PEG01 – PEG02 SERIES

IGNITION AND FLAME CONTROL DEVICE FOR PORTABLE HOT AIR GENERATORS, HIGH-PRESSURE CLEANERS AND SIMILAR OIL-BURNING APPLIANCES



APPLICATION

The PEG0X device can provide a cheap, integrated and easy-to-use solution for all kinds of portable hot air generators, high-pressure cleaners and similar appliances. The use of a microcontroller allows for a higher versatility in the applications in which it is installed.

FEATURES

The main features of these devices are the following:

- Irregular flame pulse reading allowing to filter any static extraneous or artificial light.
- Photocell threshold digital discrimination.
- Accurate and repeatable response (or safety) time (TS);
- Safety lockout in case of flame extinguishing in full running status;
- Operation restoration by power supply cut-off (electrical reset);
- Safety lockout in case of flame on or photocell failure during the waiting time;
- Electrical service life of the contacts at max. declared load >250.000 operations;
- Relay-operated dynamic control of the loads (motor, ignition transformer and solenoid valve).

TECHNICAL DATA

Power supply:	110 ÷ 230 V~50 / 60 Hz
On request:	24 V~50 / 60 Hz
Operating temperature:	-30°C ÷ + 60°C
Storage temperature:	-40°C ÷ + 85°C
Humidity:	95% max. at 40°C
Protection rating(1):	IP 00
Waiting time (TA)(2):	1,5 s
Response time (TS)(2):	10 s
Power consumption in running status(3):	8 VA @ 230 Vac
Motor max. output current(4):	1,2 A cosφ 0,6 @ 230 Vac
Weight:	52g
Fuse (to be mounted externally):	3,15A fast-blow
PEG01:	suitable for photocells type FC7/FC8
PEG02:	suitable for photocells type FC11/FC13
PEG02:	suitable for photocells type FT11/FT13

NOTES:

(1) The electronic circuit is protected from dust and humidity by a plastic casing; the connections are not protected.

(2) Different waiting times (TA) and response/safety times (TS) are available on request.

(3) Power consumption referred to the device in running status only, without connected loads.

(4) Max. current and load factor to grant the max. declared number of operating cycles. Higher loads are allowed with a lower number of cycles than declared.

CONSTRUCTION

The use of surface-mount components has enable to reduce the dimensions of the PCB and consequently those of the device too (fig. 1).

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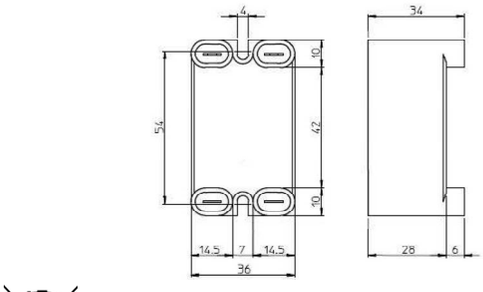


Fig. 1

NOTES ABOUT PRODUCT DISPOSAL

The device contains electronic components and cannot therefore be disposed of as normal household waste. For the disposal procedure, please refer to the local rules in force for special waste.

INSTALLATION DIRECTIONS

- This automatic system is a safety device and must not be modified. The manufacturer's responsibility and guarantee are invalidated in case the device is tampered with by the user.
- Any maintenance operation on the device must be carried out only after switching off the power supply.
- The unit can be mounted in any position.
- Avoid exposing the system to dripping water.
- Keep the device at a suitably low temperature to ensure its longest life.

ELECTRICAL INSTALLATION

- Respect the applicable national and European standards regarding electrical safety (e.g. EN 60335-1/EN 50165). Respect live and neutral connections to ensure the safety of the appliance.
- Before starting the system check the cables carefully. A wrong wiring can damage the unit and compromise the safety of the appliance.
- Avoid placing photocell cables close to power cables.

ACCESSORIES

The various flame sensors that can be used according to the type of device are listed hereunder:

PEG01 device series

Type of view	Series	Type[1]	Range ON [lux]	ON [kΩ]	OFF [kΩ]
Side	FC7	/R (red)	1,5÷5,5	15	18
		/A (blue)	1,5÷3,0	15	18
		/V (green)	3,0÷5,5	15	18
Front	FC8	/R (red)	1,5÷5,5	15	18
		/A (blue)	1,5÷3,0	15	18
		/V (green)	3,0÷5,5	15	18

PEG02 device series

Type of view	Series	Type[1]	Range [lux]	ON [kΩ]	OFF [kΩ]
Front/Side	FC11	/R (red)	1,5÷6,5	66	82
		/A (blue)	1,5÷3,0	66	82
Front/Side	FC13	/R (red)	1,5÷6,5	66	82
		/A (blue)	1,5÷3,0	66	82

Phototransistors FT11/FT13

Type of view	Series	Type	Sensitivity[2]
Front/Side	FT11	/R (red)	Medium
		/A (blue)	High
		/V (green)	Low
Front/Side	FT13	/R (red)	Medium
		/A (blue)	High
		/V (green)	Low

(1): The type suffix indicates the colour of the photocell casing.
(2): For more informations please refer to Technical note nr. 27754.

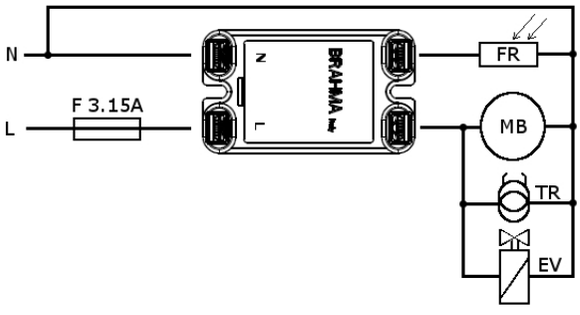
The devices type TGRx combined to FT… sensors have a minimum threshold higher than 1 lux. For more information please see our data sheets ref. 27753.
In case of replacement of FC11/FC13 sensors by FT11/FT13 models, please check the most suitable sensitivity for the appliance; for the compatibility between the two models please refer to the following table:

FC11/…	FT11/…
FC13/…	FT13/…

OPERATION

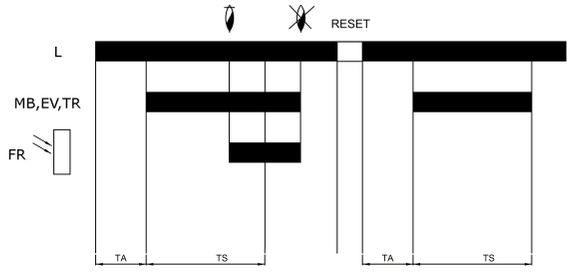
At start-up the unit starts the waiting time (TA), during which the efficiency of the unit and the photocell are checked. In case of flame signal detection or of a failure causing flame simulation during this stage, the operating cycle does not continue. At the end of the waiting time (TA) the motor control output is energized and the response (or safety) time (TS) begins; at the end of this stage, in case of flame signal detection the device goes to full running condition. If no flame signal is detected by the end of the safety time (TS), the unit stops the motor and goes to lockout. The operation can be resumed by cutting off and then restoring the power supply (electrical reset). During full running operation, in case of flame extinguishing the device goes to lockout by switching off the motor.

WIRING DIAGRAM



OPERATING CYCLE DIAGRAM

The following diagram shows the operation of the unit in a cycle with flame and in a cycle without flame.



KEY

L: Live
N: Neutral
FR: Photocell/Phototransistor
MB: Motor
EV: Fuel Valve
TR: Ignition Transformer

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18/01/05 subject to amendments without notice

ATTENTION -> Company Brahma S.p.A. declines any responsibility for any damage resulting from the Customer's interfering with the device.

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