

MICRO SWITCH™ E6/V6 Series

Enclosed Basic Switch



DESCRIPTION

MICRO SWITCH BZE/DTE enclosed basic switches offer enhanced precision operation and sturdy actuation in a compact but rugged metal housing. The large wiring enclosure means that the user can get access to wire the device simply. The switch incorporates high repeatability of the switch point early in the travel of the switch. This is achieved through a very tolerant over-travel mechanism aimed at reducing the effect of the application drift and the long-term accuracy of the switch.

FEATURES

- Side or flange mount
- Momentary or maintained contact
- Grounding screw
- High capacity (22 amp) available
- Temperature range -32 °C to 71°C [-25 °F to 160 °F]
- Zinc die-cast housing NEMA 1
- UL recognized, file #E12252
- CSA certified, file #LR41372
- NEMA 1, 3,

POTENTIAL APPLICATIONS

- Packaging equipment
- Special machinery
- Textile machinery
- Conveyors
- Construction machinery and equipment
- Printing trades machinery
- Overhead cranes and hoists

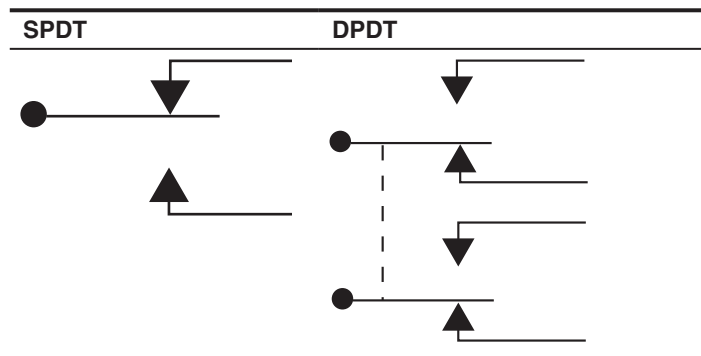
MICRO SWITCH™ E6 (side mount) and V6 (flange mount) switches are offered with or without actuator seal boots. Both have a combination insulator/seal cemented inside the bottom enclosure. Lead washers are used to seal the mounting holes on side mount switches. All side mount switches are installed with #6 screws, except the BZE6-2RN7 (#8 screws). Removal of the bottom enclosure exposes the terminals for easy wiring.

MICRO SWITCH™ E6/V6 Series

SPECIFICATIONS

Characteristic	Parameter
Description	Enclosed basic switch
Actuators	• Top pin plunger (with and without boot seal) • Top roller plunger, parallel with long axis of switch (with and without boot seal) • Cross roller plunger, perpendicular with long axis of switch (with and without boot seal) • Manually operated (with boot seal) • Roller arm, adjustable (with and without boot seal) • One-way roller lever (with boot seal) • Low-force rod lever (with and without boot seal) • Wobble (with boot seal) • Contact (reset) switches: top pin plunger, top roller arm, adjustable roller arm (with boot seal)
Conduit	1/2 in-14 NPT
Switching options	SPDT (snap-action contacts, 1NO/1NC) DPDT (snap-action contacts, 2NO/2NC)
Sealing	E6: NEMA 1 V6: NEMA 1, 3
Operating temperature	-32 °C to 71 °C [-25 °F to 160 °F] (standard) -40 °C to 71 °C [-40 °F to 160 °F] (low)
Housing material	Zinc die-cast
Approvals	UL, CSA, CE

SWITCHING



ELECTRICAL RATINGS

Rating Code	Electrical rating
A	UL/CSA Rating: 15 A, 125 Vac, 250 Vac or 480 Vac 2 A, 600 Vac 1/8 HP, 125 Vac; 1/4 HP, 250 Vac 1/2 A, 125 Vdc; 1/4 A, 250 Vdc
B	UL/CSA Rating: 10 A, 125 Vac or 250 Vac 0.3 A, 125 Vdc; 0.15 A, 250 Vdc
C	UL/CSA Rating: L67 15 A, 125 Vac, 250 Vac or 480 Vac 1/4 HP, 125 Vac; 1/2 HP, 250 Vac 1/2 A, 125 Vdc; 1/4 A, 250 Vdc
D	UL/CSA Rating: 1 A, 125 Vac

GOLD CONTACT VERSIONS

For low current applications (up to 125 Vac, 1 A), gold contact basic versions of the E6/V6 switches can be supplied upon request.

Enclosed Basic Switches

	Pin Plunger			Straight Plunger (Reset) Switch	
Description					
Pretravel	1,98 mm [0.078 in]	0,38 mm [0.015 in]	2,80 mm [0.110 in]	0,31 mm [0.012 in]	1,98 mm [0.078 in]
Different. travel	0,05 mm [0.002 in]		1,53 mm [0.060 in]	–	–
Overtravel	5,56 mm [0.219 in]		3,17 mm [0.125 in]	4,75 mm [0.187 in]	
Oper. force	2,50 N to 6,67 N [9 oz to 24 oz]	2,50 N to 3,62 N [9 oz to 13 oz]	7,23 N to 16,6 N [26 oz to 59 oz]	1,66 N to 2,65 N [6 oz to 9.5 oz] Reset OF: 2,22 N [8 oz] min.	1,66 N to 5,57 N [6 oz to 20 oz] Reset OF: 1,66 N [6 oz] min.

Mounting	Electric Rating	Seal boot	Switching	Options					
Side	A	Yes	SPDT		BZE6-2RN				
Flange	A	Yes	SPDT		BZV6-2RN				
Side	A	Yes	SPDT	Low oper. temp.	BZE6-2RN34				
Side	A	Yes	SPDT	#8 mounting screws	BZE6-2RN7				
Side	D	Yes	SPDT	gold contacts	BZE6-2RN72				
Side	A	No	SPDT			BZE6-2RQ			
Flange	A	No	SPDT			BZV6-2RQ			
Side	B	Yes	DPDT				DTE6-2RN		
Flange	B	Yes	DPDT				DTV6-2RN		
Side	C	No	SPDT					BZE6-RQX2	
Flange	C	No	SPDT					BZV6-RQX2	
Side	C	Yes	SPDT						BZE6-RNX1
Flange	C	Yes	SPDT						BZV6-RNX1

MICRO SWITCH™ E6/V6 Series

	Roller Plunger			Roller Plunger (Reset) Switch
Description				
Pretravel	1,98 mm [0.078 in]	0,38 mm [0.015 in]	2,80 mm [0.110 in]	0,31 mm [0.012 in]
Different. travel	0,05 mm [0.002 in]		1,53 mm [0.060 in]	—
Overtravel	5,55 mm [0.219 in]	3,55 mm [0.140 in]	3,17 mm [0.125 in]	3,56 mm [0.140 in]
Oper. force	2,50 N to 6,68 N [9 oz to 24 oz]	2,50 N to 3,62 N [9 oz to 13 oz]	5,56 N to 13,3 N [20 oz to 48 oz]	1,67 N to 2,64 N [6 oz to 9.5 oz] Reset OF: 2,22 N [8 oz] min.

Mounting	Electric Rating	Seal boot	Switching	Options				
Side	A	Yes	SPDT	roller parallel to long axis of switch	BZE6-2RN80			
Flange	A	Yes	SPDT	roller parallel to long axis of switch	BZV6-2RN80			
Side	A	No	SPDT	roller parallel to long axis of switch		BZE6-2RQ8		
Flange	A	No	SPDT	roller parallel to long axis of switch		BZV6-2RQ8		
Side	A	No	SPDT	field adjust. roller		BZE6-2RQ9		
Side	B	No	DPDT	field adjust. roller		DTE6-2RQ9		
Side	B	Yes	DPDT	roller parallel to long axis of switch			DTE6-2RN80	
Side	C	No	SPDT	roller parallel to long axis of switch				BZE6-RQ8X2

Enclosed Basic Switches

	Cross Roller Plunger		Manually Actuated Switch
Description			
Pretravel	1,38 mm [0.015 in]	1,98 mm [0.078 in]	4,78 mm [0.188 in]
Different. travel	0,05 mm [0.002 in]		0,15 mm [0.006 in]
Overtravel	3,55 mm [0.140 in]	5,56 mm [0.219 in]	5,56 mm [0.2196 in]
Oper. force	2,50 N to 3,62 N [9 oz to 13 oz]	2,50 N to 6,67 N [9 oz to 24 oz]	2,78 N to 5,57 N [10 oz to 20 oz]

Mounting	Electric Rating	Seal boot	Switching	Options			
Side	A	No	SPDT	roller perpendicular to long axis of switch	BZE6-2RQ81		
Flange	A	No	SPDT	roller perpendicular to long axis of switch	BZV6-2RQ81		
Side	B	No	DPDT	roller perpendicular to long axis of switch	DTE6-2RQ81		
Side	A	Yes	SPDT	roller perpendicular to long axis of switch		BZE6-2RN81	
Flange	A	Yes	SPDT	roller perpendicular to long axis of switch		BZV6-2RN81	
Side	A	Yes	SPDT	field adjustable 360° horz. and 180° vert.			BZE6-2RN4
Flange	A	Yes	SPDT	field adjustable 360° horz. and 180° vert.			BZV6-2RN4
Side	A	No	SPDT	field adjustable 360° horz. and 180° vert.			BZE6-2RQ4
Flange	A	No	SPDT	field adjustable 360° horz. and 180° vert.			BZV6-2RQ4

MICRO SWITCH™ E6/V6 Series

	Roller Lever, Adjustable				Roller Lever (Reset) Switch	
Description						
Pretravel	4,78 mm [0.188 in]		6,76 mm [0.266 in]		4,78 mm [0.188 in]	
Different. travel	0,15 mm [0.006 in]		4,19 mm [0.165 in]		—	—
Overtravel	5,56 mm [0.219 in]				5,56 mm [0.219 in]	
Oper. force	2,78 N to 5,57 N [10 oz to 20 oz]	2,78 N to 5,01 N [10 oz to 18 oz]	2,78 N to 8,35 N [10 oz to 30 oz]	2,78 N to 5,57 N [10 oz to 20 oz]	2,78 N to 5,01 N [10 oz to 18 oz] Reset OF: 2,22 N [8 oz] min.	4,45 N [16 oz] Reset OF: 3,33 N to 8,35 N [12 oz to 30 oz] min.

Mounting	Electric Rating	Seal boot	Switching	Options							
Side	A	Yes	SPDT	field adjustable 360° horz. and 225° vert.	BZE6-2RN2						
Flange	A	Yes	SPDT	field adjustable 360° horz. and 225° vert.	BZV6-2RN2						
Side	A	Yes	SPDT	field adjustable 360° horz. and 225° vert. & low temperature	BZE6-2RN234						
Side	B	Yes	DPDT	field adjustable 360° horz. and 225° vert.	DTE6-2RN2						
Flange	B	Yes	DPDT	field adjustable 360° horz. and 225° vert.	DTV6-2TN2						
Side	A	No	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° increm.)		BZE6-2RQ2					
Flange	A	No	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° increm.)		BZV6-2RQ2					
Side	B	Yes	DPDT	field adjustable 360° horz. and 225° vert.			DTE6-2RN2				
Flange	B	Yes	DPDT	field adjustable 360° horz. and 225° vert.			DTV6-2RN2				
Side	B	No	DPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° increm.)				DTE6-2RQ2			
Side	C	No	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° and vert. in 180° increm.)					BZE6-RQ2X2		
Flange	C	No	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° and vert. in 180° increm.)					BZV6-RQ2X2		
Side	C	Yes	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° and vert. in 180° increm.)						BZE6-RN2X1	
Flange	C	Yes	SPDT	field adjustable 360° horz. and 225° vert. (horz. in 45° and vert. in 180° increm.)						BZV6-RN2X1	

Enclosed Basic Switches

	One-Way Roller Lever	Low Force Rod Lever	Wobble
Description			
Pretravel	5,95 mm [0.234 in]	18,24 mm [0.718 in]	15° max.
Different. travel	0,15 mm [0.006 in]	5,82 mm [0.229 in]	–
Overtravel	5,56 mm [0.219 in]	21,2 mm [0.838 in]	–
Oper. force	2,22 N to 5,57 N [8 oz to 20 oz]	0,83 N to 1,95 N [3 oz to 7 oz]	0,55 N to 1,39 N [2 oz to 5 oz]

Mounting	Electric Rating	Seal boot	Switching	Options				
Side	A	Yes	SPDT	field adjustable 360° horz. and 180° vert.	BZE6-2RN28			
Flange	A	Yes	SPDT	field adjustable 360° horz. and 180° vert.	BZV6-2RN28			
Side	A	Yes	SPDT	field adjustable 360° horz. in 45° increments and 250° vert.		BZE6-2RN62		
Flange	A	Yes	SPDT	field adjustable 360° horz. in 45° increments and 250° vert.		BZV6-2RN62		
Side	A	No	SPDT	field adjustable 360° horz. in 45° increments and 250° vert.			BZE6-2RQ62	
Flange	A	No	SPDT	field adjustable 360° horz. in 45° increments and 250° vert.			BZV6-2RQ62	
Side	A	Yes	SPDT	operates from any direction, except pull				BZE6-2RN18
Flange	A	Yes	SPDT	operates from any direction, except pull				BZV6-2RN18

DIMENSIONS

Technical drawing of the 1000 Series Pressure Washer, showing front and side views with dimensions in inches and millimeters.

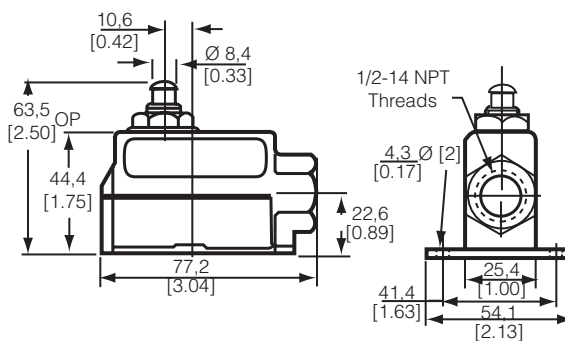
Front View Dimensions:

- Top width: 2.0 REE [0.08]
- Top width: 23.4 [0.92]
- Left side height: 43.7 OP [1.72]
- Left side height: 19.0 [0.75]
- Left side height: 25.4 [1.00]
- Left side height: 25.4 [1.00]
- Bottom width: 77.2 [3.04]
- Bottom width: 21.1 [0.83]
- Right side height: 22.6 [0.89]

Side View Dimensions:

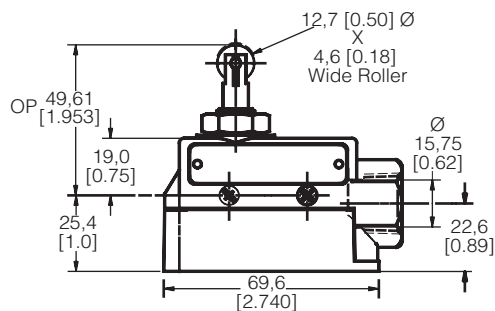
- Top width: Ø 8.4 [0.33]
- Thread specification: 1/2-14 NPT Threads
- Bottom width: 25.4 [1.00]

Side mount
with boot seal



Flange mount
without boot seal

Side mount
with boot seal



Side mount
without boot seal

Technical drawing of a roller assembly, showing two views: a side view (left) and a front view (right).

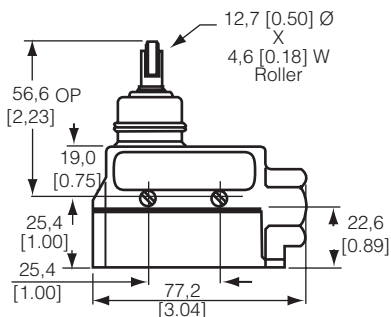
Side View Dimensions:

- Overall Height: $74.9 / 2.95$
- Base Height: $44.4 / 1.75$
- Base Width: $77.2 / 3.04$
- Roller Diameter: $10.7 / 0.42$

Front View Dimensions:

- Overall Height: $41.4 / 1.63$
- Base Height: $25.4 / 1.00$
- Base Width: $54.1 / 2.13$
- Roller Diameter: $12.7 / 50 \text{ D X } 4.6 / 18 \text{ W}$
- Roller Label: **12.7/50 D X 4.6/18 W ROLLER**
- Base Label: **1/2-14 NPT THREADS**
- Roller Diameter (Front View): $4.2 / 0.17 \text{ DIA (2)}$

Flange mount
without boot seal



Side mount
with boot seal

Enclosed Basic Switches

Figure 4. Roller arm, adjustable

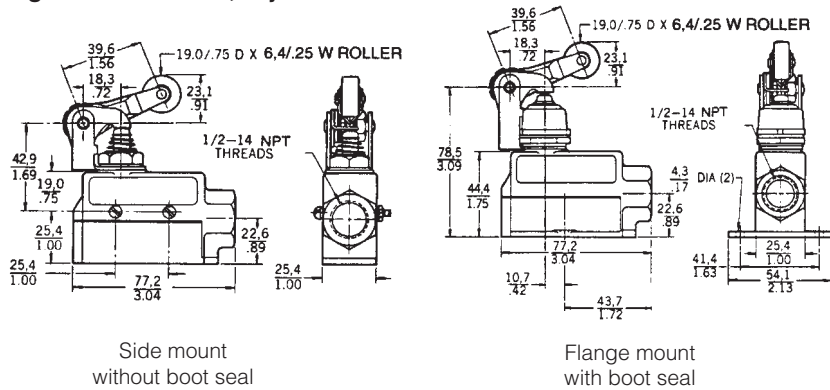


Figure 5. Rod lever

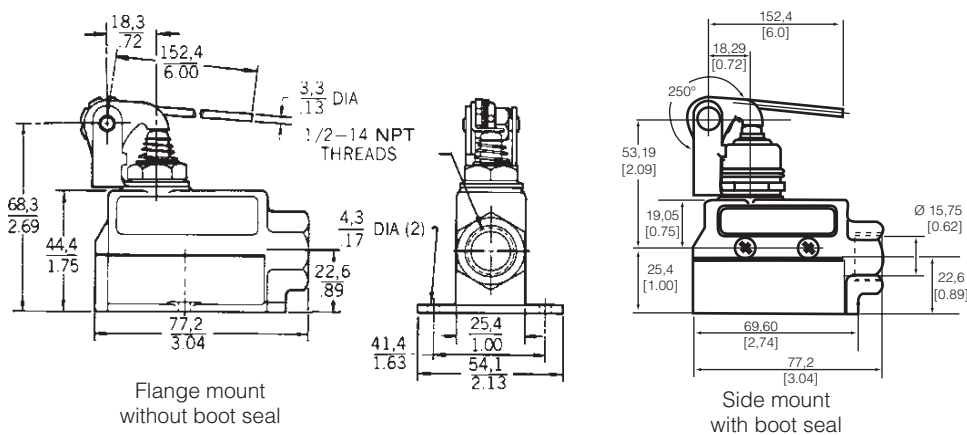


Figure 6. One-way roller

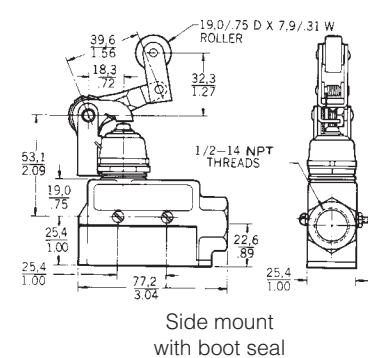


Figure 7. Manual palm button

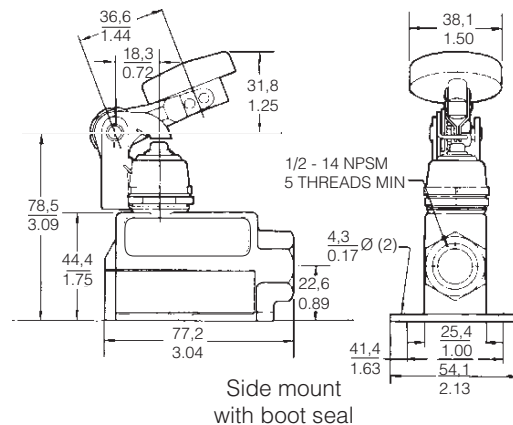
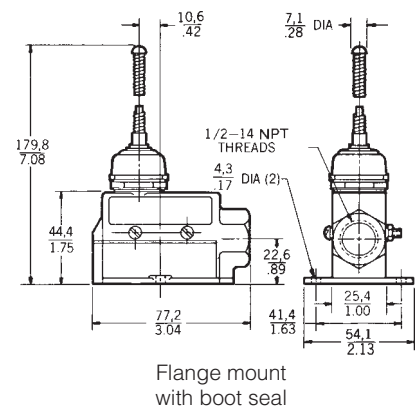


Figure 8. Wobble



MICRO SWITCH™ E6/V6 Series

Figure 9. Roller arm, adjustable reset switch

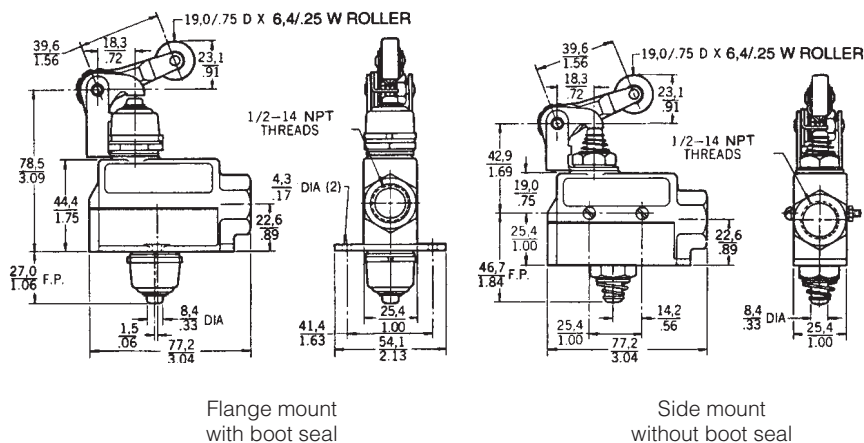


Figure 10. Top roller plunger reset switch

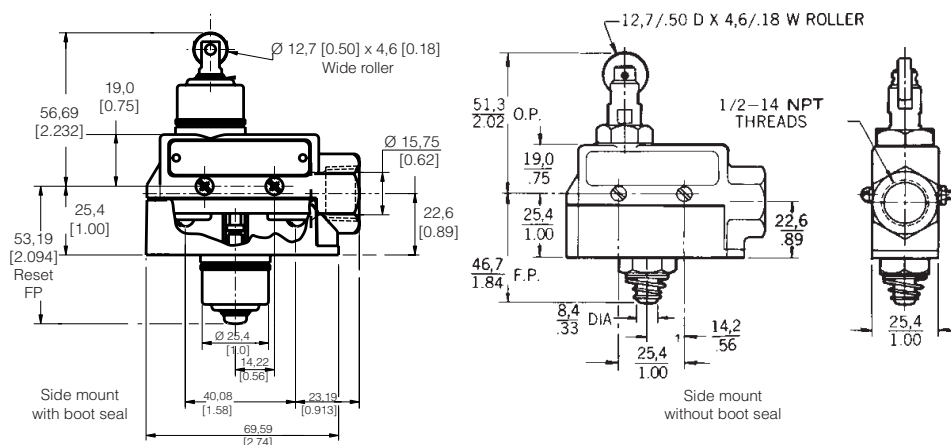
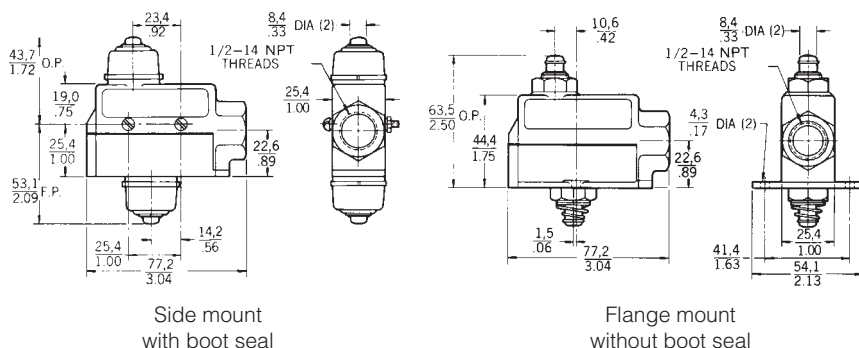


Figure 11. Top pin plunger reset switch



Enclosed Basic Switches

PRODUCT NOMENCLATURE

BZ	E6	2	R	N		
Switch Type	Enclosure Type	Contact Gap	Contact	Plunger Type	Actuator Modifications	Additional Modifications
BZ Series Enclosed Basic Switch SPDT, 15 A	E6 Side mount, die-cast zinc	0.006 in ¹	R Standard	N Seal boot	Pin plunger	C3 Pre-leaded, 3 ft cable, conduit area only potted
	V6 Flange mount version of E6	2 0.020 in		Q No seal boot	X Maintained contact with reset plunger	F3 Fully potted, 3 ft of cable
		7 0.070 in			2 Adjustable roller lever	F5 Fully potted, 5 ft of cable
					4 Manual, palm button	F6 Fully potted, 6 ft of cable
					7 #8 mounting screws	FR Fully potted, 4-pin "mini style" connector
					8 80 Roller plunger	R 4-pin "mini style" connector
					18 Coil spring wobble stick	S 1/4-14 NPSM conduit threads ²
					28 One-way roller lever	5 Pre-leaded, 5 ft cable, conduit area potted
					34 Low temp.	
					62 Rod lever	
					72 722 Gold-contact basic	
					81 Cross roller plunger	

MICRO SWITCH™ E6/V6 Series

This Honeywell datasheet supports the following MICRO SWITCH™ E6/V6 Series Enclosed Basic Switch Listings

BZE6-2AN	BZE6-2RQ241	BZV6-2RN4
BZE6-2AN5	BZE6-2RQ28	BZV6-2RN62
BZE6-2AQ	BZE6-2RQ2-S	BZV6-2RN80
BZE6-2AQ8T	BZE6-2RQ4	BZV6-2RN81
BZE6-2GN	BZE6-2RQ5	BZV6-2RN-C
BZE6-2RN	BZE6-2RQ62	BZV6-2RN-S
BZE6-2RN18	BZE6-2RQ62-S	BZV6-2RQ
BZE6-2RN1809-5	BZE6-2RQ7	BZV6-2RQ2
BZE6-2RN1810	BZE6-2RQ72	BZV6-2RQ39
BZE6-2RN1812	BZE6-2RQ8	BZV6-2RQ62
BZE6-2RN183	BZE6-2RQ81	BZV6-2RQ8
BZE6-2RN1872	BZE6-2RQ814	BZV6-2RQ81
BZE6-2RN18721	BZE6-2RQ81-S	BZV6-2RQ9
BZE6-2RN18-C3	BZE6-2RQ841-BP	BZV6-7RN
BZE6-2RN19	BZE6-2RQ8722	BZV6-7RN2T
BZE6-2RN191-S	BZE6-2RQ8-S	BZV6-RNX1
BZE6-2RN193	BZE6-2RQ9	DTE6-2RN
BZE6-2RN196-F5	BZE6-2RQ9-S	DTE6-2RN2
BZE6-2RN2	BZE6-2RQ-S	DTE6-2RN28
BZE6-2RN221	BZE6-3RN	DTE6-2RN281
BZE6-2RN224	BZE6-3RN18150-C	DTE6-2RN4
BZE6-2RN234	BZE6-3RN2151	DTE6-2RN80
BZE6-2RN272	BZE6-3RN2153	DTE6-2RQ
BZE6-2RN28	BZE6-3YN2	DTE6-2RQ2
BZE6-2RN281	BZE6-3YNP	DTE6-2RQ62
BZE6-2RN28-S	BZE6-3YNT	DTE6-2RQ81
BZE6-2RN2-F3	BZE6-3YQ9	DTE6-2RQ9
BZE6-2RN2-F6	BZE6-3YQT	DTV6-2RN
BZE6-2RN2-MP	BZE6-7RN	DTV6-2RN2
BZE6-2RN2-S	BZE6-7RN18	DTV6-2RN4
BZE6-2RN2-TW	BZE6-7RN1812	
BZE6-2RN34	BZE6-7RN186	
BZE6-2RN37	BZE6-7RN51	
BZE6-2RN39	BZE6-7RN8051	
BZE6-2RN4	BZE6-7RNT	
BZE6-2RN5	BZE6-7RQ8	
BZE6-2RN51	BZE6-7RQ9	
BZE6-2RN62	BZE6-7RQ9T	
BZE6-2RN62-F3	BZE6-RN	
BZE6-2RN7	BZE6-RN18X1	
BZE6-2RN72	BZE6-RN18X2	
BZE6-2RN72-S	BZE6-RN18X3	
BZE6-2RN7-S	BZE6-RN2X1	
BZE6-2RN8	BZE6-RN80X2	
BZE6-2RN80	BZE6-RNX1	
BZE6-2RN8034	BZE6-RNX12	
BZE6-2RN81	BZE6-RNX17	
BZE6-2RN-C	BZE6-RQ	
BZE6-2RN-F1	BZE6-RQ2	
BZE6-2RN-F3	BZE6-RQ2X2	
BZE6-2RN-F6	BZE6-RQ71	
BZE6-2RN-FR	BZE6-RQ81X2	
BZE6-2RN-M	BZE6-RQ8X2	
BZE6-2RN-R	BZE6-RQ8X4	
BZE6-2RN-S	BZE6-RQ9	
BZE6-2RQ	BZE6-RQX17	
BZE6-2RQ125	BZE6-RQX2	
BZE6-2RQ136	BZV6-2RN	
BZE6-2RQ165	BZV6-2RN18	
BZE6-2RQ168	BZV6-2RN2	
BZE6-2RQ2	BZV6-2RN28	
BZE6-2RQ219	BZV6-2RN34	

MICRO SWITCH™ E6/V6 Series

Enclosed Basic Switches

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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WARNING

MISUSE OF DOCUMENTATION

- The information presented in this datasheet is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

Honeywell