electrical connector | |
| S7810M1029/U | 13 Vdc peak fullwave rectified (+20/-15%). | ControlBus™ Module-MODBUS - CE Certified (no reset allowed) | Includes 208727 8 pin electrical connector | CE approved, report 170101466 |

S7820 Remote Reset Module



Dimensions in inches (millimeters)



Serves as link between remote reset pushbutton and relay module. Allows 7800 SERIES relay module to be reset from a remote location.

- Reset button can be installed up to 1000 feet away.
- Installs directly on the front of 7800 SERIES relay module.

Vibration: 0.5 G environment

Shipping and Storage Temperature Range: -40°F to +140°F (-40°C to +60°C)

Approximate, Dimensions: 4 27/32 in. wide x 2 29/32 in. high x 29/32 in. deep (123 mm wide x 73 mm high x 23 mm deep)

Weight lb. (kg): 3 oz (0.09 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ2.

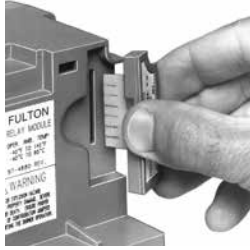
Approvals, CSA: Certified, File No. LR95329-3.

Approvals, Factory Mutual: Report No. 1V9AO.AF.

| Material Number | Application | Comments |
|-----------------|---------------------|----------------------------------|
| S7820A1007/U | Remote Reset Module | Includes 203541 5-wire Connector |

7800 Series Burner Controls

ST7800 Plug In Purge Timer



Provides the prepurge timing for select 7800 SERIES relay modules. ST7800C used with the RM7838C only.

Approvals, Underwriters Laboratories Inc.: Component Recognized, File No. MP268; Guide No. MCCZ2.

Approvals, CSA: Certified, File No. LR95329-3.

Approvals, Factory Mutual: Approved: Report No. 2X0A1.AF.

| Material Number | PrePurge | Application |
|-----------------|--------------|------------------------------|
| ST7800A1005/U | 2 seconds | Purge Timer |
| ST7800A1013/U | 7 seconds | Purge Timer |
| ST7800A1021/U | 10 seconds | Purge Timer |
| ST7800A1039/U | 30 seconds | Purge Timer |
| ST7800A1047/U | 40 seconds | Purge Timer |
| ST7800A1054/U | 60 seconds | Purge Timer |
| ST7800A1062/U | 90 seconds | Purge Timer |
| ST7800A1070/U | 2.5 minutes | Purge Timer |
| ST7800A1088/U | 4.0 minutes | Purge Timer |
| ST7800A1096/U | 6.0 minutes | Purge Timer |
| ST7800A1104/U | 9.0 minutes | Purge Timer |
| ST7800A1112/U | 12.0 minutes | Purge Timer |
| ST7800A1120/U | 15.0 minutes | Purge Timer |
| ST7800A1138/U | 22.0 minutes | Purge Timer |
| ST7800A1146/U | 30.0 minutes | Purge Timer |
| ST7800C1003/U | 7 seconds | Purge Timer for RM7838C Only |
| ST7800C1011/U | 20 seconds | Purge Timer for RM7838C Only |
| ST7800C1029/U | 4.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1037/U | 6.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1045/U | 8.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1052/U | 10.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1086/U | 16.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1102/U | 20.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1128/U | 24.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1136/U | 30.0 minutes | Purge Timer for RM7838C Only |
| ST7800C1060/U | 12.0 Minutes | Purge Timer for RM7838C Only |
| ST7800C1078/U | 14.0 Minutes | Purge Timer for RM7838C Only |
| ST7800C1094/U | 18.0 Minutes | Purge Timer for RM7838C Only |
| ST7800C1110/U | 22.0 Minutes | Purge Timer for RM7838C Only |

7800 Series Accessories or Parts

Application: Accessory or Replacement Part

| Material Number | Comments | Used With | |
|-----------------|--|--------------------------|---|
| 203541/U | | S7800 Display | |
| 203765/U | Includes 203541 5-wire Connector | S7800 Display | |
| 205321B/U | Includes 203541 5-wire Connector | S7800 Display |  |
| 206311/U | Carrying Case for S7800 Display | S7800 Display |  |
| 208727/U | | S7810M | |
| 221729A/U | | 7800 Relay Modules | |
| 221818A/U | | S7800 Display | |
| 221818C/U | | S7800 Display |  |
| 50023821-001/U | Includes 203541 5-wire Connector | S7800 Display | |
| 50023821-002/U | Includes 203541 5-wire Connector | S7800 Display | |
| 204729A | NEMA 4 Cover Assembly for S7800A KDM | S7800 Display 4-line LCD |  |
| 204729C | NEMA 4 Cover Assembly for S7800A KDM with reset button | S7800 Display 4-line LCD |  |

7800 Series Burner Controls

7800 SERIES Flame Signal Amplifiers



Solid state plug-in amplifiers that respond to flame detector inputs to indicate the presence of flame when used with 7800 SERIES relay modules.

- Flame failure response time of 0.8 or 3.0 seconds (1.0 or 2.0 for CE approved devices).
- Flame signal strength ranges from 0.0 to 5.0 Vdc.
- Plug into 7800 relay module through printed circuit board edge connector keyed for proper orientation.
- Flame signal test jacks to measure amplifier flame signal voltage.
- Color-coded labels identify flame detection type.
- Dynamic Self-Check Amplifier test the detectors and all electronic components in the flame detection system.
- Ampli-check tests the amplifier and 7800 SERIES Relay.
- None (standard) is just tested at normal system startup.
- 7800 SERIES relay module locks out on safety shutdown with flame detection system failure.
- Compatible with existing Honeywell flame detectors (order separately).

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: File No. LR95329-3

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Approved: Report No. 1V9A0.AF

Approvals, GASTEC/European (EN 298:2012):

Intermittent operation: R7847A, R7849A, R7852A

Continuous operation: R7847B, R7851C, R7852B, R7861, R7886

| Material Number | Type | Flame Failure Response Time (sec) | Self Checking | Use With Primary Safety Control | Use With Flame Sensor | Comments |
|-----------------|---------------|-----------------------------------|--------------------|---------------------------------|---|------------------|
| R7847A1025/U | Rectification | 0.8 or 1.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods | Color: Green |
| R7847A1033/U | Rectification | 2.0 or 3.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods; Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C | Color: Green |
| R7847A1074/U | Rectification | 0.8 or 1.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods for impedance matching for leadwire runs > 50' | Color: Green |
| R7847A1082/U | Rectification | 2.0 or 3.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A, C | Color: Green |
| R7847B1023/U | Rectification | 0.8 or 1.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods | Color: Green |
| R7847B1031/U | Rectification | 2.0 or 3.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods; Gas, oil, coal: Ultraviolet Flame Sensor C7012A, C | Color: Green |
| R7847B1064/U | Rectification | 0.8 or 1.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods for impedance matching for leadwire runs > 50' | Color: Green |
| R7847B1072/U | Rectification | 2.0 or 3.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas: Rectifying Flame Rods for impedance matching for leadwire runs > 50' or Ultraviolet Flame Sensor C7012A, C | Color: Green |
| R7847C1005/U | Rectification | 2.0 or 3.0 sec | Dynamic Self-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Ultraviolet Flame Sensor C7012E, F | Color: Green |
| R7849A1015/U | Ultraviolet | 0.8 or 1.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas, Oil: Minipeeper C7027A, C7035A, C7044 | Color: Purple |
| R7849A1023/U | Ultraviolet | 2.0 or 3.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas, Oil: Minipeeper C7027A, C7035A, C7044 | Color: Purple |
| R7849B1013/U | Ultraviolet | 0.8 or 1.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas, Oil: Minipeeper C7027A, C7035A, C7044 | Color: Purple |
| R7849B1021/U | Ultraviolet | 2.0 or 3.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas, Oil: Minipeeper C7027A, C7035A, C7044 | Color: Purple |
| R7851B1000/U | Optical | 2.0 or 3.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962B | Color: White |
| R7851B1018/U | Optical | 0.8 or 1.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas, Oil, Coal: Optical (UV, Visible Light) C7927, C7962B | Color: White |
| R7851C1008/U | Optical | 2.0 or 3.0 sec | Dynamic Self-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Optical (UV only) C7961E, F | Color: White |
| R7852A1001/U | Infrared | 2.0 or 3.0 sec | None (standard) | 7800 SERIES Relay Modules | Gas, oil, coal: Infrared (lead sulfide) C7915 | Color: Red/White |
| R7852B1009/U | Infrared | 2.0 or 3.0 sec | Ampli-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Infrared (lead sulfide) C7915 | Color: Red/White |
| R7861A1026/U | Ultraviolet | 2.0 or 3.0 sec | Dynamic Self-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Ultraviolet Flame Sensor C7061 | Color: Purple |
| R7861A1034/U | Ultraviolet | 0.8 or 1.0 sec | Dynamic Self-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Ultraviolet Flame Sensor C7061 | Color: Purple |
| R7886A1001/U | Ultraviolet | 2.0 or 3.0 sec | Dynamic Self-Check | 7800 SERIES Relay Modules | Gas, oil, coal: Adjustable Sensitivity Ultraviolet Flame Sensor C7076 | Color: Blue |

Flame Amplifier Accessories

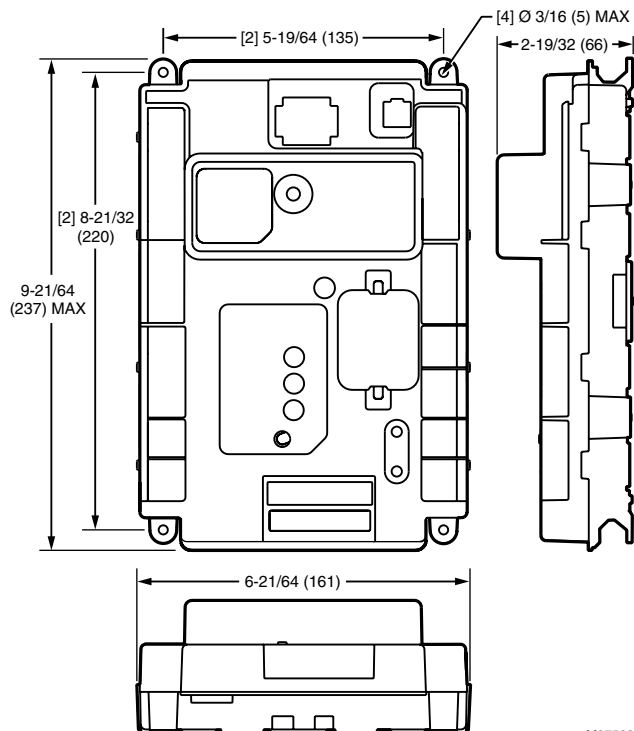
| Material Number | Description | Used With |
|-----------------|---|-----------|
| 32005301-001/U | T Filter for Rectification Applications | R7847 |

SOLA Controllers

SOLA™ Hydronic Control



Dimensions in inches (millimeters)



M27583

The R7910A SOLA HC is a hydronic boiler control system that provides heat control, flame supervision, circulation pump control, fan control, boiler control, and electric ignition function. It will also provide boiler status and error reporting.

- Frost Protection, Slow Start, Anti-condensate, Boiler Delta-T, Stack Limit, Boiler Limit, DHW Limit, Outlet T-Rise Limit
- Primary Flame Safeguard Control
- Internal or external spark generator.
- Analog NTC Sensor Inputs (10 kohm or 12 kohm).
- Other Analog Inputs
- PID Load Control
- Digital Inputs
- Digital Outputs
- Analog Outputs
- Algorithm Prioritization
- Two Temperature Loops of Control (CH and DHW)
- High Limit Control-CH, DHW, & Stack (Meets UL 353) using dual 10 kohm NTC sensors.
- Fifteen Item Fault Code History including equipment status at time of lockout
- Fifteen Item Alert Code Status including equipment status at time of internal alerts
- 24 Vac Device Power
- 24 or 120 Vac Digital I/O models available.
- Flame Signal test jacks (Vdc)
- Three Status LEDs.
- UV or Flame rod Flame Sensing.
- Flap Valve Check
- Condensate Check
- Neighboring Burner Interaction
- Modbus Heartbeat
- DBI Early Spark Termination
- Flow Switch Input

Application: Hydronic

Frequency: 50-60 Hz \pm 5%

Approximate, Dimensions: 9 21/64 in. x 6 21/64 in. x 2 19/32 in. (237 mm x 161 mm x 66 mm)

Comments: Includes Programmable features

Approvals, Control Safety Devices: Acceptable

Approvals, FCC: Part 15, Class B Emissions

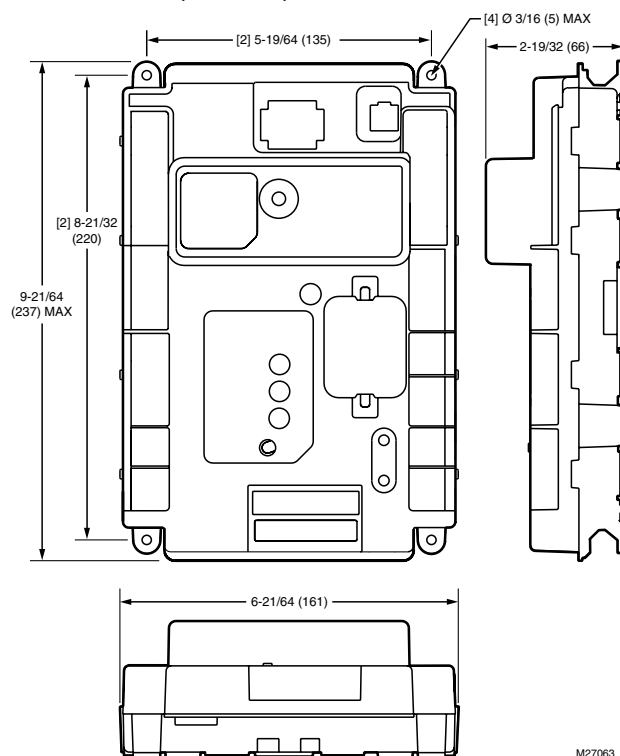
Approvals, Underwriters Laboratories (RU)(cRU): File No. MP268 (MCCZ2, MCCZ8).

| Material Number | Enclosure Rating | Firing Rate Switch | Flame Sensor Type | Modulation Output | Voltage | Approvals, Underwriters Laboratories |
|-----------------|------------------|-----------------------------------|-----------------------|--|--------------------------------|--|
| R7910A1001/U | NEMA 1/IP 40 | | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 24 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1019/U | NEMA 1/IP 40 | High Fire Switch; Low Fire Switch | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 120 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1027/U | NEMA 1/IP 40 | | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 120 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1084/U | NEMA 1/IP 40 | | FR | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 24 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1118/U | NEMA 1/IP 40 | | FR, High Energy Spark | Yes (PWM) | 24 Vac Operating; 24 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1138/U | | | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 24 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |
| R7910A1183/U | | | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 120 Vac Load | Underwriters Laboratories (RU) (cRU): File No. MP268 (MCCZ2, MCCZ8). |

SOLA™ Steam Control



Dimensions in inches (millimeters)



M27063

The R7911A SOLA SC is a steam boiler control system that provides heat control, flame supervision, fan control, boiler control, and electric ignition function. It will also provide boiler status and error reporting.

- Slow Start, Stack Limit, Boiler Limit
- Primary Flame Safeguard Control
- Internal or external spark generator.
- Analog Stack Temp NTC Sensor Inputs (10kohm or 12kohm).
- Other Analog Inputs
- PID Load Control
- Digital Inputs
- Digital Outputs
- Analog Outputs
- Algorithm Prioritization
- High Limit Control - Stack (Meets UL 353) using dual 10 kohm NTC sensors.
- Fifteen Item Fault Code History including equipment status at time of lockout
- Fifteen Item Alert Code Status including equipment status at time of internal alerts
- 24 Vac Device Power
- 24 or 120 Vac Digital I/O models available.
- Flame Signal test jacks (Vdc)
- Three Status LEDs.
- UV or Flame rod Flame Sensing.

Application: Steam

Frequency: 50-60 Hz \pm 5%

Approximate, Dimensions: 9 21/64 in. x 6 21/64 in. x 2 19/32 in. (237 mm x 161 mm x 66 mm)

Comments: Includes Programmable features

Approvals, Control Safety Devices: Acceptable

Approvals, FCC: Part 15, Class B Emissions

Approvals, Underwriters Laboratories (RU)(cRU): File No. MP268 (MCCZ2, MCCZ8).

| Material Number | Enclosure Rating | Firing Rate Switch | Flame Sensor Type | Modulation Output | Voltage |
|-----------------|------------------|-----------------------------------|-------------------|--|--------------------------------|
| R7911A1000/U | NEMA 1/IP 40 | | FR/UV | Yes (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 120 Vac Load |
| R7911A1026/U | NEMA 1/IP 40 | High Fire Switch; Low Fire Switch | FR/UV | No (PWM); Yes (4-20 mA); Yes (0-10 Vdc) | 24 Vac Operating; 120 Vac Load |

SOLA Controllers

| ITEM | R7910A1001 | R7910A1019 | R7910A1027 | R7910A1084 | R7910A1118 | R7910A1138 | R7910A1183 | R7911A1000 | R7911A1026 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| 24 Vac Control Power Input 24 Vac Control Power Input | • | • | • | • | • | • | • | • | • |
| 24 Vac Demand Circuit (STAT) 24 Vac Demand Circuit (STAT) | • | • | • | • | • | • | • | • | • |
| 24 Vac Load Circuit 24 Vac Load Circuit | • | | | • | • | • | | | |
| 120 Vac Load Circuit 120 Vac Load Circuit | | • | • | | | | • | • | • |
| Modulation Output: PWM Modulation Output: PWM | • | • | • | • | • | • | • | • | • |
| Modulation Output: 4-20 mA or 0-10 Vdc Modulation Output: 4-20 mA or 0-10 Vdc | • | • | • | • | | • | • | • | • |
| High/Low fire Switch Inputs High/Low fire Switch Inputs | | • | | | | | | | • |
| Flame Rod Flame Detection Flame Rod Flame Detection | • | • | • | • | • | • | • | • | • |
| UV Flame Detection UV Flame Detection | • | • | • | | | • | • | • | • |
| S10 Input S10 Input | | | | | • | | | | |
| Flap Valve Input Flap Valve Input | | | | | | • | | | |
| Condensate Input Condensate Input | | | | | | • | | | |
| Neighboring Burner Interaction | | | | | | • | | | |
| Pilot Valve | • | • | • | • | | • | • | • | • |
| Main Valve | • | • | • | • | • | • | • | • | • |
| External Ignition Option | • | • | • | • | | • | • | • | • |
| Thermostat Input/Heat Anticipator | | | • | • | | | | | |
| PII Input | • | • | • | • | | | • | • | • |
| TOD (Time of Day Input) | • | • | • | • | | • | • | • | • |
| Hydronic Contro | • | • | • | • | • | • | • | | |
| Steam Control | | | | | | | | • | • |
| Lead-Lag (Cascade) Control | • | • | • | • | • | • | • | • | • |
| Expanded Annunciation Capability | • | • | • | • | | • | • | • | • |
| CSD-1 Compliant | • | • | • | • | • | • | • | • | • |
| Modbus Heartbeat | | | | | | | • | | |
| DBI with Early Spark Termination | | | | | | | • | | |
| Flow Switch Input | | | | | | | • | | |

S7999D SOLA™ System Operator Interface



The S7999D can be used to monitor an individual boiler and also used for multiple boiler applications in a lead/lag arrangement. It consists of 2 RS485 ports and a USB port. The S7999D display can be flush front or mounted behind in a panel cutout. Wiring connections are through a removable 8-pin wiring connector.

- Individual boiler status, configuration, history and diagnostics
- Allows configuration and monitoring of the Sola Controls (R7910 Hydronic Controls or R7911 Steam Control) burner control sequence, flame signal, diagnostics, historical files, and faults
- Allows switching view between multiple boilers and lead-lag master/slaves
- Real-time data trending analysis and transferring saved trend data to Excel spreadsheet
- 7" 800 x 480, 24 bit high resolution color LCD touch screen for clarity
- Audio output with integral speaker for sound output.
- Adjustable backlight control
- Real time clock with coin-cell battery back-up (CR2032)
- Volume control
- Screen Capture function to capture screen images
- USB port for file transfers and software updates
- 2 RS-485 (COM1 & 2) ports for Modbus™ interface to Sola controls and BAS Gateway.
- Windows® CE 6.0 Operating System
- 8-pin connector, back-up battery and mounting hardware are provided

Application: Interface Display

Frequency: 50-60 Hz \pm 5%

Ambient Temperature Range: 14°F to 122°F (-10°C to 50°C)

Shipping and Storage Temperature Range: -13°F to 155°F (-25°C to 60°C)

Approximate, Dimensions: 9-13/32 in. wide x 6-21/32 in. high x 1-9/16 in. deep (239 mm wide x 169 mm high x 40 mm deep)

Operating Humidity Range (% RH): 85% RH continuous, non-condensing

Comments: Black Plastic Border

Approvals, FCC: FCC Part 15, Class A digital device

Approvals, Canadian Underwriters Inc.: Component Recognized: File Number MH20613 (MCCZ)

Approvals, Underwriters Laboratories (RU)(cRU): File No. MP268 (MCCZ2, MCCZ8).

| Material Number | Voltage | Description | Used With |
|-----------------|---------|---|-------------|
| S7999D1006/U | 24 Vac | System Operator Interface with Black Plastic Border | R7910/R7911 |

SOLA Controllers

PM7910 Program Module



The PM7910 Program Module is an optional plug-in for the R7910 SOLA HC and R7911 Sola SC. From the system level the S7999 System Operator Interface can direct the R7910/R7911 to transfer or retrieve parameter information with the Program Module.

- Can be removed or installed while the R7910 or R7911 is powered.
- Facilitate multiple controller setups.
- Backup and restore the R7910 programmable data including:
 - Non-safety parameter values — Parameter Control Blocks (information on how the parameter values may be modified.)

| Material Number | Application | Comments |
|-----------------|----------------------------|---|
| PM7910A1013/U | Support backup and restore | Indicator LEDs - One (Status LED) Blinking LED indicated the Program Module is properly seated and powered from the R7910/R7911 |

SOLA™ Accessories or Parts

Application: Single element sensor with 6" leadwire with socket.

| Material Number | Application |
|-----------------|---|
| 32003971-002/U | 10K Ohm Single element sensor with 6" Leadwire with Socket |
| 32003971-003/U | 10K Ohm Single element sensor with 42" leadwires, includes wire nuts (2), #8 mounting screws (3), anchors (2), sensor clip (1), tie strap (2) |
| 50001464-006/U | 10K Ohm Dual Element Sensor with 6" leadwires with Female Socket |
| 50001464-007/U | 10K Ohm Dual Element Sensor with 42" leadwires without connector |
| 50032893-001/U | Bag of connectors for R7910 and R7911 Controllers |
| 50063482-001/U | Replacement Bag Assembly for S7999D, includes: connector, battery, mounting screws, clamp filters. |

Flame Detectors

C7012 Solid State Purple Peeper® Ultraviolet Flame Detector



Solid state electronic flame detectors for use with Honeywell Flame Safeguard controls and amplifiers. Sense ultraviolet radiation produced by combustion of gas, oil, coal or other fuels.

- Mount horizontally, vertically or at any angle in between.
- Provide quick electrical hookup with threaded conduit fitting and color-coded leadwires.
- Reduced nuisance shutdowns by wiring two in parallel.
- C7012A, E meets NEMA 4 standards with viewing window rated to 20 psi.
- C7012C, F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi.
- Pipe connection (all models) 1 in. NPT, includes 1 in. to 3/4 in. bushing adapter for 3/4 in. viewing pipe mounting.

Type: Ultraviolet, Purple Peeper

Application: Gas, Oil or Coal fired burners

Lead Length: 96 in. (2438 mm)

Power Consumption: 2.5 W

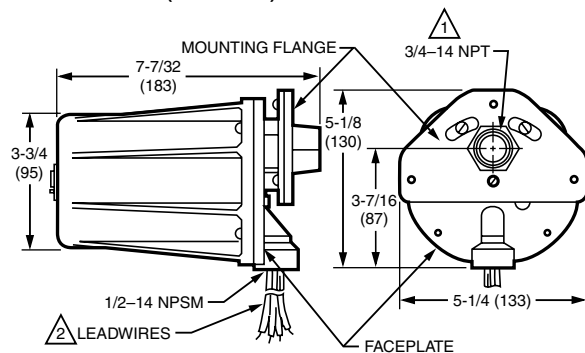
Approvals, CSA: Certified: Master Report LR95329-1

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Approved: Report No. 14740.01

| Material Number | Frequency | Weight | NEMA Rating | Electrical Connections | Mounting | Electrical Ratings | Ambient Temperature Range | Approvals, Underwriters Laboratories Inc. | Approvals, Others | Includes | Used With |
|-----------------|-----------------|---------------------|--------------------|---|-----------|--------------------|-------------------------------------|---|-------------------|---------------------------|---|
| C7012A1152/U | 50 Hz; 60 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 4 NEC Class 1 Color- coded lead wires. | 1 in. NPT | 120 Vac | 25°F to 175°F (-4°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover | Flame Amplifiers: R7247A, B; R7847A, B; R7257 |
| C7012A1186/U | 50 Hz; 60 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 4 NEC Class 1 Color- coded lead wires. | 1 in. NPT | 208 Vac | 25°F to 175°F (-4°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover | Flame Amplifiers: R7247A, B; R7847A, B; R7257 |
| C7012C1042/U | 50 Hz; 60 Hz | 14.5 lb (6.6 kg) | Explosion Proof | 4 NEC Class 1 Color- coded lead wires. | 1 in. NPT | 120 Vac | 25°F to 175°F (-4°C to +79°C) | Listed: File No. E34649, Guide No. ZTSZ | | | Flame Amplifiers: R7247A, B; R7847A, B; R7257 |
| C7012G1019/U | 50 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 5 NEC Class 1 Color- coded lead wires. | 1 in. NPT | 220 Vac | 25°F to 175°F (-4°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover | Flame Amplifiers: R7247C, R7847C |

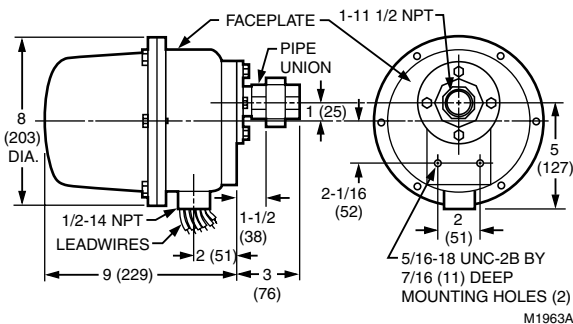
Dimensions in inches (millimeters)



1 C7061A1046, C7061A1053: INCH NPT

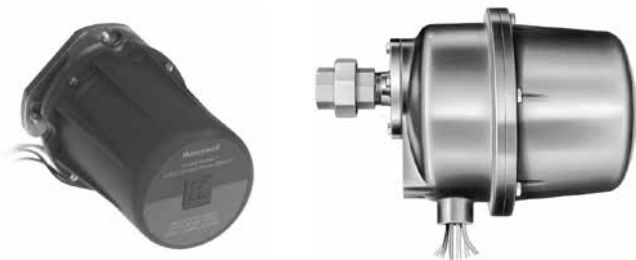
2 C7061A1038 AND C7061A1046: TYPE CONNECTOR.

M10167D



Flame Detectors

C7012 Solid State Purple Peeper® Ultraviolet Flame Detector (Self-Checking)



Solid state electronic flame detectors for use with Honeywell Flame Safeguard controls and amplifiers. Sense ultraviolet radiation produced by combustion of gas, oil, coal or other fuels.

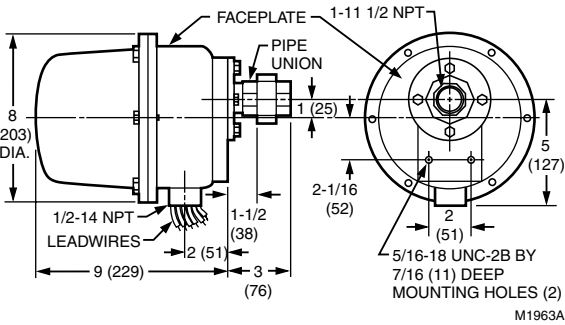
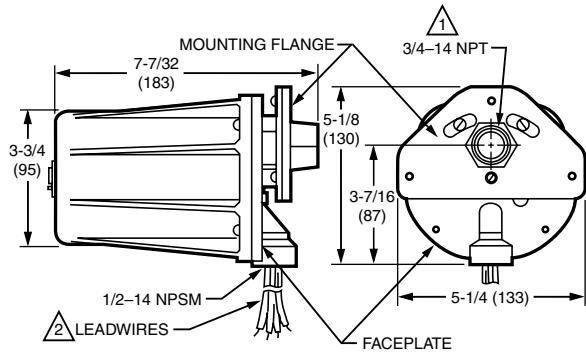
- Mount horizontally, vertically or at any angle in between.
- Provide quick electrical hookup with threaded conduit fitting and color-coded leadwires.

- Reduced nuisance shutdowns by wiring two in parallel.
- Connector not supplied nor available through Honeywell.
- C7012A, E meets NEMA 4 standards with viewing window rated to 20 psi.
- C7012C, F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi.
- Pipe connection (all models) 1 in. NPT, includes 1 in. to 3/4 in. bushing adapter for 3/4 in. viewing pipe mounting.

Type: Ultraviolet, Purple Peeper, Self-Checking
Application: Gas, Oil or Coal fired burners
Lead Length: 96 in. (2438 mm)
Power Consumption: 7.0 W
Approvals, CSA: Certified: Master Report LR95329-1
Approvals, Swiss RE: Acceptable
Approvals, Factory Mutual: Approved: Report No. 14740.01
Used With: Flame Amplifiers: R7247C, R7847C

| Material Number | Frequency | Weight | NEMA Rating | Electrical Connections | Mounting | Electrical Ratings | Ambient Temperature Range | Approvals, Underwriters Laboratories Inc. | Approvals, Others | Includes |
|-----------------|--------------|------------------|-----------------|---------------------------------------|-----------|--------------------|----------------------------------|---|-------------------|---|
| C7012E1112/U | 50 Hz; 60 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 6 NEC Class 1 Color-coded lead wires. | 1 in. NPT | 120 Vac | -20°F to +175°F (-20°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover |
| C7012E1153/U | 50 Hz; 60 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 6 NEC Class 1 Color-coded lead wires. | 1 in. NPT | 240 Vac | -20°F to +175°F (-20°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover |
| C7012E1187/U | 50 Hz | 4.25 lb (1.9 kg) | NEMA 4 | 6 NEC Class 1 Color-coded lead wires. | 1 in. NPT | 220 Vac | -20°F to +175°F (-20°C to +79°C) | Listed: File No. MP268, Guide No. MCCZ | | Cast case and cover |
| C7012F1052/U | 50 Hz; 60 Hz | 14.5 lb (6.6 kg) | Explosion Proof | 6 NEC Class 1 Color-coded lead wires. | 1 in. NPT | 120 Vac | -20°F to +175°F (-20°C to +79°C) | Listed: File No. E34649, Guide No. ZTSZ | | Explosion-proof, two piece, violet, cast aluminum enclosure |

Dimensions in inches (millimeters)



- 1 C7061A1046, C7061A1053: INCH NPT
2 C7061A1038 AND C7061A1046: TYPE CONNECTOR.

M10167D

C7027; C7044 Minipeeper Ultraviolet Flame Detector



Compact Flame Detector for use with flame safeguard controls with ultraviolet amplifiers.

- Use with Honeywell Flame Safeguard primary safety controls and burners requiring ultraviolet flame detection.
- C7027 mounts on a 1/2 in. sighting pipe by using an integral collar.
- Detectors can be wired in parallel for difficult sighting applications.
- C7027 seals against pressures up to 5 psi (34.5 kPa) when correctly installed.
- Allows for blast tube mounting due to compact size.
- C7044 mounts with a two screw bracket.
- The C7044 UV sensor tube is enclosed in a stainless steel housing.
- C7044 has the capability of side or end viewing in flame monitoring applications.

Type: Ultraviolet, Minipeeper

Electrical Connections: 2 NEC Class 1 leadwires

Vibration: 0.5 G max

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: Master Report LR95329-1

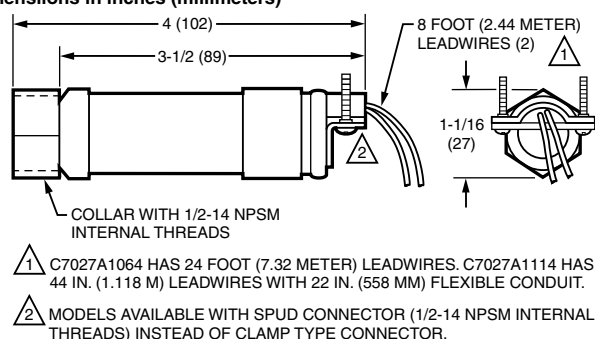
Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Approved: Report No. 24181.03

Used With: Flame Amplifiers: R7249A, B, R7849A, B, R7749B, R7259, R7290

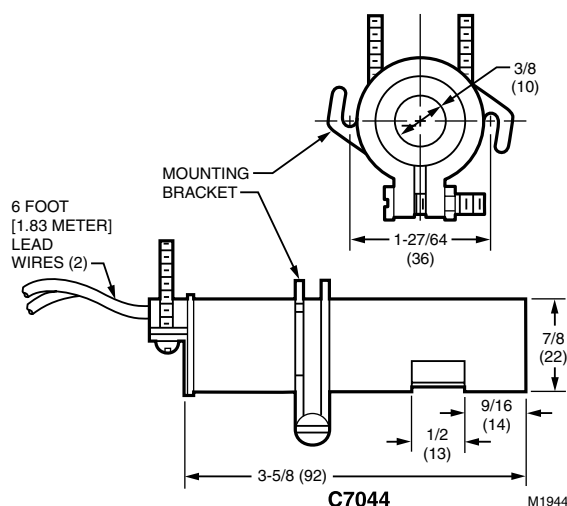
| Material Number | Application | Lead Length | Mounting | Ambient Temperature Range | Approvals, Others | Includes | Comments |
|-----------------|--|-------------------|---|---------------------------------|-------------------|--------------------------------------|--|
| C7027A1023/U | Coal fired burners; Gas fired burners; Oil fired burners | 96 in. (2438 mm) | Integral nut for 1/2 in. sighting pipe. | 0°F to 215°F (-18°C to +102°C) | | | Detects ultraviolet radiation in flames |
| C7027A1031/U | Coal fired burners; Gas fired burners; Oil fired burners | 96 in. (2438 mm) | Integral nut for 1/2 in. sighting pipe. | -40°F to 215°F (-40°C to 102°C) | | | Detects ultraviolet radiation in flames |
| C7027A1049/U | Coal fired burners; Gas fired burners; Oil fired burners | 96 in. (2438 mm) | Integral nut for 1/2 in. sighting pipe. | 0°F to 215°F (-18°C to +102°C) | | 1/2 in. NPT threaded spud connector. | Detects ultraviolet radiation in flames |
| C7027A1056/U | Coal fired burners; Gas fired burners; Oil fired burners | 96 in. (2438 mm) | Integral nut for 1/2 in. sighting pipe. | 0°F to 215°F (-18°C to +102°C) | | | Detects ultraviolet radiation in flames |
| C7027A1064/U | Coal fired burners; Gas fired burners; Oil fired burners | 288 in. (7315 mm) | Integral nut for 1/2 in. sighting pipe. | -40°F to 215°F (-40°C to 102°C) | | 1/2 in. NPT threaded spud connector. | Detects ultraviolet radiation in flames |
| C7027A1072/U | Coal fired burners; Gas fired burners; Oil fired burners | 96 in. (2438 mm) | Integral nut for 1/2 in. sighting pipe. | -40°F to 215°F (-40°C to 102°C) | | 1/2 in. NPT threaded spud connector. | Detects ultraviolet radiation in flames |
| C7027A1114/U | Coal fired burners; Gas fired burners; Oil fired burners | 44 in. (1118 mm) | Integral nut for 1/2 in. sighting pipe. | 0°F to 215°F (-18°C to +102°C) | | installed 22" flexible conduit | Detects ultraviolet radiation in flames |
| C7044A1006/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | Mounting Bracket provided | 0°F to 215°F (-18°C to +102°C) | | Mounting bracket | Detects ultraviolet radiation in flames - Side Viewing |

Dimensions in inches (millimeters)



C7027

M1943G



C7044

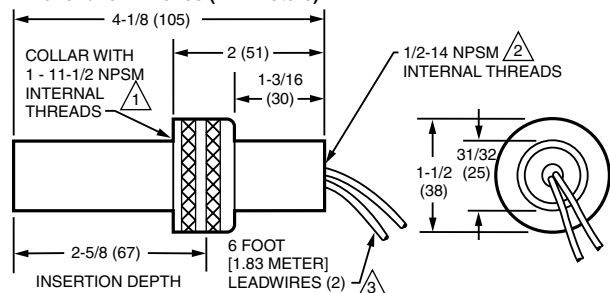
M1944D

Flame Detectors

C7035 Minipeeper Ultraviolet Flame Detector



Dimensions in inches (millimeters)



- △ 1 DIN APPROVED C7035A1064 HAS 1-11 BSP.P1 INTERNAL MOUNTING THREADS.
 △ 2 DIN APPROVED C7035A1064 HAS 1/2-14 BSP-F INTERNAL MOUNTING THREADS.
 △ 3 C7035A1056 HAS 12 FOOT (3.66 METER) LEADWIRES.

C7035

M1945E

Compact flame detector for use with flame safeguard controls with ultraviolet amplifiers.

- Use with Honeywell Flame Safeguard primary safety controls and burners requiring ultraviolet flame detection.
- Mounts on a 1 in. sighting pipe by using an integral collar.
- Protects the sensing tube with a shield.
- Meets outdoor rain tight requirements of Underwriters Laboratories Inc., NEMA 4 and NEMA 4X.
- Wires in parallel for difficult sighting applications.
- Seals against pressures as high as 5 psi (34.5 kPa) when correctly installed.
- Field-replaceable ultraviolet sensing tube.

Type: Ultraviolet, Minipeeper

NEMA Ratings: NEMA 3 and NEMA 4

Electrical Connections: 2 NEC Class 1 leadwires

Vibration: 0.5 G max

Mounting: Integral nut for 1 in. sighting pipe.

Approximate Dimensions: 1 1/2 in. diameter x 4 1/8 in. long (38 mm diameter x 105 mm long)

Weight: 6 oz (0.17 kg)

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: Master Report LR95329-1

Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Approved: Report No. 24181.03

Comments: Detects ultraviolet radiation in flames

Used With: Flame Amplifiers: R7249, R7849, R7749B, R7259, R7290, R7323

| Material Number | Application | Lead Length | Ambient Temperature Range | Approvals, Others | Includes |
|-----------------|--|-------------------|-----------------------------------|-------------------|---------------|
| C7035A1023/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | 0°F to 250°F (-18°C to +121°C) | | |
| C7035A1031/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | -40°F to +250°F (-40°C to +121°C) | | |
| C7035A1049/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | 0°F to 250°F (-18°C to +121°C) | | 1" BSP collar |
| C7035A1056/U | Coal fired burners; Gas fired burners; Oil fired burners | 144 in. (3658 mm) | -40°F to +250°F (-40°C to +121°C) | | |
| C7035A1064/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | -40°F to +250°F (-40°C to +121°C) | | 1" BSP collar |
| C7035A1080/U | Coal fired burners; Gas fired burners; Oil fired burners | 72 in. (1829 mm) | 0°F to 250°F (-18°C to +121°C) | | 600F leads |

C7061 Dynamic Self-Check Ultraviolet Flame Detector



Dynamic self-checking flame detector used with R7861 Dynamic Self-check Amplifiers for sensing the ultraviolet radiation generated by the combustion of gas, oil, or other fuels.

- Oscillating shutter interrupts ultraviolet radiation reaching the UV sensor to provide the UV sensor tube checking function.
- Can be mounted horizontally, vertically or at any angle in between.
- The detector requires faceplate alignment and has integral locating reference points to assure proper operation of the shutter mechanism.
- Field replaceable ultraviolet sensing tube and quartz viewing window.
- Models with threaded conduit fitting and color-coded leadwires allow rapid electrical installation.
- C7061A1046 5 pin Brad Harrison type (formally 41307N) mating connector not supplied nor available through Honeywell.
- Two detectors can be wired in parallel to reduce nuisance shutdowns in difficult flame sighting applications.
- Protective heat block built into mounting flange.

- -40°F (-40°C) rated ultraviolet sensing tube is supplied.
- C7061E meets NEMA 4 standards with viewing window rated to 20 psi.
- C7061F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi.
- Pipe connection (all models) 1 in. NPT, includes 1 in. to 3/4 in. bushing adapter for 3/4 in. viewing pipe mounting.

Type: Ultraviolet, Purple Peeper, Self-Checking

Application: Gas fired burners; Oil fired burners

Comments: Dynamic self-checking flame detector

Used With: Flame Amplifiers: R7861

Approvals, Underwriters Laboratories Inc.: C7061A, M-Listed:

File No. MP268, Guide No. MCCZ; C7061F-Recognized: For use in hazardous locations, Class 1 Groups C and D; class 2, Groups E, F and G; File no. E34649

Approvals, CSA: Certified: Master Report LR95329-1

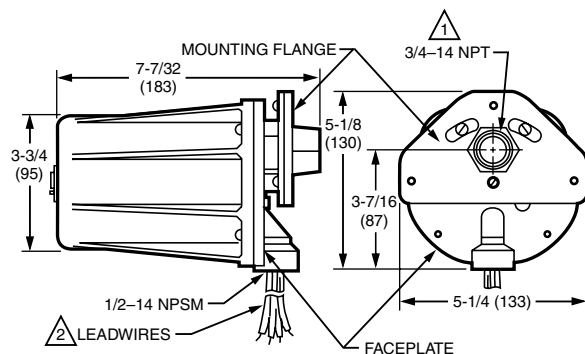
Approvals, Swiss RE: Acceptable

Approvals, Factory Mutual: Approved: Report No. 14740.01

Approvals, GASTEC/European: CE approved (EN 298:2012) with R7861 and R8001S1051

| Material Number | NEMA Rating | Lead Length | Electrical Connections | Mounting | Electrical Ratings | Frequency | Ambient Temperature Range |
|-----------------|-----------------|------------------|---|-----------|--------------------|--------------|----------------------------------|
| C7061A1020/U | NEMA 4 | | Terminal block | 1 in. NPT | 120 or 230 Vac | 52 Hz; 60 Hz | -40°F to +175°F (-40°C to +79°C) |
| C7061A1046/U | NEMA 4 | | Brad Harrison type number 41310 connector | 1 in. NPT | 120 Vac | 54 Hz; 60 Hz | -40°F to +175°F (-40°C to +79°C) |
| C7061A1053/U | NEMA 4 | 96 in. (2438 mm) | Color-coded leadwires | 1 in. NPT | 120 Vac | 55 Hz; 60 Hz | -40°F to +175°F (-40°C to +79°C) |
| C7061F2001/U | Explosion Proof | 96 in. (2438 mm) | Color-coded leadwires | 1 in. NPT | 120 Vac | 57 Hz; 60 Hz | -40°F to +175°F (-40°C to +79°C) |

Dimensions for C7061A in inches (millimeters)

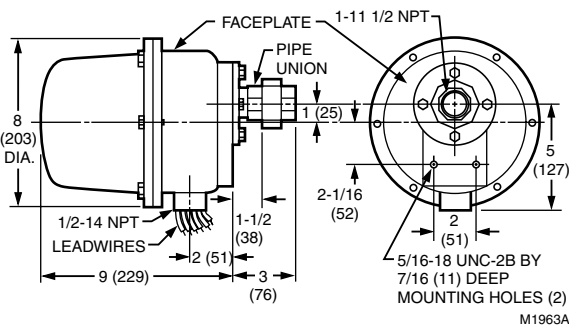


1 C7061A1046, C7061A1053: INCH NPT

2 C7061A1038 AND C7061A1046: TYPE CONNECTOR.

M10167D

Dimensions for C7061F in inches (millimeters)



M1963A

Flame Detectors

C7076 Adjustable Sensitivity Ultraviolet Flame Detector



Type: Ultraviolet, Adjustable Sensitivity
Application: Gas fired burners; Oil fired burners
Electrical Connections: Terminal block
Vibration: 0.5 G max
Mounting: 1 in. NPT
Power Consumption: 7.0 W
Ambient Temperature Range: -40°F to +160°F (-40°C to +71°C)
Approvals, CSA: Certified: Master Report LR1620
Approvals, Swiss RE: Acceptable
Approvals, Factory Mutual: Approved: Report No. FM26980
Comments: Dynamic self-checking flame detector with adjustable sensitivity

Solid state dynamic self check flame detectors for use with BC7000, R4140 or FSP5075 with R7476 Amplifier and 7800 SERIES with R7886 Amplifier.

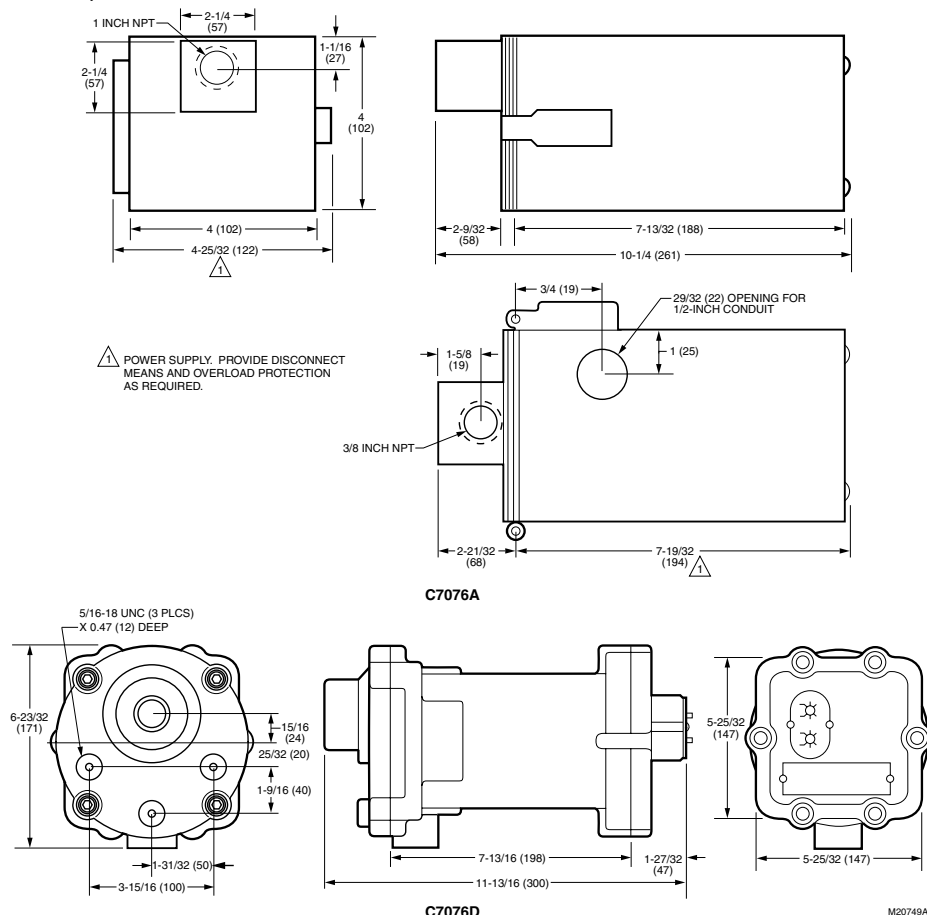
- Use Honeywell Flame Safeguard primary safety controls requiring adjustable sensitivity ultraviolet flame detection.
- Detect ultraviolet radiation from flames.
- Include dual sensitivity adjustment.
- C7076A meets NEMA 4 standards with viewing window rated to 20 psi.
- C7076D has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi.

Used With: Flame Amplifiers: R7476, R7886

Replacement Parts:

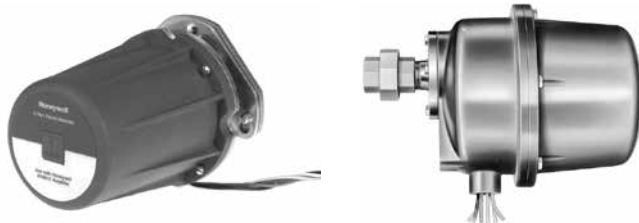
- 190971F/U** – 100 Vac Coil and Shutter Assembly for C7076A, D
190998A/U – Aspiration assembly for C7076A
191002R/U – 120 Vac Plug in Electronics less UV Sensing Tube for C7076D
191050/U – Quartz Viewing Window for C7076
191053/U – UV Sensing Tube for C7076

Dimensions in inches (millimeters)



| Material Number | NEMA Rating | Electrical Ratings | Frequency | Approximate, Dimensions | Weight | Approvals, Underwriters Laboratories Inc. | Approvals, Others |
|-----------------|-------------|--------------------|--------------|--|----------------|---|-------------------|
| C7076A1007/U | NEMA 4 | 120 Vac | 60 Hz | 4 in. high x 4 in. wide x 10 1/4 in. deep (102 mm high x 102 mm wide x 261 mm deep) | 6.6 lb (3 kg) | Listed: File No. MP268, Guide No. MCCZ | |
| C7076A1015/U | NEMA 4 | 100 Vac | 50 Hz; 60 Hz | 4 in. high x 4 in. wide x 10 1/4 in. deep (102 mm high x 102 mm wide x 261 mm deep) | 6.6 lb (3 kg) | Listed: File No. MP268, Guide No. MCCZ | |
| C7076A1031/U | NEMA 4 | 220 Vac; 240 Vac | 50 Hz; 60 Hz | 4 in. high x 4 in. wide x 10 1/4 in. deep (102 mm high x 102 mm wide x 261 mm deep) | 6.6 lb (3 kg) | Listed: File No. MP268, Guide No. MCCZ | |
| C7076D1027/U | NEMA 7 | 120 Vac | 60 Hz | 6 5/8 in. high x 6 3/16 in. wide x 11 3/4 in. deep (168 mm high x 158 mm wide x 300 mm deep) | 17.6 lb (8 kg) | Listed: File No. E34649, Guide No. ZTSZ | Explosion Proof |

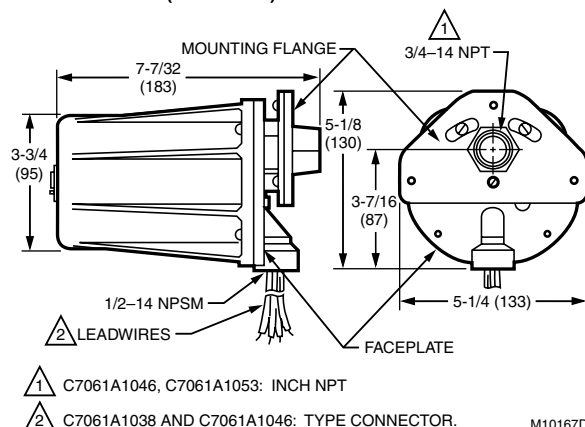
C7961 Dynamic Self-checking Solid State Ultraviolet Flame Detector



A self-checking flame detector using a solid state UV sensor to detect ultraviolet radiation in flames for supervision of gas, oil or combination gas-oil burners.

- Designed for use with 7800 series controls with the R7851C flame amp.
- Oscillating shutter interrupts ultraviolet radiation reaching the UV sensor to provide the solid state UV sensor checking function.
- Can be mounted horizontally, vertically or at any angle in between.
- The detector requires faceplate alignment and has integral locating reference points to assure proper operation of the shutter mechanism.

Dimensions in inches (millimeters)



M10167D

- Models available with threaded conduit fitting and color-coded leadwires allow rapid electrical installation.
- Incorporates UV sensor tube checking feature; used with R7851C1008 Dynamic Self-check Amplifiers.
- Protective heat block built into mounting flange.
- 40°F (-40°C) rated ultraviolet sensing cell is supplied.
- C7961E meets NEMA 4 standards with viewing window rated to 20 psi.
- C7961F has an explosion-proof housing for use in hazardous atmospheres with a viewing window rated to 100 psi.
- Pipe connection (all models) 1 in. NPT, includes 1 in. to 3/4 in. bushing adapter for 3/4 in. viewing pipe mounting.

Type: Ultraviolet, Self-Checking

Application: Gas, Oil or other fuels

Electrical Ratings: 120 Vac (-15% +10%)

Frequency: 50 Hz; 60 Hz

Ambient Temperature Range: -40°F to +175°F (-40°C to +80°C)

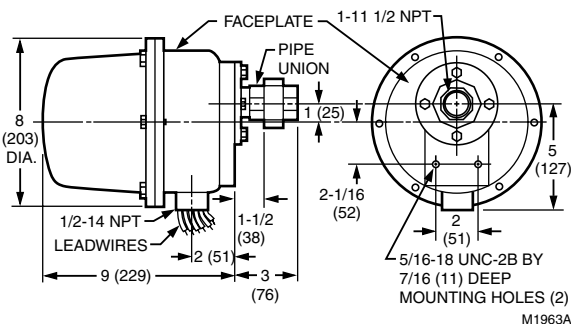
Approvals, Underwriters Laboratories Inc.: Component Recognized:

File No. MP268

Comments: Detects ultraviolet radiation generated by combustion of gas, oil, or other fuels

Approvals, Swiss RE: Acceptable

Used With: R7851C Dynamic Self-Check Amplifier



M1963A

| Material Number | NEMA Rating | Lead Length | Electrical Connections | Mounting | Approximate, Dimensions | Weight | Approvals, CSA | Approvals, Factory Mutual | Includes |
|-----------------|-----------------|------------------|-------------------------|-----------|--|------------------|--------------------|-------------------------------|--|
| C7961E1014/U | NEMA 4 | 96 in. (2438 mm) | NEC Class 1 color-coded | 1 in. NPT | 3 3/4 in. diameter (5 1/4 in. diameter including mounting flange) x 7 7/32 in. long (95 mm diameter (133 mm diameter including mounting flange) x 183 mm long) | 2.6 lb (1.2 kg) | Certified: Pending | Pending | Quartz Viewing Window rated for 20 psi (138 kPa) |
| C7961F1004/U | Explosion Proof | 96 in. (2438 mm) | NEC Class 1 color-coded | 1 in. NPT | 8 in. diameter x 12 in. long (203 mm diameter x 305 mm long) | 14.5 lb (6.6 kg) | | Approved: Report No. 14740.01 | Quartz Viewing Window rated for 100 psi |

Flame Detectors

C7915 Infrared Flame Detector



Type: Infrared (Lead Sulfide)

Application: Used for combination or dual-fuel applications

Electrical Connections: Two no. 18 AWG wires

Mounting: 3/4 in. NPT

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: Master Report LR95329-1

Approvals, Swiss RE: Acceptable

The C7915 Combination mount Lead Sulfide cell senses infrared radiation from gas, oil, and coal or dual-fuel flames.

- Used for combination or dual-fuel applications.
- Detects pilot and main flame.
- Mounts quickly and easily on a standard 3/4 in. sighting pipe.
- Works where flame rod or rectifying photocell mounts are difficult to apply.

Approvals, Factory Mutual: Approved: Report No. 24181.03

Comments: Infrared (Lead Sulfide) Flame Detector

Approvals, GASTEC/European: CE approved (EN 298:2012) with R7852A/B

Replacement Parts:

32007255-001/U – Lead Sulfide Cell for C7915

50019469-001/U – Magnifying Lens Assembly for C7915A

| Material Number | Lead Length | Approximate, Dimensions | Ambient Temperature Range | Includes | Used With |
|-----------------|------------------|--|---|---|-------------------------|
| C7915A1010/U | 30 in. (762 mm) | 1 1/4 in. diameter x 2 1/4 in. long (32 mm diameter x 58 mm long) | -20°F to 125°F operating range (-18°C to 52°C operating range) | With magnifying lens, 32007255-001 Cell | Flame Amplifiers: R7852 |
| C7915A1028/U | 48 in. (1219 mm) | 1 1/4 in. diameter x 2 1/4 in. long (32 mm diameter x 58 mm long) | -20°F to 125°F operating range (-18°C to 52°C operating range) | With magnifying lens, 32007255-001 Cell, Orifice, heat block, and reducer bushing | Flame Amplifiers: R7852 |
| C7915A1036/U | 96 in. (2438 mm) | 1 1/4 in. diameter x 2 1/4 in. long (32 mm diameter x 58 mm long) | -20°F to 125°F operating range (-18°C to 52°C operating range) | With magnifying lens, 32007255-001 Cell | Flame Amplifiers: R7852 |

Optical Flame Detector Accessories or Parts

| Material Number | Description | Used With |
|-----------------|---|---|
| 113228/U | UV Sensing Tube (-20°F to 175°F) for C7012; C7024 | C7012; C7024 |
| 114372/U | Bulk Pack -20 PSI window for C7012E, F; C7024; C7061 | C7024; C7012; C7061 |
| 120739/U | Flange Gasket for C7012, C7024, C7061 | C7024; C7012; C7061 |
| 120930/1662/F | Cover for C7012A,G, C7024E, C7061A, C7961E | C7012A,G, C7024E, C7061A, C7961E; C7012 |
| 122748/U | 50 PSI Quartz Window for C7012, C7061 | C7012; C7061; C7024 |
| 124198/U | Mounting Flange (1") for C7012A, E; C7024A; C7061A; C7961E | C7012A,G, C7024E, C7061A, C7961E |
| 129464M/U | UV Power Tube (0°F to 250°F) for C7035 | C7035 |
| 129464N/U | UV Power Tube (-40°F to 250°F) for C7035, C7061 | C7061; C7035 |
| 129811B/U | Socket Assembly w/NPT threads | C7035 |
| 190971B/U | 120 Vac Coil and Shutter Assembly for C7012E, F, C7061A, F | C7012E, F; C7061A, F |
| 190971D/U | 110 Vac 50 Hz Coil and Shutter Assembly for C7012E1187, 1195 | C7012E |
| 190971F/U | 100 Vac Coil and Shutter Assembly for C7076A, D | C7076A, D |
| 190971G/U | 24 Vdc Coil and Shutter Assembly for C7024E, F; C7961 | C7024;C7961 |
| 191002D/U | 220/240 Vac Plug in Electronics less UV Sensing Tube for C7076A | C7076A |
| 191002R/U | 120 Vac Plug in Electronics less UV Sensing Tube for C7076D | C7076D |
| 191050/U | Quartz Viewing Window for C7076 | C7076 |
| 191053/U | UV Sensing Tube for C7076 | C7076 |
| 191284/U | Aluminum Shield for C7035 | C7035 |
| 32004080-001/U | 120 Vac Electronics less UV Sensing Tube and Shutter for C7012C | C7012C |
| 32007255-001/U | Lead Sulfide Cell for C7915 | C7915 |
| 191286/U | UV Sensing Tube (-40°F to 175°F) for C7012; C7024 | C7012; C7024 |
| 191002B/U | 120 Vac Plug in Electronics less UV Sensing Tube for C7076A | C7076A |

Pilot Burners

Q179A Flame Rectifier Gas Pilots



Q179A Gas Pilot Burner Assemblies use the flame rectification principle to prove the flame. Q179A are used in conjunction with a suitable electronic flame safeguard control on industrial or commercial gas and gas pilot ignited oil burners.

- Q179A is a gas pilot assembly (with a flame electrode rod) and ignition electrode, making it suitable for applications requiring an interrupted or intermittent electrically ignited gas pilot burner.
- Primary aerated type burner is equipped with stainless steel fins that provide the proper flame rod area to ground area ratio for maximum flame signal and flame stabilization.
- Stainless steel electrode(s) are mounted in ceramic insulators, which permit electrode adjustment.
- Rajah connectors facilitate disconnecting (A1126 has terminal screws).
- Bracket permits side or end mounting.

Type of Gas: Natural gas; Gas consumption – 2.0 cfh (0.06 m3/hr)

Aeration: Primary

Compression Fitting Size: 1/4 in. compression coupling, 6.4 mm compression coupling

Mounting: side or end mount

Approximate, Dimensions: 4 5/8 in. high x 1 11/16 in. wide x 3 in. deep (118 mm high x 43 mm wide x 76 mm deep)

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP268, Guide No. MCCZ

Approvals, CSA: Certified: File No. LR1620, Guide No. 140-A-2

Approvals, Factory Mutual: Approved: Report No. 22961

| Material Number | Application | Orifice | Wiring Terminal Type | Tip Style | Includes | Used With |
|-----------------|--|--------------------------------|----------------------|----------------------|--|--|
| Q179A1001/U | For Intermittent or Interrupted Ignition | 0.025 in. dia. (0.635 mm dia.) | Rajah | I | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1035/U | For Intermittent or Interrupted Ignition | 0.025 in. dia. (0.635 mm dia.) | Rajah | 45 degree right hand | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1050/U | For Intermittent or Interrupted Ignition | 0.028 in. dia. (0.711 mm dia.) | Rajah | T | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1076/U | For Intermittent or Interrupted Ignition | 0.028 in. dia. (0.711 mm dia.) | Rajah | 45 degree Y | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1092/U | For Intermittent or Interrupted Ignition | 0.028 in. dia. (0.711 mm dia.) | Rajah | 45 degree T | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1118/U | For Intermittent or Interrupted Ignition | 0.025 in. dia. (0.635 mm dia.) | Rajah | 45 degree left hand | Flame electrode and ignition electrode | Q624 or other suitable ignition transformer. |
| Q179A1126/U | For Intermittent or Interrupted Ignition | 0.025 in. dia. (0.635 mm dia.) | Screw Terminal | I | Flame electrode and ignition electrode with screw terminal connections | Q624 or other suitable ignition transformer. |
| Q179A1183/U | For Intermittent or Interrupted Ignition | 0.025 in. dia. (0.635 mm dia.) | Rajah | I | Ignition Electrode Only | Q624 or other suitable ignition transformer. |

Ignition Transformers

Q624 Solid State Ignition Transformer



Temperature Range: -40°F to +125°F

Approximate, Dimensions: 6 3/4 in. high x 4 1/4 in. wide x 3 in. deep
(171.5 mm high x 108 mm wide x 76 mm deep)

Weight lb. (kg): 3 lb (1.4 kg)

Approvals, Underwriters Laboratories Inc.: Component Recognized

Approvals, CSA: Certified: File No. LR95329

Operating Humidity Range (% RH): 95% RH

Accessories:

32004766-001/U – 24 inch Ignition Cable for Q624 and Q652

32004766-002/U – 120 inch Ignition Cable used with Q624 and Q652

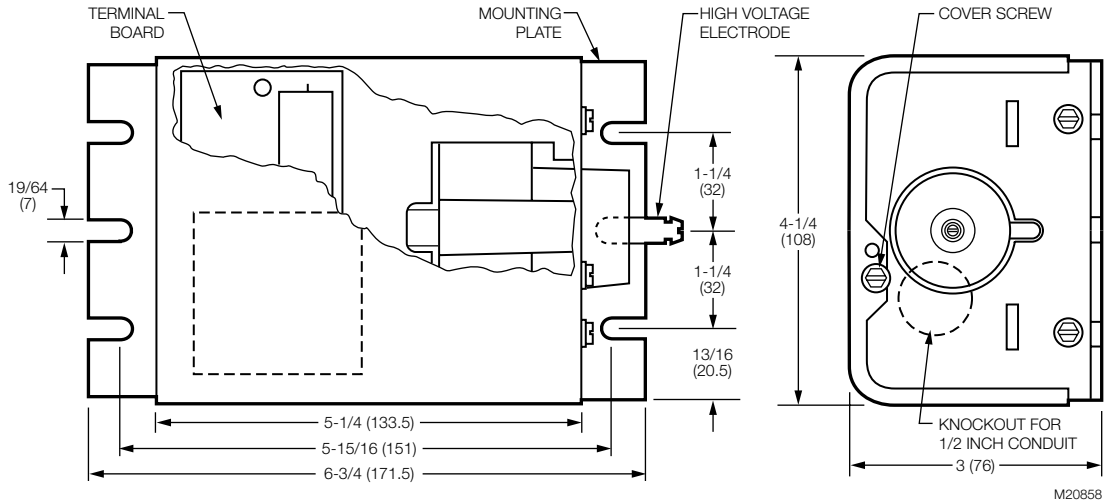
32004766-003/U – Ignition Cable for Q624 and Q652 (order by foot – enter the number of feet in the Quantity box)

32004766-004/U – 60 inch Ignition Cable with straight boots

32004766-005/U – 8 inch Ignition Cable w/90 degree and straight boot

32004766-006/U – 36 inch Ignition Cable w/90 degree and straight boot

Dimensions in inches (millimeters)



Used to ignite pilots on commercial or industrial gas burners.

- Ignite gas pilots with spark gaps up to 1/4 in. (6.5 mm).
- Reliable light off with 15,000 peak voltage.
- Prevent detection of the ignition spark when properly applied in a flame detection system with the C7027, C7035 or C7044 Minipeeper Ultraviolet Flame Detector.
- For use only in interrupted ignition applications.
- Mount in same space used by conventional ignition transformer.
- Light weight, 3 lbs. (1.4 kg) versus 8-1/2 lbs. (3.9 kg) for standard transformers.

50060793-001/U – 24 inch Ignition Cable for Q624 and Q652

50060793-002/U – 120 inch Ignition Cable used with Q624 and Q652

50060793-003/U – Ignition Cable for Q624 and Q652 (order by foot – enter the number of feet in the Quantity box)

50060793-004/U – 60 inch Ignition Cable with straight boots

50060793-005/U – 8 inch Ignition Cable w/90 degree and straight boot

50060793-006/U – 36 inch Ignition Cable w/90 degree and straight boot

50060793-007/U – 36 inch ignition cable w/90 degree boot on one end only

50060793-008/U – Ignition Cable w/90 degree boot on one end only

50060793-009/U – Ignition Cable w/90 degree boot on one end only

50060793-010/U – Ignition Cable w/90 degree boot on one end only

50060793-011/U – 19 inch Ignition Cable w/90 degree and ring end used with Q624 and Q652

50060793-012/U – 36 inch Ignition Cable with 90 degree boot and 1/4 in. spad terminal used with Q624 and Q652

| Material Number | Application | Voltage | Frequency |
|-----------------|--------------------------|---------|--------------|
| Q624A1014/U | Gas Ignition Transformer | 120 Vac | 50 Hz; 60 Hz |

Ignition Transformers

ET401A1 Ignition Transformer

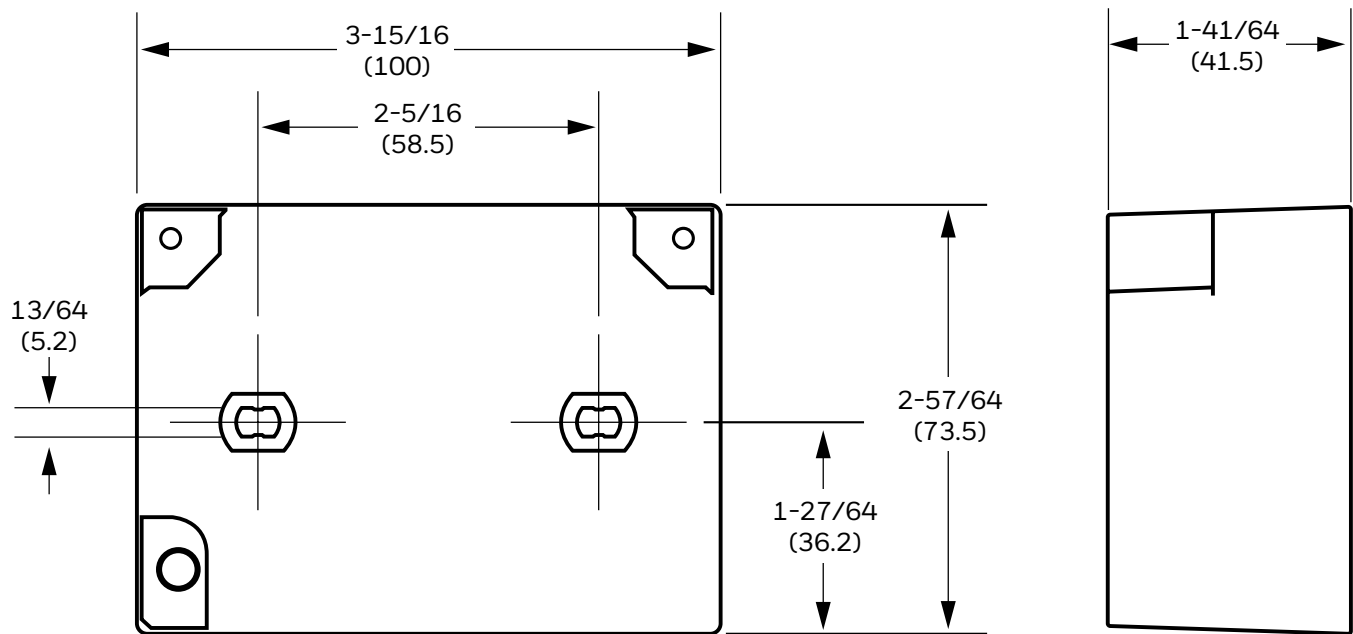


ET401A1 is a Ignition Transformer that is suitable to be installed in burner control boxes for gas fuel burner systems.

- Ignites interrupted gas pilots with electrode spacings between 0.12 to 0.20 inches (3 and 5 mm).
- ET401A1 has 14.0 kV output peak voltage for a reliable light-off.
- Generates the lowest electromagnetic interferences of all known electronic ignition devices; especially important if the burner has to comply with EN 55014-2.
- ET401A1 ignition transformer combines low power consumption with a low inrush current.
- The dimensions of the housing and mounting holes are such that the ET401A1 can be mounted underneath the burner control box.
- Meets UL Standards 1012 and 506.

Ambient Temperature Range: 5°F to 140°F (-15°C to 60°C).
Approximate, Dimensions: 2 57/64 in. high x 3 15/16 in. wide x 1 41/64 in deep (73.5 mm high x 100 mm wide x 41.5 mm deep)
Weight lb (kg): 1.2 lb (0.55 kg)
Approvals, Underwriters Laboratories Inc.: Component Recognized
Certificate No. 20180201-E494797

Dimensions in inches (millimeters)



| Material Number | Application | Voltage | Frequency |
|-----------------|---|-------------|-----------|
| ET401A1/B | Gas Ignition Transformer, Bulk | 110–120 Vac | 50/60 Hz |
| ET401A1/U | Gas Ignition Transformer, Unit | 110–120 Vac | 50/60 Hz |
| ET401A | Gas Ignition Transformer | 230 Vac | 50/60Hz |
| ET402A | Oil Ignition transformer | 230 Vac | 50/60Hz |
| ET402A1 | Oil Ignition Transformer | 110–120 Vac | 50/60Hz |
| ET401RC | Gas Ignition Transformer with Rajah Connector, Bulk | 110–120 Vac | 50/60 Hz |

Ignition Transformer Accessories or Parts

| Material Number | Description | Used With |
|-----------------|---|------------|
| 134666/510/U | High voltage terminal insulator for Q652 and Q624 | Q652; Q624 |
| 32004766-001/U | 24 inch Ignition Cable for Q624 and Q652 | Q652; Q624 |
| 32004766-002/U | 120 inch Ignition Cable used with Q624 and Q652 | Q652; Q624 |
| 32004766-003/U | Ignition Cable for Q624 and Q652 (order by foot – enter the number of feet in the Quantity box) | Q652; Q624 |
| 32004766-004/U | 60 inch Ignition Cable with straight boots | Q652; Q624 |
| 32004766-005/U | 8 inch Ignition Cable w/90 degree and straight boot | Q652; Q624 |
| 32004766-006/U | 36 inch Ignition Cable w/90 degree and straight boot | Q652; Q624 |
| 32004766-007/U | 36 inch ignition cable w/90 degree boot on one end only | Q652; Q624 |
| 32004766-008/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 32004766-009/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 32004766-010/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 32004766-011/U | 19 inch Ignition Cable w/90 degree and ring end used with Q624 and Q652 | Q652; Q624 |
| 32004766-012/U | 36 inch ignition cable w/90 degree boot on one end only | Q652; Q624 |
| 4074BTN/U | Bag assembly consisting of washer (103218), cap terminal (135793) and ferrule (37356) for Q624 | Q624A |
| 50060793-001/U | 24 inch Ignition Cable for Q624 and Q652 | Q652; Q624 |
| 50060793-002/U | 120 inch Ignition Cable used with Q624 and Q652 | Q652; Q624 |
| 50060793-003/U | Ignition Cable for Q624 and Q652 (order by foot – enter the number of feet in the Quantity box) | Q652; Q624 |
| 50060793-004/U | 60 inch Ignition Cable with straight boots | Q652; Q624 |
| 50060793-005/U | 8 inch Ignition Cable w/90 degree and straight boot | Q652; Q624 |
| 50060793-006/U | 36 inch Ignition Cable w/90 degree and straight boot | Q652; Q624 |
| 50060793-007/U | 36 inch ignition cable w/90 degree boot on one end only | Q652; Q624 |
| 50060793-008/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 50060793-009/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 50060793-010/U | Ignition Cable w/90 degree boot on one end only | Q652; Q624 |
| 50060793-011/U | 19 inch Ignition Cable w/90 degree and ring end used with Q624 and Q652 | Q652; Q624 |
| 50060793-012/U | 36 inch Ignition Cable with 90 degree boot and 1/4 in. spad terminal used with Q624 and Q652 | Q652; Q624 |
| 50060793-013/U | 48 inch Ignition Cable with 90 degree boot and 1/4 in. spad terminal used with Q624 and Q652 | Q652; Q624 |

Firing Rate Motors

Firing Rate Motors

M9484D, E, F; M9494D, F Modutrol® IV Motors



Reversing, proportional motors used to drive burner firing rate valves, dampers or auxiliary equipment. Replaces M941A, C, D motors.

- Designed for flame safeguard applications in commercial/industrial oil or gas burner system.
- Vibration resistant electronic drive circuit.
- Regulated by three-wire proportional controller.
- Stroke is field-adjustable to 90 or 160 degrees.

Frequency: 50 Hz; 60 Hz

Stroke: Adjustable; 90 to 160 degrees, Symmetrical

Power Consumption: 15 W

Input Signal: 135 ohm

Shaft Dimensions: double-ended, 3/8 in. square (double-ended, 9.5 mm square)

Deadweight Load on Shaft: Either End – 200 lb (300 lb combined power and auxiliary shafts); 90.8 kg (136 kg combined power and auxiliary shafts)

Approximate, Dimensions: 6.45 in high x 5.5 in wide x 7.3 in deep (164 mm high x 140 mm wide x 185 mm deep)

Ambient Temperature Range: -40°F to +150°F (-40°C to +66°C)

Approvals, Underwriters Laboratories Inc.: Listed: File No. E4436, Guide No. XAPX for USA and Canada

Supply Voltage: 24 Vac

Accessories:

Q100B1006/U – Linkage to connect Modutrol motor to V51E Butterfly Valve. Includes 10 3/4 inch Linkage Rod.

| Material Number | Torque Rating (lb-in.) | Torque Rating (Nm) | Additional Torque Ratings (lb-in.) | Additional Torque Ratings (Nm) | Internal Auxiliary Switch | Auxiliary Switch Setting | Auxiliary Switch Ratings | Switch Ratings | Timing | Factory Stroke Setting |
|-----------------|------------------------|--------------------|------------------------------------|--------------------------------|---------------------------|--------------------------|--|--|---|------------------------|
| M9484D1010/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | | | | At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 160 degrees |
| M9484E1009/U | 75 lb-in. | 8.5 Nm | Breakaway – 150 lb-in. | Breakaway – 17.0 Nm | 1 | 11 degrees | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 15 seconds, 160 degree stroke – 30 seconds | 90 degrees |
| M9484E1017/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 1 | 1 degree | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 90 degrees |
| M9484E1033/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 1 | 7 degrees | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 90 degrees |
| M9484F1007/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 2 | 7 and 80 degrees | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 90 degrees |
| M9484F1023/U | 75 lb-in. | 8.5 Nm | Breakaway – 150 lb-in. | Breakaway – 17.0 Nm | 2 | | At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 15 seconds, 160 degree stroke – 30 seconds | 90 degrees |

Firing Rate Motors

| Material Number | Torque Rating (lb-in.) | Torque Rating (Nm) | Additional Torque Ratings (lb-in.) | Additional Torque Ratings (Nm) | Internal Auxiliary Switch | Auxiliary Switch Setting | Auxiliary Switch Ratings | Switch Ratings | Timing | Factory Stroke Setting |
|-----------------|------------------------|--------------------|------------------------------------|--------------------------------|---------------------------|--------------------------|---|--|--|------------------------|
| M9484F1031/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 2 | 7 and 80 degrees | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 90 degrees |
| M9484F1049/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 2 | 35 and 120 degrees | 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | | 90 degree stroke – 30 seconds, 160 degree stroke – 60 seconds | 160 degrees |
| M9484F1057/U | 150 lb-in. | 17 Nm | Breakaway – 300 lb-in. | Breakaway – 34.0 Nm | 2 | | | At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | 90 degree stroke – 30 seconds, 160 degree stroke – 53 seconds | |
| M9494D1000/U | 300 lb-in. | 34 Nm | Breakaway – 600 lb-in. | Breakaway – 68.0 Nm | | | | At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | 90 degree stroke – 60 seconds, 160 degree stroke – 120 seconds | 90 degrees |
| M9494F1003/U | 300 lb-in. | 34 Nm | Breakaway – 600 lb-in. | Breakaway – 68.0 Nm | 2 | | | At 120 Vac – 7.2 AFL, 43.2 ALR, 40 VA pilot duty opposite contact; At 240 Vac – 3.6 AFL, 21.6 ALR, 40 VA pilot duty opposite contact | 90 degree stroke – 60 seconds, 160 degree stroke – 107 seconds | 90 degrees |

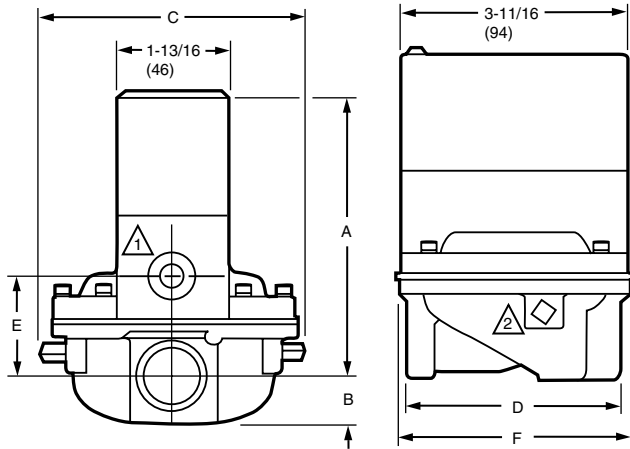
Diaphragm Gas Valves

Diaphragm Gas Valves

V48A; V88A Diaphragm Gas Valves



Dimensions in inches (millimeters)



| VALVE SIZE (IN.) | APPROXIMATE DIMENSIONS | | | | | | | | | | | |
|------------------|------------------------|-------|-------|------|-------|-------|---------|-------|--------|------|---------|-------|
| | A | | B | | C | | D | | E | | F | |
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 4-11/16 | 119.1 | 3/4 | 19.1 | 4-5/8 | 117.5 | 3-1/2 | 88.9 | 1-5/8 | 41.3 | 3-13/16 | 96.8 |
| 1 | 5-1/16 | 128.6 | 1 | 25.4 | 5 | 127.0 | 3-11/16 | 93.7 | 2-1/16 | 52.4 | 4-5/16 | 109.5 |
| 1-1/4 | 5-9/16 | 141.3 | 1-1/4 | 31.8 | 5-7/8 | 149.2 | 5-5/16 | 134.9 | 2-3/8 | 60.3 | 5-5/16 | 134.9 |
| 1-1/2 | 5-9/16 | 141.3 | 1-1/4 | 31.8 | 5-7/8 | 149.2 | 5-5/16 | 134.9 | 2-3/8 | 60.3 | 5-5/16 | 134.9 |
| 2 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |
| 2-1/2 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |
| 3 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |

1 BLEED TAPPING: 1/8-27 NPT.

2 PILOT TAPPING (2): 1/8-27 NPT FOR 3/4 THROUGH 1-1/2 IN. SIZES, 1/4-18 NPT FOR 2 THROUGH 3 IN. SIZES.

M8487A

Solenoid-operated diaphragm valves provide slow opening and fast closing suitable for controlling natural, LP or manufactured gases. They are normally used on atmospheric boilers, commercial water heaters, and rooftop heaters.

- V48 for line voltage service; V88 for 24 Vac service.
- Close firmly with diaphragm that is both weight and spring loaded.
- Two second maximum closing time.
- Valve closes on power failure; recommended for final shutoff service.
- Set opening time with various sized bleed orifices or adjustable bleed valve.
- Use with LP, natural or manufactured gases.
- Made with cast aluminum in straight-through valve pattern.
- Valve position indicator available for 1-1/4 in. V48A2227.

Type of Fuel: Natural; LP; Manufactured

Bleed Tapping: 1/8-27 NPT

Body Pattern: Straight-through

Valve Opening Time: 5 sec max

Valve Closing Time: 2 sec max

Mounting: Upright (horizontal)

Materials: Body – Aluminum

Frequency: 60 Hz

Power Consumption: 9 W; 15 VA max

Electrical Connections: 6 in. Leadwires

Operating Temperature Range: 32°F to 125°F (0°C to 52°C)

Approvals, Underwriters Laboratories Inc.: File No. MH1639, Guide No. YIOZ

Approvals, CSA: Certificate No. 158158-2500005576 (Z21.21-CSA 6.5)

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Pilot Tapping | Voltage | Approximate, Dimensions | Pressure Rating (psi) | Pressure Rating (kPa) | Current Ratings | Comments | Includes |
|-----------------|------------------|----------------|---------------|---------|---|-----------------------|-----------------------|-------------------------------|----------|-----------------|
| V48A2151/U | 3/4 in. | DN20 | 1/8-27 NPT | 120 Vac | 5 7/16 in. high x 3 13/16 in. wide x 4 5/8 in. deep (138 mm high x 97 mm wide x 118 mm deep) | 1/2 psi | 3.4 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V48A2169/U | 1 in. | DN25 | 1/8-27 NPT | 120 Vac | 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep) | 1/2 psi | 3.4 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V48A2177/U | 1 1/4 in. | DN32 | 1/8-27 NPT | 120 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1/2 psi | 3.4 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V48A2185/U | 1 1/2 in. | DN40 | 1/8-27 NPT | 120 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1/2 psi | 3.4 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V48A2243/U | 2 in. | DN50 | 1/4-18 NPT | 120 Vac | 9 3/16 in. high x 9 5/16 in. wide x 9 1/2 in. deep (233 mm high x 237 mm wide x 241 mm deep) | 1 psi | 6.9 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V48A2276/U | 1 1/2 in. | DN40 | 1/8-27 NPT | 120 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1 psi | 6.9 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |

Diaphragm Gas Valves

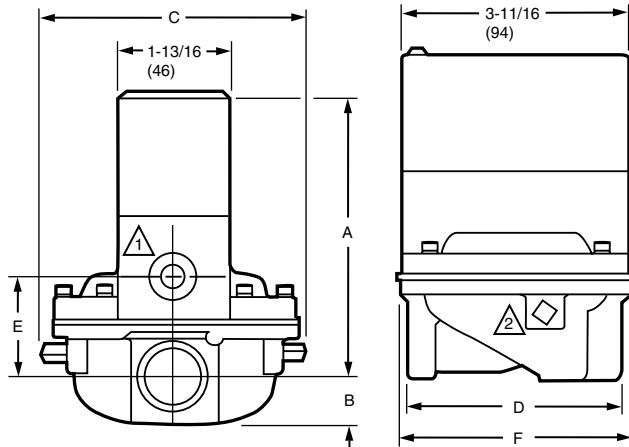
| Material Number | Pipe Size (inch) | Pipe Size (DN) | Pilot Tapping | Voltage | Approximate, Dimensions | Pressure Rating (psi) | Pressure Rating (kPa) | Current Ratings | Comments | Includes |
|-----------------|------------------|----------------|---------------|---------|---|-----------------------|-----------------------|-------------------------------|----------|-----------------|
| V48A2334/U | 1 in. | DN25 | 1/8-27 NPT | 120 Vac | 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep) | 1 psi | 6.9 kPa | 0.13 max amps at rated Vac/Hz | | Ground terminal |
| V88A1618/U | 1 in. | DN25 | 1/8-27 NPT | 24 Vac | 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep) | 1/2 psi | 3.4 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1626/U | 1 1/4 in. | DN32 | 1/8-27 NPT | 24 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1/2 psi | 3.4 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1634/U | 1 1/2 in. | DN40 | 1/8-27 NPT | 24 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1/2 psi | 3.4 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1659/U | 3/4 in. | DN20 | 1/8-27 NPT | 24 Vac | 5 7/16 in. high x 3 13/16 in. wide x 4 5/8 in. deep (138 mm high x 97 mm wide x 118 mm deep) | 1/2 psi | 3.4 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1667/U | 3/4 in. | DN20 | 1/8-27 NPT | 24 Vac | 5 7/16 in. high x 3 13/16 in. wide x 4 5/8 in. deep (138 mm high x 97 mm wide x 118 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1675/U | 1 in. | DN25 | 1/8-27 NPT | 24 Vac | 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1683/U | 1 1/4 in. | DN32 | 1/8-27 NPT | 24 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1691/U | 1 1/2 in. | DN40 | 1/8-27 NPT | 24 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1709/U | 2 in. | DN50 | 1/4-18 NPT | 24 Vac | 9 3/16 in. high x 9 5/16 in. wide x 9 1/2 in. deep (233 mm high x 237 mm wide x 241 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |
| V88A1717/U | 2 1/2 in. | DN65 | 1/4-18 NPT | 24 Vac | 9 3/16 in. high x 9 5/16 in. wide x 9 1/2 in. deep (233 mm high x 237 mm wide x 241 mm deep) | 1 psi | 6.9 kPa | 0.62 max amps at rated Vac/Hz | | |

Diaphragm Gas Valves

V88J High Temperature Diaphragm Gas Valves



Dimensions in inches (millimeters)



| VALVE SIZE (IN.) | APPROXIMATE DIMENSIONS | | | | | | | | | | | |
|------------------------|------------------------|-------|-------|------|-------|-------|---------|-------|--------|------|---------|-------|
| | A | | B | | C | | D | | E | | F | |
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 4-11/16 | 119.1 | 3/4 | 19.1 | 4-5/8 | 117.5 | 3-1/2 | 88.9 | 1-5/8 | 41.3 | 3-13/16 | 96.8 |
| 1 | 5-1/16 | 128.6 | 1 | 25.4 | 5 | 127.0 | 3-11/16 | 93.7 | 2-1/16 | 52.4 | 4-5/16 | 109.5 |
| 1-1/4 | 5-9/16 | 141.3 | 1-1/4 | 31.8 | 5-7/8 | 149.2 | 5-5/16 | 134.9 | 2-3/8 | 60.3 | 5-5/16 | 134.9 |
| 1-1/2 | 5-9/16 | 141.3 | 1-1/4 | 31.8 | 5-7/8 | 149.2 | 5-5/16 | 134.9 | 2-3/8 | 60.3 | 5-5/16 | 134.9 |
| 2 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |
| 2-1/2 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |
| 3 | 6-15/16 | 176.2 | 2-1/4 | 57.2 | 9-1/2 | 241.3 | 8-3/8 | 212.7 | 3-9/16 | 90.5 | 5-5/16 | 236.5 |

1 BLEED TAPPING: 1/8-27 NPT.

2 PILOT TAPPING (2): 1/8-27 NPT FOR 3/4 THROUGH 1-1/2 IN. SIZES, 1/4-18 NPT FOR 2 THROUGH 3 IN. SIZES.

M8487A

Solenoid-operated diaphragm valves provide slow opening and fast closing suitable for controlling natural, LP or manufactured gases. They are normally used on atmospheric boilers, commercial water heaters, and rooftop heaters.

- Rated for 150°F (66°C) maximum temperature applications.
- V88 for 24 Vac service.
- Close firmly with diaphragm that is both weight and spring loaded.
- Two second maximum closing time.
- Valve closes on power failure; recommended for final shutoff service.
- Set opening time with various sized bleed orifices or adjustable bleed valve.
- Use with LP, natural or manufactured gases.
- Made with cast aluminum in straight-through valve pattern.

Type of Fuel: Natural; LP; Manufactured

Bleed Tapping: 1/8-27 NPT

Pilot Tapping: 1/8-27 NPT

Body Pattern: Straight-through

Valve Opening Time: 5 sec max

Valve Closing Time: 2 sec max

Mounting: Upright (horizontal)

Materials: Body – Aluminum

Frequency: 60 Hz

Electrical Connections: 6 in. Leadwires

Operating Temperature Range: 32°F to 150°F (0°C to 66°C)

Approvals, Underwriters Laboratories Inc.: File No. MH1639, Guide No. YIOZ

Approvals, CSA: Certificate No. 158158-2500005576 (Z21.21-CSA 6.5)

Pressure Ratings (psi): 1 psi

Pressure Ratings (kPa): 6.9 kPa

Current Ratings: 0.62 max amps at rated Vac/Hz

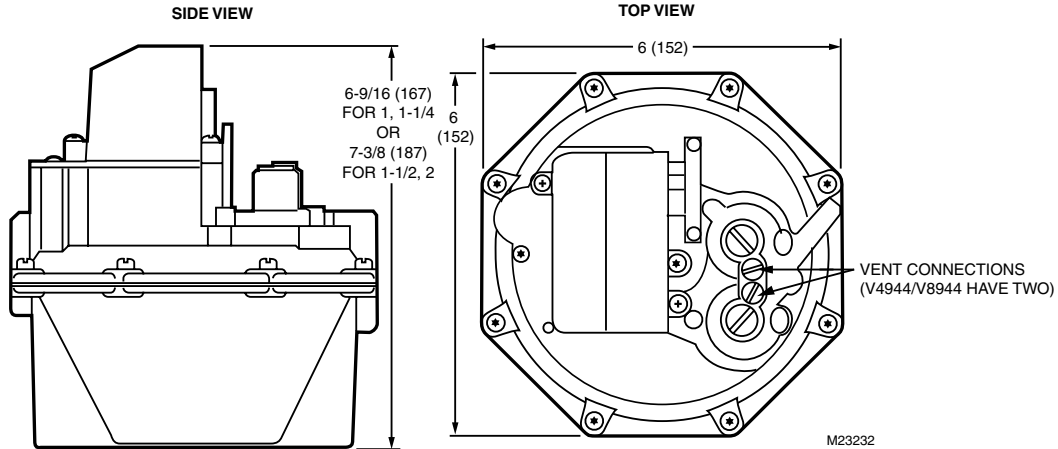
| Material Number | Pipe Size (inch) | Pipe Size (DN) | Voltage | Approximate, Dimensions | Power Consumption |
|-----------------|------------------|----------------|---------|---|-------------------|
| V88J1006/U | 1 in. | DN25 | 24 Vac | 6 1/16 in. high x 4 5/16 in. wide x 5 in. deep (154 mm high x 127 mm wide x 109 mm deep) | 9 W; 15 VA max |
| V88J1022/U | 1 1/4 in. | DN32 | 24 Vac | 6 13/16 in. high x 5 5/16 in. wide x 5 7/8 in. deep (173 mm high x 135 mm wide x 149 mm deep) | 9 W; 15 VA max |

V4943/V8943A On/Off Diaphragm Gas Valves



Type of Fuel: Natural; LP
Bleed Tapping: Internal Bleed
Pilot Tapping: 1/8-27 NPT
Body Pattern: Straight-through, non-offset
Opening Characteristics: Rapid Opening On-Off
Valve Opening Time: 6 sec max
Valve Closing Time: 3 sec max
Mounting: Upright (horizontal)
Materials: Body – Aluminum
Frequency: 60 Hz
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects), 30 in. (762 mm) leadwires and cover for electrical conduit connection provided.

Dimensions in inches (millimeters)



- V4943A/V8943A are on/off diaphragm gas valve used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.**
- Designed for replacement for V4843A/V8843A Gas Valves.
 - Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters.
 - V8943A/V4943A models are solenoid-operated diaphragm valves for on/off flow control of natural or LP gas.
 - Valve body of die-cast aluminum with a straight-through pattern.
 - V4943 are used with line voltage, on/off controllers; V8943A are used with 24 Vac thermostats or controllers.
 - Valve closes on power failure; recommended for final shutoff service.

Operating Temperature Range: -40°F to +150°F (-40°C to +66°C)
Approvals, Underwriters Laboratories Inc.: File No. MH1639, Guide No. YIOZ (60 Hz only)
Approvals, CSA: Certificate No. 158158-1042930, Guide No. 3371-03, 83 (Z21.21, Z21.78)
Pressure Ratings (psi): 1/2 psi
Pressure Ratings (kPa): 3.4 kPa
Comments: (2) 30" leadwires
Current Ratings: 0.055 max amps at rated Vac/Hz

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Voltage | Approximate, Dimensions | Power Consumption |
|-----------------|------------------|----------------|---------|---|-------------------|
| V4943A1011/U | 1 in. | DN25 | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 VA max |
| V4943A1029/U | 1 1/4 in. | DN32 | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 VA max |
| V4943A1037/U | 1 1/2 in. | DN40 | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 6 VA max |
| V4943A1045/U | 2 in. | DN50 | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 6 VA max |
| V8943A1012/U | 1 in. | DN25 | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 8 VA max |
| V8943A1020/U | 1 1/4 in. | DN32 | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 8 VA max |
| V8943A1038/U | 1 1/2 in. | DN40 | 24 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 8 VA max |
| V8943A1046/U | 2 in. | DN50 | 24 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 8 VA max |

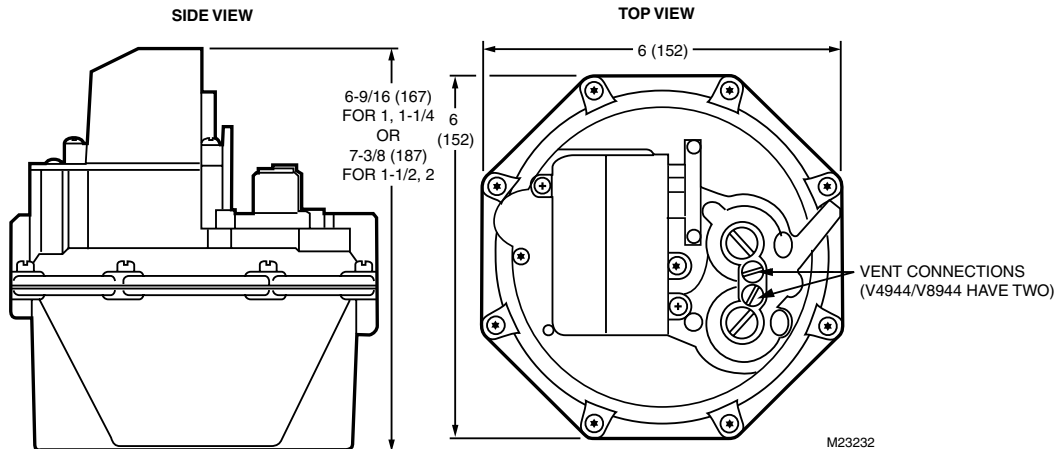
Diaphragm Gas Valves

V4943/V8943B, C, N Single Stage Pressure Regulating Valves



Bleed Tapping: 5/16-24 UNF
Pilot Tapping: 1/8-27 NPT
Body Pattern: Straight-through, non-offset
Valve Closing Time: 2 sec max
Mounting: Upright (horizontal)
Materials: Body – Aluminum
Frequency: 60 Hz
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects). 30 in. (762 mm) leadwires and cover for electrical conduit connection provided.

Dimensions in inches (millimeter)



V4943B, N/8943B, C, N are Single-stage Pressure Regulating Valves. These valves are used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Designed for replacement for V4843/V8843 Gas Valves.
- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters.
- V4943/V8943B, C, N models are solenoid-operated diaphragm valves that combine the functions of safety shutoff and pressure regulation in a single unit.
- V4943/V8943B, N are for use with natural gas.
- V4943/V8943C are for use with LP gas.
- Valve body of die-cast aluminum with a straight-through pattern.
- V4943 are used with line voltage, on/off controllers; V8943 are used with 24 Vac thermostats or controllers.
- Valve closes on power failure; recommended for final shutoff service.

Operating Temperature Range: -40°F to +150°F (-40°C to +66°C)

Approvals, Underwriters Laboratories Inc.: File No. MH1639, Guide No. YIOZ (60 Hz only)

Approvals, CSA: Certificate No. 158158-1042930, Guide No. 3302-01, 81 (Z21.21, Z21.78)

Pressure Ratings (psi): 1/2 psi

Pressure Ratings (kPa): 3.4 kPa

Comments: (2) 30" leadwires

| Material Number | Type of Fuel | Pipe Size (inch) | Pipe Size (DN) | Opening Characteristics | Voltage | Approximate, Dimensions | Valve Opening Time | Current Ratings | Pressure Regulator Setpoint (in. wc) | Power Consumption |
|-----------------|--------------|------------------|----------------|-------------------------|---------|---|--------------------|--------------------------------|---|--------------------|
| V4943B1019/U | Natural | 1 in. | DN25 | Slow Opening 1-stage | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max; 6.6 VA |
| V4943B1027/U | Natural | 1 1/4 in. | DN32 | Slow Opening 1-stage | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V4943B1035/U | Natural | 1 1/2 in. | DN40 | Slow Opening 1-stage | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V4943B1043/U | Natural | 2 in. | DN50 | Slow Opening 1-stage | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V4943N1012/U | Natural | 1 in. | DN25 | Rapid Opening 1-stage | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V4943N1020/U | Natural | 1 1/4 in. | DN32 | Rapid Opening 1-stage | 120 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |

Diaphragm Gas Valves

| Material Number | Type of Fuel | Pipe Size (inch) | Pipe Size (DN) | Opening Characteristics | Voltage | Approximate, Dimensions | Valve Opening Time | Current Ratings | Pressure Regulator Setpoint (in. wc) | Power Consumption |
|-----------------|--------------|------------------|----------------|-------------------------|---------|---|--------------------|--------------------------------|---|-------------------|
| V4943N1038/U | Natural | 1 1/2 in. | DN40 | Rapid Opening 1-stage | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V4943N1046/U | Natural | 2 in. | DN50 | Rapid Opening 1-stage | 120 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.055 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 6.6 VA max |
| V8943B1010/U | Natural | 1 in. | DN25 | Slow Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943B1028/U | Natural | 1 1/4 in. | DN32 | Slow Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943B1036/U | Natural | 1 1/2 in. | DN40 | Slow Opening 1-stage | 24 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943B1044/U | Natural | 2 in. | DN50 | Slow Opening 1-stage | 24 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943C1018/U | LP | 1 in. | DN25 | Slow Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, High Fire – 10.0 in. wc | 9 VA max |
| V8943C1026/U | LP | 1 1/4 in. | DN32 | Slow Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 3 to 25 sec | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, High Fire – 10.0 in. wc | 9 VA max |
| V8943N1013/U | Natural | 1 in. | DN25 | Rapid Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943N1021/U | Natural | 1 1/4 in. | DN32 | Rapid Opening 1-stage | 24 Vac | 6 9/16 in. high x 6 in. wide x 6 in. deep (167 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |
| V8943N1039/U | Natural | 1 1/2 in. | DN40 | Rapid Opening 1-stage | 24 Vac | 7 3/8 in. high x 6 in. wide x 6 in. deep (187 mm high x 152 mm wide x 152 mm deep) | 6 sec max | 0.363 max amps at rated Vac/Hz | Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, High Fire – 3.5 in. wc | 9 VA max |

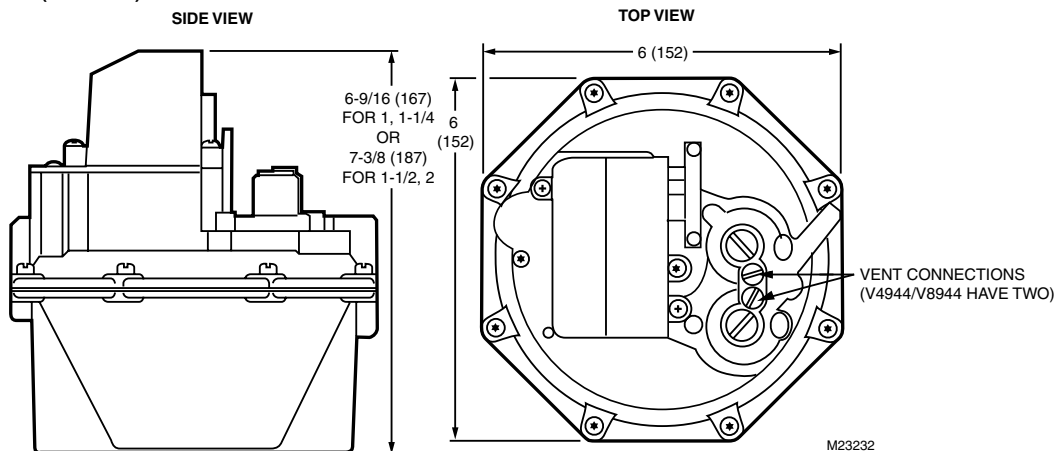
Diaphragm Gas Valves

V4944/V8944B, C, L, N Two Stage Pressure Regulating Gas Valves



Bleed Tapping: Two 5/16-24 UNF
Pilot Tapping: 1/8-27 NPT
Body Pattern: Straight-through, non-offset
Valve Closing Time: 2 sec max
Mounting: Upright (horizontal)
Materials: Body – Aluminum
Voltage: V4944-120 Vac; V8944-24 Vac
Frequency: 60 Hz
Power Consumption: V4944-9 VA max; V8944-12.4 VA max
Electrical Connections: 1/4 in. (6 mm) spade terminals (quick connects), leadwires and cover for electrical conduit connection provided.

Dimensions in inches (millimeter)



V4944B, L, N/V8944B, C, L, N are Two-stage Pressure Regulating Gas Valves. These valves are used on boilers, unit heaters, duct furnaces, makeup air and rooftop heaters.

- Designed for replacement for V4844/V8844 Gas Valves.
- Suitable for use on atmospheric boilers, commercial water heaters, and rooftop heaters.
- V4944/V8944B, C, L, N models are solenoid-operated diaphragm valves that combine the functions of safety shutoff and pressure regulation in a single unit.
- V4944/V8944B, N are for use with natural gas.
- V4944/V8944C, L are for use with LP gas.
- Valve body of die-cast aluminum with a straight-through pattern.
- V4944 are used with line voltage, dual-stage controllers; V8944 are used with 24 Vac dual-stage thermostats or controllers.
- Valve closes on power failure; recommended for final shutoff service.

Operating Temperature Range: -40°F to +150°F (-40°C to +66°C)

Approvals, Underwriters Laboratories Inc.: File No. MH1639, Guide No. YIOZ (60 Hz only)

Approvals, CSA: Certificate No. 158158-1042930, Guide No. 3302-01, 81 (Z21.21, Z21.78)

Pressure Ratings (psi): 1/2 psi

Pressure Ratings (kPa): 3.4 kPa

Current Ratings: V4944-0.077 max amps at rated Vac/Hz;
V8944-0.516 max amps at rated Vac/Hz

| Material Number | Type of Fuel | Pipe Size (inch) | Pipe Size (DN) | Opening Characteristics | Valve Opening Time | Pressure Regulator Setpoint (in. wc) | Comments |
|-----------------|--------------|------------------|----------------|-------------------------|--------------------|--|-------------------|
| V4944B1026/U | Natural | 1 1/4 in. | DN32 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V4944B1059/U | Natural | 1 in. | DN25 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.7 in. wc; Factory Setting, High Fire – 3.0 in. wc | (3) 30" leadwires |
| V4944B1075/U | Natural | 1 in. | DN25 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 1.6 in. wc to 4 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 1.6 in. wc; Factory Setting, High Fire – 3.5 in. wc | |
| V4944B1091/U | Natural | 1 1/2 in. | DN40 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 1.6 in. wc to 4 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 1.6 in. wc; Factory Setting, High Fire – 3.5 in. wc | |
| V4944L1024/U | LP | 1 1/4 in. | DN32 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 1.4 in. wc to 4.2 in. wc; Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, Low Fire – 1.4 in. wc; Factory Setting, High Fire – 10.0 in. wc | (3) 30" leadwires |
| V4944N1011/U | Natural | 1 in. | DN25 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |

Diaphragm Gas Valves

| Material Number | Type of Fuel | Pipe Size (inch) | Pipe Size (DN) | Opening Characteristics | Valve Opening Time | Pressure Regulator Setpoint (in. wc) | Comments |
|-----------------|--------------|------------------|----------------|-------------------------|--------------------|---|-------------------|
| V8944B1019/U | Natural | 1 in. | DN25 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944B1027/U | Natural | 1 1/4 in. | DN32 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944B1035/U | Natural | 1 1/2 in. | DN40 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944B1043/U | Natural | 2 in. | DN50 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944C1017/U | LP | 1 in. | DN25 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 1.4 in. wc to 4.2 in. wc; Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, Low Fire – 1.4 in. wc; Factory Setting, High Fire – 10.0 in. wc | (3) 30" leadwires |
| V8944C1025/U | LP | 1 1/4 in. | DN32 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 1.4 in. wc to 4.2 in. wc; Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, Low Fire – 1.4 in. wc; Factory Setting, High Fire – 10.0 in. wc | (3) 30" leadwires |
| V8944C1033/U | LP | 1 1/2 in. | DN40 | Slow Opening 2-stage | 3 to 25 sec | Adj. Range, Low Fire – 1.4 in. wc to 4.2 in. wc; Adj. Range, High Fire – 8.8 in. wc to 11.5 in. wc; Factory Setting, Low Fire – 1.4 in. wc; Factory Setting, High Fire – 10.0 in. wc | (3) 30" leadwires |
| V8944N1012/U | Natural | 1 in. | DN25 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944N1020/U | Natural | 1 1/4 in. | DN32 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944N1038/U | Natural | 1 1/2 in. | DN40 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944N1046/U | Natural | 2 in. | DN50 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 0.8 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944N1053/U | Natural | 1 in. | DN25 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 1.2 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |
| V8944N1061/U | Natural | 1 1/4 in. | DN32 | Rapid Opening 2-stage | 6 sec max | Adj. Range, Low Fire – 0.8 in. wc to 2 in. wc; Adj. Range, High Fire – 3 in. wc to 4.5 in. wc; Factory Setting, Low Fire – 1.2 in. wc; Factory Setting, High Fire – 3.5 in. wc | (3) 30" leadwires |

Diaphragm Gas Valves

Diaphragm Gas Valve Replacement Parts or Accessories

| Material Number | Description | Used With |
|-----------------|--|--|
| 116930/U | 24 Vac, 60 Hz Replacement Coil for V88A Solenoid Operated Valve | V88A |
| 116931/U | 120 V/60 Hz Replacement Coil for V48A Solenoid Operated Valve | V48; V48A |
| 116932/U | 220-240 V/50-60 Hz Replacement Coil for V48A Solenoid Operated Valve | V48A |
| 118888/U | 24V 60 Hz Replacement Coil for V88J | V88J |
| 122160/U | Orifice - .018" for V48, V88 | V48, V88 |
| 124674/U | Orifice - .011" for V48, V88 | V48, V88 |
| 126590/U | Adjustable Bleed Valve Assembly for V48, V88, V4004, V8004. 1/8 in. NPT to 1/4 in. compression fitting | V48, V88 |
| 204480/U | Regulator vent pipe fitting to be used with V4843/V8843B, C, L, N and V4844/V8844B, C, L, N and V4943/V8943, V4944/V8944 | V4843B; V4843C; V4843L; V4843N; V8843B; V8843C; V8843L; V8843N; V4844B; V4844C; V4844L; V4844N; V8844B; V8844C; V8844L; V8844N; V4943; V8943; V4944; V8944 |

Gas Valve Actuators

Selection Chart: V5055 and V5097 Industrial Gas Valves with V4055 or V4062 Fluid Power Actuators

The chart below describes every model of V5055 or V5097 Valve in the left column, and every model of Fluid Power Actuator across the top. While it's possible to combine any valve with any actuator, we've marked the recommended valve/actuator combinations which cover most applications with a •.

Each valve described in the left column is available:

- In these sizes: 3/4 to 3 in. (NPT or parallel BSP). V5055A, B, C are also available in 4 in. size (flange connection only).
- With upstream and/or downstream tap.

Options available on some Fluid Power Actuators include:

- Damper arm shaft, with or without spring return.
- NEMA 4 enclosure.
- Fast or slow open time (13 or 26 seconds).
- Auxiliary switch.
- Valve seal overtravel interlock switch.

For complete specifications and ordering information on V5055 and V5097 Valves and V4055 and V4062 Fluid Power Actuators, refer to Index for specific page numbers.

| Fluid Power Actuators/ Industrial Gas Valves | | | Standard pressure ^a | | | High Pressure ^a |
|--|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|----------------------------|
| | | | V5055A, F ^b , V5097A | V5055B, V5097B | V5055C, V5097C | V5055E |
| Type | Model | Pressure Rating ^a | On-Off | Characterized Guide ^c | VS01 ^d | VS01 ^d |
| V4055 On-Off | A, G ^e | Standard | • | • | | |
| | B | High | • f | • f | | |
| | D ^d F ^d e | Standard | | | • | • |
| | E ^d | High | | | • f | • |
| V4062 Hi-Lo-Off | A | Standard | | • | • | |
| | B | High | | • f | • f | • |
| | D ^d | Standard | | | • | |

^a Refer to the table below for actual pressure ratings of the various combinations of valves and actuators.

^b V5055F models meet EN161 leakage requirements.

^c Characterized guide provides a more linear relationship between stem travel and gas flow. Check Honeywell form 70-8311 to verify that flow curve characteristics match application requirements.

^d Valve Seal Overtravel Interlock. Valve has two shutoff seals, actuator has a proof-of-closure switch.

^e V4055F, G models include switch for manual control.

^f These combinations have higher pressure ratings; see the table below.

The following combinations of V5055 and V5097 Valves, and V4055 and V4062 Fluid Power Actuators are approved by these agencies.

Underwriters Laboratories, Inc: Listed: MH1639

- V4055A/V5055A-E (3/4-4 in.) or V5097A-C (3/4-3 in.).
- V4055B/V5055A-E (3/4-4 in.) or V5097A-C (3/4-3 in.).
- V4055D/V5055A-E (3/4-4 in.) or V5097A-C (3/4-3 in.).
- V4055E/V5055A-E (3/4-4 in.) or V5097A-C (3/4-3 in.).
- V4055F/V5055A-E (3/4-4 in.^a) or V5097A-C (3/4-3 in.).
- V4055G/V5055A-E (3/4-4 in.^a) or V5097A-C (3/4-3 in.).
- V4062A, D/V5055A-E (3/4-4 in.) or V5097A-C (3/4-3 in.).

Gas Valve Actuators

Factory Mutual Approved: Report No. 20698, 20835, 21172 and 24061:

Valve Actuator Approvals:

V4055A/V5055A and V5097A.
V4055D/V5055C and V5097C.
V4055A/V5055B and V5097B.
V4055B.
V4055E/V5055E.
V4055F/V5055C^a and V5097C.
V4055G/V5055A, B^a and V5097A, B.

^a Manual reset safety shut-off valves.

Pressure Ratings of Valve-Actuator Combinations

| Model | Pipe Size | Standard Pressure Actuators V4055A, D, F, G, V4062A, D | | | | High Pressure Actuators V4055B, E, V4062B | | | |
|--|-----------------------------|---|----------|----------------------------------|---------|--|-----------|----------------------------------|---------|
| | | M.O.P.D. ^a | | Max. Rated Pressure ^b | | M.O.P.D. ^a | | Max. Rated Pressure ^b | |
| Standard Pressure Valves V5055A, B, C, F, V5097A, B, C | 3/4" to 1-1/2" ^c | 5 PSI | 340 mbar | 15 PSI | 1.0 Bar | 15 PSI | 1030 mbar | 15 PSI | 1.0 Bar |
| | 2" to 3" ^d | 5 PSI | 340 mbar | 15 PSI | 1.0 Bar | 15 PSI | 1030 mbar | 15 PSI | 1.0 Bar |
| | 4" flanged ^e | 3 PSI | 207 mbar | 15 PSI | 1.0 Bar | 5 PSI | 340 mbar | 15 PSI | 1.0 Bar |
| High Pressure Valves V5055E | 3/4" to 1-1/2" | 5 PSI | 340 mbar | 75 PSI | 5.0 Bar | 25 PSI | 1720 mbar | 75 PSI | 5.0 Bar |
| | 2" to 3" | 5 PSI | 340 mbar | 45 PSI | 3.0 Bar | 15 PSI | 1030 mbar | 45 PSI | 3.0 Bar |

^a Max Operating Pressure Differential (UL) or Max Operating Pressure (CSA); maximum allowable pressure drop from inlet to outlet for proper operation.

^b Max Rated Pressure (UL) or Max Close-off Pressure (CSA); maximum pressure that the valve can be exposed to without leakage or damage to the valve.

^c Applies for small-body V5097 valves 3/4" up to 2" pipe size.

^d Applies for large-body V5097 valves 2" up to 3" pipe size.

^e V5055A, B, C only.

V4055A, B, D, E On-Off Fluid Power Gas Valve Actuator



Use in combination with V5055 or V5097 Gas Valves to control gas supply to commercial and industrial burners.

- Use where smooth light off is important.
- One-second maximum closing time.
- Continuously displays the valve position with a red indicator when open and a yellow indicator when closed.
- Mount in any position directly to valve bonnet with three setscrews.
- Provide final safety shutoff service when used with V5055 or V5097 Gas Valves.

Operating Temperature Ratings: 60 Hz Models: -40°F to +150°F (-40°C to +66°C). 50 Hz, 50/60 Hz Models: -10°F to +158°F (-23°C to +70°C).

Contact Ratings: V4055D, E ONLY-Proof of Closure (Factory Mutual)

Switch – 9.8 AFL, 58.8 ALR, 1/2 hp; 4.9 AFL, 29.4 ALR, 1/2 hp

Used With: V5055; V5097 Gas Valves

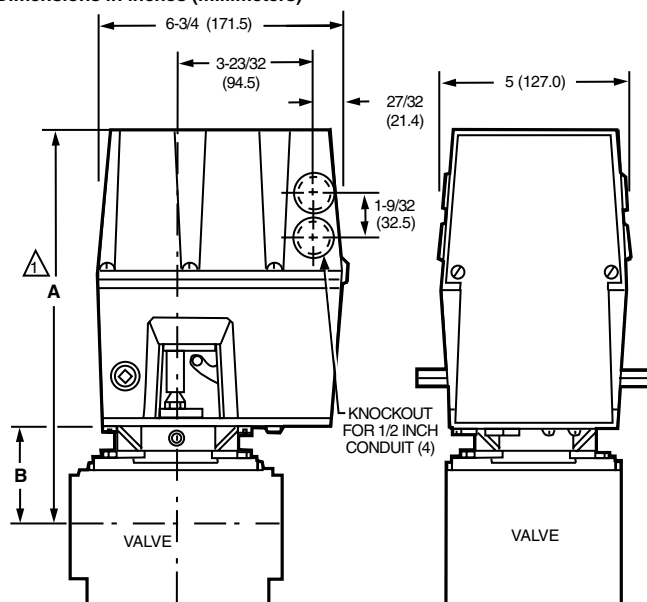
Approvals, CSA: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada

Approvals, Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-C (3/4 to 3 in.): Listed, File No. MH1639 Guide No. YIOZ

Approvals, Factory Mutual: V4055A-When used with the V5055A, B or V5097A, B: Approved, Report Nos. 20698, 20835, 21172, and 24061; V4055B, D, E

Approvals, Swiss RE: When used with V5055 or V5097: Acceptable

Dimensions in inches (millimeters)



△ ALLOW 4 IN. (101.6 MM) CLEARANCE FOR ACTUATOR REMOVAL.

| VALVE SIZE INCH | V5055 | | | | V5097 | | | |
|--------------------|--------|-------|---------|-------|--------|-----|-------|----|
| | DIM A | | DIM B | | DIM A | | DIM B | |
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1-1/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1-1/2 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 2 | 11-1/4 | 285.8 | 2-7/8 | 73.0 | 11-3/4 | 298 | 3-3/8 | 86 |
| 2-1/2 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 11-3/4 | 298 | 3-3/8 | 86 |
| 3 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 11-3/4 | 298 | 3-3/8 | 86 |
| 4 | 14-1/8 | 358.8 | 5-13/16 | 147.6 | — | — | — | — |

M10981A

| Material Number | Electrical Ratings | Frequency | Timing | Internal Auxiliary Switch | Maximum Safe Operating Pressure (psi) | Maximum Safe Operating Pressure (kPa) | Auxiliary Switch Ratings | Comments | Includes |
|-----------------|--------------------|--------------|--|------------------------------|---------------------------------------|---------------------------------------|---|------------------|--------------|
| V4055A1007/U | 120 Vac | 60 Hz | Opening – 26 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | |
| V4055A1031/U | 120 Vac | 50 Hz; 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | |
| V4055A1064/U | 120 Vac | 50 Hz; 60 Hz | Opening – 26 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055A1080/U | 240 Vac | 50 Hz; 60 Hz | Opening – 26 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055A1098/U | 120 Vac | 50 Hz; 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055A1114/U | 240 Vac | 50 Hz; 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055A1296/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | Yes - adjusted to 90% stroke | 5 psi | 34 kPa | 120 Vac – 9.8 AFL, 58.8 ALR, 1/2 hp; 240 Vac – 4.9 AFL, 29.4 ALR, 1/2 hp | | |
| V4055B1039/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 15 or 25 psi | 103 or 172 kPa | | | Damper Shaft |
| V4055D1001/U | 120 Vac | 60 Hz | Opening – 26 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055D1019/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | Damper Shaft |
| V4055D1027/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | Yes | 5 psi | 34 kPa | 120 Vac – 9.8 AFL, 58.8 ALR, 1/2 hp; 240 Vac – 4.9 AFL, 29.4 ALR, 1/2 hp | Nema 4 Enclosure | |

Gas Valve Actuators

| Material Number | Electrical Ratings | Frequency | Timing | Internal Auxiliary Switch | Maximum Safe Operating Pressure (psi) | Maximum Safe Operating Pressure (kPa) | Auxiliary Switch Ratings | Comments | Includes |
|-----------------|--------------------|-----------|--|---------------------------|---------------------------------------|---------------------------------------|---|---------------------|--------------|
| V4055D1035/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | Yes | 5 psi | 34 kPa | 120 Vac – 9.8 AFL, 58.8 ALR, 1/2 hp; 240 Vac – 4.9 AFL, 29.4 ALR, 1/2 hp | | |
| V4055D1043/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 5 psi | 34 kPa | | | |
| V4055E1016/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 15 or 25 psi | 103 or 172 kPa | | | Damper Shaft |
| V4055E1040/U | 120 Vac | 60 Hz | Opening – 13 sec; Closing – < 1 sec | No | 15 or 25 psi | 103 or 172 kPa | | Nema 4 Enclosure | Damper Shaft |

V4062 Off-Lo-Hi Fluid Power Gas Valve Actuators



Use with V5055 or V5097 Gas Valves to control gas supply for commercial and industrial burners. Valve opens to low fire position when power is applied; valve opens all the way on demand.

- Provide final safety shutoff service when used with V5055 or V5097 gas valve.
- One-second maximum closing time.
- Continuously displays the valve position with a red indicator when open and a yellow indicator when closed.
- Mount in any position directly to valve bonnet with three setscrews.
- Provide final safety shutoff service when used with V5055 or V5097 Gas Valves.

Electrical Ratings: 120 Vac

Frequency: 60 Hz

Maximum Safe Operating Pressure (psi): 5 psi

Maximum Safe Operating Pressure (kPa): 34 kPa

Temperature Range: -40°F to +150°F (-40°C to +66°C)

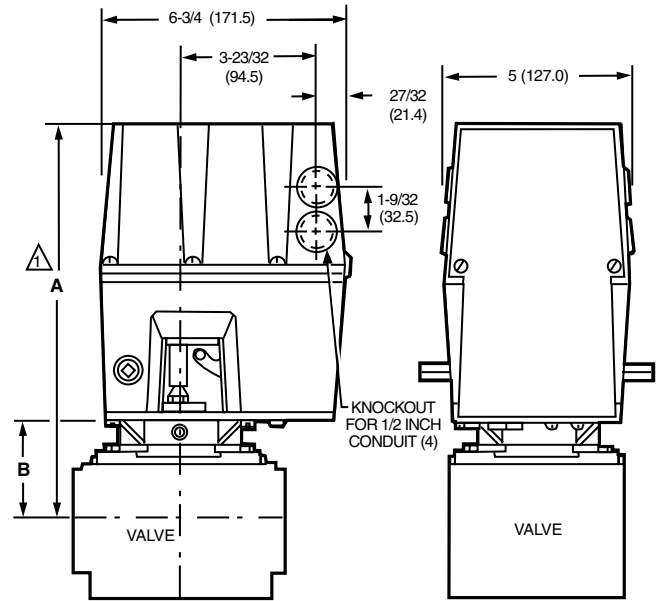
Used With: V5034; V5055; V5097

Approvals, CSA: When used with V5055 and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada

Approvals, Underwriters Laboratories Inc.: When used with V5055A-E (3/4 to 4 in.) or V5097A-C (3/4 to 3 in.): Listed, File No. MH1639 Guide No. YIOZ

Approvals, Swiss RE: When used with V5055 or V5097: Acceptable

Dimensions in inches (millimeters)



△ ALLOW 4 IN. (101.6 MM) CLEARANCE FOR ACTUATOR REMOVAL.

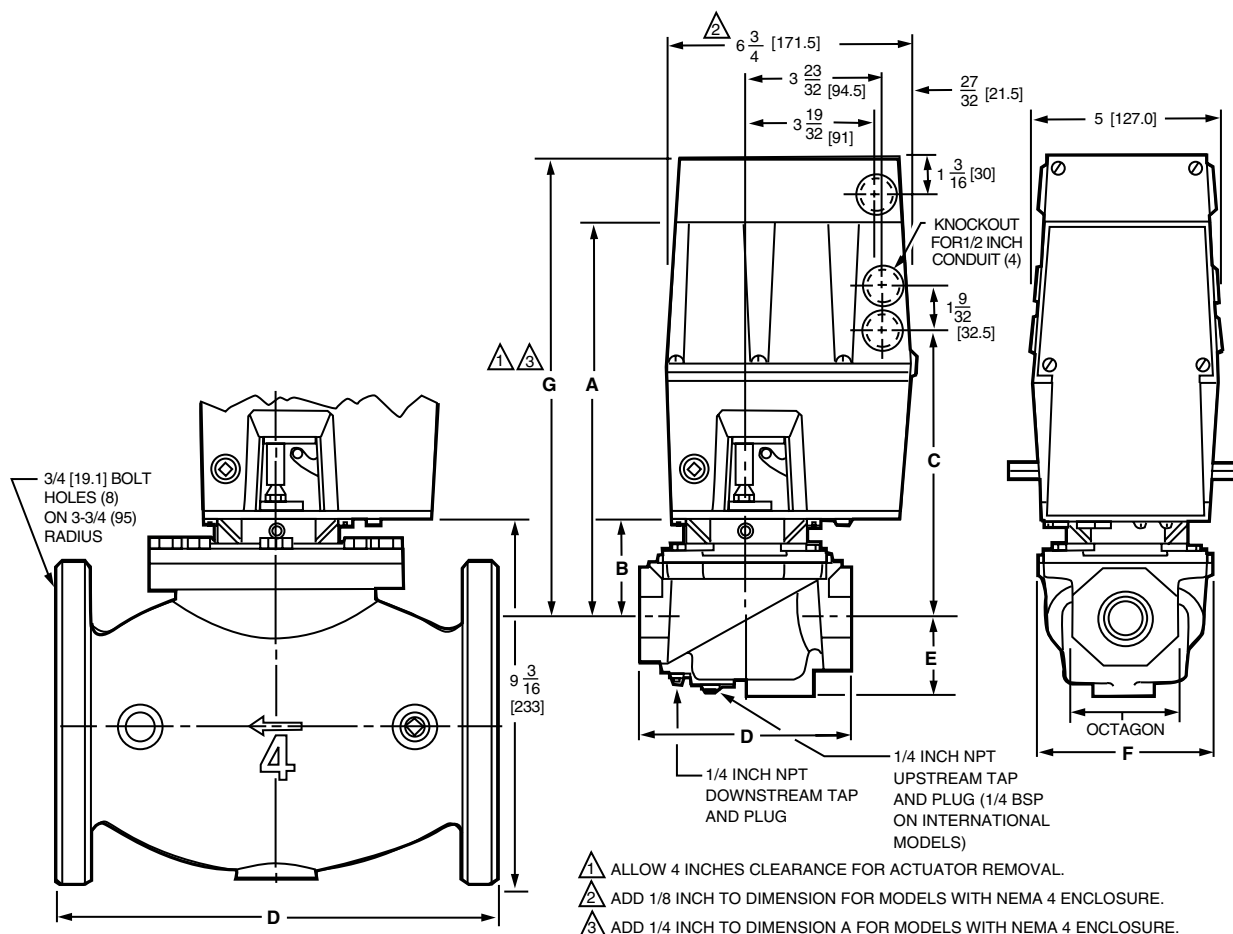
| VALVE SIZE INCH | V5055 | | | | V5097 | | | |
|--------------------|--------|-------|---------|-------|--------|-----|-------|----|
| | DIM A | | DIM B | | DIM A | | DIM B | |
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1-1/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 1-1/2 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 11-1/8 | 283 | 2-3/4 | 70 |
| 2 | 11-1/4 | 285.8 | 2-7/8 | 73.0 | 11-3/4 | 298 | 3-3/8 | 86 |
| 2-1/2 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 11-3/4 | 298 | 3-3/8 | 86 |
| 3 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 11-3/4 | 298 | 3-3/8 | 86 |
| 4 | 14-1/8 | 358.8 | 5-13/16 | 147.6 | — | — | — | — |

M10981A

| Material Number | Internal Auxiliary Switch | Timing | Contact Ratings | Auxiliary Switch Range | Description | Comments | Includes |
|-----------------|------------------------------------|--|---|--|---|----------|---|
| V4062A1008/U | No | Opening – 26 sec; Closing – < 1 sec | | | Low pressure HI-LO-OFF actuator for use with V5055B and V5097B valve bodies | | Damper Shaft |
| V4062A1131/U | No | Opening – 13 sec; Closing – < 1 sec | | | Low pressure HI-LO-OFF actuator for use with V5055B and V5097B valve bodies | | Damper Shaft |
| V4062A1198/U | Yes - adjusted to 90 degree stroke | Opening – 13 sec; Closing – < 1 sec | | 120 Vac – 9.8 AFL, 58.8 ALR, 1/2 hp; 240 Vac – 4.9 AFL, 29.4 ALR, 1/2 hp | Low pressure HI-LO-OFF actuator for use with V5055B and V5097B valve bodies | | Damper Shaft with return spring installed |
| V4062D1002/U | No | Opening – 26 sec; Closing – < 1 sec | Proof of Closure (Factory Mutual) Switch – 9.8 AFL, 58.8 ALR, 1/2 hp; 4.9 AFL, 29.4 ALR, 1/2 hp | | HI-LO-OFF actuator with Proof of Closure normally used on V5055C, E/V5907C, E valve bodies (Low Pressure) | | Damper Shaft |
| V4062D1010/U | No | Opening – 13 sec; Closing – < 1 sec | Proof of Closure (Factory Mutual) Switch – 9.8 AFL, 58.8 ALR, 1/2 hp; 4.9 AFL, 29.4 ALR, 1/2 hp | | HI-LO-OFF actuator with Proof of Closure normally used on V5055C, E/V5907C, E valve bodies (Low Pressure) | | Damper Shaft |

Gas Valve Actuators

Dimensions in inches (millimeters)



| VALVE SIZE INCH | DIM A | | DIM B | | DIM C | | DIM D | | DIM E | | DIM F | | DIM G | | OCTAGON | |
|--------------------|--------|-------|---------|-------|---------|-------|--------|-------|-------|-------|---------|-------|---------|-------|---------|-------|
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 8-3/16 | 208.0 | 5-3/4 | 146.1 | 2-1/4 | 57.2 | 4-13/16 | 122.2 | 13-1/8 | 333.4 | 2-13/16 | 71.4 |
| 1 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 8-3/16 | 208.0 | 5-3/4 | 146.1 | 2-1/4 | 57.2 | 4-13/16 | 122.2 | 13-1/8 | 333.4 | 2-13/16 | 71.4 |
| 1-1/4 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 8-3/16 | 208.0 | 5-3/4 | 146.1 | 2-1/4 | 57.2 | 4-13/16 | 122.2 | 13-1/8 | 333.4 | 2-13/16 | 71.4 |
| 1-1/2 | 11-1/8 | 282.6 | 2-3/4 | 69.9 | 8-3/16 | 208.0 | 5-3/4 | 146.1 | 2-1/4 | 57.2 | 4-13/16 | 122.2 | 13-1/8 | 333.4 | 2-13/16 | 71.4 |
| 2 | 11-1/4 | 285.8 | 2-7/8 | 73.0 | 8-5/16 | 211.1 | 8-3/8 | 212.7 | 2-3/4 | 69.9 | 7-19/32 | 192.9 | 13-1/4 | 336.5 | 3-1/2 | 88.9 |
| 2-1/2 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 8-13/16 | 223.8 | 9-1/4 | 235.0 | 2-3/4 | 69.9 | 7-19/32 | 192.9 | 13-3/4 | 349.3 | 4-1/2 | 114.3 |
| 3 | 11-3/4 | 298.5 | 3-3/8 | 85.7 | 8-13/16 | 223.8 | 9-1/4 | 235.0 | 2-3/4 | 69.9 | 7-19/32 | 192.9 | 13-3/4 | 349.3 | 4-1/2 | 114.3 |
| 4 | 14-1/8 | 358.8 | 5-13/16 | 147.6 | 11-7/32 | 285.0 | 12-1/2 | 317.5 | 4-5/8 | 117.5 | — | — | 16-3/16 | 411.0 | — | — |

M7321

Fluid Actuator Accessories and Parts

| Material Number | Description | Used With |
|-----------------|--|--------------|
| 133568/U | Auxiliary Switch (Adjustable Valve Position) for V4055, V4062 | V4055; V4062 |
| 133569/U | Replacement Pre-ignition Interlock (Proof of Closure) Switch for V4055D, E; V4062D | V4055; V4062 |
| 7616BR/U | Crank Arm assembly with clip for Damper Arm of V4055, V4062 | V4055; V4062 |

Industrial Gas Valves

V5055 Industrial Gas Valves



Safety shutoff valves used with V4055 and V4062 fluid power actuators to control gas flow to commercial and industrial burners.

- Use with natural or LP gases.
- Mount directly in gas supply line.
- Include 1/4 in. NPT upstream and downstream taps and plug.
- 4 in. models have only flanged connections.
- V5055 normally closed valves are rated for final shutoff service safety shutoff.

- V5055A, C, E Valves are for On-Off service.
- V5055B Valve has a characterized guide and in combination with the V4055 and V4062 Fluid Power Actuators, provides slow-opening, hi-lo-off, and modulating functions respectively.
- V5055C, E, F Valves have a double seal and are used with V4055D, E Actuators to provide proof-of-closure switch and valve seal over-travel interlock.
- V5055E, F Valves are for high pressure applications.

Operating Temperature Range: -40°F to +150°F (-40°C to +65°C)

Approvals, Underwriters Laboratories Inc.: When used with V4055A, B, D, E, V4062: Listed, File No. MH1639 Guide No. YIOZ

Approvals, CSA: When used with V4055, V4062, and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada

Approvals, Swiss RE: When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061

Used With: V4055; V4062

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m³/hr) | Connection Type | Maximum Operating Differential Pressure | Approvals, Factory Mutual | Comments | Includes |
|-----------------|------------------|----------------|----------------|------------------|-----------------|---|--|----------|--|
| V5055A1004/U | 1 in. | DN25 | 960 cfh | 27.2 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055A1012/U | 1 1/4 in. | DN32 | 1406 cfh | 39.8 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055A1020/U | 1 1/2 in. | DN40 | 1717 cfh | 48.6 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055A1038/U | 2 in. | DN50 | 3620 cfh | 102.5 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055A1046/U | 2 1/2 in. | DN65 | 4250 cfh | 120 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055A1053/U | 3 in. | DN80 | 5230 cfh | 148 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055A1228/U | 4 in. | DN100 | 10200 cfh | 288.8 m³/hr | Flanged | With V4055A, D or V4062 – 3 psi (20.7 kPa); With V4055B or E – 5 psi (340 mbar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055A1343/U | 3/4 in. | DN20 | 665 cfh | | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055B1002/U | 1 in. | DN25 | 960 cfh | 27.2 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055B1010/U | 1 1/4 in. | DN32 | 1406 cfh | 39.8 m³/hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |

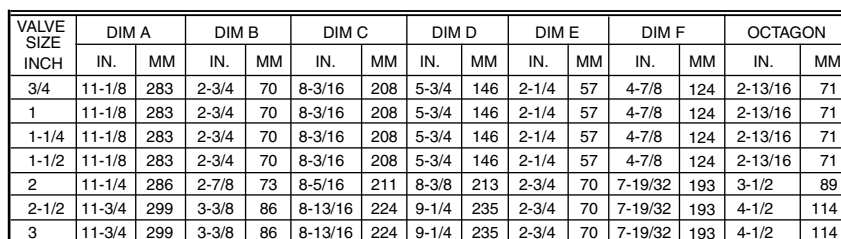
Industrial Gas Valves

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m ³ /hr) | Connection Type | Maximum Operating Differential Pressure | Approvals, Factory Mutual | Comments | Includes |
|-----------------|------------------|----------------|----------------|-------------------------------|-----------------|---|--|----------|--|
| V5055B1028/U | 1 1/2 in. | DN40 | 1717 cfh | 48.6 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055B1069/U | 2 in. | DN50 | 3620 cfh | 102.5 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055B1077/U | 2 1/2 in. | DN65 | 4250 cfh | 120 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055B1085/U | 3 in. | DN80 | 5230 cfh | 148 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055B1150/U | 4 in. | DN100 | 9180 cfh | 259.9 m ³ /hr | Flanged | With V4055A, D or V4062 – 3 psi (20.7 kPa); With V4055B or E – 5 psi (340 mbar) | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1000/U | 2 in. | DN50 | 3620 cfh | 102.5 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1018/U | 2 1/2 in. | DN65 | 4250 cfh | 120 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1026/U | 3 in. | DN80 | 5230 cfh | 148 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055C1034/U | 1 in. | DN25 | 960 cfh | 27.2 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1042/U | 1 1/4 in. | DN32 | 1406 cfh | 39.8 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055C1059/U | 1 1/2 in. | DN40 | 1717 cfh | 48.6 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1109/U | 4 in. | DN100 | 9180 cfh | 259.9 m ³ /hr | Flanged | With V4055A, D or V4062 – 3 psi (20.7 kPa); With V4055B or E – 5 psi (340 mbar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055C1182/U | 3/4 in. | DN20 | 665 cfh | | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24061 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055E1005/U | 2 in. | DN50 | 3620 cfh | 102.5 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055E1013/U | 2 1/2 in. | DN65 | 4250 cfh | 120 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |

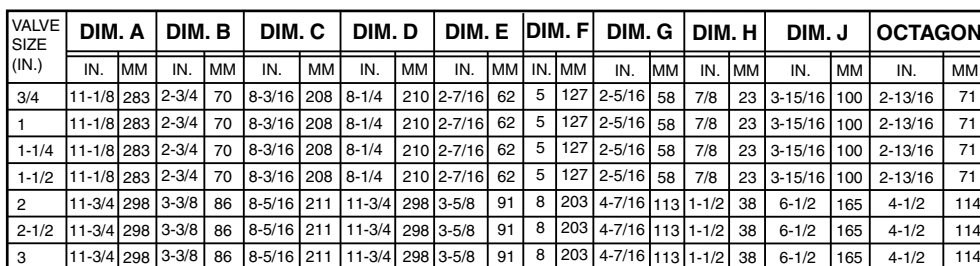
Industrial Gas Valves

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m ³ /hr) | Connection Type | Maximum Operating Differential Pressure | Approvals, Factory Mutual | Comments | Includes |
|-----------------|------------------|----------------|----------------|-------------------------------|-----------------|---|---|---|--|
| V5055E1021/U | 3 in. | DN80 | 5230 cfh | 148 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1.6 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055E1039/U | 1 in. | DN25 | 960 cfh | 27.2 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055E1047/U | 1 1/4 in. | DN32 | 1406 cfh | 39.8 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055E1054/U | 1 1/2 in. | DN40 | 1717 cfh | 48.6 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055E1062/U | 3/4 in. | DN20 | 665 cfh | | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | When used with the V4055E: Approved, Report Nos. 20698, 20835, 21172, and 24068 | | 1/4 in. -18 NPT upstream tap and plug, 1/4 in. -18 NPT downstream tap and plug |
| V5055F1003/U | 1 in. | DN25 | 960 cfh | 27.2 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | | Meets Intent of DIN Seat Leakage Requirements | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055F1011/U | 1 1/2 in. | DN40 | 1717 cfh | 48.6 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | | Meets Intent of DIN Seat Leakage Requirements | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |
| V5055F1037/U | 1 1/4 in. | DN32 | 1406 cfh | 39.8 m ³ /hr | NPT | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 25 psi (1.6 bar) | | Meets Intent of DIN Seat Leakage Requirements | 1/4 in. -18 NPT downstream tap and plug, 1/4 in. -18 NPT upstream tap and plug |

Dimensions in inches (millimeters)



M27268A



M27581

V5097 Integrated Valve Train



Safety shutoff valves used with V4055 and V4062 fluid power actuators to control gas flow to commercial and industrial burners.

- Use with natural or LP gases.
- Mount directly in gas supply line.
- Two Valve body types. Small body type for 3/4 in., 1 in., 1-1/4 in., 1-1/2 in., 2 in. pipes. Large body types for 2 in., 2-1/2 in. and 3 in. pipes.
- Seven pipe adapter sizes from 3/4 in. to 3 in. have NPT or BSP threaded connections.
- Provides three 1/4 in. upstream and two 1/4 in. downstream tap and plug.
- CE version provides an additional downstream tap and plug.
- Yellow SHUT indicator attached to the valve stem provides an indication of the valve closed position.

- V5097A, C Valves are for on-off service.
- V5097B Valve has a characterized guide and in combination with the V4055, V4062 and V9055 Fluid Power Actuators, provides slow-opening, HI-LO-OFF, and modulating functions, respectively.
- V5097C Valves have a double seal and are used with V4055D, E Actuators to provide proof-of-closure switch and valve seal over-travel interlock.
- Actuators to provide proof-of-closure switch and valve seal over-travel interlock.
- Two valve body types (small and large) applicable to server pipe size.

Operating Temperature Range: -40°F to +150°F; When used with V9055 – -40°F to +125°F (-40°C to +66°C; When used with V9055 – -40°C to +52°C)

Approvals, Underwriters Laboratories Inc.: When used with V4055A, B, D, E, V4062: Listed, File No. MH1639 Guide No. YIOZ

Approvals, CSA: When used with V4055, V4062, and V5097: Certified General listed File No. 158158, Class 3371 for USA and Canada

Approvals, Swiss RE: When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061

Approvals, CE: CE #E3070 (Gastec)

Comments: Select Proper Pipe Adapter

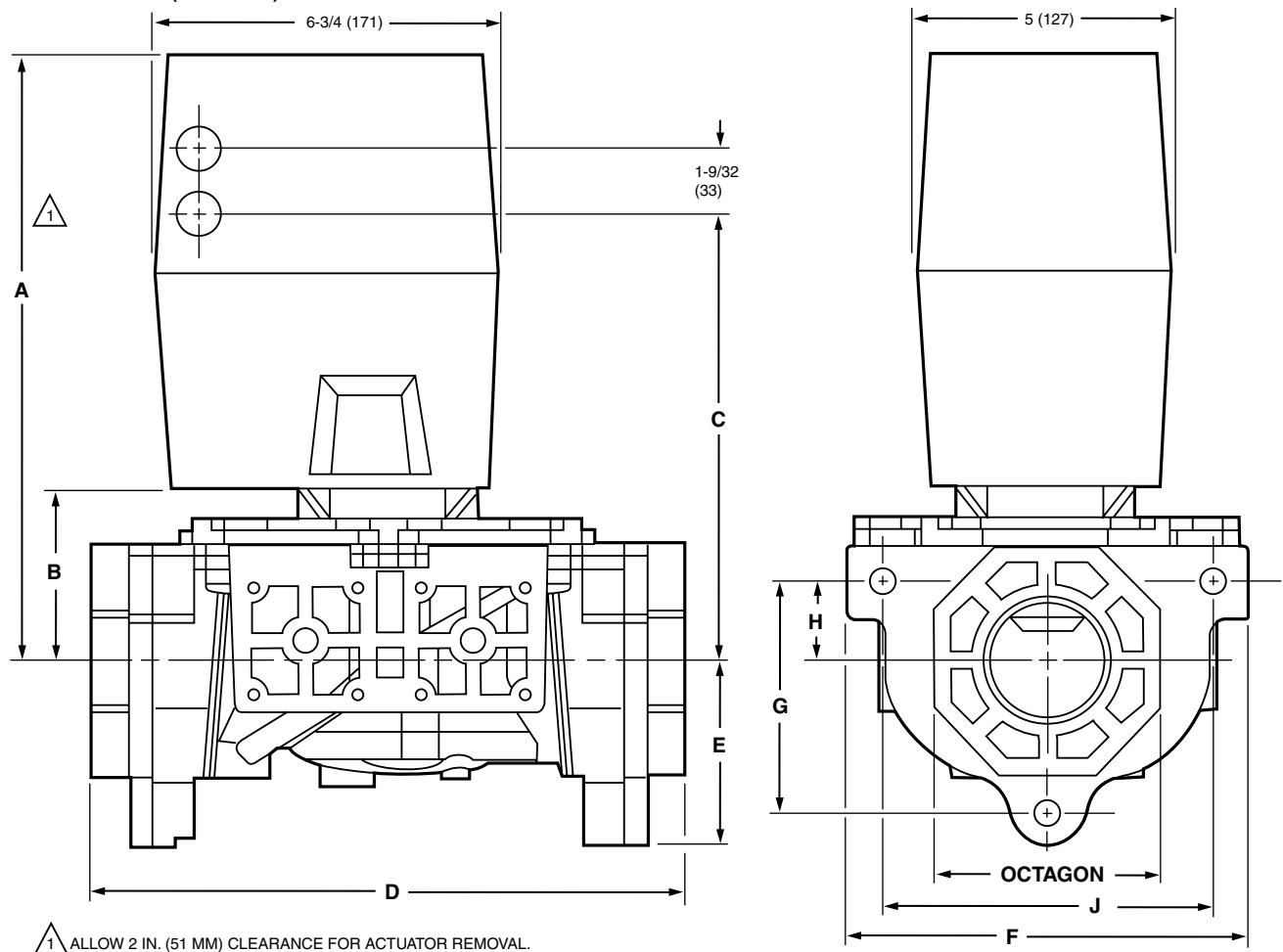
Includes: Three 1/4 in. -18 NPT upstream and two 1/4 in. -18 NPT downstream taps

Used With: V4055; V4062

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m ³ /hr) | Maximum Operating Differential Pressure | Integrated Valve Train Body Size | Approvals, Factory Mutual |
|-----------------|--|------------------------------|----------------------|-----------------------------------|---|----------------------------------|--|
| V5097A1004/U | 3/4 in. or 1 in. or 1 1/4 in. or 2 in. | DN20 or DN25 or DN32 or DN50 | 665 cfh to 3620 cfh | 18.8 to 102.5 m ³ /hr | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Small body | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 |
| V5097A1012/U | 2 in. or 2 1/2 in. or 3 in. | DN50 or DN65 or DN80 | 3620 cfh to 5230 cfh | 102.5 to 148.0 m ³ /hr | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Large body | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 |
| V5097B1002/U | 3/4 in. or 1 in. or 1 1/4 in. or 2 in. | DN20 or DN25 or DN32 or DN50 | 665 cfh to 3620 cfh | | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Small body | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 |
| V5097B1010/U | 2 in. or 2 1/2 in. or 3 in. | DN50 or DN65 or DN80 | 3620 cfh to 5230 cfh | 102.5 to 148.0 m ³ /hr | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Large body | When used with the V4055A, G: Approved, Report Nos. 20698, 20835, 21172, and 24061 |
| V5097C1000/U | 3/4 in. or 1 in. or 1 1/4 in. or 2 in. | DN20 or DN25 or DN32 or DN50 | 665 cfh to 3620 cfh | 18.8 to 102.5 m ³ /hr | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Small body | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24066 |
| V5097C1018/U | 2 in. or 2 1/2 in. or 3 in. | DN50 or DN65 or DN80 | 3620 cfh to 5230 cfh | 102.5 to 148.0 m ³ /hr | With V4055A, D or V4062 – 5 psi (340 mbar); With V4055B or E – 15 psi (1 bar) | Large body | When used with the V4055D, F: Approved, Report Nos. 20698, 20835, 21172, and 24066 |

Industrial Gas Valves

Dimensions in inches (millimeters)



| VALVE SIZE (IN.) | DIM. A | | DIM. B | | DIM. C | | DIM. D | | DIM. E | | DIM. F | | DIM. G | | DIM. H | | DIM. J | | OCTAGON | |
|------------------------|--------|-----|--------|----|--------|-----|--------|-----|--------|----|--------|-----|--------|-----|--------|----|---------|-----|---------|-----|
| | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM | IN. | MM |
| 3/4 | 11-1/8 | 283 | 2-3/4 | 70 | 8-3/16 | 208 | 8-1/4 | 210 | 2-7/16 | 62 | 5 | 127 | 2-5/16 | 58 | 7/8 | 23 | 3-15/16 | 100 | 2-13/16 | 71 |
| 1 | 11-1/8 | 283 | 2-3/4 | 70 | 8-3/16 | 208 | 8-1/4 | 210 | 2-7/16 | 62 | 5 | 127 | 2-5/16 | 58 | 7/8 | 23 | 3-15/16 | 100 | 2-13/16 | 71 |
| 1-1/4 | 11-1/8 | 283 | 2-3/4 | 70 | 8-3/16 | 208 | 8-1/4 | 210 | 2-7/16 | 62 | 5 | 127 | 2-5/16 | 58 | 7/8 | 23 | 3-15/16 | 100 | 2-13/16 | 71 |
| 1-1/2 | 11-1/8 | 283 | 2-3/4 | 70 | 8-3/16 | 208 | 8-1/4 | 210 | 2-7/16 | 62 | 5 | 127 | 2-5/16 | 58 | 7/8 | 23 | 3-15/16 | 100 | 2-13/16 | 71 |
| 2 | 11-3/4 | 298 | 3-3/8 | 86 | 8-5/16 | 211 | 11-3/4 | 298 | 3-5/8 | 91 | 8 | 203 | 4-7/16 | 113 | 1-1/2 | 38 | 6-1/2 | 165 | 4-1/2 | 114 |
| 2-1/2 | 11-3/4 | 298 | 3-3/8 | 86 | 8-5/16 | 211 | 11-3/4 | 298 | 3-5/8 | 91 | 8 | 203 | 4-7/16 | 113 | 1-1/2 | 38 | 6-1/2 | 165 | 4-1/2 | 114 |
| 3 | 11-3/4 | 298 | 3-3/8 | 86 | 8-5/16 | 211 | 11-3/4 | 298 | 3-5/8 | 91 | 8 | 203 | 4-7/16 | 113 | 1-1/2 | 38 | 6-1/2 | 165 | 4-1/2 | 114 |

M11682B

Integrated Valve Train Pipe Adapters

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Connection Type | Integrated Valve Train Body Size | Description | Used With |
|-----------------|------------------|----------------|-----------------|----------------------------------|--|--------------|
| 32000109-001/U | 3/4 in. | DN20 | NPT | Small body | 3/4 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-002/U | 1 in. | DN25 | NPT | Small body | 1 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-003/U | 1 1/4 in. | DN32 | NPT | Small body | 1 1/4 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-004/U | 1 1/2 in. | DN40 | NPT | Small body | 1 1/2 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-005/U | 2 in. | DN50 | NPT | Small body | 2 in. NPT Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-006/U | 3/4 in. | DN20 | BSP | Small body | 3/4 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32000109-007/U | 1 in. | DN25 | BSP | Small body | 1 in. BSP Pipe Adapter Small Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32001605-001/U | 2 in. | DN50 | NPT | Large body | 2 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32001605-002/U | 2 1/2 in. | DN65 | NPT | Large body | 2 1/2 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |
| 32001605-003/U | 3 in. | DN80 | NPT | Large body | 3 in. NPT Pipe Adapter Large Body Integrated Valve Train. Required for Valve Train Assembly. | V5097; V4297 |

V5055/5097 Replacement Parts or Accessories

| Material Number | Description | Used With |
|-----------------|--|----------------------|
| 133392A/U | O-Ring Assembly for 2 in., 2 1/2 in., and 3 in. V5055 valves | V5055/V5097 valves |
| 133393A/U | O-Ring Assembly for 1 in., 1 1/4 in., and 1 1/2 in. V5055 valves | V5055/V5097 valves |
| 133398AA/U | Replacement Bonnet Assembly with 133393A Seal Assembly for 3/4, 1, 1-1/4, 1-1/2 in. V5055A valves | V5055/V5097 valves |
| 133398BA/U | Replacement Bonnet Assembly with 133393A Seal Assembly for 3/4, 1, 1-1/4, 1-1/2 in. V5055B valves | V5055/V5097 valves |
| 133398CA/U | Replacement Bonnet Assembly, with 137253A replacement Seal Assembly for small body (3/4, 1, 1 1/2 in.) V5055/V5097C. | V5055/V5097 valves |
| 133417AA/U | Replacement Bonnet Assembly with 133392A Seal Assembly for 2, 2 1/2, and 3 in. V5055A valves | V5055/V5097 valves |
| 133417BA/U | Replacement Bonnet Assembly with 133392A Seal Assembly for 2, 2 1/2, and 3 in. V5055B valves | V5055/V5097 valves |
| 133417CA/U | Bonnet Assembly for 2, 2 1/2, or 3 in. V5055C or V5097C valves | V5055C/V5097C valves |
| 137253A/U | Replacement seal assembly. For 4 inch V5055. | V5055 |
| 4074EYE/U | Bag assembly for V5097 (large body) includes 6 ea bolts, nuts and washers. | Large Body V5097 |
| 4074EYF/U | Bag assembly for V5097 (small body) includes 6 ea bolts, nuts and washers. | Small Body V5097 |
| 4074EYK/U | Bag assembly for V5097 (small body) includes (2) O-rings, (1) grease capsule. | Small Body V5097 |
| 4074EYL/U | Bag assembly for V5097 (large body) includes (2) O-rings, (1) grease capsule. | Large Body V5097 |

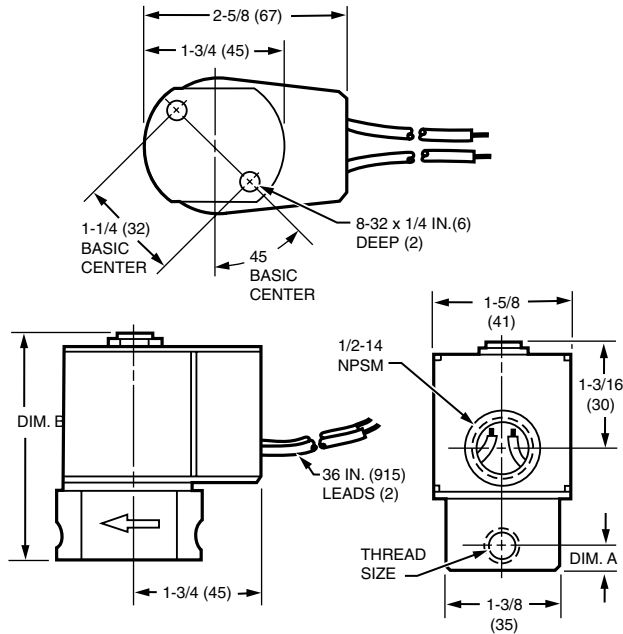
Pilot Gas Valves

Pilot Gas Valves

V4046C; V8046C Pilot Gas Valves



Dimensions in inches (millimeters)



| MODEL | BODY SIZE | THREAD SIZE | DIM. A | | DIM. B | |
|----------------|-----------|-------------|--------|----|--------|----|
| | | | IN | MM | IN | MM |
| V4046C, V8046C | SMALL | 1/8-27 NPT | 5/16 | 8 | 2-3/4 | 70 |
| | SMALL | 1/4-18 NPT | 3/8 | 10 | 3 | 76 |
| | LARGE | 1/4-18 NPT | 1/2 | 13 | 3-1/4 | 83 |
| | LARGE | 3/8-18 NPT | 1/2 | 13 | 3-1/4 | 83 |

M16595A

Provide on-off control of natural, LP and manufactured gases to pilot burners in industrial and commercial applications.

- Magnetically operated, normally closed.
- Provide instantaneous action when energized.
- On power failure, valve closes in one second maximum.
- Use in any position, directly in pipe line or on support bracket.
- Replace the solenoid coil without removing the valve body from the piping connections.
- Straight-through valve pattern.
- Available in line voltage or low voltage models.

Type of Fuel: Air; natural; manufactured; LP

Body Pattern: Straight-through

Valve Opening Time: 1 sec max

Valve Closing Time: 1 sec max

Mounting: Directly in pipe or on support bracket

Materials: Body – Aluminum

Power Consumption: 8 W

Operating Temperature Range: -40°F to +125°F (-40°C to +52°C)

Approvals, Underwriters Laboratories Inc.: Listed: File No. MH1639, V3, S3 - Guide No. YIOZ

Approvals, CSA: Certificate No. 158158-2500006058, Guide No. C3371-03, 83

Approvals, Factory Mutual: Approved: Report No. 17450

Pressure Ratings (psi): 10 psi

Pressure Ratings (kPa): 68.9 kPa

| Material Number | Pipe Size (inch) | Capacity (cfh) | Capacity (m ³ /hr) | Voltage | Frequency | Electrical Connections | Approvals, Swiss RE |
|-----------------|------------------|----------------|-------------------------------|------------------|--------------|--|---------------------|
| V4046C1005/U | 1/8 in. | 20 cfh | 0.57 m ³ /hr | 110 Vac; 120 Vac | 50 Hz; 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | Acceptable |
| V4046C1021/U | 1/4 in. | 20 cfh | 0.57 m ³ /hr | 110 Vac; 120 Vac | 50 Hz; 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | Acceptable |
| V4046C1047/U | 1/4 in. | 55 cfh | 1.56 m ³ /hr | 110 Vac; 120 Vac | 50 Hz; 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | Acceptable |
| V4046C1054/U | 3/8 in. | 67 cfh | 1.90 m ³ /hr | 110 Vac; 120 Vac | 50 Hz; 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | Acceptable |
| V4046C1120/U | 3/8 in. | 67 cfh | 1.90 m ³ /hr | 120 Vac | 60 Hz | Two 10 ft. leadwires and 1/2 in. conduit bushing | Acceptable |
| V8046C1006/U | 1/8 in. | 20 cfh | 0.57 m ³ /hr | 24 Vac | 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | |
| V8046C1014/U | 1/4 in. | 20 cfh | 0.57 m ³ /hr | 24 Vac | 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | |
| V8046C1022/U | 1/4 in. | 55 cfh | 1.56 m ³ /hr | 24 Vac | 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | |
| V8046C1030/U | 3/8 in. | 67 cfh | 1.90 m ³ /hr | 24 Vac | 60 Hz | Two 36-in. leadwires and 1/2 in. conduit bushing | |

Solenoid Gas Valves

V4295; V8295 Solenoid Gas Valves



V4295A/V8295A normally closed and V4295S/V8295S normally open (vent) solenoid gas valves, are suitable for furnaces, ovens, atmospheric burners, commercial water heaters, rooftop make-up air units, power burners, and commercial/industrial boilers.

- V8295A, S are used with 24 Vac controllers.
- V4295A, S are used with 120 Vac controllers.
- Positive close off of gas flow when de-energized.
- High valve spring force allows up to 0.7 psi back pressure at valve seat.
- No inlet pressure influence at valve seat.
- Inlet pressure changes do not affect ability to close valve.
- Low operating noise.
- Low rush-in current.
- Upstream and downstream taps allows tapping and testing pressure points.

Type of Fuel: Air; natural; manufactured; mixed; LP
Pressure Tapping: Inlet and outlet pressure taps – 1/4 in. NPT
Body Pattern: Straight-through, non-offset
Valve Opening Time: less than 1 sec
Valve Closing Time: less than 1 sec
Mounting: Vertical to 90 degrees from vertical

Materials: Body – Die-cast aluminum
Frequency: 50 Hz; 60 Hz
Electrical Connections: Screw terminals
Operating Temperature Range: -40°F to +140°F (-40°C to +60°C)
Approvals, Swiss RE: Acceptable
Approvals, Control Safety Devices: Acceptable

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m³/hr) | Voltage | Approximate, Dimensions | Current Ratings | Pressure Ratings (psi) | Pressure Ratings (kPa) | Approvals, Underwriters Laboratories Inc. | Approvals, CSA |
|-----------------|------------------|----------------|----------------|------------------|---------|--|--------------------------------|------------------------|------------------------|---|--|
| V4295A1015 | 1/2 in. | DN15 | 250 cfh | 7.1 m³/hr | 120 Vac | 4 7/16 in. high x 2 7/8 in. wide x 2 3/16 deep (113 mm high x 73 mm wide x 56 mm deep) | 0.16 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1023 | 3/4 in. | DN20 | 645 cfh | 18.3 m³/hr | 120 Vac | 5 1/4 in. high x 3 7/16 in. wide x 2 3/4 in. deep (133 mm high x 87 mm wide x 70 mm deep) | 0.16 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1031 | 1 in. | DN25 | 790 cfh | 22.4 m³/hr | 120 Vac | 5 1/4 in. high x 3 15/16 in. wide x 3 in. deep (133 mm high x 100 mm wide x 76 mm deep) | 0.16 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1049 | 1 1/4 in. | DN32 | 1450 cfh | 41.0 m³/hr | 120 Vac | 8 in. high x 5 15/16 in. wide x 4 3/8 in. deep (203 mm high x 151 mm wide x 111 mm deep) | 0.34 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1056 | 1 1/2 in. | DN40 | 2190 cfh | 62.0 m³/hr | 120 Vac | 8 3/8 in. high x 5 15/16 in. wide x 4 3/8 in. deep (213 mm high x 151 mm wide x 111 mm deep) | 0.3 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1064 | 2 in. | DN50 | 3465 cfh | 98.1 m³/hr | 120 Vac | 8 3/8 in. high x 6 11/16 in. wide x 5 3/8 in. deep (213 mm high x 170 mm wide x 137 mm deep) | 0.525 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1072 | 2 1/2 in. | DN65 | 5070 cfh | 143.5 m³/hr | 120 Vac | 12 3/4 in. high x 9 1/2 in. wide x 7 7/8 in. deep (324 mm high x 241 mm wide x 200 mm deep) | 0.575 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1080 | 3 in. | DN80 | 6100 cfh | 172.7 m³/hr | 120 Vac | 12 3/4 in. high x 9 1/2 in. wide x 7 7/8 in. deep (324 mm high x 241 mm wide x 200 mm deep) | 0.675 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1098 | 3/8 in. | | 210 cfh | 5.9 m³/hr | 120 Vac | 4 7/16 in. high x 2 7/8 in. wide x 2 3/16 deep (113 mm high x 73 mm wide x 56 mm deep) | 0.16 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |

Solenoid Gas Valves

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m³/hr) | Voltage | Approximate, Dimensions | Current Ratings | Pressure Ratings (psi) | Pressure Ratings (kPa) | Approvals, Underwriters Laboratories Inc. | Approvals, CSA |
|-----------------|------------------|----------------|----------------|------------------|---------|---|-------------------------------|------------------------|------------------------|---|--|
| V4295A1106 | 1/2 in. | DN15 | 290 cfh | 8.2 m³/hr | 120 Vac | 4 7/16 in. high x 2 7/8 in. wide x 2 3/16 deep (113 mm high x 73 mm wide x 56 mm deep) | 0.16 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1114 | 3/4 in. | DN20 | 610 cfh | 17.3 m³/hr | 120 Vac | 3 3/16 in. high x 3 7/16 in. wide x 2 3/4 in. deep (81 mm high x 87 mm wide x 70 mm deep) | 0.2 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1122 | 1 in. | DN25 | 825 cfh | 23.4 m³/hr | 120 Vac | 6 5/16 in. high x 3 15/16 in. wide x 3 in. deep (160 mm high x 100 mm wide x 76 mm deep) | 0.2 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1130 | 1 1/4 in. | DN32 | 1950 cfh | 55.2 m³/hr | 120 Vac | 8 9/16 in. high x 5 15/16 in. wide x 4 3/8 in. deep (217 mm high x 151 mm wide x 111 mm deep) | 0.55 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1148/U | 1 1/2 in. | DN40 | 2270 cfh | 64.3 m³/hr | 120 Vac | 8 9/16 in. high x 5 15/16 in. wide x 4 3/8 in. deep (217 mm high x 151 mm wide x 111 mm deep) | 0.55 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295A1155 | 2 in. | DN50 | 3740 cfh | 105.9 m³/hr | 120 Vac | 9 3/16 in. high x 6 11/16 in. wide x 5 3/8 in. deep (233 mm high x 170 mm wide x 137 mm deep) | 0.54 max amps at rated Vac/Hz | 5 psi | 34.5 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 04, 83 |
| V4295S1005 | 3/4 in. | DN20 | 350 cfh | 9.9 m³/hr | 120 Vac | 5 1/2 in. high x 3 7/16 in. wide x 2 3/4 in. deep (140 mm high x 87 mm wide x 70 mm deep) | 0.16 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 83 |
| V4295S1013 | 1 in. | DN25 | 420 cfh | 11.9 m³/hr | 120 Vac | 5 1/2 in. high x 3 15/16 in. wide x 3 in. deep (140 mm high x 100 mm wide x 76 mm deep) | 0.16 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 83 |
| V4295S1021 | 1 1/4 in. | DN32 | 1100 cfh | 31.1 m³/hr | 120 Vac | 8 3/4 in. high x 5 15/16 in. wide x 4 3/8 in. deep (222 mm high x 151 mm wide x 111 mm deep) | 0.34 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Listed: File No. MH18476, V1, S1 - Guide No. YIOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 83 |
| V8295A1016 | 1/2 in. | DN15 | 250 cfh | 7.1 m³/hr | 24 Vac | 4 7/16 in. high x 2 7/8 in. wide x 2 3/16 deep (113 mm high x 73 mm wide x 56 mm deep) | 0.8 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |
| V8295A1024 | 3/4 in. | DN20 | 645 cfh | 18.3 m³/hr | 24 Vac | 5 1/4 in. high x 3 7/16 in. wide x 2 3/4 in. deep (133 mm high x 87 mm wide x 70 mm deep) | 0.8 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |
| V8295A1032 | 1 in. | DN25 | 790 cfh | 22.4 m³/hr | 24 Vac | 5 1/4 in. high x 3 15/16 in. wide x 3 in. deep (133 mm high x 100 mm wide x 76 mm deep) | 0.8 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |
| V8295A1040 | 1 1/4 in. | DN32 | 1450 cfh | 41.0 m³/hr | 24 Vac | 8 in. high x 5 15/16 in. wide x 4 3/8 in. deep (203 mm high x 151 mm wide x 111 mm deep) | 1.6 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |
| V8295A1057 | 1 1/2 in. | DN40 | 2190 cfh | 62.0 m³/hr | 24 Vac | 8 3/8 in. high x 5 15/16 in. wide x 4 3/8 in. deep (213 mm high x 151 mm wide x 111 mm deep) | 1.7 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |
| V8295A1065 | 2 in. | DN50 | 3465 cfh | 98.1 m³/hr | 24 Vac | 8 3/8 in. high x 6 11/16 in. wide x 5 3/8 in. deep (213 mm high x 170 mm wide x 137 mm deep) | 2.8 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |

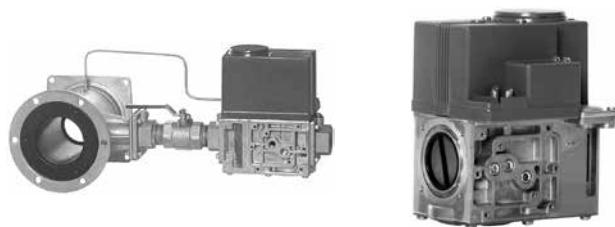
Solenoid Gas Valves

| Material Number | Pipe Size (inch) | Pipe Size (DN) | Capacity (cfh) | Capacity (m ³ /hr) | Voltage | Approximate, Dimensions | Current Ratings | Pressure Ratings (psi) | Pressure Ratings (kPa) | Approvals, Underwriters Laboratories Inc. | Approvals, CSA |
|-----------------|------------------|----------------|----------------|-------------------------------|---------|---|------------------------------|------------------------|------------------------|---|--|
| V8295S1006 | 3/4 in. | DN20 | 350 cfh | 9.9 m ³ /hr | 24 Vac | 5 1/2 in. high x 3 7/16 in. wide x 2 3/4 in. deep (140 mm high x 87 mm wide x 70 mm deep) | 0.8 max amps at rated Vac/Hz | 2 psi | 13.8 kPa | Component Recognized; File No. YLOZ | Certificate No. 158158-1154280, Guide No. C3371-03, 85 |

Servo Regulated Gas Valves

Servo Regulated Gas Valves

V4730C; V4734C; V8730C Gas/Air Servo Regulated Gas Valves



Body Pattern: Straight flange

Valve Opening Time: Dead time maximum: 1 s; First valve – < 1 s

Materials: Body: Aluminum alloy, die-cast

Frequency: 50 Hz; 60 Hz

Ambient Temperature Range: 5°F to 140°F (-15°C to +60°C)

Approvals, CSA: File: Certificate No: 158158-1227192

Approvals, Others: Gas Appliance Directive: 90.396/EEC, PIN: 0063AT1198, Low Voltage Directive: 73/23/EEC, Electro Magnetic Compatibility Directive: 89/336/EEC

Maximum Safe Operating Pressure (psi): 0.5 psi (CSA approved), 1.45 psi for 120V)

Maximum Operating Pressure (mbar): 35 mbar (CSA approved)

Comments: The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control.

Coil Insulation Solenoid Valves: Class H insulation system

| Material Number | Pipe Size (inch) | Capacity (kW) | Capacity (kBtuh) | Voltage | Electrical Connections | Pipe Connection | Includes | Max. Capacity with Strainer (cfh) |
|-----------------|------------------|--|---|----------------------|---|--|---|---|
| V4730C1006-0000 | 1/2 in. | Natural Gas 0.64 sp.gr – 22-150 KW | Natural Gas 0.64 sp.gr – 73-512 kBtuh | 120 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-001 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 221 cfh |
| V4730C1014-0000 | 3/4 in. | Natural Gas 0.64 sp.gr – 43-300 KW | Natural Gas 0.64 sp.gr – 146-1024 kBtuh | 120 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-002 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1024 cfh |
| V4730C1022-0000 | 1 in. | Natural Gas 0.64 sp.gr – 43-300 KW | Natural Gas 0.64 sp.gr – 146-1024 kBtuh | 120 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-003 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1024 cfh |
| V4730C1030-0000 | 1 1/4 in. | Natural Gas 0.64 sp.gr – 55-382 KW when used with VMU335, 71-500KW | Natural Gas 0.64 sp.gr – 185-1300 kBtuh when used with VMU335, 245-1710 kBtuh | 120 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1300 cfh |

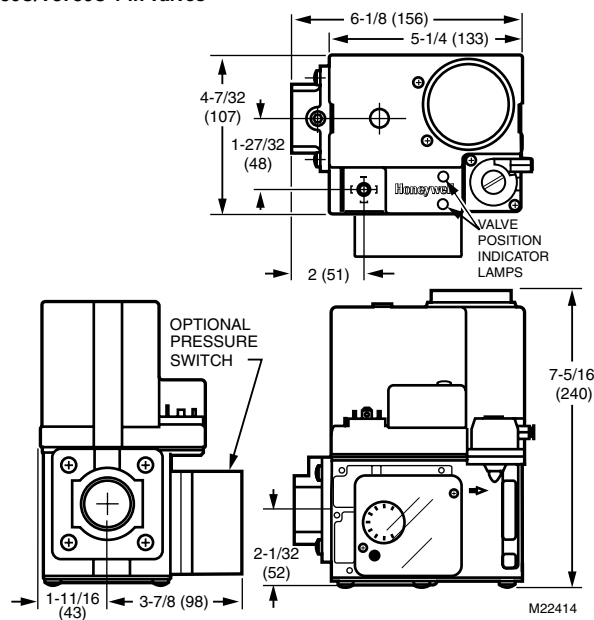
Servo Regulated Gas Valves

| Material Number | Pipe Size (inch) | Capacity (kW) | Capacity (kBtuh) | Voltage | Electrical Connections | Pipe Connection | Includes | Max. Capacity with Strainer (cfh) |
|-----------------|------------------|---|---|----------------------|---|--|---|---|
| V4734C1002-0000 | 1 1/4 in. | Natural Gas 0.64 sp.gr – 97-680 KW when used with VMU680 | Natural Gas 0.64 sp.gr – 326-2287 kBtuh when used with VMU680 | 120 Vac (+10%, -15%) | | | Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | |
| V8730C1007-0000 | 1/2 in. | Natural Gas 0.64 sp.gr – 22-150 KW | Natural Gas 0.64 sp.gr – 73-512 kBtuh | 24 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-001 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 221 cfh |
| V8730C1015-0000 | 3/4 in. | Natural Gas 0.64 sp.gr – 43-300 KW | Natural Gas 0.64 sp.gr – 146-1024 kBtuh | 24 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-002 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1024 cfh |
| V8730C1023-0000 | 1 in. | Natural Gas 0.64 sp.gr – 43-300 KW | Natural Gas 0.64 sp.gr – 146-1024 kBtuh | 24 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-003 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1024 cfh |
| V8730C1031-0000 | 1 1/4 in. | Natural Gas 0.64 sp.gr – 55-382 KW when used with VMU335, 71-500 KW | Natural Gas 0.64 sp.gr – 185-1300 kBtuh when used with VMU335, 245-1710 kBtuh | 24 Vac (+10%, -15%) | Standard DIN plug connector with 36 in. (914 mm) leadwires, included. | 1/8 in. (3mm) NPT pressure taps at inlet and outlet flanges. Six flange pressure taps connections are provided at the main body to mount either a pressure switch (low or high) or a Valve Proving System (VPS). | Mesh screen filter and 32006652-004 Flange kit. (Kit includes 1 pipe adapter, 1 O-ring, 4 mounting screws, 1 DIN connector and wiring harness kit.) | Nat. Gas (Delta P= 1 in. w.c.) – 1300 cfh |

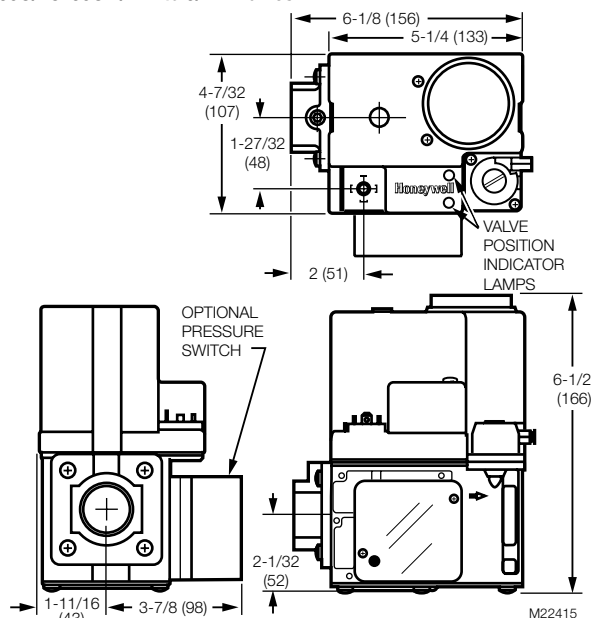
Servo Regulated Gas Valves

Dimensions in inches (millimeters)

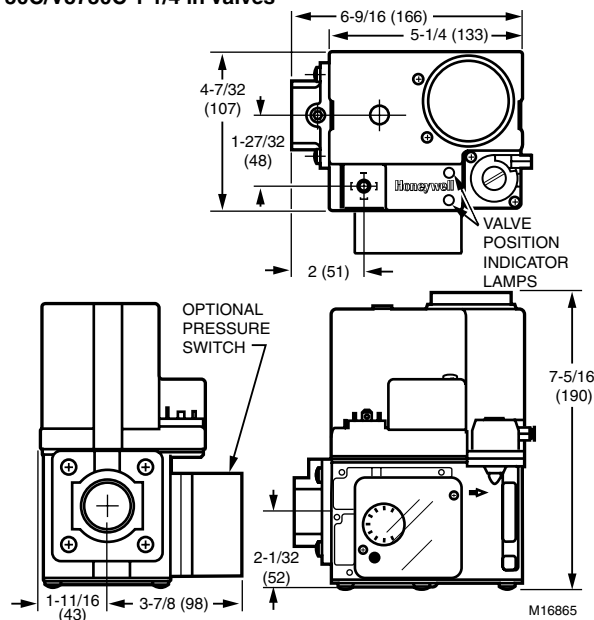
V4730C/V8730C 1 in Valves



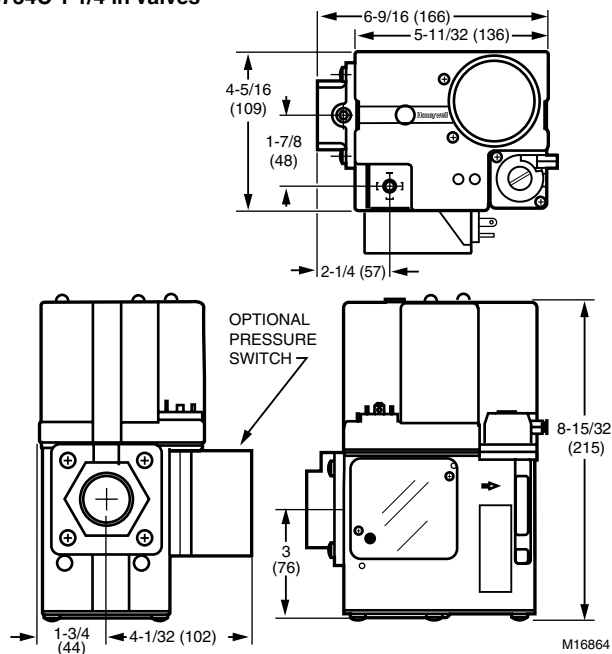
V4730C/V8730C 1/2 in to 3/4 in Valves



V4730C/V8730C 1 1/4 in Valves



V4734C 1 1/4 in Valves



V4730C; V4734C; V8730C Accessories and Parts

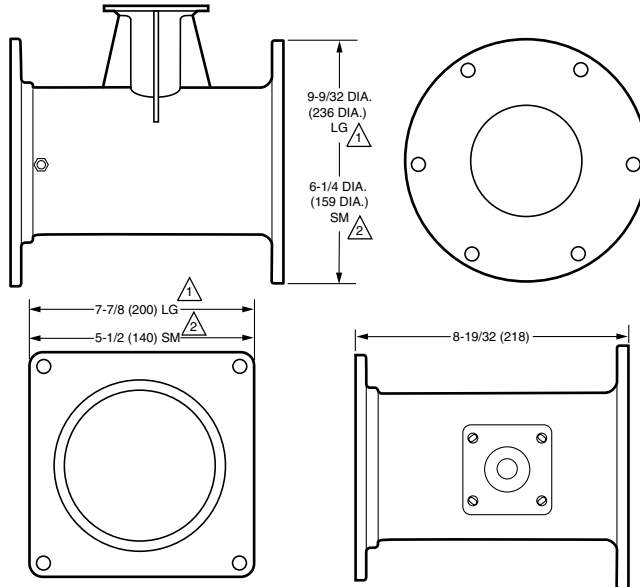
| Material Number | Description |
|-----------------|---|
| 50002653-001/U | Manual Shut-Off Valve Kit (1 in. NPT or smaller valves) |
| 50002653-002/U | Manual Shut-Off Valve Kit (1 1/4 in. NPT valves) |
| KTTBA001 | Sensing Tube Kit contains one short and one long sensing for use without and with MSOV (1 in. NPT or smaller valves). |
| KTTBA002 | Sensing Tube Kit contains one short and one long sensing for use without and with MSOV (1 1/4 in. NPT valves). |
| KTTBA003 | Sensing Tube Kit contains contains one short and one long sensing for use without and with Conbraco ball valve |
| 32006652-001 | Flange Kit 1/2 in NPT contains 1 flange with pressure tap + 1 O-ring + 4 screws. |
| 32006652-002 | Flange Kit 3/4 in NPT contains 1 flange with pressure tap + 1 O-ring + 4 screws. |
| 32006652-003 | Flange Kit 1 in NPT contains 1 flange with pressure tap + 1 O-ring + 4 screws. |
| 32006652-003B | Bulk Qty 50 Flange Kit 1 in NPT contains flange with pressure tap + O-ring + screws. |
| 32006652-004 | Flange Kit 1 1/4 in NPT contains 1 flange with pressure tap + 1 O-ring + 4 screws. |
| 32006652-004B | Bulk Qty 50 Flange Kit 1 1/4 in NPT contains flange with pressure tap + O-ring + screws. |
| 32006653-001 | Replacement venturi O-ring kit contains 1 O-ring + 5 bolts. |

Venturi Mixing Unit

Venturi Mixing Unit



Dimensions in inches (millimeters)



△ LG (LARGE) IS VENTURI MIXING UNIT VMU500.

△ SM (SMALL) ARE VENTURI MIXING UNITS VMU150/300/335.

M22417D

The venturi mixing unit (VMU), combined with the V4730C/ V8730C gas valves and specific direct current (dc) fan, has been developed for modulating premix appliances like gas burners and gas boilers.

- Has a wide modulation band (14 to 100% of the boiler load).
- Flexible mounting positions of gas control to venturi manifold and venturi manifold to fan.
- Two stainless steel sensing tubes are provided for use with or without manual safety shutoff valve.

Materials: Housing: Aluminum, Venturi: Statically dissipative statcon PF, Seals: Rubber (NBR).

Ambient Temperature Range: 32°F to 212°F (0°C to 100°C)

Approvals, CSA: File: Certificate No: 158158-1227192

Pipe Connection: Four M5 screws and a rubber O-ring are provided with the venturi to assemble it to the V4730C/V8730C gas valve. The stainless steel tube provided with the venturi has to be connected between the venturi inlet (connection provided) and the gas valve regulator. Longer sensing tube for use with manual safety shutoff valve (KTTBA002). Shorter sensing tube for use without manual safety shutoff valve (KTTBA001).

| Material Number | Body Pattern | Maximum Safe Operating Pressure (psi) | Maximum Operating Pressure (mbar) | Comments | Reference Load |
|-----------------|-----------------|---------------------------------------|-----------------------------------|--|-------------------------|
| VMU150A1011 | Straight flange | 1/2 psi (CSA approved) | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 150 kW (512,000 Btuh) |
| VMU185A1084 | Straight flange | 1/2 psi (CSA approved); | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 185 kW (632,000 Btuh) |
| VMU300A1046 | Straight flange | 1/2 psi (CSA approved) | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 300 kW (1,024,000 Btuh) |
| VMU335A1018 | Straight flange | 1/2 psi (CSA approved) | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 335 kW (1,143,000 Btuh) |
| VMU500A1033 | Straight flange | 1/2 psi (CSA approved) | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 500 kW (1,706,500 Btuh) |
| VMU680A1017 | Straight flange | 1/2 psi (CSA approved) | 35 mbar (CSA approved) | Pressure Drop: Approximately 3.2 in. wc (800 Pa) across the venturi at reference load. The minimum load for which the system can be used is 14-17% of the reference load, which equals a minimum pressure differential of 0.2 in. wc (50 Pa) of the 1:1 venturi/servo regulator gas control. | 680 kW (2,320,840 Btuh) |

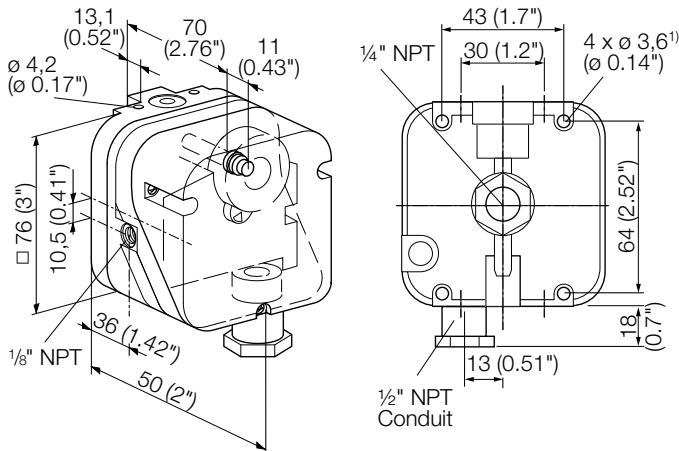
Pressure Switches

Pressure Switches

C6097 Pressure Switch



Dimensions in millimeters (inches)



1) Holes 10 mm (0.4") deep, for self-tapping screws.

Pressure Switches are safety devices used in positive-pressure, negative pressure (Air, Flue gas) or differential-pressure systems to sense gas or air pressure systems.

- For use with Gas or Air
- Diaphragm-actuated safety-limit switch.
- Switch can be wired to turn on alarm.
- C6097A models break control circuit at set point on pressure fall.
- C6097B models break control circuit at set point on pressure rise.
- Lockout with manual reset and recycle options.
- Lockout models have external manual reset button.
- Removable transparent cover protects scaleplate and adjusting knob.
- Optional switch position indicator lamp available.
- IP65 enclosure standard.
- Ranges: 0.4 to 4 in. wc, 1 to 20 in. wc, 12 to 60 in. wc or 40 to 200 in. wc.
- Integral 0.2 mm vent limiter on all models.
- FM and UL certified

Application: Safety devices used in positive-pressure, negative (Air & Flue Gas Only) or differential pressure systems to sense gas or air pressure changes

Operating Temperature Range: -40 to +140°F (-40 to +60°C)

Electrical Connections:

Screw terminals

Line entrance: 1/2" NPT conduit

Electrical Specifications:

- 24 – 240 V AC (Gold contact options for lower voltages available)
- I = 5 A at cos φ = 1,
- I = 0,5 A at cos φ = 0.6
- Cable diameter: AWG 24 to AWG 13, 0.02 to 0.07" (0.5 to 1.8 mm)

Max. inlet pressure: With Venting Line 8.5 psi/600 mbar

Without Venting Line 7 psi/480 mbar

Pipe connection: Vent or Low pressure – 1/8 in. NPT internal thread

Mounting: 1/4 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: For US and Canada; UL 353 Limit Control; Cert. Nr. - MH16048

Approvals, Factory Mutual: Factory Mutual Research Class: 3510

| Material Number | Adjusting range * in WC (mbar) | Mean switching differential at min. and max. setting | Difference between switching pressure and possible reset | Differential type | Switch Operation | Switch Action at Setpoint |
|-----------------|-----------------------------------|--|--|----------------------|---------------------|------------------------------------|
| C6097A3004/U | 0.4 - 4 in. wc 1 - 10 mbar | 0.1 - 0.16 in. wc 0.25 - 0.4 mbar | - | Additive | Auto Recycle | Breaks NO to COM on pressure fall. |
| C6097A3012/U | 1 - 20 in. wc 2,5 - 50 mbar | - | 0.4 - 0.8 in. wc 1 - 2 mbar | | Manual Reset | |
| C6097A3038/U | 12 - 60 in. wc 30 - 150 mbar | - | 0.8 - 4.8 in. wc 2 - 12 mbar | | Manual Reset | |
| C6097A3053/U | 1 - 20 in. wc 2,5 - 50 mbar | 0.3 - 0.6 in. wc 0.8 - 1.5 mbar | - | | Auto Recycle | |
| C6097A3079/U | 12 - 60 in. wc 30 - 150 mbar | 1.2 - 2 in. wc 3 - 5 mbar | - | | Auto Recycle | |
| C6097A3095/U | 0.4 - 4 in. wc 1 - 10 mbar | - | 0.16 - 0.4 in. wc 0.4 - 1 mbar | | Manual Reset | |
| C6097A3111/U | 40 - 200 in. wc 100 - 500 mbar | - | 2 - 7.2 in. wc 5 - 18 mbar | | Manual Reset | |
| C6097A3137/U | 40 - 200 in. wc 100 - 500 mbar | 3.2 - 6.8 in. wc 8 - 17 mbar | - | | Auto Recycle | |
| C6097B3002/U | 12 to 60 in. wc 30 - 150 mbar | - | 0.8 - 4.8 in. wc 2 - 12 mbar | Subtractive | Manual Reset | Breaks NC to COM on pressure rise. |
| C6097B3028/U | 1 to 20 in. wc 2,5 - 50 mbar | - | 0.4 - 0.8 in. wc 1 - 2 mbar | | Manual Reset | |
| C6097B3051/U | 40 - 200 in. wc 100 - 500 mbar | - | 2 - 7.2 in. wc 5 - 18 mbar | | Manual Reset | |
| C6097B3085/U | 12 to 60 in. wc 30 - 150 mbar | 1.2 - 2 in. wc 3 - 5 mbar | - | | Auto Recycle | |
| C6097B3101/U | 40 - 200 in. wc 100 - 500 mbar | 3.2 - 6.8 in. wc 8 - 17 mbar | - | | Auto Recycle | |
| C6097B3119/U | 1 to 20 in. wc 2,5 - 50 mbar | 0.3 - 0.6 in. wc 0.8 - 1.5 mbar | - | | Auto Recycle | |

Pressure and Limit Controllers

L404F Pressuretrol® Controllers



Application: Provide control of steam, air, non-combustible gases or non-corrosive fluids

Differential Type: Subtractive

Mounting: 1/4 inch-18 NPT internal thread connection on diaphragm assembly, 1/4 -19 BSPT internal thread on models with BSPT ground screw; or surface mount through back of case

Switch Operation: Auto recycle

Sensor Element: Stainless steel diaphragm standard; Brass Bellows on models with 20 to 300 psi

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Electrical Connections: Screw terminals

Provide operating control with automatic limit protection for pressure systems up to 300 psi (2068 kPa).

- Use with steam, air, noncombustible gases, or fluids non-corrosive to pressure sensing element.
- Models have snap-acting switching to open or close a circuit on pressure rise.
- Have adjustable differentials.
- Adjustments are made by screws on top of case.
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case.
- Ground screw terminal.

Contact Ratings: 120 Vac Switch Contact – 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact – 5.1 AFL, 30.6 ALR, 5.0 A resistive

Pipe Connection - Main or High Pressure: 1/4 inch-18 NPT internal thread standard; 1/4 -19 BSPT internal thread on models with BSPT ground screw

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466, Guide No. MBPR

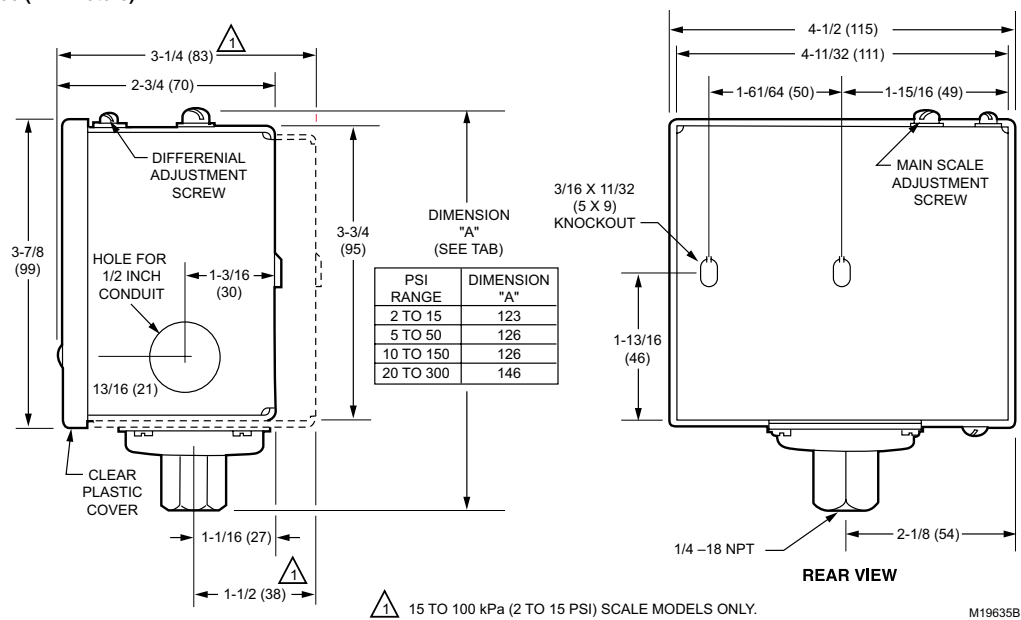
Approvals, CSA: Certified: File No. LR1620, Guide No. 400-E-O; or Certified: File No. LR95329 for Miss-wiring Compliant models

Approvals, Swiss RE: Acceptable

| Material Number | Operating Range (psi) | Operating Range (kPa) | Maximum Sustained Pressure (psi) | Maximum Sustained Pressure (kPa) | Differential Pressure Range (psi) | Differential Pressure Range (kPa) | Switching Action | Includes | Comments |
|-----------------|-----------------------|-----------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|--|--|-------------------------------|
| L404F1060/U | 2 to 15 psi | 14 to 103 kPa | 25 psi | 172 kPa | 2 to 6 psi | 14 to 41 kPa | SPDT snap action, make R-W, break R-B on pressure rise | | |
| L404F1078/U | 5 to 50 psi | 35 to 345 kPa | 85 psi | 586 kPa | 6 to 14 psi | 41 to 97 kPa | SPDT snap action, make R-W, break R-B on pressure rise | | |
| L404F1094/U | 20 to 300 psi | 138 to 2068 kPa | 350 psi | 2413 kPa | 20 to 50 psi | 138 to 345 kPa | SPDT snap action, make R-W, break R-B on pressure rise | | |
| L404F1102/U | 10 to 150 psi | 69 to 1034 kPa | 225 psi | 1151 kPa | 10 to 22 psi | 60 to 152 kPa | SPDT snap action, make R-W, break R-B on pressure rise | | |
| L404F1219/U | 2 to 15 psi | 14 to 103 kPa | 25 psi | 172 kPa | 2 to 6 psi | 14 to 41 kPa | SPDT snap action, make R-W, break R-B on pressure rise | BSPT ground screw and European Enclosure | |
| L404F1227/U | 10 to 150 psi | 69 to 1034 kPa | 225 psi | 1151 kPa | 10 to 22 psi | 60 to 152 kPa | SPDT snap action, make R-W, break R-B on pressure rise | BSPT ground screw and European Enclosure | |
| L404F1235/U | 20 to 300 psi | 138 to 2068 kPa | 350 psi | 2413 kPa | 20 to 50 psi | 138 to 345 kPa | SPDT snap action, make R-W, break R-B on pressure rise | BSPT ground screw and European Enclosure | |
| L404F1243/U | 5 to 50 psi | 35 to 345 kPa | 85 psi | 586 kPa | 6 to 14 psi | 41 to 97 kPa | SPDT snap action, make R-W, break R-B on pressure rise | BSPT ground screw and European Enclosure | |
| L404F1367/U | 1 to 8 psi | 7 to 55 kPa | 25 psi | 172 kPa | 0.75 to 2 psi | 5 to 14 kPa | Snap switch breaks R-B (closes R-W) on pressure rise. Make-on devices omit terminal B. | | Range Stop installed at 8 PSI |
| L404F1375/U | 5 to 50 psi | 35 to 350 kPa | 85 psi | 586 kPa | 6 to 14 psi | 40 to 100 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) | |
| L404F1383/U | 10 to 150 psi | 70 to 1035 kPa | 225 psi | 1151 kPa | 10 to 22 psi | 70 to 150 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) | |
| L404F1391/U | 20 to 300 psi | 140 to 2070 kPa | 350 psi | 2413 kPa | 20 to 50 psi | 140 to 345 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) | |
| L404F1409/U | 2 to 15 psi | 14 to 103 kPa | 25 psi | 172 kPa | 2 to 6 psi | 15 to 40 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) | |

Pressure and Limit Controllers

Dimensions in inches (millimeters)



M19635B

L404T, V Oil Pressuretrol® Limit Controllers



Application: Oil pressure limit switch for fuel oil, including heavy oil applications

Differential Type: Subtractive

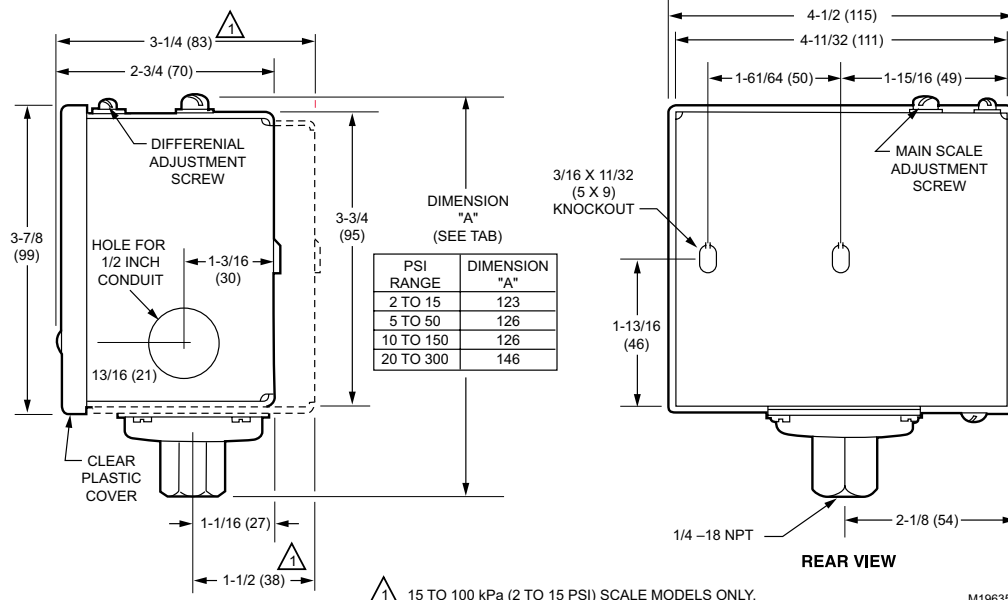
Mounting: 1/4 in. NPT internal thread or surface mount through back of case

Switch Operation: Auto recycle

Sensor Element: Stainless Steel diaphragm

Approximate Dimensions: 4 31/32 in. high x 4 1/2 in. wide x 2 3/4 in. deep (126 mm high x 114 mm wide x 70 mm deep)

Dimensions in inches (millimeters)



Oil pressure sensing devices for use on oil burner systems using any type of fuel oil, including heavy pretreated oils.

- Clear plastic cover allows observation of the pressure settings.
- Models have snap-acting switching to open or close a circuit on pressure rise.
- L404T High pressure limit, break a circuit on oil pressure rise above setpoint.
- L404V Low Pressure limit, makes a circuit on oil pressure rise above setpoint.
- Adjustments are made by screws on top of case.
- Mount using 1/4 inch -18 NPT internal pipe threads or surface mount through base of case.
- Ground screw terminal.

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact – 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact – 5.1 AFL, 30.6 ALR, 5.0 A resistive;

Pipe Connection: Main or High Pressure – 1/4 in. NPT internal thread
Approvals, Underwriters Laboratories Inc.: Listed: File No. MP2168, Guide No. MFHX

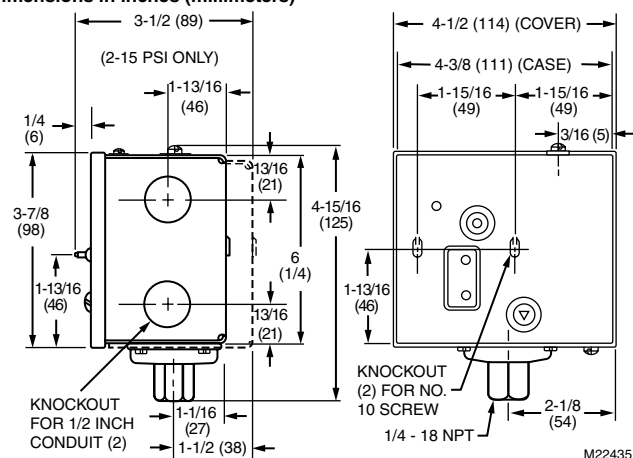
Approvals, CSA: Certified: File No. LR95329

| Material Number | Operating Range (psi) | Operating Range (kPa) | Differential Pressure Range (psi) | Differential Pressure Range (kPa) | Switching Action | Includes |
|-----------------|--|--|-----------------------------------|-----------------------------------|---|---|
| L404T1055/U | 5 to 50 psi; 85 psi - Maximum Sustained | 35 to 350 kPa; 586 kPa - Maximum Sustained | 6 to 14 psi | 40 to 100 kPa | SPST snap-acting break on pressure rise | |
| L404T1063/U | 10 to 150 psi; 225 psi - Maximum Sustained | 70 to 1035 kPa; 1151 kPa - Maximum Sustained | 10 to 22 psi | 70 to 150 kPa | SPST snap-acting break on pressure rise | |
| L404V1087/U | 10 to 150 psi; 225 psi - Maximum Sustained | 70 to 1035 kPa; 1151 kPa - Maximum Sustained | 10 to 22 psi | 70 to 150 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) |
| L404V1095/U | 5 to 50 psi; 85 psi - Maximum Sustained | 35 to 350 kPa; 586 kPa - Maximum Sustained | 6 to 14 psi | 40 to 100 kPa | Snap switch makes R-W on pressure rise | Miss-wiring Compliant (less B terminal) |

L4079 Pressuretrol® Limit Controllers



Dimensions in inches (millimeters)



High pressure limit switches.

- Stainless steel diaphragm for use with steam, air, noncombustible gases and fluids non-corrosive to stainless steel.
- L4079W is for Oil Applications.
- Micro Switch™ snap-acting switches open automatically on pressure rise; must be manually reset.
- Mount using 1/4 in. NPT female fitting on diaphragm assembly or surface mount through back of case.

Mounting: 1/4 in. NPT internal thread or surface mount through back of case

Sensor Element: Stainless Steel diaphragm

Approximate, Dimensions: 5 in. high x 4 1/2 in. wide x 3 1/2 in. deep.
(127 mm high x 114 mm wide x 89 mm deep.)

Temperature Ratings: 150°F - Maximum Ambient (66°C - Maximum Ambient)

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact – 9.8 AFL, 58.8 ALR; 240 Vac Switch Contact – 4.9 AFL, 29.4 ALR

Pipe Connection: Main or High Pressure – 1/4 in. NPT internal thread
Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466,
 Guide No. MBPR

Approvals, Swiss RE: Acceptable

| Material Number | Application | Operating Range (psi) | Operating Range (kPa) | Switch Operation | Switching Action |
|-----------------|--|--|---|------------------|--|
| L4079A1035/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 2 to 15 psi; 25 psi - Maximum Sustained | 14 to 103 kPa; 172 kPa - Maximum Sustained | Manual Reset | SPST (two) break simultaneously on pressure rise |
| L4079A1050/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 10 to 150 psi; 225 psi - Maximum Sustained | 69 to 1034 kPa; 1151 kPa - Maximum Sustained | Manual Reset | SPST (two) break simultaneously on pressure rise |
| L4079B1033/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 2 to 15 psi; 25 psi - Maximum Sustained | 14 to 103 kPa; 172 kPa - Maximum Sustained | Manual Reset | SPST break on pressure rise |
| L4079B1041/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 10 to 150 psi; 225 psi - Maximum Sustained | 70 to 1035 kPa; 1151 kPa - Maximum Sustained | Manual Reset | SPST break on pressure rise |
| L4079B1058/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 5 to 50 psi; 85 psi - Maximum Sustained | 35 to 350 kPa; 586 kPa - Maximum Sustained | Manual Reset | SPST break on pressure rise |
| L4079B1066/U | Provide limit control of steam, air, non-combustible gases or non-corrosive fluids | 20 to 300 psi; 350 psi - Maximum Sustained | 140 to 2070 kPa; 2413 kPa - Maximum Sustained | Manual Reset | SPST break on pressure rise |
| L4079W1000/U | High oil pressure limit switch for heavy oil applications. | 10 to 150 psi; 225 psi - Maximum Sustained | 35 to 350 kPa; 1151 kPa - Maximum Sustained | Manual Reset | SPST break on pressure rise - Oil Applications |

L408J Vaporstat® Controllers



Application: Provide operating control and automatic limit protection for pressure systems with pressures up to 4 psi (8 kPa)

Differential Type: Subtractive

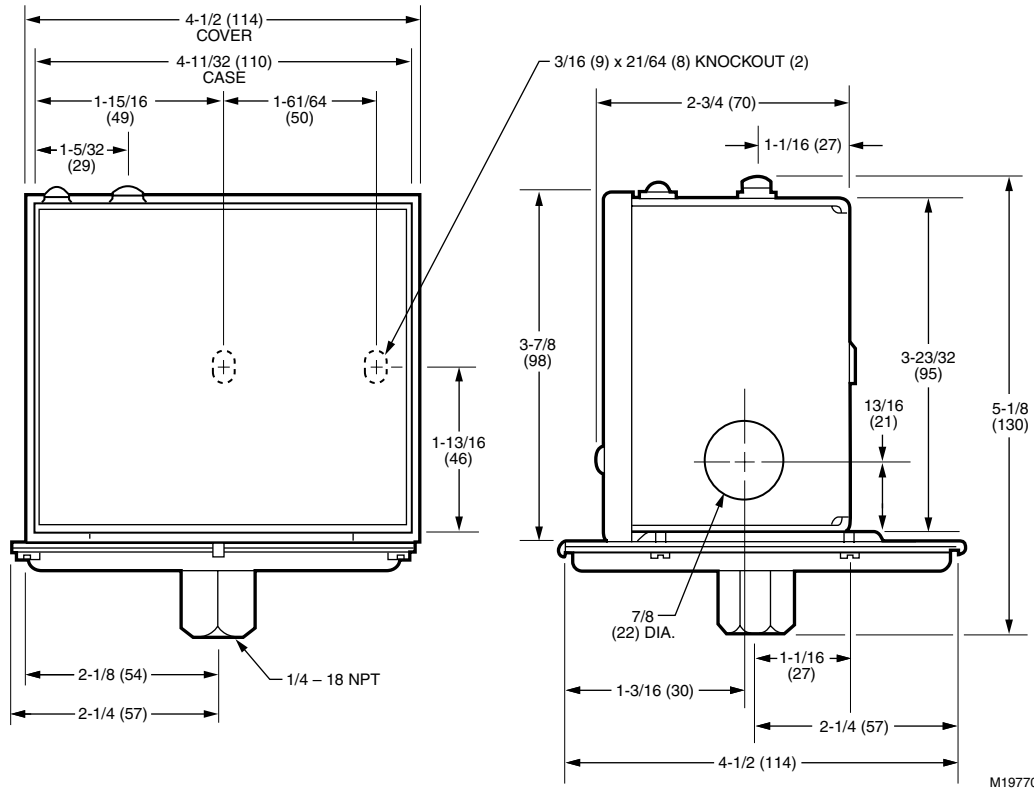
Mounting: 1/4 in. NPT internal thread or surface mount through back of case

Sensor Element: Stainless Steel diaphragm

Approximate, Dimensions: 5 1/8 in. high x 4 1/2 in. wide x 4 1/2 in. deep. (130 mm high x 114 mm wide x 114 mm deep.)

Operating Temperature Range: -35°F to +150°F (-37°C to +66°C)

Dimensions in inches (millimeters)



Provide operating control and automatic high limit protection for vapor heating systems with pressures up to 4 psi (8 kPa). All models have Microswitch snap switches to open or close a circuit on a pressure rise.

- Stainless steel diaphragm for use with liquids, air, noncombustible gases, ammonia, oxygen, distilled water and similar media.
- Provide SPDT switching.
- Clear plastic cover allows observation of the pressure settings.
- Mount using hexagonal fitting with 1/4 in. NPT internal threads for direct mounting to the 14026 (steel) or 50024585-001 (brass) Steam Trap (siphon loop).
- Ground Screw terminal.

Electrical Connections: Screw terminals

Contact Ratings: 120 Vac Switch Contact – 8.0 AFL, 48.0 ALR, 10.0 A resistive; 240 Vac Switch Contact – 5.1 AFL, 30.6 ALR, 5.0 A resistive

Pipe Connection: Main or High Pressure – 1/4 in. NPT internal thread

Approvals, Underwriters Laboratories Inc.: Listed: File No. MP466, Guide No. MBPR

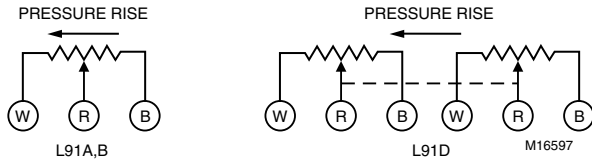
Approvals, CSA: Certified: File No. LR1620, Guide No. 400-E-O

Approvals, Swiss RE: Acceptable

| Material Number | Operating Range (psi) | Operating Range (kPa) | Differential Pressure Range (psi) | Differential Pressure Range (kPa) | Switch Operation | Switching Action | Comments |
|-----------------|-----------------------|-----------------------|-----------------------------------|-----------------------------------|------------------|---|-----------------------|
| L408J1009/U | 0 to 16 oz/in2 | 0 to 6.9 kPa | 2 to 16 oz/in2 | 0.9 to 6.9 kPa | Auto recycle | SPDT make R-W, break R-B on pressure rise | |
| L408J1017/U | 0 to 4 psi | 0 to 28 kPa | 2 to 16 oz/in2 | 0.9 to 6.9 kPa | Auto recycle | SPDT make R-W, break R-B on pressure rise | |
| L408J1025/U | 0 to 16 oz/in2 | 0 to 6.9 kPa | 2 to 16 oz/in2 | 0.9 to 6.9 kPa | Auto recycle | SPST make on pressure rise Only | Miss-wiring Compliant |
| L408J1033/U | 0 to 4 psi | 0 to 28 kPa | 2 to 16 oz/in2 | 0.9 to 6.9 kPa | Auto recycle | SPST make on pressure rise Only | Miss-wiring Compliant |

Pressure and Limit Controllers

L91 Proportional Pressuretrol® Controllers



Modulating pressure operating control for regulation of liquid or air and other non-corrosive gases.

- Use with steam, air, noncombustible gases, or other fluids non-corrosive to the brass or phos-bronze (300 psi models) bellows.
- Do NOT use with combustible mediums or any medium chemically harmful to phos-bronze bellows (10-300 psi models) or brass bellows (all other pressure range models).

Application: Modulating pressure control for regulation of liquid, air, or other non-corrosive gases.

Switch Operation: Modulating

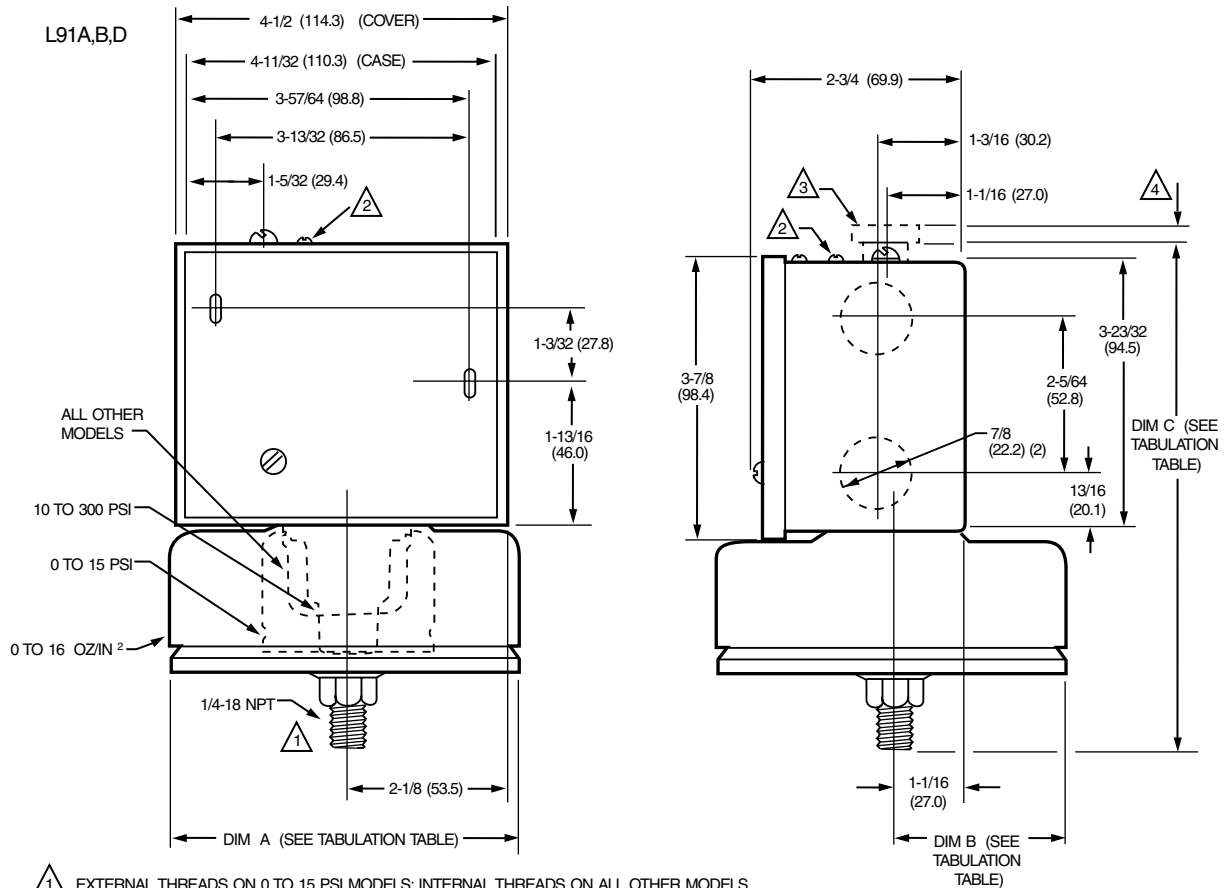
Operating Temperature Range: 32°F to 150°F (0°C to 66°C)

Electrical Connections: Screw terminals

Pipe Connection: Main or High Pressure – 1/4 in. NPT external thread

| Material Number | Operating Range (psi) | Operating Range (kPa) | Differential Pressure Range (psi) | Differential Pressure Range (kPa) | Mounting | Sensor Element | Approximate, Dimensions | Modulation Output |
|-----------------|---|---|-----------------------------------|-----------------------------------|---|---------------------|--|--------------------------------|
| L91A1037/U | 0 to 15 psi; 25 psi - Maximum Sustained | 0 to 103 kPa; 172 kPa - Maximum Sustained | 0.5 psi | 3.4 kPa | optional surface mount through back of case | Brass bellows | 6 7/8 in. high x 4 1/2 in. wide x 2 7/8 in. deep (175 mm high x 114 mm wide x 73 mm deep) | Single potentiometer, 140 ohms |
| L91A1052/U | 5 to 150 psi; 225 psi - Maximum Sustained | 34 to 1034 kPa; 1151 kPa - Maximum Sustained | 5 psi | 34 kPa | optional surface mount through back of case | Brass bellows | 5 3/4 in. high x 4 1/2 in. wide x 2 3/4 in. deep (146 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91A1078/U | 10 to 300 psi; 325 psi - Maximum Sustained | 69 to 2068 kPa; 2241 kPa - Maximum Sustained | 12 psi | 83 kPa | optional surface mount through back of case | Phos-bronze bellows | 6 1/16 in. high x 4 1/2 in. wide x 2 3/4 in. deep (154 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91A1136/U | 10 to 300 psi; 325 psi - Maximum Sustained | 69 to 2068 kPa; 2241 kPa - Maximum Sustained | 12 psi | 83 kPa | optional surface mount through back of case | Phos-bronze bellows | 6 1/16 in. high x 4 1/2 in. wide x 2 3/4 in. deep (154 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91B1035/U | 0 to 15 psi; 25 psi - Maximum Sustained | 0 to 103 kPa; 172 kPa - Maximum Sustained | 1.5 to 12 psi | 10 to 83 kPa | optional surface mount through back of case | Brass bellows | 6 7/8 in. high x 4 1/2 in. wide x 2 7/8 in. deep (175 mm high x 114 mm wide x 73 mm deep) | Single potentiometer, 140 ohms |
| L91B1050/U | 5 to 150 psi; 225 psi - Maximum Sustained | 34 to 1034 kPa; 1151 kPa - Maximum Sustained | 5 to 23 psi | 35 to 160 kPa | optional surface mount through back of case | Brass bellows | 5 3/4 in. high x 4 1/2 in. wide x 2 3/4 in. deep (146 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91B1068/U | 10 to 300 psi; 325 psi - Maximum Sustained | 69 to 2068 kPa; 2241 kPa - Maximum Sustained | 28 to 110 psi | 193 to 758 kPa | optional surface mount through back of case | Phos-bronze bellows | 6 1/16 in. high x 4 1/2 in. wide x 2 3/4 in. deep (154 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91B1100/U | 5 to 150 psi; 225 psi - Maximum Sustained | 0 - 1 MPa; 1151 kPa - Maximum Sustained | 5 to 23 psi | 35 to 160 kPa | 1/4 in BSP-TR thread Mounting | Brass bellows | 5 3/4 in. high x 4 1/2 in. wide x 2 3/4 in. deep (146 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 135 ohms |
| L91B1118/U | 10 to 300 psi; 325 psi - Maximum Sustained | 0 - 2 MPa; 2241 kPa - Maximum Sustained | 28 to 110 psi | 193 to 758 kPa | 1/4 in BSP-TR thread Mounting | Phos-bronze bellows | 6 1/16 in. high x 4 1/2 in. wide x 2 3/4 in. deep (154 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91B1241/U | 10 to 300 psi; 325 psi - Maximum Sustained | 69 to 2068 kPa; 2241 kPa - Maximum Sustained | 12 to 48 psi | 85 to 330 kPa | optional surface mount through back of case | Phos-bronze bellows | 6 1/16 in. high x 4 1/2 in. wide x 2 3/4 in. deep (154 mm high x 114 mm wide x 70 mm deep) | Single potentiometer, 140 ohms |
| L91D1015/U | 0 to 15 psi; 25 psi - Maximum Sustained | 0 to 103 kPa; 172 kPa - Maximum Sustained | 1.5 to 12 psi | 10 to 83 kPa | optional surface mount through back of case | Brass bellows | 6 7/8 in. high x 4 1/2 in. wide x 2 7/8 in. deep (175 mm high x 114 mm wide x 73 mm deep) | Dual potentiometer, 140 ohms |
| L91D1031/U | 5 to 150 psi; 225 psi - Maximum Sustained | 34 to 1034 kPa; 1151 kPa - Maximum Sustained | 11 to 52 psi | 76 to 359 kPa | optional surface mount through back of case | Brass bellows | 5 3/4 in. high x 4 1/2 in. wide x 2 3/4 in. deep (146 mm high x 114 mm wide x 70 mm deep) | Dual potentiometer, 140 ohms |

Dimensions in inches (millimeters)



TABULATION OF DIMENSIONS A, B, AND C

| OPERATING RANGE | | DIM A | | DIM B | | DIM C | |
|-----------------|------------------|--------|------|--------|------|---------------------|--------------------|
| CUSTOMARY UNITS | METRIC UNITS | IN. | MM | IN. | MM | IN. | MM |
| 0 TO 15 PSI | 0 TO 103 kPa | 2-7/16 | 61.9 | 1-7/32 | 31.0 | 6-7/8 | 174.6 |
| 5 TO 150 PSI | 0.03 TO 1.03 MPa | 1-5/8 | 41.3 | 13/16 | 20.6 | 5-3/4 | 146.1 |
| 10 TO 300 PSI | 0.07 TO 2.07 MPa | 1-1/4 | 31.8 | 5/8 | 15.9 | 6-1/16 ⁴ | 154.0 ⁴ |

M29781

Pressure and Limit Controllers

Pressure Controls and Limits Accessories

| Material Number | Description | Used With |
|-----------------|---|------------------------|
| 129178E/U | Cover Assembly | L404, L604 |
| 14026/U | Steam Trap "Black Iron Siphon Loop" for L404, L408, L91 or P7810A, B | L404, L91, L604 |
| 23176CB/U | L91 Potentiometer - 135 ohm | L91 |
| 23176CF/U | L91 Potentiometer - 135 ohm | L91 |
| 4074BWJ/U | Pressure Control/Limits, Limit Stop Assembly - to limit setpoint. Includes 129564 Range Stop, 107194 Range Stop Screw and 23466 Wrench. | L404, L604, L91, L4079 |
| 50024585-001/U | Steam Trap "1/4 in. NPT Brass Siphon Loop" for L404, L408, or L91 | L404, L91, L604 |

Testers and Demonstrators

A7800 Tester



Provides quick operational check of the 7800 SERIES System components.

- Allows testing different 7800 SERIES devices using configuration plugs and functional switches to simulate interlocks and control functions.
- Indicator lamps represent outputs as activated.

Application: Tester

Voltage: 120 Vac

Frequency: 50 Hz; 60 Hz

Temperature Range: -30°F to +150°F (-34.5°C to +65°C)

| Material Number | Required Components | Includes | Used With |
|-----------------|-------------------------------|---------------------|--|
| A7800A1010/U | Configuration Plugs, Included | Configuration Plugs | 7800 SERIES Relay Modules with Valve Proving System or New Optical Detector Amplifiers |

A7800 and DSP2672 Replacement Parts

| Material Number | Application | Used With | Comments |
|-----------------|--|-------------------|------------------------------|
| 203579A/U | Tester; DSP2672 RM7800/40/45 (non VPS side) Configuration Plug | RM7800; RM7840 | Configures A7800 and DSP2672 |
| 203579B/U | Tester; DSP2672 RM7838A Configuration Plug | | Configures A7800 and DSP2672 |
| 203579C/U | Tester; DSP2672 RM7838B, C Configuration Plug | | Configures A7800 and DSP2672 |
| 203579D/U | Tester; DSP2672 RM7885A Configuration Plug | | Configures A7800 and DSP2672 |
| 203579E/U | Tester; DSP2672 RM7890 (non VPS models) Configuration Plug | | Configures A7800 and DSP2672 |
| 203579F/U | Tester; DSP2672 RM7895, 96, 97, 98 (non VPS side) Configuration Plug | | Configures A7800 and DSP2672 |
| 203579G/U | Tester; DSP2672 RM7823 Configuration Plug | | Configures A7800 and DSP2672 |
| 203579H | Tester; DSP2672 RM7865 Configuration Plug | | Configures A7800 and DSP2672 |
| 203579J/U | Tester; DSP2672 RM7838B, C (VPS) Configuration Plug | A7800A1010 Tester | Configures A7800 and DSP2672 |
| 203579K/U | Tester; DSP2672 RM7890 (VPS) Configuration Plug | A7800A1010 Tester | |
| 203579L/U | Tester; DSP2672 RM7800/40G,L (VPS side) Configuration Plug | A7800A1010 Tester | |
| 203579M/U | Tester; DSP2672 RM7898 (VPS Side) Configuration Plug | A7800A1010 Tester | |

Demonstrators or Trainers



DSP3452

The DSP3452 is designed for training and demonstration of Honeywell Burner and Boiler Controls with auxiliary devices that are typically used with commercial and industrial burners. It demonstrates the wiring and operation of primary safety controls.

- The trainer can be used with Honeywell primary controls or programming controls (not included with the trainer).
- The nine trouble switches simulate a range of faults from a burned out pilot valve to a faulty flame detector to an inoperative firing rate motor.
- The trainer measures 20 1/2 in. x 32 in. x 12 1/2 in. It weighs approximately 30 lbs.

Color: Black

| Material Number | Application | Voltage | Frequency | Approximate, Dimensions | Required Components | Includes | Used With | Comments |
|-----------------|---|---------|--------------|----------------------------------|---------------------------------|---|--|---|
| DSP3452/U | Primaries, Programmers or 7800 Series Trainer | 120 Vac | 50 Hz; 60 Hz | 20 1/2 in. x 32 in. x 12 1/2 in. | Devices for wiring and training | jumper wires, propane gas hose with regulator, detector mounting adapters | Primaries, Programmers and 7800 SERIES Relay Modules | Complete Flame Safeguard Training Package |

Testers and Demonstrators

SOLA Demonstrators



The DSP3943 is used as a SOLA commissioning or monitoring tool when a System or Local Operator Interface is not required for operation. The DSP contains the S7999B1026 touchscreen display which uses a wizardlike process to assist you through the commissioning process.

The DSP3980 contains an S7999D1006 Touchscreen Display to commission or monitor the SOLA system when a System or Local Operator Interface is not required for operation. The DSP3980 includes the power supply for operation and cable with connector for the SOLA system. A USB storage drive is provided to save display screen snapshots or trending information.

Voltage: 120 Vac
Color: Black

| Material Number | Application | Frequency | Includes | Used With | Comments |
|-----------------|--------------------|--------------|--|---------------|--|
| DSP3943/U | Demonstrator, SOLA | 60 Hz | S7910A1001 SOLA HC; S7999 Touchscreen Display; S7910 Keyboard display, system switches and ports | | |
| DSP3980/U | Demonstrator | 50 Hz; 60 Hz | | SOLA Controls | Touchscreen for R7910/R7911 SOLA Monitoring or Programming |

Flame Simulator



Flame simulators simplify the troubleshooting of flame safeguard controls by providing a quick method to check the flame detection function.

| Material Number | Application | Color | Comments | Used With |
|-----------------|--|--------|--|---|
| 123514A/U | Flame Simulator, Rectification Flame Amplifiers | Brown | Applications with test jack in G circuit | R4075B; R4181A; R4138A, B; R7253A; R8169B; R7257A; R7247A; R7847A |
| 203659/U | Simulates C7027, C7035, C7044 Flame Simulators for 7800 SERIES | Purple | Simulates Minipeeper Flame Detectors | 7800 SERIES Relay modules |

SLATE Demo Kit



- The DSP3983/U is an all-inclusive SLATE™ demonstration and training case prewired to a variety of components intended to showcase the SLATE modules capabilities.
- The DSP3983 is preloaded with a functional kit (program). The prewired components and program are intended to simulate a generic burner application. As the user becomes more familiar with SLATE programming and additional I/O are desired, they can be added by the user and new kits can be created and loaded to incorporate the new I/O.
- The included SLATE Display may be used to control and maneuver through the modules to gain access to the sensor readings, terminal states, and register values as well as input commands via the built-in SLATE pages. In addition, user defined web pages can be programmed to suit the users' needs.
- The SLATE system can be networked to a computer for additional access and can be interfaced with other SLATE Demo cases for more complex application simulations.

Voltage: 110/220 Vac

Frequency: 50 Hz; 60 Hz

| Material Number | Application | Includes | Comments | Used With |
|-----------------|-----------------------|---|--------------------------------|-----------|
| DSP 3883/U | Demonstrator, Trainer | R8001A1001/U R8001B2001/U R8001U3001/U R8001D4001/U R8001C6001/U R8001N7001/U R8001L8001/U R8001F1091/U R8001K1010/U System simulation switches and sensors. | Complete SLATE training system | SLATE |

Industrial Flame Monitoring

Signal Processors

P531; P532 3-channel, Signal Processors



The P532/P531 supports three separate viewing heads, two S55XBE and one S70X. Independent 2 x SPDT Flame On relay contacts are provided for each viewing head (6 total). 0-20 or 4-20mA scalable analog output also provided for each viewing head. SIL 3 capable.

- 3 channels.
- Two SPDT flame relay outputs, one SPDT self-check relay output and one N.O. alarm relay output per channel.
- FM and CSA approved.
- Monitor the UV and IR flame component simultaneously or separately when using the S550BE viewing head .
- Monitor 3 viewing heads simultaneously.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Automatic set-up functionality.

- Automatic viewing head detection.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rated.

Output: 4-20mA
Communications: ModBus and RS422 Compatible
Mounting: Cabinet mounting tabs
Connection Type: Removable terminals
Dimensions: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)
Environmental: Ambient Temperature -40 to 140°F (-40 to 60°C) (FM) or 32 to 125°F; (0 to 52°C) (CSA)
Used With: S55X, S70X, S80X Viewing heads

| Material Number | Description | Application | Keypad | Status Monitoring | Electrical Ratings | Frequency | Required Components |
|-----------------|--|---|------------|-------------------|----------------------------|--------------|----------------------------|
| P531AC | AC Signal Processor | Signal Processor with 3 channels without keypad | P532UI | LEDs | 85-265 Vac + 24 Vdc backup | 50 Hz; 60 Hz | Appropriate Flame Detector |
| P531DC | DC Signal Processor | Signal Processor with 3 channels without keypad | P532UI | LEDs | 22-26 Vdc+ 24 Vdc backup | | Appropriate Flame Detector |
| P532AC | AC Signal Processor | Signal Processor with 3 channels and keypad | Integrated | tri-color display | 85-265 Vac + 24 Vdc backup | 50 Hz; 60 Hz | Appropriate Flame Detector |
| P532DC | DC Signal Processor | Signal Processor with 3 channels and keypad | Integrated | tri-color display | 22-26 Vdc+ 24 Vdc backup | | Appropriate Flame Detector |
| P532UI | Program module/keypad used with the P531 | Program module/keypad used with the P531 | | | | | |

600U Flame Rod Signal Processor



Model 600 Ultra Flame Rod is a reliable Flame Detecting system based on the proven principle of measuring rectified current flow through a flame rod when a flame touches it. The Model 600 Flame Detector measures the rectified current and closes the flame relay if the current exceeds the value for the flame-on set-point.

Output: 175 Vac for flame rod
Mounting: DIN rail, 35mm
Connection Type: Removable terminals
Dimensions: 2-63/64 in. wide x 3-1/4 in. deep x 5-31/64 in. high (76 mm wide x 83 mm deep x 139 mm high)
Used With: Flame Rod

| Material Number | Description | Application | Keypad | Status Monitoring | Electrical Ratings | Frequency |
|-----------------|---|----------------------------|------------|-------------------|-------------------------------|--------------|
| 600U | Flame rod signal processor with DPDT flame relay contacts, DPST ignition transformer relay or ignition coil drive | Flame rod signal processor | Integrated | LEDs | 85 to 132Vac or 170 to 264Vac | 50 Hz; 60 Hz |

P522 Signal Processor with 2 Channels and Keypad



Application: Signal Processor with 2 channels and keypad

Keypad: Integrated

Status Monitoring: LEDs

Output: 4-20mA

Communications: ModBus and RS422 Compatible

Mounting: Cabinet mounting tabs

Connection Type: Removable terminals

The P522 supports two switched (not simultaneously) S55XBE viewing heads. 2 x SPDT Flame On relay contacts and 0-20 or 4-20mA scalable analog output is also provided. SIL 3 capable.

- 2 channels.
- Integrated keypad.
- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM, CSA and EAC approved.
- Flame failure response and time delay on set-up.
- Connect 2 viewing heads, monitoring 1 at a time.
- Independent configuration for each viewing head.
- 2 sets of configuration data per viewing head.
- Viewing head temperature indication.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Dimensions: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x 162 mm deep x 170 mm high)

Approvals, CSA: Approved

Approvals, Factory Mutual: Approved (Temperature Range -32 to +122°F; 0 to +50°C)

| Material Number | Description | Electrical Ratings | Frequency | Used With | Required Components |
|-----------------|---------------------|----------------------------|--------------|--|----------------------------|
| P522AC | AC Signal Processor | 85-265 Vac + 24 Vdc backup | 50 Hz; 60 Hz | S550B/BE, S552B/BE, S556B/BE viewing heads | Appropriate Flame Detector |
| P522DC | DC Signal Processor | 22-26 Vdc+ 24 Vdc backup | | S550B/BE, S552B/BE, S556B/BE viewing heads | Appropriate Flame Detector |

Signal Processors

WATCHDOGIIBE Flare Stack Signal Processor



The P222 is used with S256BE viewing head for remote monitoring of flare flame. 2 x SPDT Flame On relay contacts for T1 timer and 1 x SPDT for T2 timer. 0-20 or 4-20mA scalable analog output is also provided. Two timers are included for flame delay off settings one 0 to 60 seconds (T1) and one 0 to 3600 seconds (T2).

Application: Flare Stack signal processor with 1 channel and keypad

Keypad: Integrated

Status Monitoring: LEDs

Output: 0/4-20mA

Communications: ModBus and RS422 Compatible

Mounting: Cabinet mounting tabs

Connection Type: Removable terminals

Dimensions: 4.3 in. wide x 6.4 in. deep x 6.7 in. high (109 mm wide x 162 mm deep x 170 mm high)

| Material Number | Description | Electrical Ratings | Frequency | Used With | Required Components |
|-----------------|---------------------------|----------------------------|--------------|--|----------------------------|
| P222 | Watchdog Signal Processor | 85-265 Vac + 24 Vdc backup | 50 Hz; 60 Hz | S256BE WATCHDOGIIBE flare stack viewing head | Appropriate Flame Detector |

S256BE Flare Stack Viewing Head



S256BE is a UV flare stack viewing head/flame detector, that detects the presence or absence of flame at the flare stack tip. Used for continuous UV flare stack monitoring to ensure no unburned toxic or waste gas releases into the atmosphere.

- Not adversely affected by Gamma Rays or X-Rays.
- Solar blind.
- Ground mounted, up to 1000 feet away from flare stack tip.
- UV gain selection of 0-99.
- Digital display.
- Quick disconnect plug.
- Easy to install with no plant shutdown.
- Ambient temperature: -40 to 176°F (-40 to 80°C).
- Viewing head housing: NEMA type 4X / IP 66.
- 22-26 VDC supplied by signal processor.
- Used with P222 signal processor.

Approvals, QPS: QPS to CSA 22.2

Comments: One color monitoring

Used With: P222 Processor

Accessory: ASY55XBE cable/connector accessory, cable length: 50'

Application: Flame Detector for use with P222 processor

NEMA Rating: 4X

Electrical Connections: Quick disconnect plug

Mounting: 2" Pipe mount

Electrical Ratings: 22 to 26Vdc from signal processor

Dimensions: 3.7 in. wide x 20.3 in. deep x 13.7 in. high (94 mm wide x 516 mm deep x 348 mm deep)

| Material Number | UV Gain Adjustment | IR Gain Adjustment | Digital Displays | Description |
|-----------------|--------------------|--------------------|------------------|-----------------------------------|
| S256BE | 0-99 | | Yes (1) | UV viewing head for use with P222 |

700 Signal Processor with 1 Channel



The 700 supports one UV or IR viewing head model S70X or S80X. 2 x SPDT Flame On relay contacts and 0-20 or 4-20mA scalable analog output is also provided. SIL 3 capable.

- 1 channel.
- Two SPDT flame relay outputs and one SPDT self-check relay output.
- FM and CSA approved.
- Status LEDs.
- DIN rail mounting.
- Modbus and RS422 protocol compatible.
- NEMA 1 Enclosure Rating.

Application: Signal processor with 1 channel and keypad
Status Monitoring: LEDs
Output: 4-20mA
Communications: ModBus and RS422 Compatible
Mounting: DIN rail
Connection Type: Removable terminals

Dimensions: 2.9 in. wide x 3.3 in. deep x 5.5 in. high (74 mm wide x 84 mm deep x 140 mm high)
Approvals, CSA: Approved
Approvals, Factory Mutual: Approved (Temperature Range 32 to 140°F; 0 to 60°C)

| Material Number | Description | Keypad | Electrical Ratings | Frequency | Used With | Required Components |
|-----------------|---------------------|------------|---------------------------|--------------|--|----------------------------|
| 700ACSP | AC Signal Processor | Integrated | 85-265 Vac +24 Vdc Backup | 50 Hz; 60 Hz | All models of S702, S706, S802, S806 viewing heads | Appropriate Flame Detector |
| 700DCSP | DC Signal Processor | Integrated | 22-26 Vdc | | All models of S702, S706, S802, S806 viewing heads | Appropriate Flame Detector |

All-in-One Viewing Head and Processor

All-in-One Viewing Head and Processor

All-in-One Viewing Head and Processor



U2-101xS and U2-101xS PF are integrated viewing head and processor (All in One) with integral touch screen for operator interface. One Normally Open Flame relay contact and one Normally Open Fault relay contact is provided for interlock. 0-20 or 4-20 mA scalable analog output is also provided. Power input is 24 VDC @120 mA. Temperature sensor is included that provides display in degree F and C. System is self checking (no mechanical shutter) fit for use in SIL3 application. Approvals include (IP66), Class I Div 1 (IEC Ex d-ATEX Zone 1) for PF version and Class I, Div 2 (IEC Ex nA) for quick disconnect type models. For remote monitoring and configuration, FLAMETOOL –HMI (support 32 loops) or FLAMETOOL-PC (Supports 248 loops) is available. Available models are UVtron only (clean gases), IR only (oil and coal), UVtron, IR and UVSS (for all fuels- all applications including SRU, Kiln etc.).

Application: Combination DC signal processor and dual UV/IR Viewing head

Keypad: Integrated

Electrical Ratings: 22-26 Vdc

Output: 4-20mA

Communications: ModBus RS485

Dimensions: 4.3 in. wide x 5.8 in. deep x 5.5 in. high (109 mm wide x 147 mm deep x 117 mm high)

Approvals, CSA: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Approvals, Factory Mutual: Approved (Temperature Range -40 to 158°F; -40 to 70°C)

Approvals, Others: SIL3 (Temperature Range -40 to 158°F; -40 to 70°C), INMETRO, EN298 & KTL

| Material Number | Description | Status Monitoring | Mounting | Connection Type | Used With | Required Components |
|---|--|---|---------------------------|-----------------------|-----------|--|
| Combination DC signal processor and triple UV/IR/UVSS Viewing head | | | | | | |
| U2-1010S | Combination DC signal processor and triple UV/IR/UVSS Viewing head. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | 12 pin connector | | Cable and connector, PT adapter and purge air coupler sold separately. |
| U2-1010S-PF | Combination DC signal processor and triple UV/IR/UVSS Viewing head with 10-ft pigtail. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 10-ft (3m) | | PT adapter and purge air coupler sold separately. |
| U2-1010S-PF-050 | Combination DC signal processor and triple UV/IR/UVSS Viewing head with 50-ft (15m) pigtail. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 50-ft (15m) | | PT adapter and purge air coupler sold separately. |
| U2-1010S-PF-100 | Combination DC signal processor and triple UV/IR/UVSS Viewing head with 100-ft (30m) pigtail. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 100-ft (30m) | | PT adapter and purge air coupler sold separately. |
| Combination DC signal processor and IR Viewing head | | | | | | |
| U2-1012S | Combination DC signal processor and IR Viewing head. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | 12 pin connector | | Cable and connector, PT adapter and purge air coupler sold separately. |
| U2-1012S-PF | Combination DC signal processor and IR Viewing head with 10-ft pigtail. Pipe fitting connection. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 10-ft (3m) | | PT adapter and purge air coupler sold separately. |
| Combination DC signal processor and UV Viewing head | | | | | | |
| U2-1016S | Combination DC signal processor and UV Viewing head. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | 12 pin connector | | Cable and connector, PT adapter and purge air coupler sold separately. |
| U2-1016S-PF | Combination DC signal processor and UV Viewing head with 10-ft pigtail. Pipe fitting connection. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 10-ft (3m) | | PT adapter and purge air coupler sold separately. |
| Combination DC signal processor and dual UV/IR Viewing head | | | | | | |
| U2-1018S | Combination DC signal processor and dual UV/IR Viewing head | LED for each sensor, flame relay, and self check. | 1" NPT process connection | 12 pin connector | | Cable and connector, PT adapter and purge air coupler sold separately. |
| U2-1018S-PF | Combination DC signal processor and dual UV/IR Viewing head with 10-ft pigtail. Pipe fitting connection. | LED for each sensor, flame relay, and self check. | 1" NPT process connection | pigtail, 10-ft (3m) | | PT adapter and purge air coupler sold separately. |

Viewing Heads

700 and 800 Series Viewing Heads



Available in single sensor only, UVTron or IR. Options include quick disconnect with two LEDs or factory installed cable.

Application: Flame Detector for Oil Fired burners

Mounting: 1/2" NPTF or 1" NPTF with 1/4" NPT Purge connection

Electrical Ratings: 22 to 26Vdc from signal processor

Sight Pipe (NPT): 1/2 in.

Purge Air Pipe (NPT): 1/4 in.

Environmental:

Viewing Head Sealing: IP 64 rated when the metallic connector ring is tightened with pliers and a UV protection is provided for the cable by installing in conduit.

Ambient Temperature: -40 to 185°F (-40 to 85°C) CSA for CLASS I, DIV 2, GROUPS A, B, C, D, T4A

-40 to 149°F (-40 to 65°C) IECEx CSA Ex nA IIC T4 Gc

Approvals, Factory Mutual: Approved

Environmental, Electrical, or Ingress Protection Rating: IP64

Required Components: Order ASY785 (50foot) or ASY785-200 (200ft) for molded, shielded cable assemblies. ASY785 or ASY785-200 are recommended for new installations.

| Material Number | Type | Electrical Connections | Shutter | UV Gain Adjustment | IR Gain Adjustment | Dimensions | Comments | Used With |
|-----------------|--|-------------------------|------------|--------------------|--------------------|--|---|---|
| S702 | IR Compact viewing head with 15-foot cable | Quick disconnect plug | Electronic | | 1-9 | 2.0 in. wide x 9.7 in. deep x 2.0 in. high (51 mm wide x 246 mm deep x 51 mm high) | Removable connector cover for diagnostic LED viewing during installation. | Use with 700 AC SP or 700DC SP or P53xAC/DC |
| S702PF | IR Compact viewing head with 10-foot pigtail | Factory installed cable | Electronic | | 1-9 | 2.0 in. wide x 9.7 in. deep x 2.0 in. high (51 mm wide x 246 mm deep x 51 mm high) | | Use with 700 AC SP or 700DC SP or P53xAC/DC |
| S706 | UV Compact viewing head with 15-foot cable | Quick disconnect plug | Electronic | 1-9 | | 2.0 in. wide x 9.7 in. deep x 2.0 in. high (51 mm wide x 246 mm deep x 51 mm high) | Removable connector cover for diagnostic LED viewing during installation. | Use with 700 AC SP or 700DC SP or P53xAC/DC |
| S706PF | UV Compact viewing head with 10-foot pigtail | Factory installed cable | Electronic | 1-9 | | 2.0 in. wide x 9.7 in. deep x 2.0 in. high (51 mm wide x 246 mm deep x 51 mm high) | | Use with 700 AC SP or 700DC SP or P53xAC/DC |
| S802 | IR Compact viewing head with 15-foot cable | Quick disconnect plug | Electronic | | 1-9 | 1.8 in. wide x 9.2 in. deep x 1.8 in. high (46 mm wide x 234 mm deep x 46 mm high) | Removable connector cover for diagnostic LED viewing during installation. | Use with 700 AC SP or 700DC SP or P53xAC/DC |
| S806 | UV Compact viewing head with 15-foot cable | Quick disconnect plug | Electronic | 1-9 | | 1.8 in. wide x 9.2 in. deep x 1.8 in. high (46 mm wide x 234 mm deep x 46 mm high) | Removable connector cover for diagnostic LED viewing during installation. | Use with 700 AC SP or 700DC SP or P53xAC/DC |

Viewing Heads

S55xBE Series Viewing Heads



The S550BE is provided with UVTron and IR sensors. System is self checking, no mechanical shutters, not adversely affected by X or Gamma rays generated by pipe check welding. Suitable for all fuel flames, single or multiple fuels. Optional pipe fitting (PF) versions provided with factory installed cable. Suitable for hazardous location duty. SIL 3 capable.

- Not adversely affected by Gamma Rays or X-Rays.
- Mount in any orientation.
- IR gain selection of 0-699.
- UV gain selection of 0-99.
- 2 digital displays.
- Quick disconnect plug.
- Parameters stored in signal processor EEPROM.
- Ultraviolet and infrared with electronic shutter.
- 22-26 VDC supplied by signal processor.
- CSA Rated IP64 Enclosure.
- Used with P532, P532, P531, P531, P522, P522 signal processors.

Application: Flame Detector for All fuels multiple burners

Mounting: 1" NPTF burner front with 1/2" purge connection

Electrical Ratings: 22 to 26Vdc from signal processor

Sight Pipe (NPT): 1 in.

Purge Air Pipe (NPT): 1/2 in.

Dimensions: 4.1 in. wide x 8.1 in. deep x 5.4 in. high (104 mm wide x 206 mm deep x 137 mm high)

Ambient Temperature Range: -40 to 158°F (-40 to 70°C)

Approvals, CSA: Approved CSA

Approvals, Others: SIL3 (Temp rating -40 to 149°F/ -40 to 65°C)

IECEx IEC: Approved, KCS, INMETRO, EAC (S550BE Only)

Approvals, Factory Mutual: Approved

Environmental, Electrical, or Ingress Protection Rating: IP64

Used With: P522, P531 and P532 Processors

| Material Number | Type | Electrical Connections | Shutter | UV Gain Adjustment | IR Gain Adjustment | Digital Displays | Comments | Required Components |
|---|--------------------------------------|------------------------|-----------------------|--------------------|--------------------|------------------|-------------------------------|--|
| Flame Detector for All fuels multiple burners | | | | | | | | |
| S550BE | UV/IR Viewing Head | Quick disconnect plug | Electronic of IR only | 0-99 | 0-699 | Yes (2) | 2 digit display for UV and IR | Use with molded cable ASY55XBE, ASY55XBE-100, ASY55XBE-200 or ASY55XBE-300. P522 or P532 signal processor. |
| S550BE-PF | UV/IR Viewing Head | 10 foot pigtail | Electronic of IR only | 0-99 | 0-699 | Yes (2) | 2 digit display for UV and IR | Factory installed 10' cable. P522 or P532 signal processor. |
| Flame Detector for Gas multiple Burners | | | | | | | | |
| S556BE | UV Viewing Head with Digital Display | Quick disconnect plug | | 0-99 | | Yes (1) | 2 digit display for UV | Use with molded cable ASY55XBE, ASY55XBE-100, ASY55XBE-200 or ASY55XBE-300. P522 or P532 signal processor. |
| S556BE-PF | UV Viewing Head with Digital Display | 10 foot pigtail | | 0-99 | | Yes (1) | 2 digit display for UV and IR | P522 or P532 signal processor. |
| Flame Detector for Oil and Coal multiple burners | | | | | | | | |
| S552BE | IR Viewing Head | Quick disconnect plug | Electronic | | 0-699 | Yes (1) | 2 digit display for IR | Use with molded cable ASY55XBE, ASY55XBE-100, ASY55XBE-200 or ASY55XBE-300. P522 or P532 signal processor. |
| S552BE-PF | IR Viewing Head | 10 foot pigtail | Electronic | | 0-699 | Yes (1) | 2 digit display for IR | P522 or P532 signal processor. |

GHE Igniter System



The GHE High Energy Ignitor is a non fouling high energy device, designed to directly ignite all gaseous fuels. The GHE High Tension Ignitor is designed to provide reliable ignition and or warm up when and where required. It can be applied to boiler applications from industrial to utility lime and cement kiln heaters, etc.

GHE Igniter System - GHE1-3

1-3 MMBtu/Hr capacity, 1-7/8" O.D. pilot igniter; 2' to 10' lengths available in 1' increments. Includes 3/4" x 36" gas inlet and 1" x 36" flexible stainless steel air inlet hoses and high energy probe igniter. 12 joule powerpack, igniter cable and enclosures are available options.

Configurable Options

- Igniter Length (in feet):
2, 3, 4, 5, 6, 7, 8, 9, 10
- Igniter Cable (in feet):
10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Mounting:
Flange
- Powerpack:
No, Yes
- Enclosure:
None, NEMA 4, NEMA 4X, NEMA 12

GHE Igniter System - GHE2-5

2-5 MMBtu/Hr capacity, 2-7/8" O.D. pilot igniter; 2' to 10' lengths available in 1' increments. Includes 3/4" x 36" gas inlet and 1-1/2" x 36" flexible stainless steel air inlet hoses and high energy probe igniter. 12 joule powerpack, igniter cable and enclosures are available options.

Configurable Options

- Igniter Length (in feet):
2, 3, 4, 5, 6, 7, 8, 9, 10
- Igniter Cable (in feet):
None, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Mounting:
Flange, Quick Disconnect
- Powerpack:
No, Yes
- Enclosure:
None, NEMA 4, NEMA 4X, NEMA 12

GHE Igniter System Accessoires

HV-HT

Replacement high energy probe igniter internal cable; 2'-10' lengths available in 1' increments.

Configurable Options

- Igniter Length (in feet):
2, 3, 4, 5, 6, 7, 8, 9, 10

IGN-CPC-10

Replacement high energy probe igniter external cable; 10'-20' lengths available in 1' increments.

Configurable Options

- Cable Length (in feet):
10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

IPASS

High energy probe igniter assembly, includes probe igniter, cable, stainless steel sheath and junction box. 2' - 10' lengths available in 1' increments.

Configurable Options

- Igniter Length (in feet):
2, 3, 4, 5, 6, 7, 8, 9, 10

GT-LITE

Replacement high energy probe igniter.

IGN-CPC-LB

Replacement high energy probe junction box.

POWERPACK-12-CS

Replacement dual voltage 12 joule power pack.

IFM Accessories

Industrial Flame Monitoring Accessories

| Material Number | Application | Description | Used With | |
|-----------------|--|---|------------------------------------|---|
| 700-1 | Swivel Mount | Swivel Mount, 1" NPT to 1/2" NPT | S700 and S800 Viewing heads |  |
| 700-2 | Swivel Mount | Swivel mount for S700 and S800 series viewing heads. Flanged connection to 1/2 in. NPTM connection. | S700 and S800 series viewing heads |  |
| 700-3 | Swivel Mount | Swivel mount for S700 and S800 series viewing heads. 1/2 in. NPTF to 1/2 in. NPTM connection. | S700 and S800 series viewing heads | |
| 700ACC | Model S700 viewing head cooling jacket | Model S700 viewing head cooling jacket. Use with vortex coolers. | Vortex coolers |  |
| 700DA | Delrin adapter replacement | Delrin adapter replacement for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections. | S700 series viewing heads |  |
| 700DA-1 | Delrin adapter replacement | Delrin adapter replacement for S700 series viewing heads. 1 in. NPTF process and 1/4 in. NPTF purge connections. | S700 series viewing heads |  |
| 700RAA | Model S700/S800 viewing head right angle adapter | Model S700/S800 viewing head right angle adapter. 1/2 in. NPTF to 1/2 in. NPTM connection. | | |
| 700UA | Uitem heat insulating adapter | Uitem heat insulating adapter for S700 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections. | S700 series viewing heads |  |
| 800DA | Delrin adapter replacement | Delrin adapter replacement for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections. | S800 series viewing heads |  |
| 800UA | Uitem heat insulating adapter | Uitem heat insulating adapter for S800 series viewing heads. 1/2 in. NPTF process and 1/4 in. NPTF purge connections. | S800 series viewing heads | |

| Material Number | Application | Description | Used With | |
|-----------------|---|--|--|---|
| ACC55XBE | Air cooling canister for Model S55XBE viewing heads | Air cooling canister for Model S55XBE viewing heads. 1/4 inch air inlet port. Use with vortex coolers. | Model S55XBE viewing heads; Vortex coolers |  |
| ASY55XBE | Model S55xBE viewing head installation. | Cable Assembly, 50 foot C330S with overmolded S55xBE connector. Includes 50 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads | Model S55xBE Viewing Heads |  |
| ASY55XBE-50 | Model S55xBE viewing head installation. | Cable Assembly, 50 foot C330S with overmolded S55xBE connector. Includes 50 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads | Model S55xBE Viewing Heads | |
| ASY55XBE-100 | Model S55xBE viewing head installation | Cable Assembly, 100 foot C330S with overmolded S55xBE connector. Includes 200 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads | Model S55xBE Viewing Heads | |
| ASY55XBE-200 | Model S55xBE viewing head installation. | Cable Assembly, 200 foot C330S with overmolded S55xBE connector. Includes 200 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads | Model S55xBE Viewing Heads | |
| ASY55XBE-300 | Model S55xBE viewing head installation | Cable Assembly, 300 foot C330S with overmolded S55xBE connector. Includes 300 foot 4 conductor cable with foil/braid shield and coupling nut tied to shield. Use with Model S55xBE Viewing Heads | Model S55xBE Viewing Heads | |
| ASY785 | Model S70x/S80x viewing head installation. | Cable Assembly, 50 foot C330S with pre-wired S70x/S80x connector. Includes 50 foot 4 conductor, 22g cable with drain, foil/braid shield and connector housing tied to shield. Use with Model S70x/S80x Viewing Heads | Model S70x/S80x Viewing Heads |  |
| ASY785-200 | Model S70x/S80x viewing head installation. | Cable Assembly, 200 foot C330S with pre-wired S70x/S80x connector. Includes 50 foot 4 conductor, 22g cable with drain, foil/braid shield and connector housing tied to shield. Used with Model S70x/S80x Viewing Heads | Model S70x/S80x Viewing Heads | |
| ASY786 | Model S70x/S80x viewing head installation. | Field Wireable Shielded Connector for S70x/S80x Viewing Heads. Used with Model S70x/S80x Viewing Heads | Model S70x/S80x Viewing Heads |  |
| ASYU2S | Cable for U2S Series | Factory molded cable 50 feet (15 m) long with 12 conductors | U2S models only |  |
| ASYU2S-100 | Cable for U2S Series | Factory molded cable 100 feet (30 m) long with 12 conductors | U2S models only | |
| ASYU2S-200 | Cable for U2S Series | Factory molded cable 200 feet (60 m) long with 12 conductors | U2S models only | |
| ASYU2S-300 | Cable for U2S Series | Factory molded cable 300 feet (90 m) long with 12 conductors | U2S models only | |
| C22S | Field extension cable for U2S | 12 conductor cable with braided shield | U2S models only. Used with -pf models for cable extension. | |
| C330S | 4 Conductor Cable with braided shield for S70x, S80x and S55xBE Viewing heads | 4 Conductor Cable with braided shield | S550XBE, S70x/S80x, S256BE viewing heads | |
| C330S-0500 | Full spool with 500' C330S cable | 4 Conductor Cable with braided shield | S550XBE, S70x/S80x, S256BE viewing heads | |
| M3204 | Vortex air cooler, model 3204. | Vortex air cooler, model 3204 -4SCFM (113SLPM) for maximum refrigeration 275 BTU/HR (69 Kcal/hr) | All cooling jackets | |
| M3208 | Vortex air cooler, model 3208. | Vortex air cooler, model 3208 -8SCFM (227 SLPM) for maximum refrigeration 550 BTU/HR (139 Kcal/hr) | All cooling jackets | |

IFM Accessories

| Material Number | Application | Description | Used With | |
|-----------------|---------------------------------|---|-----------------------------------|---|
| M-701-1 | Swivel Mount | Swivel mount, 2 in. pipe slip-on to 1 in. NPT connection. | All viewing heads- S70x with DA-1 |  |
| M-701-2 | Swivel Mount | Swivel Mount, 2" NPT to 1" NPT | All viewing heads- S70X with DA-1 |  |
| M-701-2-FLG | Flanged swivel mount | Flanged swivel mount, 2 in. flanged to 1 in. NPTF. | All viewing heads- S70X with DA-1 |  |
| M-701-2-SS | Swivel Mount | Swivel mount, 2 in. NPT female to 1 in. NPT female, Stainless steel construction. | All viewing heads- S70X with DA-1 |  |
| M-701-3 | Flanged swivel mount | Flanged swivel mount, 3-bolt, 4.5 in. flanged to 1 in. NPTF. | All viewing heads- S70X with DA-1 |  |
| M-701-3P | Swivel Mount | Swivel mount, 3 in. NPTF to 1 in. NPTF connection. | All viewing heads- S70X with DA-1 |  |
| M-701-4 | Swivel Mount | Swivel mount, 2-bolt to 1 in. NPTF connection. | All viewing heads- S70X with DA-1 |  |
| M-702-6 | Orifice and retaining ring set. | Orifice and retaining ring set. Used for all viewing heads. | Used for all viewing heads. |  |

| Material Number | Application | Description | Used With | |
|-----------------|--|--|--|---|
| PT-GA1 | High temperature gasket for 1 in. locking coupler. | High temperature gasket for 1 in. locking coupler. | 1 in. locking coupler |  |
| PT-QL1 | Quartz lens for 1 in. locking coupler. | Quartz lens for 1 in. locking coupler. | 1 in. locking coupler |  |
| R-518-11 | Model S55xBE viewing head installation. | S55xBE Field Wireable Cable with 6-8mm cable bushing for use with C330S cable. Includes Field wireable with proper bushing size to provide IP seal with C330S cable. No shield at connector, less robust version. Used with Model S55xBE Viewing Heads | Model S55xBE viewing head, and C330S cable. |  |
| R-518-12 | Heat Block-1" NPT | All viewing heads with 1" NPTF connection | All viewing heads with 1" NPTF connection |  |
| R-518-13 | Heat insulating nipple for S70X/S80X series viewing heads. | 1/2 in. NPT Ultem heat insulating nipple for S70X/S80X series viewing heads. | S70X/S80X series viewing heads |  |
| R-518-CL12-HTG | Locking coupler | 1 in. NPT locking coupler with high temperature gasket. Must be used with R-518-PT12 or R-518-PT12L | All viewing head that has 1" NPTF |  |
| R-518-CL12-PG | Locking quick disconnect/cam and groove coupler adapter | 1 in. NPT aluminum locking quick disconnect/cam and groove coupler adapter with 1/2 in. NPT purge. Must be used with R-518-PT12 and R-518-PT12L | All viewing head that has 1" NPTF | |
| R-518-PT12 | Insulating locking coupler adapter | 1 in. NPT Ultem insulating locking coupler adapter. Used with U2S processor/viewing head. | 1 in. NPT Ultem insulating locking coupler adapter use with R-518-CL12-HTG and R-518-CL12PG |  |
| R-518-PT12L | Locking coupler adapter with quartz lens. | 1 in. NPT Ultem locking coupler adapter with quartz lens. | 1 in. NPT Ultem insulating locking coupler adapter with quartz lens for use with R-518-CL12-HTG and R-518-CL12PG | |
| R-518-PT13 | Locking coupler adapter only. | 1/2 in. NPT Ultem insulating locking coupler adapter use with R-518-CL12-HTG or R-518-CL12-PG | |  |
| R-518-PT13L | Locking coupler adapter with quartz lens. | 1/2 in. NPT Ultem locking coupler adapter with quartz lens. Use with R-518-CL12-HTG or R-518-CL12-PG | | |

Fiberoptic System

Fiberoptic System



The Fiberoptic System is a configure to order item. Please contact Honeywell Customer Care at (765) 254-1041 for assistance with configuring and placing your order.

Fiberoptics - FASA

5' to 20' fiber optics assembly for IR or UV flame detection, available in 1' increments. Outer carrier assembly for 3" schedule 40 threaded pipe stub w/ 1" NPT purge air inlet and 3' flexible section. Inner carrier assembly w/ quick-disconnect to outer carrier, 1/2" NPT purge air inlet and 3' flexible section. Adapter included for S55xBE/U2S, S70x or S80x viewing heads.

Configurable Options

- Application:
IR (Glass), UV (Quartz)
- Lens Cartridge:
Straight Connection, 9° Connection*
- Fiber Optic Length (in feet):
5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Viewing Head:
S55x/U2S, S70x, S80x
- Adapter Type:
Aluminum Y Purge, Delrin Straight, Delrin Y Purge

Note: not all adapter types are available for all viewing heads.

* 9° Connection only available for use in rigid assemblies by special order.

Fiberoptics - FASA-INT




5' to 20' fiber optics assembly for IR or UV flame detection, available in 1' increments. Inner carrier assembly w/ quick-disconnect to outer carrier, 1/2" NPT purge air inlet and 3' flexible section. Adapter included for S55xBE/U2S, S70x or S80x viewing heads. Replacement fiber optic bundles also available (select "No" for Inner Assembly Required).

Configurable Options

- Application:
IR (Glass), UV (Quartz)
- Inner Assembly Required:
No, Yes
- Lens Cartridge:
Straight Connection, 9° Connection*
- Fiber Optic Length (in feet):
5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Viewing Head:
S55x/U2S, S70x, S80x
- Adapter Type:
Aluminum Y Purge, Delrin Straight, Delrin Y Purge

Note: not all adapter types are available for all viewing heads.

* 9° Connection only available for use in rigid assemblies by special order.

| Material Number | Application | Description | Used With | |
|-----------------|---|---|-------------------|---|
| FLEX-HOSE | Hose for fiber optics assembly. | 1/2 in. NPT x 36 in. long flex hose for fiber optics assembly. | | |
| FOLC-9C | Fiber optic lens cartridge and coupler | Fiber optic lens cartridge and coupler - 9 degree viewing angle | FASA and FASA-INT |  |
| FOLC-HS | Replacement fiber optic lens cartridge mounting hood/lens housing | Replacement fiber optic lens cartridge mounting hood/lens housing with 1/2 inch NPT connection. | |  |
| FOLC-SC | Fiber optic lens cartridge and coupler | Fiber optic lens cartridge and coupler - straight connection. | |  |

Fiberoptic System

| Material Number | Application | Description | Used With | |
|-----------------|--|---|--|---|
| S550FOAD | Fiber optics adapter viewing head side | Fiber optics adapter for S55XB/S55XBE viewing head and U2S models. | S55XB/S55XBE viewing heads, and U2S models |  |
| S550FOADY-FT | Fiber optics adapter | Fiber optics adapter with air purge connection for all viewing heads with 1" NPT connection | S55XB/S55XBE viewing heads, and U2S models |  |
| S550FOADY-FT-AL | Fiber optics adapter | Fiber optics adapter with air purge connection for all viewing heads with 1" NPT connection | S55XB/S55XBE viewing heads, and U2S models | |
| S592-OR | Spare Parts for FOLC-SC and FOLC-9C | Metal O-Ring Spare Parts for FOLC-SC and FOLC-9C | FOLC-SC and FOLC-9C | |
| S592-PC | Spare Parts for FOLC-SC and FOLC-9C | Fiber assembly quartz lens (plano/convex) for FOLC-SC and FOLC-9C | FOLC-SC and FOLC-9C | |
| S592-PP | Spare Parts for FOLC-SC and FOLC-9C | Plano/Plano window For FOLC-SC and FOLC-9C | FOLC-SC and FOLC-9C | |
| S592-RR | Spare Parts for FOLC-SC and FOLC-9C | Retainer clip for FOLC-SC and FOLC-9C | FOLC-SC and FOLC-9C | |
| S700FOAD | Fiber optics adapter | Fiber optics adapter for S70X viewing heads. | Any 1/2" viewing head/ FASA |  |
| S800FOAD | Fiber optics adapter | Fiber optics adapter for S80X viewing heads. | S80X viewing heads |  |

General Information

Approval Bodies

Most of the devices described in this catalog have been approved or listed by one or more of the approval bodies listed below.

Underwriters Laboratories Inc.

Underwriters Laboratories Inc., is a Limited Liability Corporation (LLC) that examines and tests devices, systems and materials. Its membership represents a broad cross section of industry, education, and government.

Field inspectors for Underwriters Laboratories Inc., do not normally inspect equipment installed on job sites, but restrict their activities entirely to periodic inspections of products coming off manufacturers' assembly lines.

The three general categories of acceptance of a product by Underwriters Laboratories Inc., are:

1. Listing
2. Component Recognition
3. Classification

Listed devices are structurally and functionally complete and suitable for field installation.

Component Recognized devices are incomplete in some way that makes them unsuitable for general field installation. They are intended to be factory installed as part of some other piece of equipment.

Classified devices or products have been evaluated as to specific hazards only.

Underwriters Laboratories of Canada can also provide certification services to Canadian standards, which is displayed as a "c" adjacent to the UL mark (cUL).

CSA - Canadian Standards Association

The Canadian Standards Association is a not-for-profit, membership-based, non-governmental organization which provides a national standardizing body for Canada.

The Canadian Standards Association Testing Laboratories, inaugurated in May 1940, is a division of the Canadian Standards Association, and is recognized as a testing and investigating agency by Inspection Authorities and by Fire Marshals and Fire Commissioners throughout Canada.

The Canadian Standards Association Laboratories test and examine electrical products submitted for approval in compliance with pertinent Canadian Standards Association codes and standards.

The Canadian Standards Association now includes International Approval Services (IAS).

CSA can also provide certification services to UL standards, which is indicated by a "US" adjacent to the CSA mark.

International Approval Services—U.S.

IAS, now part of CSA and no longer known as IAS, is the testing organization of the American gas industry with laboratories in Cleveland, Ohio and Irvine, Calif. The CSA sponsors the American National Standards Institute Z21 and Z83 Committees on standards for gas-fired equipment.

Any manufacturer of gas appliances or gas appliance accessories may submit their products to the Laboratories and secure certification of their designs upon compliance with the appropriate national standards. Upon such compliance, the manufacturer is granted an Appliance Certificate or an Accessory Certificate and is permitted to display the trademarked Laboratories' Certification Seal or trademarked Laboratories' Certification Symbol on the appliance or accessory.

International Approval Services—Canada

IAS, now part of CSA and no longer known as IAS, represents all segments of the Canadian gas industry, has been accredited by the Standards Council of Canada and the Standards Advisory Committee to prepare National Standards in the area of equipment for use with natural gas and propane. CSA has laboratories in Toronto, Canada.

Each standard is intended to be used within the scope of the standard by the manufacturing sector, those applying the equipment or those responsible for its application. It is the responsibility of the user to determine in each case that the standard is suitable for the application.

IAS operates a certification program for gas appliances, equipment, and accessories.

Canadian Gas Association (CGA), is now part of CSA and is no longer known as CGA, although some legacy products still may display the CGA mark.

American Gas Association (AGA) is also now part of CSA and is no longer known as AGA, although some legacy products still may display the AGA mark.

Factory Mutual

Factory Mutual is an association of mutual insurance companies dedicated to loss prevention. Through its research arm, the Factory Mutual Research Corporation, it investigates means of preventing and minimizing fire and other losses. Factory Mutual Laboratories test and approve two broad categories of devices and materials:

1. Those used for the control or prevention of property damage.
2. Those that in themselves would present serious hazards if not properly designed.

Factory Mutual Acceptance refers to a specific installation or arrangement of equipment. Installations using approved devices, if found satisfactory following review of plans and inspection of completed work, are "accepted."

A continuing follow-up program is carried out through periodic plant inspections and reports of performance in actual use.

CE Mark ("Conformité Européene" European Self-Certification mark)

CE marking is mandatory for products covered by one or more Directives or Regulations. The manufacturer must apply the CE mark and declare conformity to the applicable Directives or Regulations in order to bring a product on the market in the European Union.

Some of the Directives or Regulations (e.g. Gas Appliance Regulation) require third party testing by Notified Bodies, in which case a product surveillance contract with a Notified Body is also mandatory. Other Directives or Regulations can be satisfied by Declarations of Conformity provided by the manufacturer as a result of internal testing and documentation.

C-Tick

The Australian C-Tick mark is intended for use on products that comply with EMC standards. The C-Tick mark is a certification trademark registered to the ACA by the Trademarks Office and is only to be used in accordance with conditions laid down by the ACA (Australian Communications Authority). The C-Tick mark is valid for both countries and may be applied by either a New Zealand supplier or an Australian supplier.

AGA – Australia Gas Association

AGA reviews a product's CE Mark EMC report and/or Declarations and issues a certificate allowing import into Australia and New Zealand.

The approved product will bear the C-Tick mark with the assigned number of the importer.

Reference Information

Reference Information

Date Code

A date code is stamped on each device to identify the date of manufacture.

Honeywell uses the industry standard date code system of a 4 digit code (YYWW). The first 2 digits represent the year the second 2 digits the week of the year. Example: 9752 is week 52 of 1997 and 2112 is week 12 of 2021.

Horsepower Ratings

Ratings of Honeywell controls listed herein are in amperes, and correspond generally to the values for various horsepower as shown in this chart. Full load ratings are taken from the National Electrical Code, 1978 edition; locked motor ratings are 6 times full load rating (ac) or 10 times full load rating (dc).

All motors do not necessarily come within the maximum ampere ratings shown in the table, and control devices must be used which have a rating equal to, or greater than, the actual motor running and starting currents.

| Approximate Horsepower | 120V | | 240V | |
|------------------------|--------------|----------------|--------------|----------------|
| | Full Load | Locked Rotor | Full Load | Locked Rotor |
| 1/6 ac dc | 4.4 — | 26.4 — | 2.2 — | 13.2 — |
| 1/4 ac dc | 5.8 3.1 | 34.8 31.0 | 2.9 1.6 | 17.4 16.0 |
| 1/3 ac dc | 7.2 4.1 | 43.2 41.0 | 3.6 2.0 | 21.6 20.0 |
| 1/2 ac dc | 9.8 5.4 | 58.8 54.0 | 4.9 2.7 | 29.4 27.0 |
| 3/4 ac dc | 13.8 7.6 | 82.8 76.0 | 6.9 3.8 | 41.4 38.0 |
| 1 ac dc | 16.0 9.5 | 96.0 95.0 | 8.0 4.7 | 48.0 47.0 |
| 1 to 1-1/2 ac dc | 20.0 13.2 | 120.0 132.0 | 10.0 6.6 | 60.0 66.0 |
| 2 ac dc | 24.0 17.0 | 144.0 170.0 | 12.0 8.5 | 72.0 85.0 |
| 3 ac dc | 34.0 25.0 | 204.0 250.0 | 17.0 12.2 | 102.0 122.0 |

Product literature

Visit www.docuthek.com to see the full list of brochures, training booklets and other product information available for self-printing or delivery.

NEMA Standard Classification Code for Flame Safeguard Enclosures

NEMA 1—General purpose. For indoor protection, where conditions are not unusually severe.

NEMA 2—Driptight. Designed to exclude falling moisture or dirt. Particularly applicable to cooling rooms, laundries, etc., where condensation is prevalent. For indoor use.

NEMA 3—Weather Resistant (weatherproof). For outdoor use; designed to withstand all normal exposure to natural elements. Controls mounted on pullout racks for easy access. With rain hood and weather seals.

NEMA 4—Watertight. Withstands water pressure from 1 in. hose nozzle, 65 gallons per minute, from distance of not less than 10 ft. for five minutes. Suitable for maritime applications, breweries, etc.

NEMA 5—Dust-tight. Equipped with dust-tight gaskets. Suitable for mills and other high-dust atmospheres.

NEMA 6—Submersible. For submerged operation under specified pressures and time.

NEMA 7—Hazardous Locations, National Electrical Code Class 1 (circuit breaks in air).

NEMA 8—Hazardous Locations, National Electrical Code Class 1 (circuit breaks immersed in oil).

NEMA 9—Hazardous Locations, National Electrical Code Class 2.



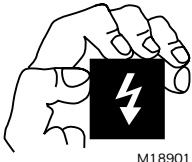

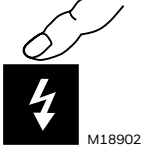

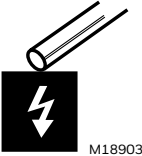
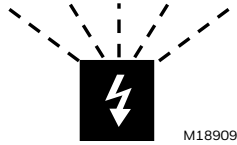
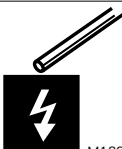
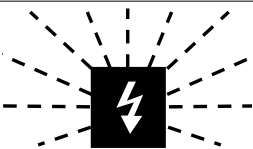
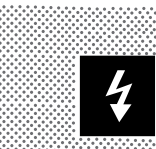
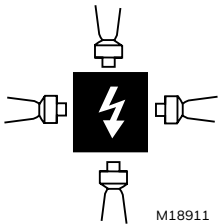
NEMA 10—Explosion-proof. Meets U.S. Bureau of Mines requirements for explosive atmospheres.

NEMA 11—Acid or Fume Resistant. Provides for immersion of enclosed equipment in oil.

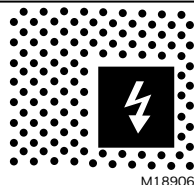
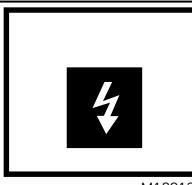
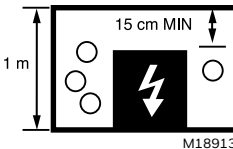
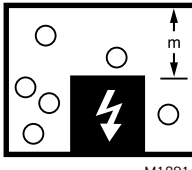
NEMA 12—Industrial Use. Excludes oils, dust, moisture, to satisfy individual requirements.

IP Standard Classification

- The IP classification system is used to indicate the degree of protection provided by the housings of electrical products operating on low and middle voltages (up to 1000 V ~ and 1500 V =).
- A classification consists of the letters IP followed by two digits which indicate conformity with test conditions as defined in the table below.

| First Digit | | | Second Digit | | |
|----------------------------------|---|---|--------------------------|--|--|
| Protection against Solid Objects | | | Protection against Water | | |
| IP | | Tests | IP | | Tests |
| 0 |  | No special protection | 0 |  | No special protection |
| 1 |  | A large surface of the body, such as a hand (but no protection against deliberate access). Solid objects exceeding 50 mm in diameter. | 1 |  | Dripping water (vertically falling drops) shall have no harmful effect. |
| 2 |  | Fingers or similar objects not exceeding 80 mm in length. Solid objects exceeding 12 mm in diameter. | 2 |  | Vertically dripping water shall have no harmful effect when the enclosure is tilted at any angle up to 15° from its normal position. |
| 3 |  | Tools, wires etc., of diameter or thickness greater than 2.5 mm. Solid objects exceeding 2.5 mm in diameter. | 3 |  | Water falling as a spray at an angle up to 60° from the vertical shall have no harmful effect. |
| 4 |  | Wires or strips of thickness greater than 1.0 mm. Solid objects exceeding 1.0 mm in diameter. | 4 |  | Water splashed against the enclosure from any direction shall have no harmful effect. |
| 5 |  | Ingress of dust is not totally prevented by dust does not enter in sufficient quantity to interfere with satisfactory operation of the equipment. | 5 |  | Water projected by a nozzle against the enclosure from any direction shall have no harmful effect. |

Reference Information

| First Digit | | Second Digit | |
|----------------------------------|---|--------------------------|---|
| Protection against Solid Objects | | Protection against Water | |
| IP | Tests | IP | Tests |
| 6 | <div><div>M18906</div></div> <div>No ingress of dust</div> | 6 | <div><div>M18912</div></div> <div>Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities.</div> |
| | | 7 | <div><div>M18913</div></div> <div>Ingress of water in a harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time.</div> |
| | | 8 | <div><div>M18914</div></div> <div>The equipment is suitable for continuous submersion in water under conditions which shall be specified by the manufacturer. NOTE: Normally, this will mean that the equipment is heretically sealed. However with certain types of equipment it can mean that water can enter but only in such a manner that it produces no harmful effects.</div> |

Conversion of Pressure Units

(Convert by multiplying value in known pressure units by factor listed under required pressure unit.)
see www.adlatus.org

| Known Pressure Unit | Required Pressure Unit | | | | | | | | |
|------------------------|------------------------|-------------------|-------------------|------------------------|---------------------|-----------------|-------------------|---------------|----------------------|
| | Kilo-pascals | Pounds per sq in. | Ounces per sq in. | Millimeters of Mercury | Kilograms per sq cm | Inches of Water | Inches of Mercury | Feet of Water | Centimeters of Water |
| Centimeters of Water | 0.0981 | 0.0142 | 0.227 | 0.735 | 0.000999 | 0.394 | 0.0289 | 0.0328 | — |
| Feet of Water | 2.99 | 0.433 | 6.94 | 22.4 | 0.0305 | 12.0 | 0.883 | — | 30.5 |
| Inches of Mercury | 3.39 | 0.491 | 7.86 | 25.4 | 0.0345 | 13.6 | — | 1.13 | 34.6 |
| Inches of Water | 0.249 | 0.0361 | 0.578 | 1.87 | 0.00254 | — | 0.0735 | 0.0833 | 2.54 |
| Kilograms per sq cm | 98.1 | 14.2 | 228.0 | 735.0 | — | 394.0 | 29.0 | 32.8 | 1000.0 |
| Millimeters of Mercury | 0.133 | 0.0193 | 0.308 | — | 0.00136 | 0.535 | 0.0394 | 0.0446 | 1.36 |
| Ounces per sq in. | 0.431 | 0.0625 | — | 8.24 | 0.00439 | 1.73 | 0.128 | 0.144 | 4.40 |
| Pounds per sq in. | 6.89 | — | 16.0 | 51.7 | 0.0703 | 27.7 | 2.04 | 2.31 | 70.4 |
| Kilo-pascals | — | 0.145 | 2.32 | 7.52 | 0.010 | 4.02 | 0.295 | 0.334 | 10.2 |

Absolute Pressure = Gauge Pressure + 14.74 psi.

Capacities

Most gas capacities listed in this catalog are stated for natural gas, based on 1,000 Btu per cu ft, 0.64 sp. gr. nat. gas, at a pressure drop of 1.0 in. w.c. (37.3 MJ/m³, 0.64 sp. gr. at a pressure drop of 0.25 kPa).

To calculate the Btu/h capacity for other gases, multiply the listed Btu/h capacity by the conversion factor.

| Total Heating Value for Gas X | | At sp. gr. | Conversion Factor (multiply) |
|-------------------------------|-------------------|---------------|------------------------------|
| Btu/cu ft | MJ/m ³ | | |
| 500 to 800 | 18.7 to 29.8 | 0.60 | 0.516 ^a |
| 800 to 950 | 29.8 to 35.4 | 0.70 | 0.765 ^a |
| 2500 | 93.3 | 1.53 (LP gas) | 1.62 |

^a Nominal conversion factor for range of total heat value.

For gases not listed in table, use one of the following formulas:

$$\left(\frac{\text{Btu/h Capacity}}{(0.64 \text{ sp. gr.})} \right) \left(\sqrt{\frac{0.64}{\text{sp. gr. gas X}}} \right) \left(\frac{\text{Btu/cu ft (MJ/m}^3 \text{ gas X)}}{1000 \text{ Btu/cu ft (37.3 MJ/m}^3 \text{)}} \right) = \text{Btu/h Capacity gas X}$$

or

$$\left(\frac{\text{Btu/h Capacity}}{(\text{gas A})} \right) \left(\sqrt{\frac{\text{sp. gr. gas A}}{\text{sp. gr. gas B}}} \right) \left(\frac{\text{Btu/cu ft (MJ/m}^3 \text{ gas B)}}{\text{Btu/cu ft (MJ/m}^3 \text{ gas A)}} \right) = \text{Btu/h Capacity gas B}$$

M18317

Power & Heat

| | |
|---------------------|---|
| 1 Btu | 776 ft-lb 0.293 Watt-hr 252 cal |
| 1 cal | 0.003968 Btu 0.0011619 Watt-hr |
| 1 Btu/h | 0.293 Watt 4.2 cal/min |
| 1 Watt | 3.413 Btu/h |
| 1 Watt-hr | 3.413 Btu |
| 1 kW (1000 Watts) | 3413 Btu/h |
| 1 kW-hr | 3413 Btu |
| 1 hp | 0.746 kW 2544.65 Btu/h 33,000 ft-lb./min |
| 1 Bohp ^a | 9.809 kW 33,479 Btu/h 34.5 lb of steam per hour |

^a Boiler Output Horsepower is the equivalent of the heat required to evaporate 34.5 lb of water per hour into dry, saturated steam at 212°F.

Btu Contents of Fuels

| Grade or Type | Unit | Btu |
|---------------|--------|--------------|
| No. 1 Oil | Gallon | 137,400 |
| No. 2 Oil | Gallon | 139,600 |
| No. 3 Oil | Gallon | 141,800 |
| No. 4 Oil | Gallon | 145,100 |
| No. 5 Oil | Gallon | 148,800 |
| No. 6 Oil | Gallon | 152,400 |
| Nat. Gas | cu ft | 950 to 1,150 |
| Propane | cu ft | 2,550 |
| Butane | cu ft | 3,200 |

Commercial/Industrial Combustion Conversion Factors

Simplified method of determining combustion air required to completely burn a given amount of fuel.

$$\text{Cf/h Air} = \frac{\text{Btu/hr input}}{100}$$

M18318

To correct gas volume from one set of conditions to another.

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2}$$

P = Absolute pressure.

= 14.7 + gauge psi.

T = Absolute temperature in -R = 460.

V = Volume in any consistent terms.

Normally useful for determining standard cubic feet of fuel consumed when metering pressure is other than standard; e.g., gas passing through a volumetric gas meter at 5 psig. (The heating value of fuel gases is based on Btu/cf at standard gas conditions.)

Turndown ratio of fixed area burner.

$$\text{T.D.} = \sqrt{\frac{\text{Maximum Pressure Drop across Burner}}{\text{Minimum Pressure Drop across Burner}}} = \frac{\text{Maximum Firing Rate}}{\text{Minimum Firing Rate}}$$

M18319

Where pressure drops are expressed in the same units.

Relationship between flow capacity at a specified pressure drop and C_v factor.

C_v = Flow Factor. Defined as the amount of water at 60°F in gallons per minute which will flow through a valve in the open position with a pressure drop through the valve of 1 pound per square inch.

For capacity conversion to gases the following may be used for pressure ratios less than critical ratios.

$$Q = 1360 C_v \sqrt{\frac{(P_1 - P_2) P_2}{GT}}$$

M18320

Q = Standard cubic feet per hour at 14.7 psia and 60°F.

P_1 = Inlet pressure, psia.

P_2 = Outlet pressure, psia.

T = Absolute temperature in -R = -F+460.

G = Specific gravity of the gas.

Buying Rebuilts? Proceed with CAUTION

Buying Rebuilts? Proceed with CAUTION

We would like to address a subject that is a concern to all of us—safety—specifically burner and boiler safety controls.

As an industry leader in the manufacture of Flame Safeguard controls, Honeywell feels obligated to inform you of the difference between Honeywell controls and controls repaired by an independent rebuilder.

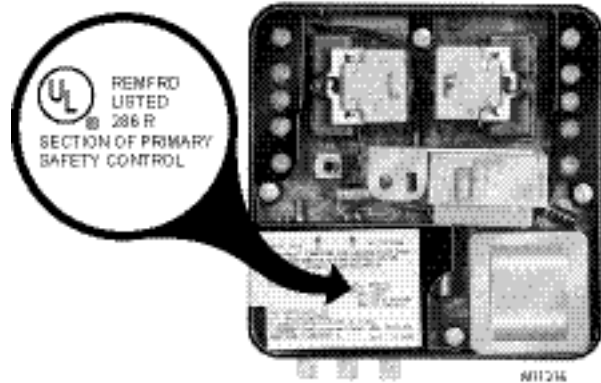
There are a number of standards and codes for burners and boilers and the controls for burner and boiler equipment. Among the most familiar are those established by Underwriters Laboratories Inc. (U.L.). The U.L. standards are often the basis used for local, city, state, insurance, and other codes. Chances are that when a burner or boiler was originally purchased, it met the U.L. standard in effect at the time.

When controls fail, they are replaced with new controls or repaired controls. There are potential safety concerns regarding controls repaired by an independent rebuilder.

1. The controls purchased from independent rebuilders may utilize parts from old controls or other parts that may not meet approved specifications required for safety.
2. Honeywell remanufactured controls were upgraded to the latest code revisions and engineering specifications. Independently rebuilt controls typically are not.
3. Honeywell new and remanufactured Flame Safeguard controls are U.L. Listed or Component Recognized. Independently rebuilt controls are not. Do not be misled by rebuilders who do not remove the original U.L. or other listing identification when they “repair” the control.
4. Since rebuilt controls are not approved by a nationally recognized testing agency, they do not meet CSD-1, the standard adopted by many states and municipalities. Therefore, equipment with rebuilt controls does not meet code in these locations. This could leave you without insurance should the rebuilt control fail and cause damage.
5. When parts meeting Honeywell specifications and quality standards became difficult to obtain, we discontinued the remanufacture of Flame Safeguard controls. For replacement purposes, Honeywell provides a new control, often through a replacement exchange program. Independent Rebuilders, however, frequently continue to repair these controls.

The products in this catalog are protected by U.S. and foreign patents. Illustrations and product descriptions published in this catalog are not binding in detail. To determine the suitability of a product for a specific application, the customer should consult the product data sheets provided with the product, or contact Honeywell directly. In keeping with its policy of continued improvement, Honeywell reserves the right to change or modify design or specifications of products without notice or obligation.

Although we no longer remanufacture Flame Safeguard controls, there are many Honeywell remanufactured controls still operating safely and reliably. How do you differentiate genuine Honeywell remanufactured controls from independent rebuilt controls? How do you recognize an independently rebuilt control? Typically, it has all of the approval body designators removed. A rebuilder will often put his own label on the device, but this label may be removed later; therefore, a rebuilt control can be difficult to identify. The only way to be sure you have a Honeywell remanufactured control is if it is stamped “REMFRD” or “REMFRD Listed” near the U.L. or Component Recognized symbol, and if the letter “R” follows the date code (e.g., 8850R) or the serial number (e.g., S/N8906Q018R).



Honeywell Flame Safeguard controls are specifically designed to supervise the safe operation of a boiler. Therefore, safety is involved. If you have any doubts that you have a genuine, Honeywell device, please call the nearest Honeywell Home and Building Control Representative or Authorized Honeywell Flame Safeguard Distributor for verification and to discuss your options.

If you have any other questions about rebuilt controls, please contact your Honeywell sales representative.

Lab Trainers

A lab trainer requires the student to actually perform point-to-point wiring to achieve a properly functioned control system.

Demonstrators



Flame Safeguard Trainer

The DSP3452 is designed for training and demonstration of Honeywell Burner and Boiler Controls with auxiliary devices that are typically used with commercial and industrial burners. It demonstrates the wiring and operation of primary safety controls. The nine trouble switches simulate a range of faults from a burned out pilot valve to a faulty flame detector to an inoperative firing rate motor.

DSP3452



SOLA Demonstrator

The DSP3943 is used as a SOLA commissioning or monitoring tool when a System or Local Operator Interface is not required for operation. The DSP contains the S7999B1026 touchscreen display which uses a wizard-like process to assist you through the commissioning process.

DSP3943/U



SOLA Demonstrator

The DSP3980 contains an S7999D1006 Touchscreen Display to commission or monitor the SOLA system when a System or Local Operator Interface is not required for operation. The DSP3980 includes the power supply for operation and cable with connector for the SOLA system. A USB storage drive is provided to save display screen snapshots or trending information.

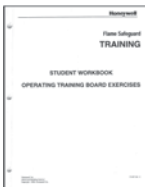
DSP3980/U



Burner and Boiler Controls Demonstrator Instructors Manual

This Manual is the Instructor's version of the Operating Training Board Exercises for the DSP3472. Orderable in packs of 25 from: <http://literature.honeywell.com/>

71-97117



Burner and Boiler Controls Demonstrator Student Workbook

This Manual contains the Operating Training Board Exercises for the student for the DSP3472. Orderable in packs of 25 from: <http://literature.honeywell.com/>

71-97116



Standard IFM demo case

The demo case consists of 700ACSP Signal Processor, P532AC Signal Processor, P522AC Signal Processor, S550BE Viewing Head, S806 Viewing Head (includes 15 ft. assembly), ASY55XBE (Display Arts will cut to 15' length), ASY785 (Display Arts will cut to 15' length), R-518-12 Ultem heat insulating nipple and documentation

DSP3992/U



WATCHDOG IFM Demo Case

WATCHDOGIIIIBE Kit includes: P222 processor, S256BE Viewing Head, ASY55XBE 50' cable (Display Arts will cut to 15'), Display Arts and documentation

DSP3993/U



U2 IFM Demo Case

The Demo Case includes: U2-1010S, ASYU2S (Display Arts will cut to 15'), R-518-CL12-PG – Purged 1" NPT Aluminum Locking PT Coupler Adapter, R-518-PT12 – 1" NPT Ultem Nipple, Display Arts and documentation

DSP3994/U

Lab Trainers



UV Light and Accessories Demo Case

The Demo Case includes: ISO/UNIT SS - 1" NPT High Pressure Air Purge Quartz Isolation Unit - Stainless, M-701-2 SS - 2" Pipe Thread Swivel Mount - Stainless, Display Arts and documentation

DSP3995/U



SLATE Demo Kit

Demo case including SLATE modules, display and program

DSP3983/U

Ordering Information for Training Materials

Order online

You can order online at <http://customer.honeywell.com>

If you are already a Honeywell customer, please login with your name and password. You can then go to the quick order form and fill it out to place your order.

Some products are available through the Print-On-Demand site at <http://Literature.honeywell.com>

Shipping

All U.S. orders for training materials are shipped freight collect, UPS ground. Please pay with a credit card and the charges will be added to your total.

Expedited Orders

When requested, we will expedite an order and ship by air, but you must pay by credit card and you will be billed for the shipping costs.

International Orders

International orders *MUST* be placed through your local Honeywell subsidiary. They can advise you on ordering and shipping procedures. We cannot accept or ship international orders.

Returns

Returned items are accepted within four months of purchase. There are no cash refunds, and a \$30 restocking fee *per item* will be deducted from your credit. You are responsible for return shipping costs. The address for returns is printed on the bill of lading. Please call or fax in advance of your return and provide a list of the items that you are returning and a reason as to why you are returning them.

Form of Payment

For online orders, payment must be made by VISA, MasterCard, or American Express card or a company purchase order.

Inquiries

If it is necessary to contact us regarding your order, please provide the following information:

The date the order was placed, your account number, the web order number (found on the order confirmation) and the reference number.

Contact us at:

| | Phone | Customer Service Email | Fax | Quotes and Orders Email |
|--------|--------------|--|--------------|--|
| Trade | 800.475.7515 | cbordermanagementustrade@honeywell.com | 844.621.7870 | ACSUSTradeOrdersandQuotesOnly@Honeywell.com |
| OEM | 800.475.7515 | cbordermanagementusoem@honeywell.com | 844.621.7870 | ACSUSOEMOrdersandQuotesOnly@Honeywell.com |
| Canada | 800.475.7515 | cbordermanagementcanada@honeywell.com | 844.621.7870 | ACSCanadaOrdersandQuotesOnly@Honeywell.com |

Note: Please allow 1 to 2 weeks to process and fill your order.

Terms and Conditions

Honeywell's standard terms and conditions are located at:

<https://customer.honeywell.com/en-US/pages/honecctermsconditions.aspx>

<https://customer.honeywell.com/fr-CA/pages/honecctermsconditions.aspx>