

Basic Switches

Standard

ELECTRICAL DATA AND UL CODES STANDARD BASIC SWITCHES

Most of the switches in this section are UL recognized and CSA certified. The current and voltage values shown are based on test conditions specified by these agencies. Electrical life of the switch is influenced by each application condition as well as by voltage and current. For application assistance contact the 800 number.

Circuitry	Electrical Data and UL Codes
Single-pole double-throw unless otherwise noted in order guide	A 15 amps, 125, 250 or 480 vac; ⅛ hp, 125 vac; ¼ hp, 250 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L96
Single-pole double-throw unless otherwise noted in order guide	B 5 amps, 125, 250 or 480 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L35
Single-pole double-throw unless otherwise noted in order guide	C 10 amps, 125, 250 or 480 vac; UL Code L8
Single-pole double-throw unless otherwise noted in order guide	D 15 amps, 125, 250 or 480 vac; ⅛ hp, 125 vac; ¼ hp, 250 vac. UL Code L103
Single-pole double-throw unless otherwise noted in order guide	E 15 amps, 125, 250 or 480 vac; ¼ hp, 125 vac; ½ hp, 250 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L67
Single-pole double-throw unless otherwise noted in order guide	F 22 amps, 125, 250 or 480 vac; ½ hp, 125 vac, 1 hp, 250 vac. UL Code L161
Single-pole double-throw unless otherwise noted in order guide	G 20 amps, 125, 250 or 480 vac; 10 amps, 125 vac "L" (tungsten lamp load); 1 hp, 125 vac; 2 hp, 250 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L23
Single-pole double-throw unless otherwise noted in order guide	H Motor Control 25 amps, 125, 250 or 480 vac; 1 hp, 125 vac; 2 hp, 250 vac; Pilot Duty—750 VA, 125, 250, or 277 vac.
Single-pole double-throw unless otherwise noted in order guide	I 10 amps, 125, 250 or 480 vac; ⅛ hp, 125 vac; ¼ hp, 250 vac; UL Code L95

Circuitry	Electrical Data and UL Codes
Double-pole double-throw	J 10 amps, 125 or 250 vac; 0.3 amp, 125 vdc; 0.15 amp, 250 vdc. UL Code L59
Single-pole double-throw unless otherwise noted in order guide	K Rating established with switch non-polarized 10 amps, 125 vac or vdc; ¼ hp, 125 vac or vdc. UL Code L 168 Non-polarized: 10 amps res. or ¼ hp, 125 vdc; 3 amps max. res. 250 vdc. Polarized*: 10 amps res. or ½ hp, 125 vdc; 3 amps max. res., 250 vdc. *To polarize, connect negative side of line to common terminal. To achieve the same effect, mount switch with brass screws, using a non-magnetic barrier (at least ¼" thick) between the switch and mounting surface.
Two-circuit double-break	M 25 amps, 125, 250 or 480 vac; ¼ hp, 125 vac; 1½ amp, 250 vac. 1 amp, 125 vdc; ½ amp, 250 vdc. UL Code L58
Single-pole double-throw	P 1 amp, 125 VAC UL Code L22
Single-pole double-throw	R 10 amps, 125 or 250 vac; ⅓ hp, 125 vac; ¾ hp, 250 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L115
Single-pole double-throw	S 10 amps, 125 or 250 vac; ⅓ hp, 125 or 250 vac. UL Code L93
Two-circuit double-break	T 15 amps, 125, 250 or 480 vac; 1 amp, 125 vdc; ½ amp, 250 vdc; ¼ hp, 125 vac; ½ hp, 250 vac UL Code L73
Single-pole double-throw	U 5 amps, 250 vac. UL Code L4
Two-circuit double-break	V Motor Control 15 amps, 120, 240, 480 or 600 vac; ½ hp, 120 vac; 1 hp, 240 vac; 0.8 amp, 115 vdc; 0.4 amp, 230 vdc.
Single-pole single-throw (N.C.)	W 20 amps, 125, 250 or 277 vac; ¼ hp, 125 vac; ½ hp, 250 vac UL Code L178B
Single-pole double-throw	X 15 amps, 125, 250 or 480 vac; 2 amps, 600 vac; ⅛ hp, 125 vac; ¼ hp, 250 vac; ½ amp, 125 vdc; ¼ amp, 250 vdc. UL Code L74
Single-pole double-throw	Y 20 amps, 125, 250 or 480 vac; ¼ hp, 125 vac; 1½ hp, 250 vac; UL Code L17

Basic Switches

Operating Characteristics

ELECTROMECHANICAL SWITCHES

Definitions below explain the meaning of operating characteristics. Characteristics shown in tables throughout catalog were chosen as most significant. They are taken at normal room temperature and humidity. These may vary as temperature and humidity conditions differ. Sketches show how characteristics are measured for in-line plunger actuation.

Linear dimensions for in-line actuation are from top of plunger to a reference line, usually the center of the mounting holes.

Differential Travel (D.T.)—Plunger or actuator travel from point where contacts “snap-over” to point where they “snap-back.”

Free Position (F.P.)—Position of switch plunger or actuator when no external force is applied (other than gravity).

Full Overtravel Force—Force required to attain full overtravel of actuator.

Operating Position (O.P.)—Position of switch plunger or actuator at which point contacts snap from normal to operated position. Note that in the case of flexible or adjustable actuators, the operating position is measured from the end of the lever or its maximum length. Location of operating position measurement shown on mounting dimension drawings.

Operating Force (O.F.)—Amount of force applied to switch plunger or actuator to cause contact “snap-over.” Note in the case of adjustable actuators, the force is measured from the maximum length position of the lever.

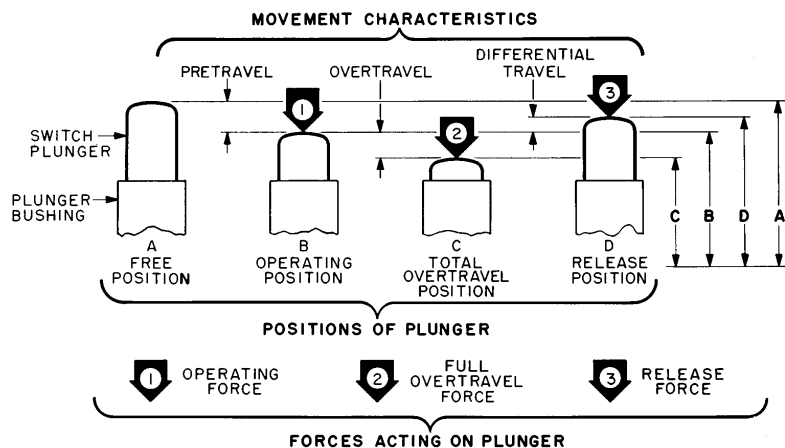
Overtravel (O.T.)—Plunger or actuator travel safely available beyond operating position.

Pretravel (P.T.)—Distance or angle traveled in moving plunger or actuator from free position to operating position.

Release Force (R.F.)—Amount of force still applied to switch plunger or actuator at moment contacts snap from operated position to unoperated position.

Total Travel (T.T.)—Distance from actuator free position to overtravel limit position.

IN-LINE PLUNGER ACTUATION



Basic Switches

Operating Characteristics

FULL LOAD AND LOCKED ROTOR CURRENTS FOR SINGLE PHASE AND DC MOTORS

HP	Alternating Current				Direct Current			
	115 Volts		230 Volts		115 Volts		230 Volts	
	Full Load	Locked Rotor	Full Load	Locked Rotor	Full Load	Locked Rotor	Full Load	Locked Rotor
2	24.0	144.0	12.0	72.0	17.0	170.0	8.5	85.0
1½	20.0	120.0	10.0	60.0	13.2	132.0	6.6	66.0
1	16.0	96.0	8.0	48.0	9.6	96.0	4.8	48.0
¾	13.8	82.8	6.9	41.4	7.4	74.0	3.7	37.0
½	9.8	58.8	4.9	29.4	5.4	54.0	2.7	27.0
⅓	7.2	43.2	3.6	21.6	3.8	38.0	1.9	19.0
¼	5.8	34.8	2.9	17.4	3.0	30.0	1.5	15.0
⅙	4.4	26.4	2.2	13.2	2.4	24.0	1.2	12.0
⅛	3.8	22.8	1.9	11.4	2.2	22.0	1.1	11.0
1/10	3.0	18.0	1.5	9.0	2.0	20.0	1.0	10.0
1/20	1.5	9.0	—	—	—	—	—	—

Basic Switches

B Type Switches Performance Information

ELECTRICAL DATA CHART

Catalog Listing (contact gap)	Voltage	Amperes									
		Current Carrying Capacity Max. ¹	Resistive	Inrush		Motor		Lamp		Inductive ²	
				N.C. Ckt.	N.O. Ckt.	N.C. Ckt.	N.O. Ckt.	N.C. Ckt.	N.O. Ckt.	Sea Level	50,000 Feet
BZ-3YT* .036 in. 0,91 mm	VDC										
	8	5	10	30	15	5	2.5	3	1.5	10	10
	14	5	10	30	15	5	2.5	3	1.5	10	10
	30	5	10	30	15	5	2.5	3	1.5	10	5
	125	5	1	10	10	2	2	1	1	0.6	0.4
	250	5	0.6	6	6	1.2	1.2	0.6	0.6	0.4	0.3
BZ-3YT* .036 in. 0,91 mm	VAC										
	120	5	5	30	15	5	2.5	3	1.5	5	5
	240	5	5	30	15	5	2.5	3	1.5	5	5
	277	5	5	30	15	5	2.5	3	1.5	5	5
BM-2R .020 in. 0,50 mm	VDC										
	8	22	15	30	15	5	2.5	3	1.5	8	7
	14	22	15	30	15	5	2.5	3	1.5	5	5
	30	22	2	30	15	5	2.5	3	1.5	1	1
	125	22	0.4	4	4	0.8	0.4	0.4	0.4	.03	.02
	230	22	0.2	2	2	0.4	0.2	0.2	0.2	.02	.01
BM-2R .020 in. 0,50 mm	VAC										
	125	22	22	35	20	5.8	3.4	3.5	2.0	22	22
	250	22	22	35	20	5.8	3.4	3.5	2.0	22	22
	277	22	22	35	20	5.8	3.4	3.5	2.0	22	22
	460	22	22	35	20	5.8	3.4	3.5	2.0	22	22
BA-2R .020 in. 0,50 mm	VDC										
	8	20	20	30	15	5	2.5	3	1.5	15	15
	14	20	20	30	15	5	2.5	3	1.5	10	8
	30	20	5	30	15	5	2.5	3	1.5	5	2
	125	20	0.5	4	4	0.8	0.4	0.4	0.4	.05	.03
	230	20	0.25	2	2	0.4	0.2	0.2	0.2	.03	.02
BA-2R .020 in. 0,50 mm	VAC										
	120	20	20	75	75	12.5	12.5	7.5	7.5	20	20
	240	20	20	75	75	12.5	12.5	7.5	7.5	20	20
	277	20	20	75	75	12.5	12.5	7.5	7.5	20	20
	460	20	20	75	75	12.5	12.5	7.5	7.5	20	20
BE-2R .020 in. 0,50 mm	VDC										
	8	25	25	30	15	5	2.5	3	1.5	15	15
	14	25	25	30	15	5	2.5	3	1.5	10	8
	30	25	5	30	15	5	2.5	3	1.5	5	2
	125	25	0.5	4	4	0.8	0.8	0.4	0.4	.05	.03
	250	25	0.25	2	2	0.4	0.4	0.2	0.2	.03	.02
BE-2R .020 in. 0,50 mm	VAC										
	120	25	25	96	96	16	16	10	10	25	
	240	25	25	96	96	16	16	10	10	25	
	277	25	25	96	96	16	16	10	10	25	
	460	25	25	96	96	16	16	10	10	25	
BZ-R .006 in. 0,15 mm	VAC										
	125	15	15	30	15	5	2.5	3	1.5	15	15
	250	15	15	30	15	5	2.5	3	1.5	15	15
	277	15	15	30	15	5	2.5	3	1.5	15	15
BZ-1R .010 in. 0,25 mm	VDC										
	8	15	15	30	15	5	2.5	3	1.5	8	7
	14	15	15	30	15	5	2.5	3	1.5	5	5
	30	15	2	30	15	5	2.5	3	1.5	1	1
	125	15	0.4	4	4	0.8	0.8	0.4	0.4	0.03	0.01
	230	15	0.2	2	2	0.4	0.4	0.2	0.2	0.02	0.01
BZ-1R .010 in. 0,25 mm	VAC										
	125	15	15	30	15	5	2.5	3	1.5	15	15
	250	15	15	30	15	5	2.5	3	1.5	15	15
	277	15	15	30	15	5	2.5	3	1.5	15	15
	460	15	15	30	15	5	2.5	3	1.5	15	15

* Ampere levels for BZ-3YT applicable **only** if common terminal is not used and switch is used as a shorting bar switch.

Basic Switches

B Type Switches Performance Information

ELECTRICAL DATA CHART, cont.

Catalog Listing (contact gap)	Voltage	Amperes									
		Current Carrying Capacity Max. ¹	Resistive	Inrush		Motor		Lamp		Inductive ²	
				N.C. Ckt.	N.O. Ckt.	N.C. Ckt.	N.O. Ckt.	N.C. Ckt.	N.O. Ckt.	Sea Level	50,000 Feet
BZ-2R .020 in. 0.50 mm	VDC										
	8	15	15	30	15	5	2.5	3	1.5	15	15
	14	15	15	30	15	5	2.5	3	1.5	10	8
	30	15	6	30	15	5	2.5	3	1.5	5	2
	125	15	0.4	4	4	0.8	0.8	0.4	0.4	0.05	0.03
BZ-2R .020 in. 0.50 mm	230	15	0.2	2	2	0.4	0.4	0.2	0.2	0.03	0.02
	VAC										
	125	15	15	30	15	5	2.5	3	1.5	15	15
	250	15	15	30	15	5	2.5	3	1.5	15	15
	277	15	15	30	15	5	2.5	3	1.5	15	15
BZ-3R .036 in. 0.91 mm	460	15	15	30	15	5	2.5	3	1.5	15	15
	VDC										
	8	15	15	30	15	5	2.5	3	1.5	15	15
	14	15	15	30	15	5	2.5	3	1.5	15	15
	30	15	10	30	15	5	2.5	3	1.5	10	5
BZ-3R .036 in. 0.91 mm	125	15	0.6	6	6	1.2	1.2	0.6	0.6	0.1	0.05
	250	15	0.3	3	3	0.6	0.6	0.3	0.3	0.05	0.03
	VAC										
	125	15	15	30	15	5	2.5	3	1.5	15	15
	250	15	15	30	15	5	2.5	3	1.5	15	15
BZ-7R .070 in. 1.78 mm	277	15	15	30	15	5	2.5	3	1.5	15	15
	460	15	15	30	15	4	2.5	3	1.5	15	15
	VDC										
	8	30	15	15	5	2.5	3	1.5	15	15	—
	14	15	15	30	15	5	2.5	3	1.5	15	15
BZ-7R .070 in. 1.78 mm	30	15	15	30	15	5	2.5	3	1.5	10	7.5
	125	15	0.75	7.5	7.5	1.5	1.5	0.75	0.75	0.4	0.2
	250	15	0.3	3	3	0.6	0.6	0.3	0.3	0.2	0.1
	VAC										
	120	15	15	30	15	5	2.5	3	1.5	15	15
BZ-7R .070 in. 1.78 mm	240	15	15	30	15	5	2.5	3	1.5	15	15
	277	15	15	30	15	5	2.5	3	1.5	15	15
	460	15	15	30	15	5	2.5	3	1.5	15	15
	VDC										
	8	30	15	15	5	2.5	3	1.5	15	15	—

1 For a 86 – F (30 – C) max. temperature rise at terminals, not opening or closing the load (at sea level).

2 Data established with a 75% power factor on AC loads.

TEST CONDITIONS

Switch contact life is affected by electrical conditions and other factors, such as: temperature, humidity, airborne contamination, vibration, amount and rate of plunger travel, and cycling

rate. Our Evaluation Laboratory tests are conducted using procedures and practices common to UL and Military Specifications. The following conditions generally apply.

- Temperature: Room Ambient (70 – F, 21 – C).
- Humidity: Room Ambient (50%).
- AC Cycle Rate: 60 operations/minute.
- DC Cycle Rate: 20 operations/minute.
- On-off Time: Equal and compatible with above cycling rates.
- Power Factor (AC): Approximately 75%.
- Inductance (DC): MIL-I-81023 Inductor.
- Circuit Loading: One throw only on a SPDT switch during any test procedure. Both throws are evaluated separately.
- Travel Plunger: Full switch travel is used.
- Actuation: Linear motion.
- Overtravel Force: 1 to 3 lbs. from spring-loaded actuators.

MICRO SWITCH believes that with the following voltage and current values and under the test conditions set forth below switch life of 100,000 closures, 95% survival can be expected. It is a starting point for user evaluation and provides guidelines on the switches identified. Because of the numerous electrical conditions listed, not every current and voltage level has actually been tested on every switch and certain figures have

been extrapolated. For specific switch selection, customers should evaluate switches under actual application conditions or by simulating all application conditions and requirements. The information set forth cannot substitute for the customer's own product evaluation. It should never be published by a customer as a rating on their product.

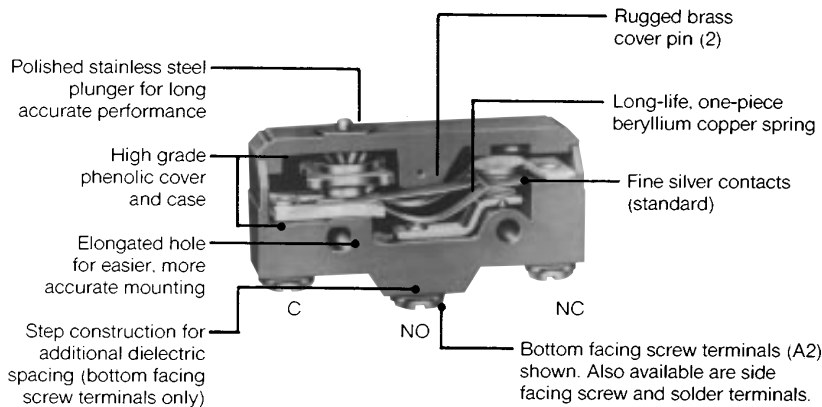
BZ/BA Series

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

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

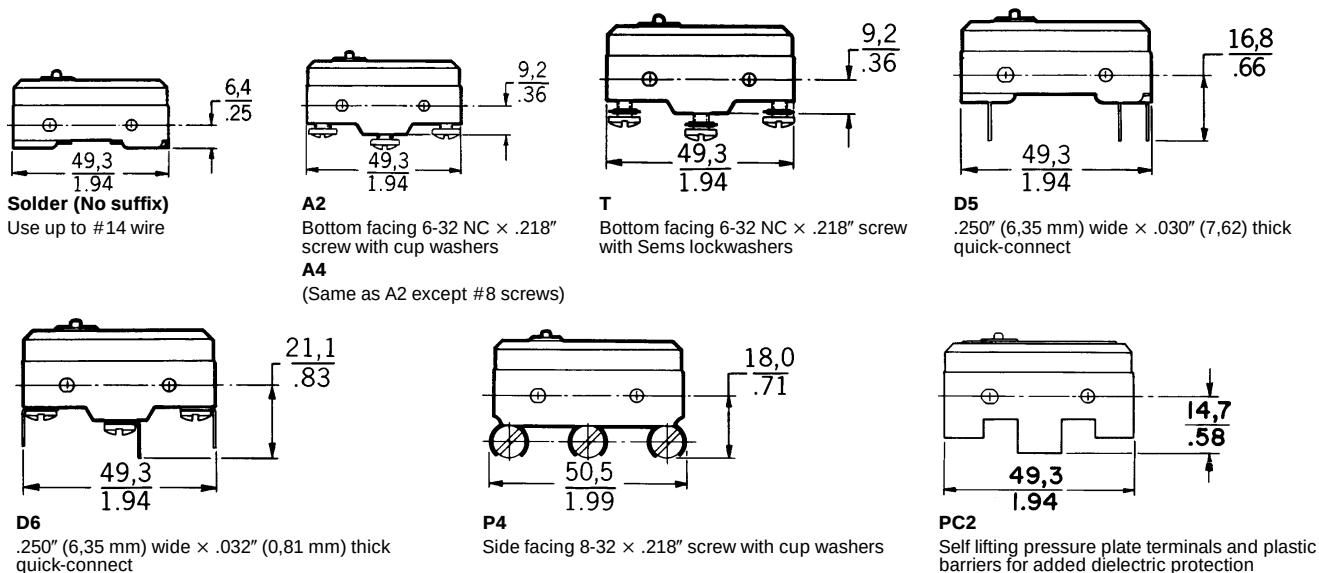
This section covers only **over 100** of our most popular BZ/BA type Series catalog listings. If you don't find what you're looking for, it's likely one of the approximately **1800** other active listings will meet your needs. Contact the 800 number.

Standard
Basic Switches

Basic Switches Standard

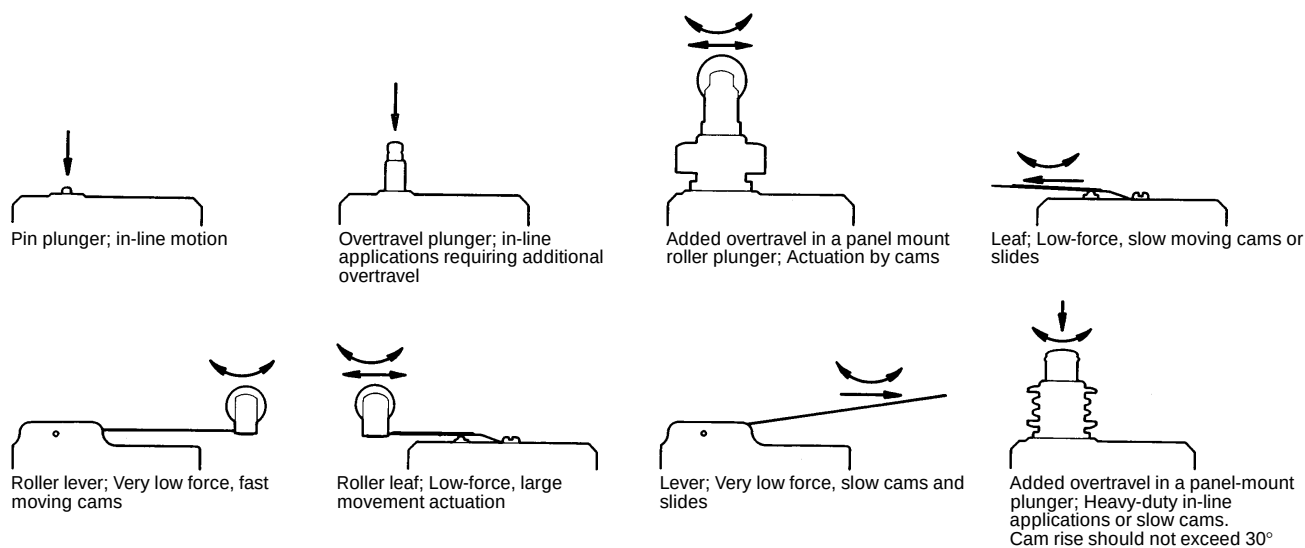
AVAILABLE TERMINALS

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-2R21-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



Dim. Dwg. Fig. 11

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



Dim. Dwg. Fig. 12

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



Dim. Dwg. Fig. 13

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



Dim. Dwg. Fig. 14

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



Dim. Dwg. Fig. 15

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

BA TYPE



Dim. Dwg. Fig. 18

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

Standard
Basic Switches

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

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.

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

BZ/BM TYPE



Dim. Dwg. Fig. 21

BA TYPE



Dim. Dwg. Fig. 23

ADJUSTABLE



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

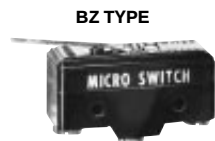
Standard

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

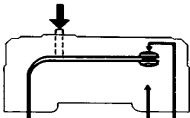
Characteristics: O.F. – Operating Force;
R.F. – Release Force; P.T. – Pretravel;
O.T. – Overtravel; D.T. – Differential Travel;
O.P. – Operating Position.

ORDER GUIDE

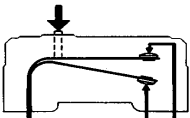


Dim. Dwg. Fig 5

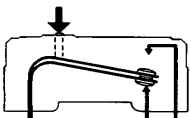
Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-2G-A2	Make-before-break contact action	10 Amps C	5,56 20 max.	2,22 8	0,76 .030	0,13 .005	0,38 .015	15,9 .625



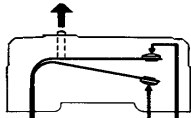
Unoperated



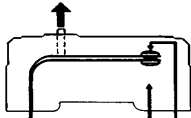
Intermediate



Fully Operated



Intermediate Release



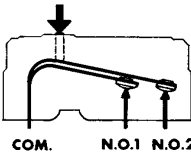
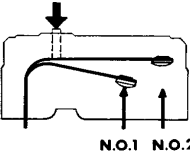
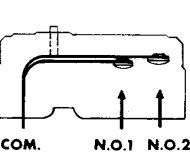
Fully Released



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

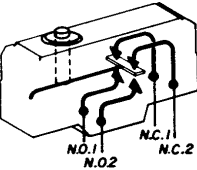
PIN PLUNGER —
SPECIAL CIRCUITRY

ORDER GUIDE

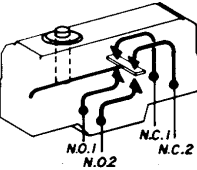
Catalog Listing	Recommended For	Electrical Data and UL Codes Page 46	O.F. newtons ounces	R.F. min. newtons ounces	P.T. max. mm inches	O.T. min. mm inches	D.T. mm inches	O.P.* mm inches
BZ-3AT	Double-break, low voltage DC applications	15 Amps T	4,45-7,23 16-26	1,11 4	0,76 .030	0,13 .005	0,051-0,13 .002-.005	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



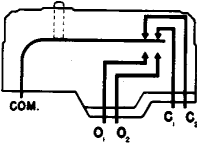
Dim. Dwg. Fig. 9



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

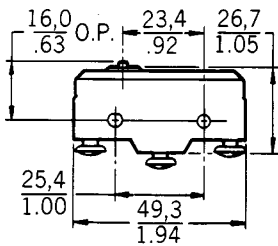


Fig. 1

BA/BE

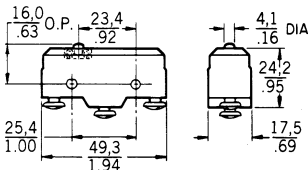


Fig. 2

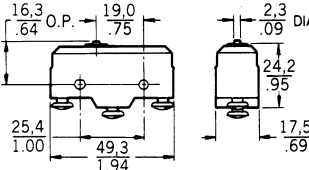


Fig. 3

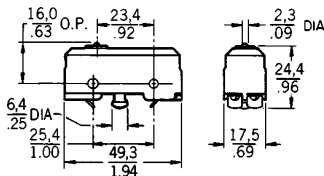


Fig. 4

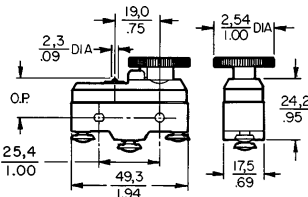


Fig. 4-A

PIN PLUNGERS — SPECIAL
CIRCUITRY

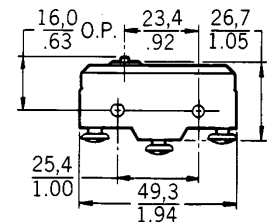


Fig. 5

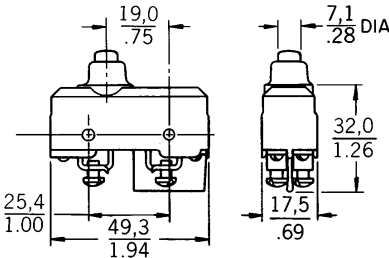


Fig. 6

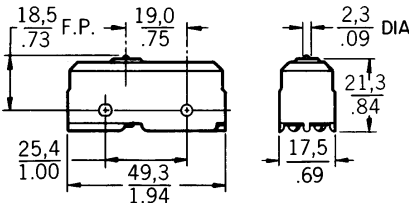


Fig. 7

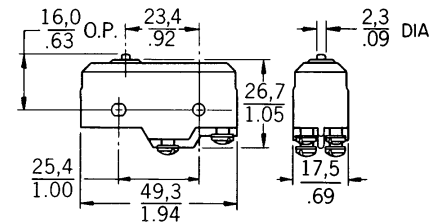


Fig. 8

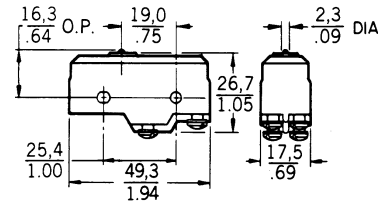


Fig. 9

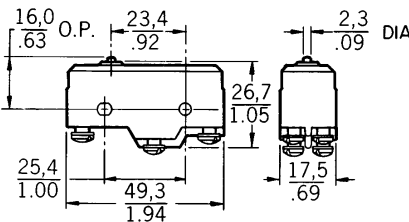


Fig. 10

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

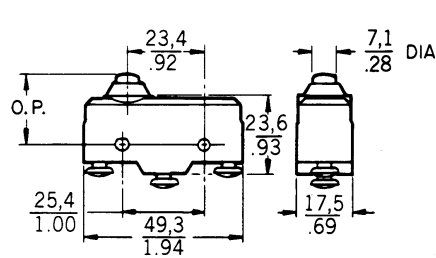


Fig. 11

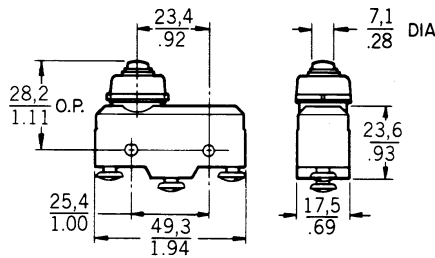


Fig. 12

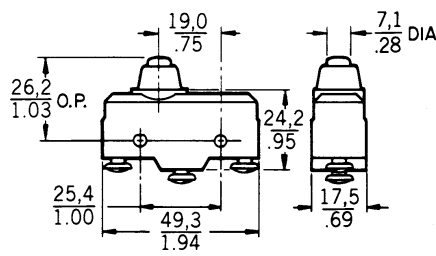


Fig. 13

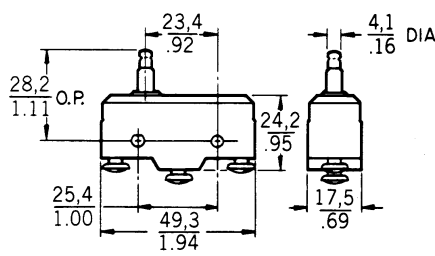


Fig. 14

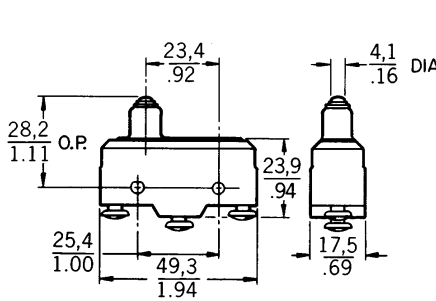


Fig. 15

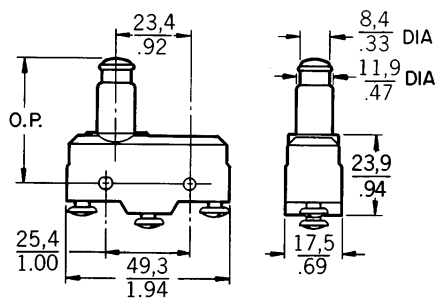
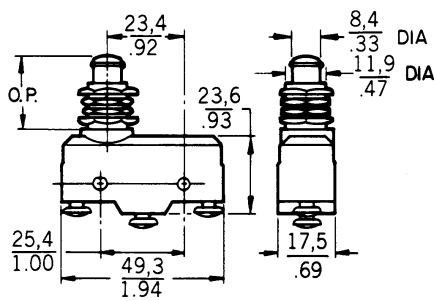
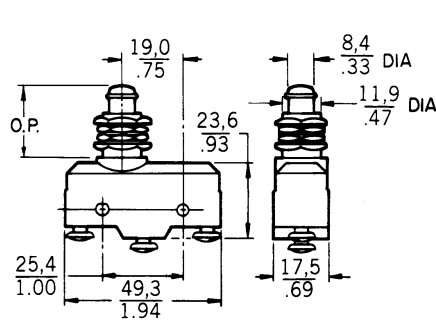


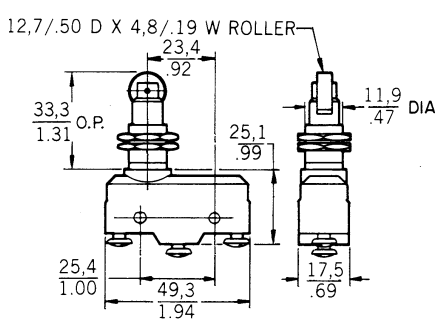
Fig. 16



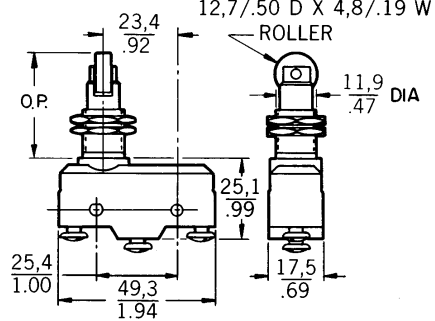
*Fig. 17



*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

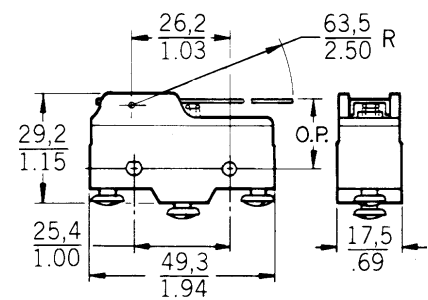


Fig. 21

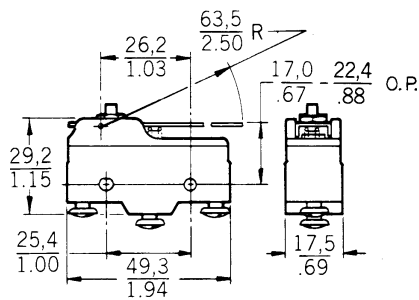


Fig. 22

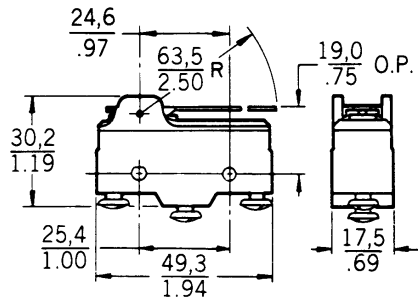


Fig. 23

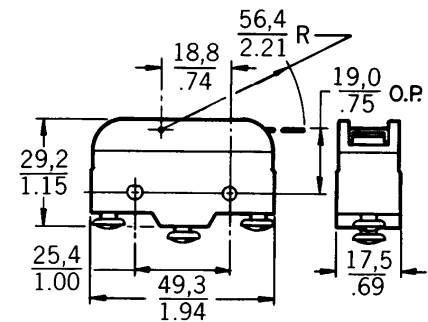


Fig. 24

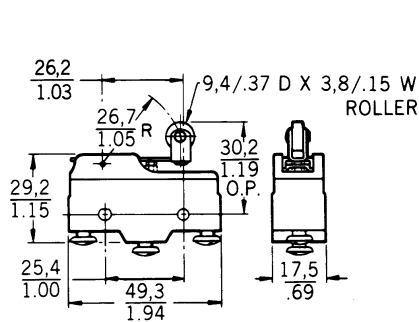
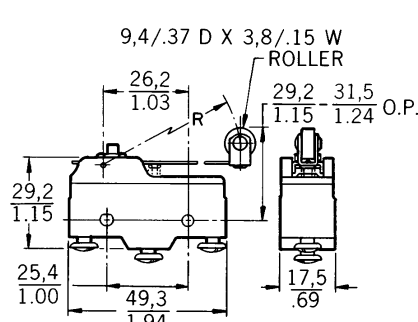


Fig. 25



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

Fig. 26

FLEXIBLE LEAF ACTUATOR

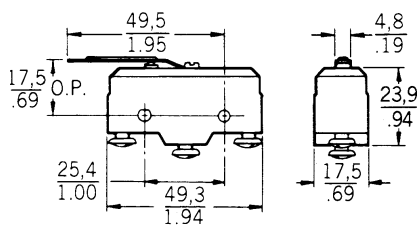


Fig. 33

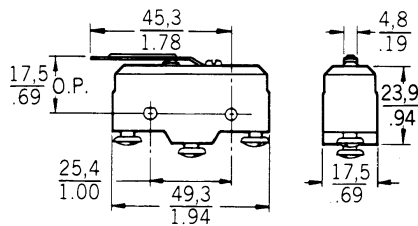


Fig. 34

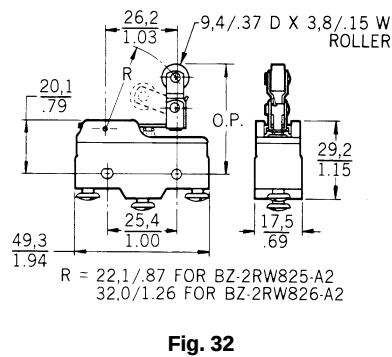
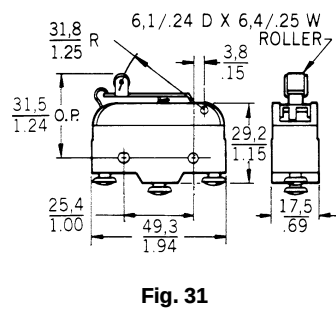
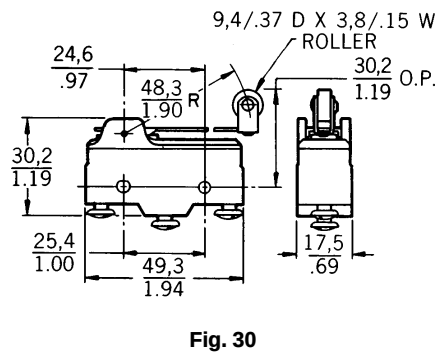
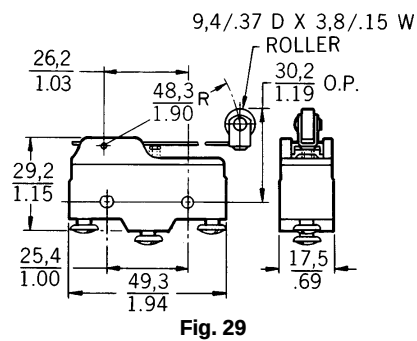
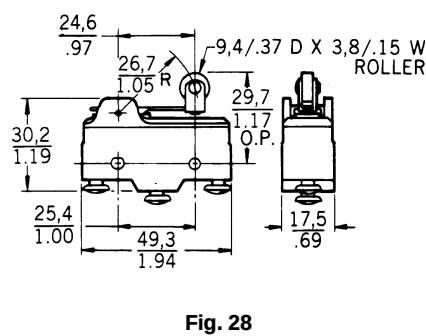
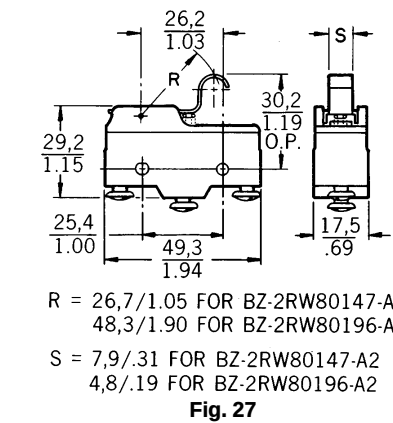
Basic Switches

Standard

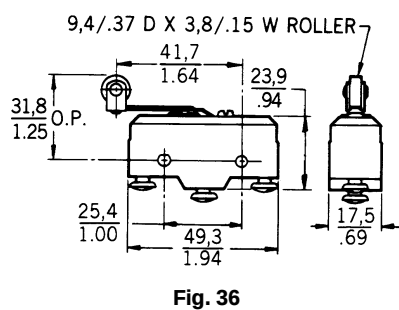
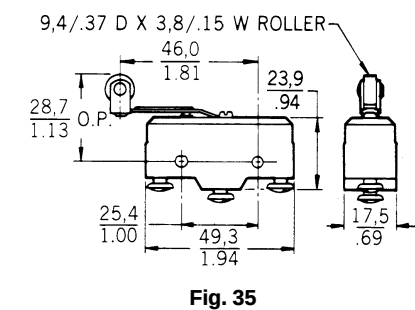
BZ/BA Series

MOUNTING DIMENSIONS

ROLLER LEVERS



FLEXIBLE ROLLER LEAF



Mounting holes accept pins or screws of .139" (3,53 mm) diameter.

Key: 0,0 = mm
0.00 = inches

Standard
Basic Switches