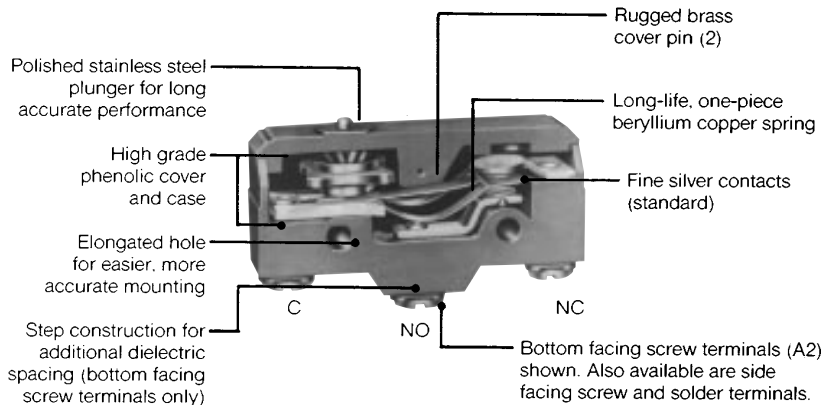


Basic Switches

Standard

STANDARD BASIC SWITCH CUT-A-WAY

The cut-a-way shown is representative of the standard basic switches described in this catalog.



GENERAL INFORMATION

MICRO SWITCH standard basic switches are precision snap-action mechanisms enclosed in accurately molded plastic cases. These switches are carefully manufactured and thoroughly inspected. They are industry known for their compactness, light weight, accurate repeatability and long life.

MOUNTING DIMENSIONS

Mounting dimensions are included at the end of each product section. They are shown in English and metric equivalents. These dimensions are for reference only. For exacting layout work, request an engineering layout work, request an engineering drawing from the 800 number.

Mounting holes for Types BZ, BM, BA, BE, DT, MT, and 6AS switches accept pins or screws of .139 inch (3,53 mm) diameter.

RECOMMENDED TORQUE (max.)

Mounting screws 3 in./lbs.*
Terminal screws 4 in./lbs.
Panel mount bushing 4-6 in./lbs.

*Note: Tightening mounting screws above 3 in./lbs. changes operating characteristics and increases the possibility of cracking the case.

UL/CSA

Our basic switches are Component Recognized by Underwriters' Laboratories, Inc. and certified by Canadian Standards Association. The BA, BZ, and BM line is covered as Special Use Switches to UL Standard 1054; the BE line is covered as an Industrial Motor Controller to UL Standard 508.

Agency File References are:

BA	UL File E12252, issued 12-09-88
BM	UL File E12252, issued 12-08-88
BZ	UL File E12252, issued 6-29-89
BE-1,2,5	UL File E22779, Vol. 4, Sec. 1
BE-R	UL File E22779, Vol. 4, Sec. 2

BZ/BA Series

FEATURES

- Operating force as low as 4 oz. (113 grams) maximum
- Sensitive differential travel as low as .0002 to .0003 inches (0,005 to 0,008 mm)
- Power load switching capability to 25 amperes
- Motor handling capacity to 2 horsepower at 250 VAC
- Long mechanical life
- High temperature constructions for up to +400°F (204°C)
- Momentary or maintained contact action
- Alloy contacts available for special application needs
- Variety of integral actuators
- Variety of auxiliary actuators
- Variety of terminal designs
- Optional sealed plunger and cover
- Stainless steel snap spring available
- Military standard construction available with over 50 listings on the MIL-S-8805 Qualified products list
- UL recognized, CSA certified

Characteristics as stated are taken at normal room temperature and humidity. These may vary as temperature and humidity conditions differ.

The type BZ switch design meets most applications needs. Modifications of the standard silver contact design and material, spring configuration, and plunger locations give the type BM, BA and BE switches greater electrical load handling capacity. Other changes in materials and switch design provide operating characteristics, temperature tolerances, and sealing to cover a wide range of special requirements.

GENERAL SWITCH IDENTIFICATION

First letter in catalog listing designates:

- B = Single-pole double-throw
- W = Single-pole single-throw (normally closed)
- Y = Single-pole single-throw (normally open)

Second letter in catalog listing designates:

- Z = Standard 15-amp version
- M = 22-amp version
- A = Standard 20-amp version
- E = 25-amp version

This section covers only **over 100** of our most popular BZ/BA type Series catalog listings. If you don't find what you're looking for, it's likely one of the approximately **1800** other active listings will meet your needs. Contact the 800 number.

Standard
Basic Switches

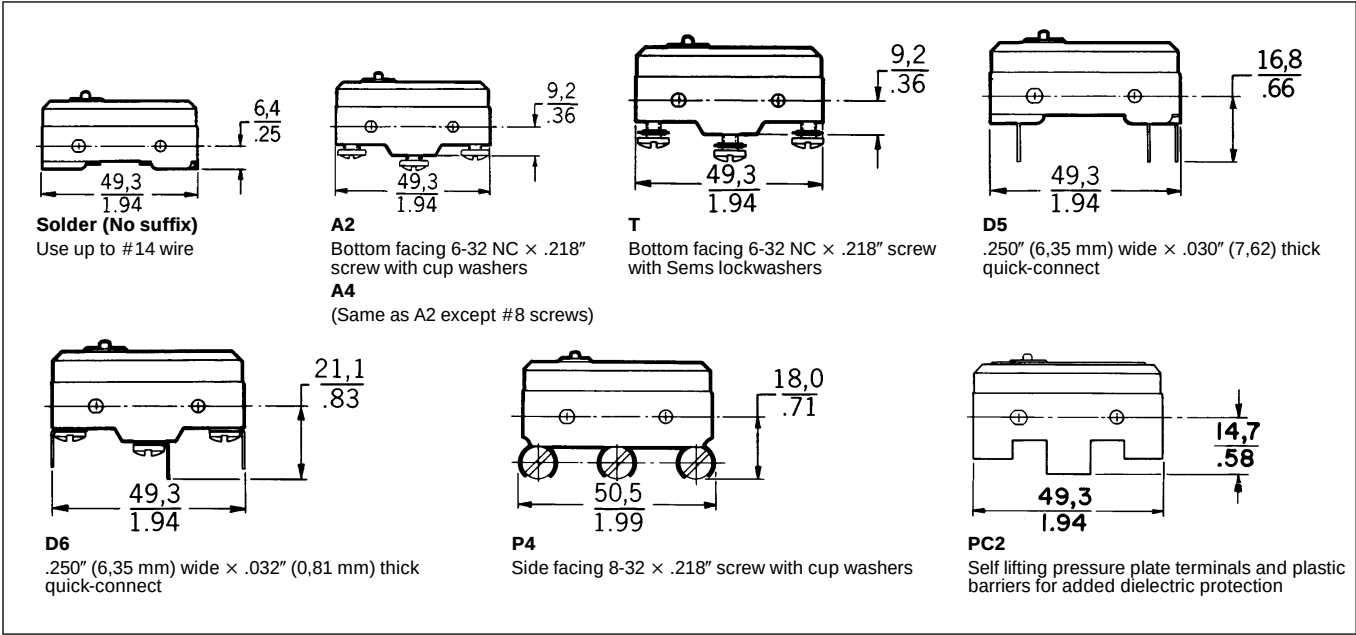
Basic Switches

Standard

BZ/BA Series

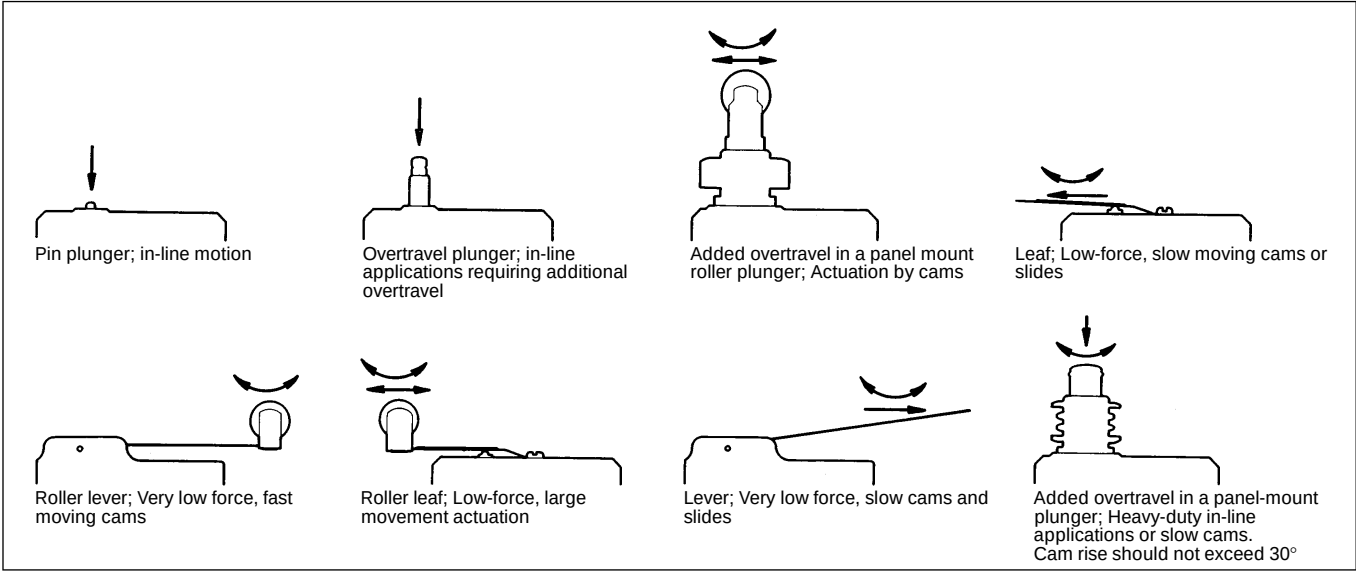
AVAILABLE TERMINALS

Most of the BZ/BA catalog listings have A2 type terminals. Several other terminal styles are shown and others are available. Specific information should be requested from the 800 number or local Authorized Distributor.



ACTUATORS

BA, BE, BM and BZ standard basic switches use the actuators described.



Basic Switches
Standard

BZ/BA Series

Characteristics: O.F. — Operating Force; R.F. — Release Force; P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel; O.P. — Operating Position.

ORDER GUIDE by ascending electrical capability

PIN PLUNGER

BZ/BA TYPE



Dim. Dwg. Fig. 1

SEALED TYPE



Dim. Dwg. Fig. 2

BA/BE TYPE



Dim. Dwg. Fig. 3



Dim. Dwg. Fig. 4

Catalog Listing	Recommended For	Electrical Data And UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.** mm inches
BZ-2R72-A2	Applications requiring gold alloy contacts	1 Amp P	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-2R725551-A2	Gold alloy contacts Dustproof and splash resistant seal	1 Amp P	2,22-4,17 8-15	1,11 4	— —	0,13 .005	0,01-0,06 .0004-.0025	15,88 .625
BZ-2R244-A2	Operating in temp. to +400°F (204°C) for 100 hours	5 Amps B	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-R21-A2	Lower force	10 Amps C	1,11 4	0,7 2.5	0,30 .012	0,13 .005	0,005-0,013 .0002-.0005	15,88 .625
BZ-2R-A2	Most applications SPDT	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
WZ-2R-A2	SPST (normally closed)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
YZ-2R-A2	SPST (normally open)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-R-A2	Less differential travel	15 Amps D	1,95-2,5 7-9	1,11 4	0,30 .012	0,13 .005	0,005-0,008 .0002-.0003	15,88 .625
BZ-R19-A2	Best repeatability	15 Amps D	1,95-3,34 7-12	1,11 4	0,30 .012	0,13-0,2 .005-.008	0,005-0,02 .0002-.0008	16,26 .640
BZ-2R24-A2	Operating in temp. to +250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-2RT04 (8805/1-004)	MIL-S-8805 application requirements	15 Amps A	2,5-3,61 9-13	1,67 6	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-2R05-A2	Best stability under varying humidity	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	0,13 .005	0,01-0,05 .0004-.0020	15,88 .625
BZ-2R5551-A2	Dustproof and splash resistant seal	15 Amp A	2,5-4,17 9-15	1,11 4	— —	0,13 .005	0,01-0,06 .0004-.0025	15,88 .625
BZ-2R55-A2-S	Best service for sealed construction. Stainless steel internal snap spring.	15 Amps A	2,5-4,17 9-15	1,11 4	— —	0,13 .005	0,01-0,06 .0004-.0025	15,88 .625
BA-2R-A2	Up to 20 ampere load handling	20 Amps G	3,89-6,12 14-22	2,78 10	1,27 .050	0,25 .010	0,05-0,19 .0020-.0075	16,26 .640
BA-2R24-A2	Operating in temperature to +250°F (121°C)	20 Amps G	3,89-6,12 14-22	2,78 10	1,27 .050	0,25 .010	0,05-0,19 .0020-.0075	16,26 .640
BM-1R-A2	Up to 22 ampere load handling	22 Amps F	1,95-2,78 7-10	1,11 4	0,38 .015	0,13 .005	0,013-0,025 .0005-.0010	15,88 .625
BE-2R-A4	Up to 25 ampere load handling	25 Amps H	3,89-6,12 14-22	2,78 10	1,27 .050	0,25 .010	0,05-0,19 .0020-.0075	16,26 .640

BZ-RX	Manual reset (maintained contact) applications, solder terminals	15 Amps E	1,95-2,5 7-9 0,56-2,78* 2-10	— — — —	0,30 .012 — —	0,13 .005 0,38* .015	— —	15,88 .625
WA-1RX-A4	Manual reset SPST-NC, A4 terminals	20 Amps W	5,56 20 6,95* 25	— — — —	— — — —	0,25 .010 — —	0,20 .008 — —	16,26 .64 27,9* 1.10

* Reset characteristics.

Except where stated ** ±0,38mm ±.015 in.

All catalog listings shown are not necessarily stock items. Stocking depends on sales experience.

Auxiliary actuators see p. 62-63.

Standard
Basic Switches

Basic Switches
Standard

BZ/BA Series

Characteristics: O.F. — Operating Force;
R.F. — Release Force; P.T. — Pretravel;
O.T. — Overtravel; D.T. — Differential Travel;
O.P. — Operating Position.

OVERTRAVEL
PLUNGER

ORDER GUIDE

Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-2RD72-A2	Applications requiring gold alloy contacts	1 Amp P	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	21,21 .835
BZ-2RD-A2	Added overtravel. For manual operation and slow 20° (max) cam rise	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	21,21 .835
BZ-2RD24-A2	Operating in temperature to +250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	21,21 .835
BM-1RD-A2	Up to 22 ampere load handling	22 Amps F	1,95-2,78 7-10	1,11 4	0,38 .015	1,52 .060	0,013-0,025 .0005-.0010	21,21 .835

BZ-2RDS725551-A2	Applications requiring gold alloy contacts plus dustproof and splash resistant seal	1 Amp P	3,61-5,28 13-19	1,11 4	—	1,52 .060	0,01-0,063 .0004-.0025	28,20 1.110
BZ-2RDS5551-A2	Dustproof and splash resistant seal	15 Amps A	3,61-5,28 13-19	1,11 4	—	1,52 .060	0,01-0,063 .0004-.0025	28,20 1.110

BA-2RB-A2	Up to 20 ampere load handling	20 Amps G	3,89-6,12 14-22	2,78 10	1,27 .050	2,39 .094	0,05-0,19 .0020-.0075	26,20 1.03
BE-2RB-A4	Up to 25 ampere load handling	25 Amps H	3,89-6,12 14-22	2,78 10	1,27 .050	2,39 .094	0,05-0,19 .0020-.0075	26,20 1.03

BZ-2RS72-A2	Applications requiring gold alloy contacts	1 Amp P	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	28,20 1.110
BZ-2RS-A2	Added overtravel. For in-line operation and with JR auxiliary actuators	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,063 .0004-.0025	28,20 1.110
BZ-2RS24-A2	Operating in temperature to +250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	28,20 1.110
BZ-2RST04 M8805(1-012)	MIL-S-8805 application requirements	15 Amps A	2,5-3,61 9-13	1,67 6	0,38 .015	1,52 .060	0,01-0,05 .0004-.0020	28,20 1.110
BZ-RSX	Manual reset solder terminals	15 Amps E	1,95-2,64 7-9	— —	0,30 .012	0,64 .025	— —	2,79 1.11
BM-1RS-A2	Up to 22 ampere load handling	22 Amps F	1,95-2,78 7-10	1,11 4	0,38 .015	1,52 .060	0,013-0,025 .0005-.0010	28,20 1.110

BZ-2RS7225551-A2	Applications requiring gold alloy contacts plus dustproof and splash resistant seal	1 Amp P	2,5-4,17 9-15	1,11 4	—	1,52 .060	0,01-0,063 .0004-.0025	28,20 1.110
BZ-2RS5551-A2	Dustproof and splash resistant seal	15 Amps A	2,5-4,17 9-15	1,11 4	—	1,52 .060	0,01-0,063 .0004-.0025	28,20 1.110

*±0,51 mm
±.020 in.

Basic Switches
Standard

BZ/BA Series

OVERTRAVEL
PLUNGER



Dim. Dwg. Fig. 16

ORDER GUIDE

Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.** mm inches
BZ-2RQ-A2	Added overtravel. For manual in-line operation and for slow 30° (max) rise cams	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	38,10±0,51 1.500±.020
BZ-2RQ24-A2	Operating in temperature to ±250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	38,10±0,51 1.500±.020

BZ/BM TYPE



Dim. Dwg. Fig. 17

BZ-2RQ172-A2	Applications requiring gold alloy contacts	1 Amp P	2,5-3,61 9-13	1,11 4	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	21,82 .859
BZ-2RQ1-A2	BZ-2RQ-A2 type applications with panel mount	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	21,82 .859
BZ-2RQ1T04 M8805(1-020)	MIL-S-8805 application requirements	15 Amps A	2,5-3,61 9-13	1,67 6	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	21,82 .859
BZ-2RQ124-A2	Operating in temperature to ±250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	5,56 .219	0,01-0,05 .0004-.0020	21,82 .859
BZ-2RN702	Furnished with unassembled seal boot.	15 Amps X	2,5-3,61 9-13	1,11 4	0,38 0.15	3,18 .125	0,01-0,05 .0004-.0020	48,4±0,50 1.906±.020
BZ-RQ1X	Manual reset. Solder terminals	15 Amps E	1,67-2,64 6-9.5	- -	0,30 0.12	5,56 .219	- -	23,42±1,14 .922±.045 7,14* .281*
BA-2RQ1-A2	Up to 20 ampere load handling	20 Amps G	3,89-6,12 14-22	2,78 10	1,27 .050	5,56 .219	0,05-0,19 .0020-.0075	21,82 .859
BM-1RQ1-A2	Up to 22 ampere load handling	22 Amps F	1,95-2,78 7-10	1,11 4	0,38 .015	5,56 .219	0,013-0,025 .0005-.0010	21,82 .859

BA TYPE



Dim. Dwg. Fig. 18

BZ-2RQ1872-A2	Applications requiring gold alloy contacts	1 Amp P	2,5-3,61 9-13	1,11 4	0,38 .015	3,56 .140	0,01-0,05 .0004-.0020	33,32±1,14 1.312±.045
BZ-2RQ18-A2	Added overtravel. Roller plunger for rapid cam (30° max) rise and slide operation. Panel mount	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	3,56 .140	0,01-0,05 .0004-.0020	33,32±1,14 1.312±.045
BZ-2RQ1824-A2	Operating in temperature to ±250°F (121°C)	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	3,56 .140	0,01-0,05 .0004-.0020	33,32±1,14 1.312±.045
BZ-2AQ18T1	Double-break circuitry	15 Amps T	3,89-6,68 14-24	1,11 4	0,51 .020	3,58 .141	0,03-0,10 .001-.004	33,35±1,19 1.313±.047
BM-1RQ18-A2	Up to 22 ampere load handling	22 Amps F	1,95-2,78 7-10	1,11 4	0,38 .015	3,56 .140	0,013-0,025 .0005-.0010	33,32±1,14 1.312±.045



Dim. Dwg. Fig. 19



Dim. Dwg. Fig. 20

BZ-2RQ181-A2	Applications requiring roller plunger 90° to major axis of switch	15 Amps A	2,5-3,61 9-13	1,11 4	0,38 .015	3,56 .140	0,01-0,05 .0004-.0020	33,32±1,14 1.312±.045
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* Reset characteristics.

Except where stated ** ±0,76 mm
±.030 in.

Standard
Basic Switches

Basic Switches
Standard

BZ/BA Series

Characteristics: O.F. — Operating Force; R.F. — Release Force;
P.T. — Pretravel; O.T. — Overtravel; D.T. — Differential Travel;
O.P. — Operating Position.

STRAIGHT LEVER

ORDER GUIDE



Dim. Dwg. Fig. 21



Dim. Dwg. Fig. 23



Dim. Dwg. Fig. 22



Dim. Dwg. Fig. 24

Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. max. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.** mm inches
BZ-2RW8072-A2	Applications requiring gold alloy contacts	1 Amp P	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-2RW80722555105-A2	Best stability under varying humidity. Gold alloy contacts with seal	1 Amp P	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-2RW8244-A2	Operating in temp. to +400°F (204°C) for 100 hours	5 Amps B	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-RW8435-A2	Lowest operating force (without external return spring)	10 Amps I	0,07 .25	—	6,76 .266	5,56 .219	0,08-0,38 .003-.015	19,1 .750
BZ-2RW876T	1.25 inch lever requirements	15 Amps A	1,67 6	0,42 1.5	—	0,42 .141	0,10-0,63 .004-.025	19,1 .750
BZ-2RW80-A2	2.5 inch lever requirements	15 Amps A	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-2RW84-A2	Lower force (without external return spring)	15 Amps A	0,28 1	0,03 0.125	8,33 .328	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-2RW805551-A2	Dustproof and splash resistant seal	15 Amps A	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-2RWT04 M8805/1-044)	MIL-S-8805 application requirements	15 Amps A	0,28-0,90 1-3.25	0,21 0.75	7,52 .296	4,37 .172	2,36 .093	19,1 .750
BZ-2RW824-A2	Operating in temperature to +250°F (121°C)	15 Amps A	0,7 2.5	0,14 0.5	—	5,56 .219	0,18-1,27 .007-.050	19,1 .750
BZ-RW80X	Manual reset solder terminals	15 Amps E	0,63 2.25	—	—	5,56 .219 0,38* .015	— — —	19,05 .750 7,14* .281
BZ-2RW863-A2	6 inch lever requirements	15 Amps A	0,28 1	—	—	12,7 .500	0,46-3,68 .018-.145	19,1±1,52 .750±.060
BA-2RV-A2	Up to 20 ampere load handling	20 Amps G	0,7 2.5	0,14 0.5	15,88 .625	1,98 .078	2,77 .109	19,1 .750
BM-1RW84-A2	Up to 22 ampere load handling	22 Amps F	0,28 1	0,03 0.125	7,54 .297	5,56 .219	0,13-0,84 .005-.033	19,1 .750
BE-2RV-A4	Up to 25 ampere load handling	25 Amps H	0,7 2.5	0,14 0.5	15,88 .625	1,98 .078	2,77 .109 max.	19,1 .750

* Reset characteristics.

BZ-2RW899-A2	Adjustable operating point (17 mm to 22 mm) .670" to .880"	15 Amps A	0,7 2.5	0,14 0.5	—	3,54† .125	0,18-1,27 .007-.050	17,02-22,35 .670-.880
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BZ-2RM-A2	Reverse acting actuator (switch plunger depressed in free position)	15 Amps A	1,67 6	0,28 1	5,56 .219	5,56 .219	0,10-0,89 .004-.035	19,1 .750
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† From ^{17 mm}.670 in. O.P.

Except where stated ** ±0.76 mm ±.030 in.

Basic Switches

Standard

BZ/BA Series

SIMULATED ROLLER



Dim. Dwg. Fig. 27

ORDER GUIDE

Catalog Listing	Recommended For	Electrical Data And UL Code Page 46	O.F. max. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.** mm inches
BZ-2RW80147-A2	1.05 inch (26,7 mm) (simulated roller) lever applications	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW80196-A2	1.90 inch (48,3 mm) (simulated roller) lever applications	15 Amps A	0,97 3.5	0,21 0.75	—	3,96 .156	0,10-1,0 .004-.040	30,17±0,76 1.188±.030

ROLLER LEVER

BZ/BM TYPE



Dim. Dwg. Fig. 25



Dim. Dwg. Fig. 28

BA/BE TYPE



Dim. Dwg. Fig. 26

BZ-2RW82272-A2	Applications requiring gold alloy contacts	1 Amp P	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW822725551-A2	Applications requiring gold alloy contacts plus dustproof and splash resistant seal	1 Amp P	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW822-A2	1.05 inch (26,7 mm) (steel roller) lever applications	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW8222-A2	Roller turned 90°	15 Amps A	0,7-1,81 2.5-6.5	0,35 1.25	—	3,58 .141 max.	0,08-0,51 .003-.020	30,75 1.25
BZ-2RW82224-A2	Operating in temperature to +250°F (121°C)	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW8225551-A2	Dustproof and splash resistant seal	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BZ-2RW82255-A2-S	Best service for sealed construction. Stainless steel internal snap spring.	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	30,17 1.188
BA-2RV22-A2	Up to 20 ampere load handling	20 Amps G	1,67 6	0,42 1.5	6,35 .250	0,76 .030	1,14 .045 max.	29,77 1.172
BM-1RW822-A2	Up to 22 ampere load handling	22 Amps F	1,67 6	0,42 1.5	—	2,39 .094	0,025-0,33 .001-.013	30,17 1.188
BE-2RV22-A4	Up to 25 ampere load handling	25 Amps H	1,67 6	0,42 1.5	6,35 .250	0,76 .030	1,14 .045 max.	29,77 1.172

BZ-2RW82299-A2	Adjustable operating point. Roller lever 1.05 inch (26,7 mm)	15 Amps A	1,67 6	0,42 1.5	—	1,02 .040	0,08-0,51 .003-.020	29,77-30,56 1.172-1.203
BZ-2RW8299-A2	Adjustable operating point. Roller lever 1.90 inch (48,3 mm)	15 Amps A	0,97 3.5	0,21 0.75	—	2,16 .085	0,10-1,0 .004-.040	29,2-31,5 1.150-1.24

Standard Basic Switches

Except where stated * ±0,38 mm ±.015 in.

Basic Switches
Standard

BZ/BA Series

ROLLER LEVER

ORDER GUIDE

Characteristics:
O.F. — Operating Force; R.F. — Release Force; P.T. — Pretravel;
O.T. — Overtravel; D.T. — Differential Travel;
O.P. — Operating Position.

Catalog Listing	Recommended For	Electrical Data And UL Code Page 46	O.F. max. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-2RW82725551-A2	Applications requiring gold alloy contacts, plus dustproof, and splash resistant seal	1 Amp P	0,97 3.5	0,21 0.75	—	3,96 .156	0,10-1,0 .004-.040	30,17±0,76 1.188±.030
BZ-2RW82-A2	1.90 inch (48,3 mm) (steel roller) lever applications	15 Amps A	0,97 3.5	0,21 0.75	—	3,96 .156	0,10-1,0 .004-.040	30,17±0,76 1.188±.030
BZ-2RW825551-A2	Dustproof and splash resistant seal	15 Amps A	0,97 3.5	0,21 0.75	—	3,96 .156	0,10-1,0 .004-.040	30,17±0,76 1.188±.030
BZ-2RW8224-A2	Operating in temperature to +250°F (121°C)	15 Amps A	0,97 3.5	0,21 0.75	—	3,96 .156	0,10-1,0 .004-.040	30,17±0,76 1.188±.030
BA-2RV2-A2	Up to 20 ampere load handling	20 Amps G	0,97 3.5	0,14 0.5	11,89 .468	1,52 .060	2,16 .085	30,17±0,76 1.188±.030
BM-1RW82-A2	Up to 22 ampere load handling	22 Amps F	0,97 3.5	0,21 0.75	—	3,96 .156	0,08-0,56 .003-.022	30,17±0,76 1.188±.030
BE-2RV2-A4	Up to 25 ampere load handling	25 Amps H	0,97 3.5	0,14 0.5	11,89 .468	1,52 .060	2,16 .085 max.	30,17±0,76 1.188±.030

NOTE: For adjustable operate point and simulated roller lever switches, refer to previous page.



BZ/BM TYPE

Dim. Dwg. Fig. 29



BA/BE TYPE

Dim. Dwg. Fig. 30



Dim. Dwg. Fig. 31

BZ-RW922-A2	Best repeatability and O.P. stability	10 Amps I	3,34 12	1,11 4	0,38 .015	2,54 .100	0,013-0,025 .0005-.0010	31,37 1.235
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Dim. Dwg. Fig. 32

BZ-2RW826-A2	One-way roller (9,4 mm × 3,8 mm) .37" dia. × .15" wide roller	15 Amps A	1,67 6	0,42 1.5	—	2,39 .094	0,08-0,51 .003-.020	41,34 1.625
BZ-2RW825-A2	One-way roller (4,83 mm × 4,83 mm) .19" dia. × .19" wide roller	15 Amps A	2,22 8	0,42 1.5	—	1,52 .060	0,38 .015	28,96 1.14

Except where stated * ±0,38 mm
±.015 in.

Basic Switches

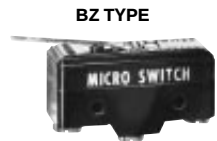
Standard

BZ/BA Series

FLEXIBLE LEAF

ORDER GUIDE

Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. max. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. max. mm inches	O.P.** mm inches
BZ-2RL-A2	Force and stability of the flexible leaf actuator	15 Amps A	1,39 5	0,14 0.5	–	1,52 .060	1,27 .050	17,48 .688
BZ-2RL5551-A2	Dustproof and splash resistant seal	15 Amps A	1,95 7	0,14 0.5	–	1,52 .060	1,27 .050	17,48 .688
BZ-2RLT04 (M8805/1-001)	MIL-S-8805 application requirements	15 Amps A	1,39 5	0,14 0.5	–	1,52 .060	1,27 .050	17,48 .688
BZ-2RL24-A2	Operating in temperature to +250°F (121°C)	15 Amps A	1,39 5	0,14 0.5	–	1,52 .060	1,27 .050	17,48 .688
BZ-RLX	Manual reset. Solder terminals	15 Amps E	0,83 3	– –	– –	1,57 .062 0,38* .015	– – – –	17,48 .688 7,14* .281
BA-2RL-A2	Up to 20 ampere load handling	20 Amps G	2,5 9	0,28 1	–	1,57 .062	1,57 .062	17,48 .688
BE-2RL-A4	Up to 25 ampere load handling	25 Amps H	2,5 9	0,28 1	–	1,57 .062	1,57 .062	17,48 .688



Dim. Dwg. Fig. 33



Dim. Dwg. Fig. 34

FLEXIBLE ROLLER LEAF

ORDER GUIDE

Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. max. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. max. mm inches	O.P.* mm inches
BZ-RL24-A2	Operating in temp. to +250°F (121°C) for 100 hours	5 Amps B	1,39 5	0,14 0.5	–	1,52 .060	1,27 .050	28,6 1.125
BZ-2RL2-A2	Force and stability of the flexible leaf with roller	15 Amps A	1,39 5	0,14 0.5	–	1,52 .060	1,27 .050	28,6 1.125
BZ-2RL25551-A2	Dustproof and splash resistant seal	15 Amps A	1,95 7	0,14 0.5	–	1,52 .060	1,27 .050	28,6 1.125
BZ-2RL2T04 (M8805/1-036)	MIL-S-8805 application requirements	15 Amps A	1,04-1,39 3.75-5	0,14 0.5	–	1,52 .060	1,27 .050	28,6 1.125
BA-2RL2-A2	Up to 20 ampere load handling	20 Amps G	2,5 9	0,28 1	–	1,52 .060	1,65 .065	28,6 1.125
BE-2RL2-A4	Up to 25 ampere load handling	25 Amps H	2,5 9	0,28 1	–	1,52 .060	1,65 .065	28,6 1.125



Dim. Dwg. Fig. 35



Dim. Dwg. Fig. 36

* Reset characteristics

** ±0.76 mm
±.030 in.

Standard
Basic Switches

GENERAL INFORMATION
SPECIAL CIRCUITRY SWITCHES

“Special sequence” switches provide unusual circuit control. A make-before-break switch provides circuit continuity while switching from N.C. to N.O. In another make-before-make switch, upon actuation, one circuit is made an interval before the second circuit. Another switch

provides a single pulse or momentary closure of the contacts with each cycle of operation.

Double break versions can interrupt greater inductive loads and feature shorting bar construction. A split contact version allows control of the two isolated circuits.



PIN PLUNGER

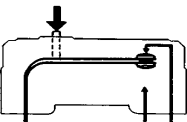
Characteristics: O.F. – Operating Force;
R.F. – Release Force; P.T. – Pretravel;
O.T. – Overtravel; D.T. – Differential Travel;
O.P. – Operating Position.

ORDER GUIDE

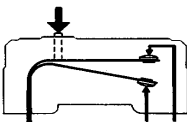


Dim. Dwg. Fig 5

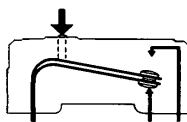
Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-2G-A2	Make-before-break contact action	10 Amps C	5,56 20 max.	2,22 8	0,76 .030	0,13 .005	0,38 .015	15,9 .625



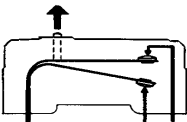
Unoperated



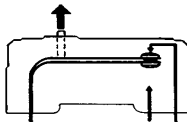
Intermediate



Fully Operated



Intermediate Release



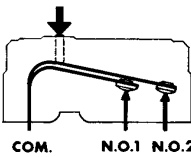
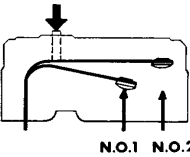
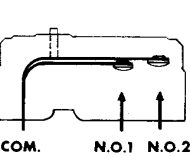
Fully Released



Dim. Dwg. Fig. 6

6BS1-B	Make-before-make contact action	10 Amps R	9,73 35 max.	2,78 10	-	-	-	-
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* ±0,38 mm
± .015 in.



Dim. Dwg. Fig. 4-A

10BS210	Adjustable differential travel	20 Amps Y	3,10-5,56 11-20	2,78 10	-	0,25 .010 at max. setting	0,04-0,06 .0015-.0025 0,18 .007 at max. setting	16,3 .64
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Basic Switches
Standard

BZ/BA Series

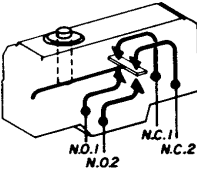
PIN PLUNGER —
SPECIAL CIRCUITRY

ORDER GUIDE

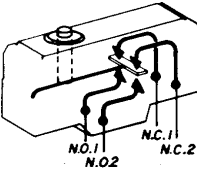
Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-3AT	Double-break, low voltage DC applications	15 Amps T	4,45-7,23 16-26	1,11 4	0,76 .030	0,13 .005	0,051-0,13 .002-.005	15,9 .625
BZ-2AW80T	As above, with 2.5 inch lever	15 Amps T	0,90 3.25	0,14 .25	— —	5,56 .219	0,51 2.54	19,05±0,76 .750±.030
BZ-2AW82T	As above, with 1.9 inch roller lever	15 Amps T	1,25 4.5	0,21 .75	— —	3,96 .156	0,38-1,91 .015-.075	30,18±0,76 1.188±.030
BZ-2AW822T	As above, with 1.05 inch roller lever	15 Amps T	2,36 8.5	0,42 1.5	— —	2,39 .094	0,20-2,39 .008-.030	30,18±0,76 1.188±.030



Dim. Dwg. Fig. 8



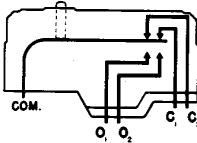
Dim. Dwg. Fig. 9



BA-3ST	Double-break, low voltage DC applications	25 Amps M	7,23-10,6 26-38	2,78 10	1,65 .065	0,25 .010	0,18-0,38 .007-.015	16,3 .640
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Dim. Dwg. Fig. 10



BZ-3YT (MS25383-1)	MIL-S-8805 application requirements. (split contact)	5 Amps U	4,45-7,23 16-26	1,11 4	0,76 .030	0,13 .005	0,025-0,1 .001-.004	15,9 .625
BZ-3YWT80	As above, with 2.50 inch lever	5 Amps U	0,97 3.5	0,14 .5	— —	5,56 .219	0,51-2,54 .020-.100	19,05±0,76 .750±.030
BZ-3YWT82	As above, with 1.9 inch roller lever	5 Amps U	1,25 4.5	0,21 .75	— —	3,96 .156	0,38-1,91 .015-.075	30,18±0,76 1.188±.030
BZ-3YWT822	As above, with 1.05 inch roller lever	5 Amps U	1,95 7	0,42 1.5	— —	2,39 .094	0,20-1,02 .008-.040	30,19 .188

Except where stated * ±0,38 mm
±.015 in.

Standard
Basic Switches

Basic Switches
Standard

BZ/BA Series

MOUNTING DIMENSIONS (For reference only)

PIN PLUNGERS

BZ/BM

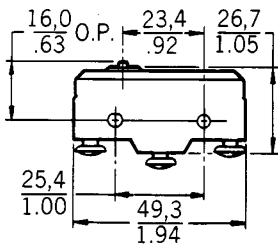


Fig. 1

BA/BE

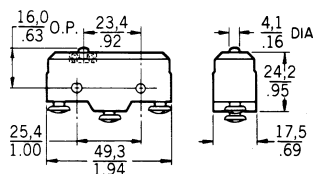


Fig. 2

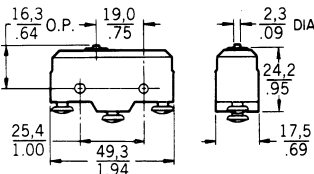


Fig. 3

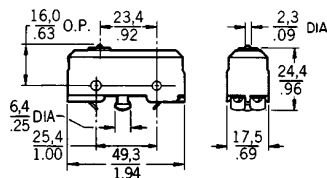


Fig. 4

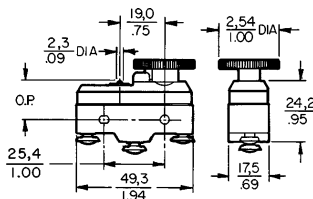


Fig. 4-A

PIN PLUNGERS — SPECIAL
CIRCUITRY

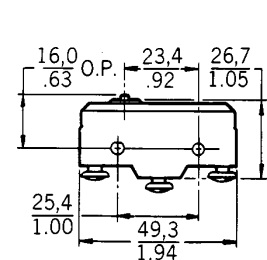


Fig. 5

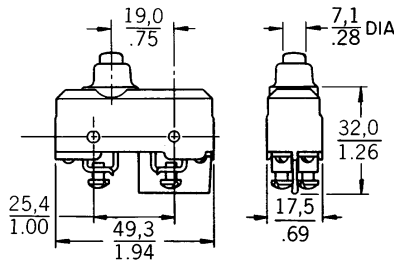


Fig. 6

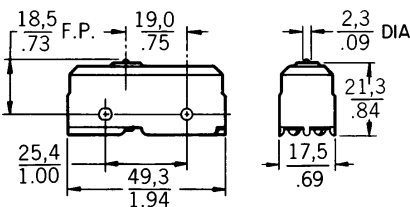


Fig. 7

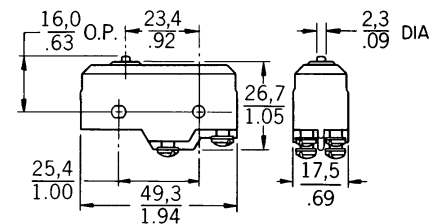


Fig. 8

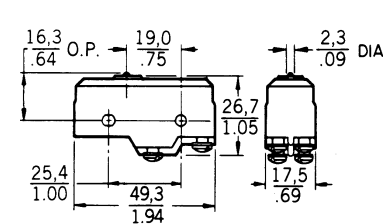


Fig. 9

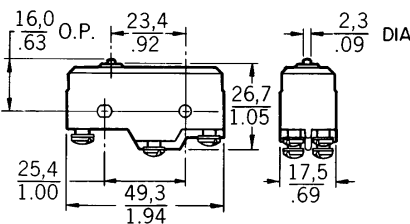


Fig. 10

Mounting holes accept pins or screws of
.139" (3.53 mm) diameter.

Key: 0.0 = mm
0.00 = inches

Basic Switches
Standard

BZ/BA Series

MOUNTING DIMENSIONS (For reference only)

OVERTRAVEL PLUNGERS

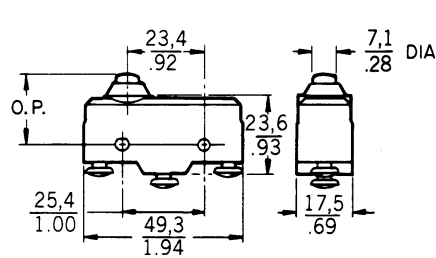


Fig. 11

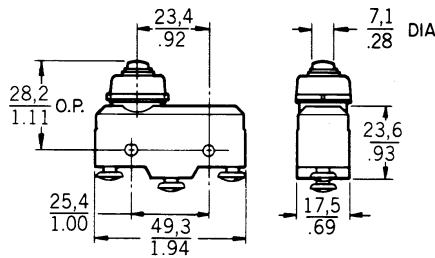


Fig. 12

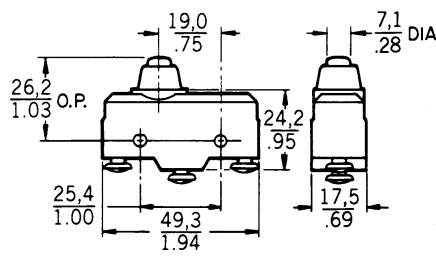


Fig. 13

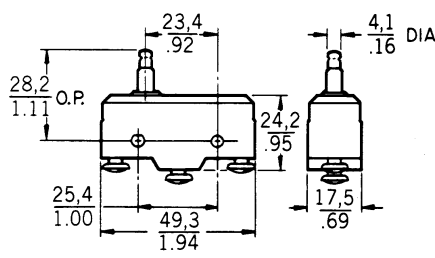


Fig. 14

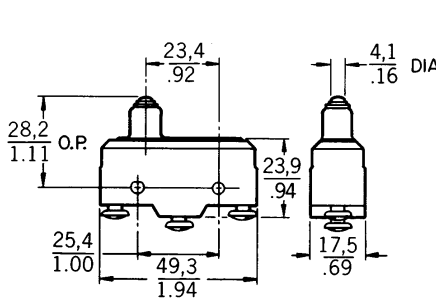


Fig. 15

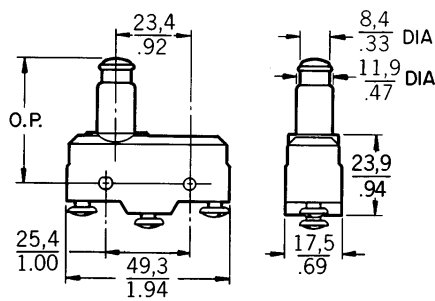


Fig. 16

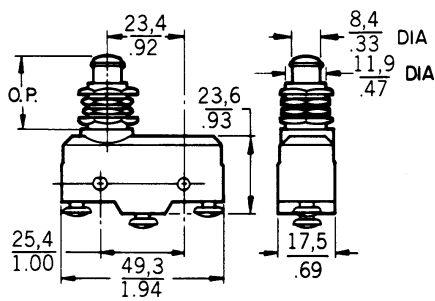


*Fig. 17

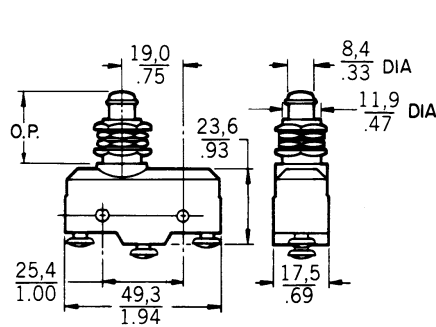


*Fig. 18

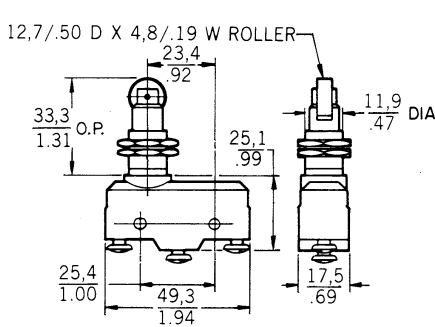


*Fig. 19

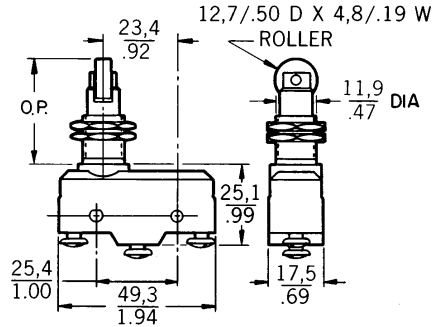


*Fig. 20

* Threaded bushings are 15/32-32ns.

Standard
Basic Switches

Basic Switches
Standard

BZ/BA Series

MOUNTING DIMENSIONS (For reference only)

STRAIGHT LEVERS

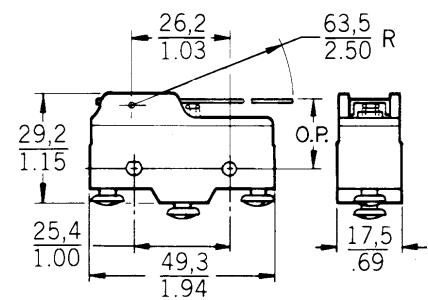


Fig. 21

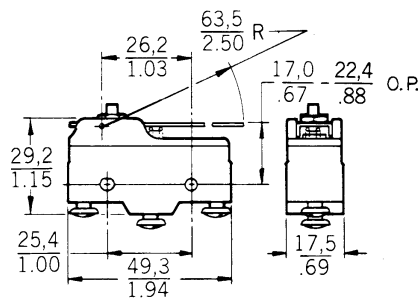


Fig. 22

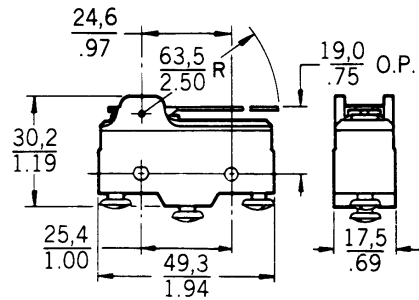


Fig. 23

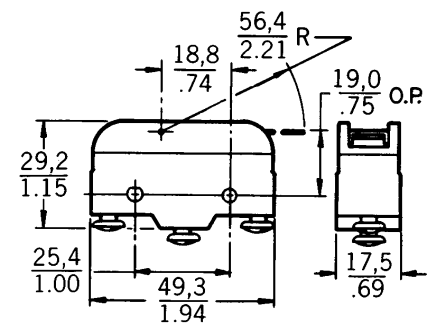


Fig. 24

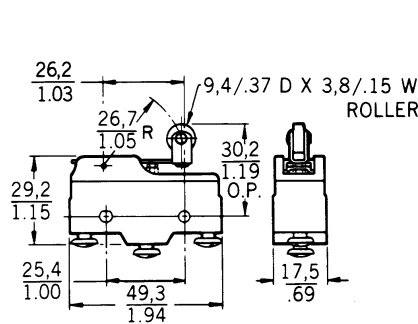
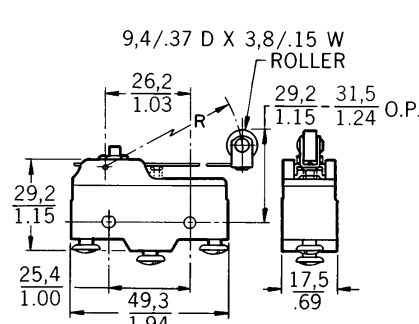


Fig. 25



R = 26,7/1.05 FOR BZ-2RW82299-A2
48,3/1.90 FOR BZ-2RW8299-A2

Fig. 26

FLEXIBLE LEAF ACTUATOR

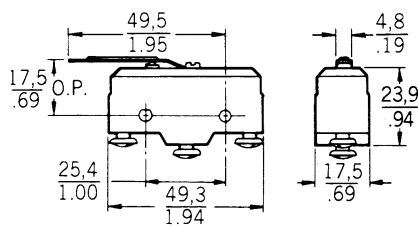


Fig. 33

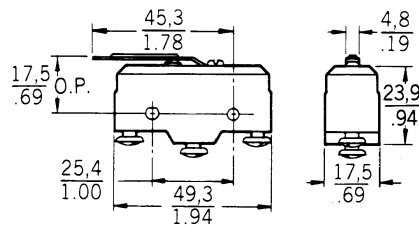


Fig. 34

Basic Switches
Standard

BZ/BA Series

MOUNTING DIMENSIONS

ROLLER LEVERS

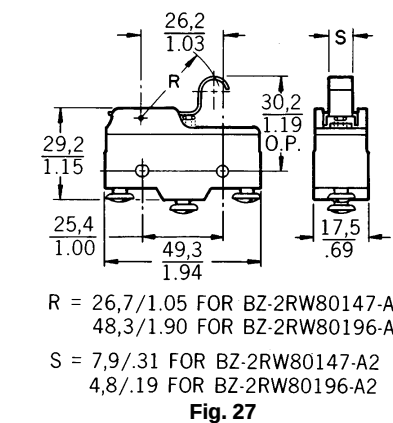


Fig. 27

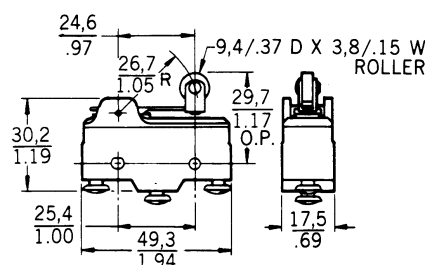


Fig. 28

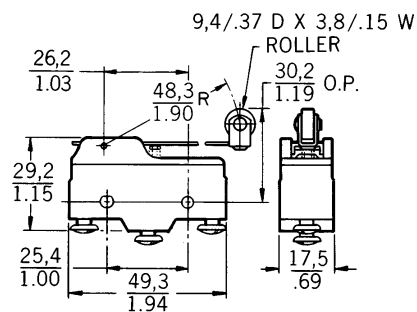


Fig. 29

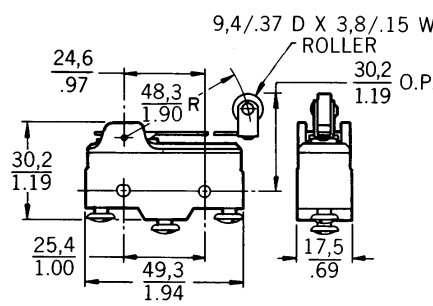


Fig. 30

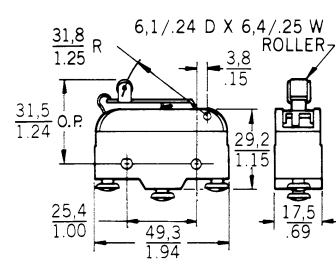


Fig. 31

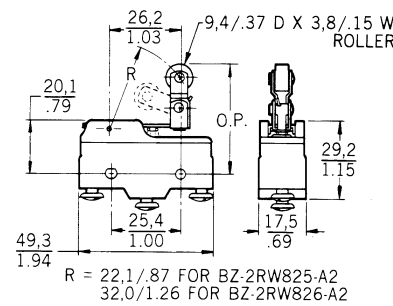


Fig. 32

FLEXIBLE ROLLER LEAF

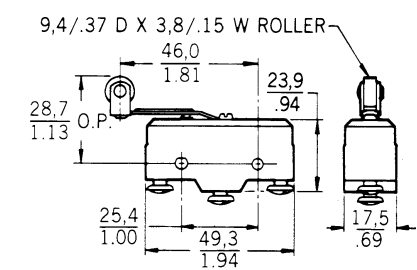


Fig. 35

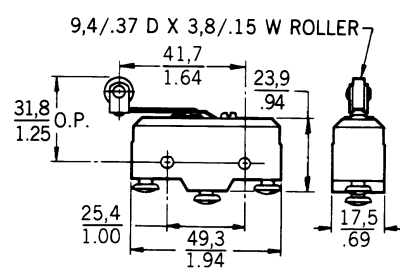


Fig. 36

Mounting holes accept pins or screws of .139" (3.53 mm) diameter.

Key: 0,0 = mm
0.00 = inches

Standard
Basic Switches