

# E6/V6 SERIES

002383

Issue 3

## MICRO SWITCH Medium-Duty Light Switches



### DESCRIPTION

Honeywell MICRO SWITCH E6/V6 Series medium-duty limit switches are designed for a wide variety of indoor and outdoor applications. Typical applications include equipment for commercial, industrial, transportation, and agriculture industries. The electrostatic applied epoxy coating to the zinc housings enhance the durability of the product in most environments. The E6/V6 family of switches incorporates the Honeywell MICRO SWITCH BZ switch element which has the reliable snap-spring mechanism with more than 60 years of proven service.

The sealed (actuators with boots) E6/V6 Series switches are preferred for applications where there could be exposure to liquid and/or particulate environments. The general purpose (actuators without boot seals) E6/V6 Series switches are ideal for applications where there will not be exposure to liquid or dust environments.

The compact size of these limit switches permits installation where there is limited space available on equipment. Most SPDT (Single Pole Double Throw) E6/V6 catalog listings are certified to UL, CSA, CE and UKCA while the DPDT (Double Pole Double Throw) E6/V6 catalog listings are certified to UL and CSA.

### FEATURES

- MICRO SWITCH E6/V6 Series switches feature an electrostatic epoxy coated zinc housing for durability in most indoor and outdoor environments, and a wide variety of actuators to solve most application requirements
- Designed with MICRO SWITCH BZ, BM, or DT basic switches to deliver precise switching of electrical and mechanical operating characteristics
- High capacity (22 A) available with BME6 Series switch
- Small footprint with easy access to wiring terminals
- Available in a configuration suited to the application with variety of actuators, circuitries, connectivities, and mounting options

### POTENTIAL APPLICATIONS

#### Industrial

- Packaging equipment (balers, door interlocks)
- Air curtains (control of air movement)
- Conveyors (diverters, gates)

#### Transportation

- Construction machinery and equipment (door and panel interlocks)
- Rail maintenance equipment (door and panel interlocks, position sensing)
- Agricultural equipment (grain handling)

### VALUE TO CUSTOMERS

- The E6/V6 Series are available with SPDT contacts with momentary or maintained action, or DPDT contacts with momentary action. These switches also offer gold-plated switch contacts for logic-level circuits and silver alloy contacts for power duty circuits. The internal ground screw is provided to meet electrical codes as required
- These limit switches are offered with multiple connectivity options: three different conduit offerings, four-pin "mini" style connector, pre-wired 16-gage four-conductor cable, pigtail with three-pin Deutsch connector
- E6/V6 Series switches are UL, CSA, CE and UKCA certified for most SPDT catalog listings. The DPDT catalog listings are UL and CSA certified
- The E6/V6 Series' standard temperature range is -32 °C to 71 °C [-25 °F to 160 °F] with an optional -40 °C [-40 °F] low temperature

### PORTFOLIO

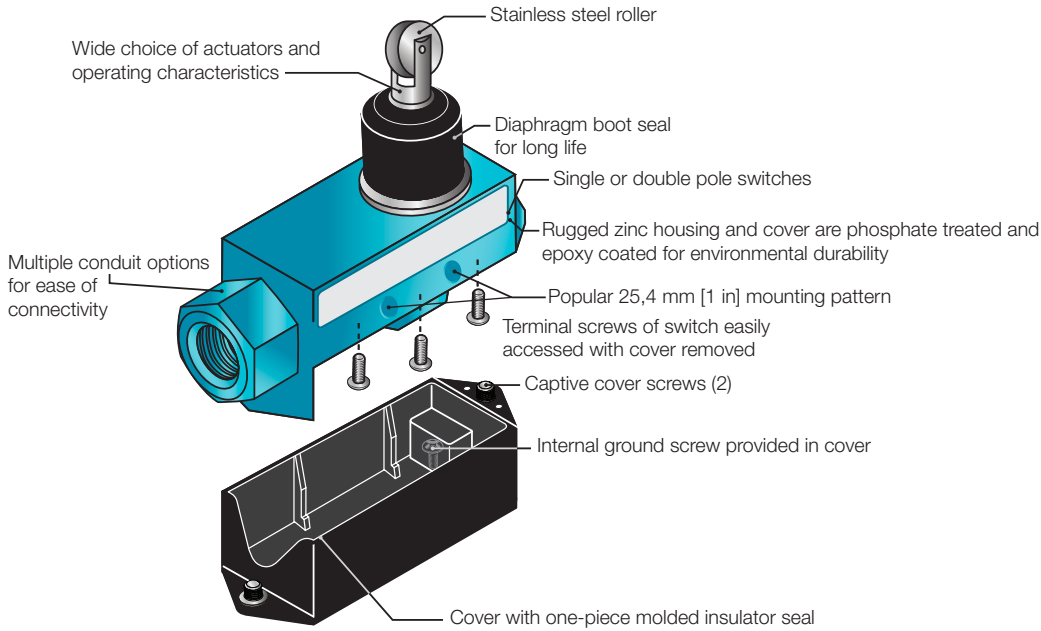


The E6/V6 Series are part of the MICRO SWITCH subminiature basic switch family that also includes HD, HD1, SM, SX, ZD, ZW and ZX.

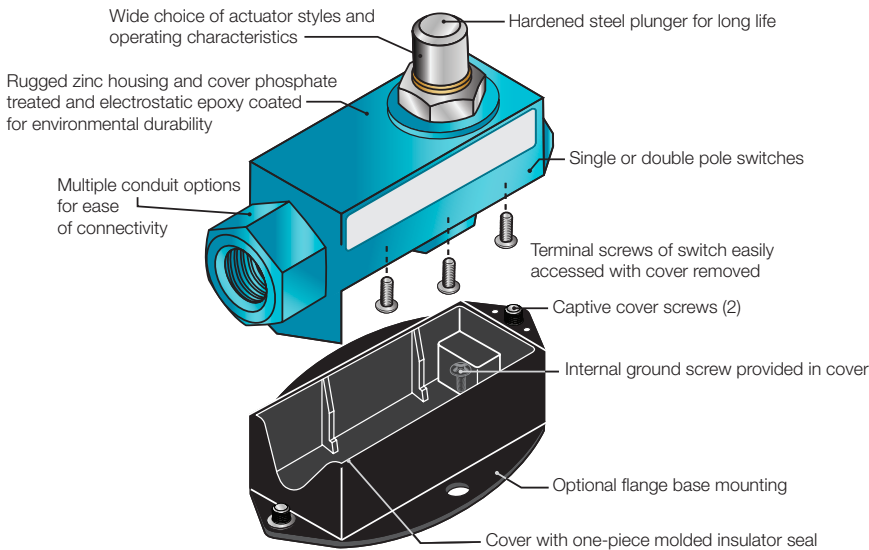
**Honeywell**

# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES E6/V6 SERIES

**Figure 1. MICRO SWITCH E6 Side Mount and V6 Flange Mount with Features and Options**



**Figure 1A. E6 Side mount with boot sealed actuator (typical)**



**Figure 1B. V6 SFlange mount without boot sealed actuator (typical)**

# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES

## E6/V6 SERIES

**TABLE 1. SPECIFICATIONS**

Characteristic	Parameter
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) manual reset switches: top pin plunger, top roller plunger, adjustable roller arm, wobble
Housing material	electrostatic epoxy coated zinc die-cast
Termination	see table 2 below
Sealing	actuator with boot seal: NEMA 1, 3, 4, IP66 actuator without seal boot: NEMA 1, IP40
Switching options	SPDT (snap-action contacts, 1NO/1NC) SPDT-DB (double break snap-action contacts, 1NO/1NC) DPDT (snap-action contacts, 2NO/2NC)
Mechanical endurance	up to five million cycles for BZx6 and BMx6 switches; up to two million cycles for DTx6 switches
Electrical endurance	up to 50K cycles at full rated load
Operating temperature	-32 °C to 71 °C [-25 °F to 160 °F] (standard) -40 °C to 71 °C [-40 °F to 160 °F] (optional low temperature)
Agency approvals	UL, CSA, CE, UKCA

**TABLE 2. TERMINATIONS**

Catalog Listing Suffixes	Description
none	0.5 - 14 NPT conduit thread
S	0.5 - 14 NPSM conduit thread
M	M20 - 1,5 mm conduit thread
R	four-pin "mini" style connector
F1	305 mm [12 in] pigtail STOW-A, three conductor, 16-gage cable with three-pin Deutsch connector
F3	914 mm [36 in] 16-gage, four-conductor STO, PVC jacketed cable

# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES E6/V6 SERIES

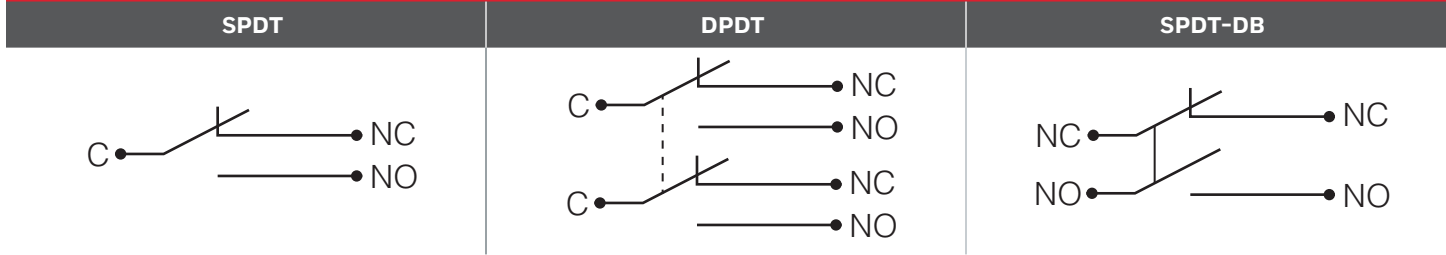
**TABLE 3. ELECTRICAL RATINGS**

Rating Code	UL, CSA Rating	CE UKCA Rating
A	15 A @ 125 Vac, 250 Vac or 480 Vac; 2 A @ 600 Vac; 1/8 HP @ 125 Vac, 1/4 HP @ 250 Vac; 0.5 A @ 125 Vdc, 0.25 A @ 250 Vdc	EN60947-5-1, IEC60947-5-1 AC15, B300
B	10 A @ 125 Vac, 250 Vac 0.3 A @ 125 Vdc, 0.15 A @ 250 Vdc	-
C	15 A @125 Vac, 250 Vac or 480 Vac; 1/4 HP @ 125 Vac, 1/2 HP @ 250 Vac; 0.5 A @ 125 Vdc, 0.25 A @ 250 Vdc	EN60947-5-1, IEC60947-5-1 AC15, B300
D	8 A @ 125 Vac, 250 Vac or 480 Vac; 2 A @ 600 Vac; 1/8 HP @ 125 Vac, 1/4 HP @ 250 Vac; 0.5 A @ 125 Vdc, 0.25 A @ 250 Vdc	EN60947-5-1, IEC60947-5-1 AC15, B300
E	10 A @ 125 Vac, 250 Vac or 480 Vac; 2 A @ 600 Vac; 1/8 HP @ 125 Vac, 1/4 HP @ 250 Vac; 0.5 A @ 125 Vdc, 0.25 A @ 250 Vdc	EN60947-5-1, IEC60947-5-1 AC15, B300
F	15 A @125 Vac, 250 Vac or 480 Vac; 1/4 HP @ 125 Vac, 1/2 HP @ 250 Vac; 1.0 A @ 125 Vdc, 0.5 A @ 250 Vdc	EN60947-5-1, IEC60947-5-1 AC15, B300
G	22 A @125 Vac, 250 Vac or 480 Vac; 1/4 HP @ 125 Vac, 1/2 HP @ 250 Vac; 0.5 A @ 125 Vdc, 0.25 A @ 250 Vdc	-
H	1A @ 125 Vac (Gold-plated contacts)	IEC 61058-1 1A, 250 Vac

**TABLE 4. CE, UKCA ELECTRICAL RATING, EN60947-5-1, IEC 60947-5-1**

Designation & Category	Vac	Amps Make	Amps Break	Continuous Current (A)	VA Rating Make	VA Rating Break
AC15, B300	120	30	3.0	5	3600	360
AC15, B300	240	15	1.5	5	3600	360

**TABLE 5. SWITCHING**



# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES E6/V6 SERIES

## MICRO SWITCH E6/V6 SERIES PRODUCT NOMENCLATURE

<b>BZ</b>	<b>E6</b>	—	<b>2</b>	<b>R</b>	<b>N</b>		
Switch Type	Enclosure Type		Internal Basic Switch Construction	Contact	Plunger Type	Actuator Modifications <sup>3</sup>	Additional Modifications
<b>BZ</b> Series Basic Switch SPDT, 15 A	<b>E6</b> Side mount		For use with "X" actuator, maintained contact <sup>2</sup> (blank)	<b>R</b> Standard (Single-break)	<b>N</b> Seal boot	Pin plunger (blank)	0.5-14 NPT conduit thread (blank)
<b>DT</b> Series Basic Switch DPDT, 10 A	<b>V6</b> Flange mount		<b>2</b> Standard	<b>A</b> Double-break (BZ basic switch only)	<b>Q</b> No seal boot	<b>X</b> Maintained contact with reset plunger <sup>2</sup>	<b>C3</b> Pre-leaded, 3 ft cable, conduit area epoxy sealed
<b>BM</b> Series Basic Switch SPDT, 22 A			<b>7</b> Special <sup>2</sup>			<b>2</b> Adjustable roller lever	<b>F1</b> 12-inch pigtail cable with 3-pin Deutsch connect.
						<b>4</b> Manual, palm button	<b>F3</b> Epoxy sealed, 3 ft of cable
						<b>7</b> #8 mounting screws	<b>F5</b> Epoxy sealed, 5 ft of cable
						<b>8</b> <b>80</b> Roller plunger	<b>F6</b> Epoxy sealed, 6 ft of cable
						<b>18</b> Coil spring wobble stick	<b>FR</b> Epoxy sealed, 4-pin "mini style" connector
						<b>28</b> One-way roller lever	<b>R</b> 4-pin "mini style" connector
						<b>34</b> Low temp.	<b>S</b> 1/4-14 NPSM conduit threads
						<b>62</b> Rod lever	<b>M</b> M20 x 1.5 mm conduit thread
						<b>72</b> <b>722</b> Gold-contact switch	
						<b>81</b> Cross roller plunger	




**NOTE:**

1. Not all combinations of model codes are available. Contact your Honeywell rep or distributor for assistance.
2. BZ Series only.
3. More than one actuator modification may be permissible. For example, BZE6-2RN8034 is a roller plunger with low temperature seals.

# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES E6/V6 SERIES

**TABLE 6. ORDER GUIDE • E6 SERIES SWITCHES, SIDE MOUNT WITH BOOT SEAL**






For catalog listings not shown, please contact your Honeywell distributor or representative

	Catalog Listing	Switch type, Circuitry	Electrical Rating [page 6]	Operate Force N [oz]	Operate Point mm [in]	Pretravel mm [in] max.	Over Travel mm [in] min.	Differential Travel mm [in] max.	Comments
 Pin Plunger	<b>BZE6-2RN</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	
	<b>BZE6-2RN-F1</b>	BZ, SPDT	E, 10 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	12 in. pigtail, 3 wire STO cable w/ Deutsch connector
	<b>BZE6-2RN-F3</b>	BZ, SPDT	E, 10 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Epoxy sealed with 36 in. 4 wire STO cable
	<b>BZE6-2RN-M</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	M20-1,5 conduit thread
	<b>BZE6-2RN-R</b>	BZ, SPDT	D, 8 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	4-pin "mini" style connector
	<b>BZE6-2RN-S</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	0.5-14 NPSM conduit thread
	<b>BZE6-2RN7</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	#8 mounting screws
	<b>BZE6-2RN34</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Low temperature -40 °C [-40 °F]
	<b>BZE6-2RN72</b>	BZ, SPDT	H, 1 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Gold-plated contacts
	<b>BZE6-2AN</b>	BZ, SPDT, Double break	F, 15 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Recommended for dc applications
 Inline Roller Plunger	<b>BME6-2RN</b>	BM, SPDT	G, 22 A	2,50 to 6,67 [9 to 24]	43,66 ±0,76 [1.719 ±0.030]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Higher current ac applications
	<b>DTE6-2RN</b>	DT, DPDT	B, 10 A	7,23 to 16,4 [26 to 59]	46,02 ±0,76 [1.812 ±0.030]	2,80 [0.110]	3,17 [0.125]	1,52 [0.060]	Double pole applications
	<b>BZE6-2RN80</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	56,7 ±1,14 [2.232 ±0.045]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	
	<b>BZE6-2RN8034</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	56,7 ±1,14 [2.232 ±0.045]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	Low temperature -40 °C [-40 °F]
 Cross Roller Plunger	<b>DTE6-2RN80</b>	DT, DPDT	B, 10 A	5,56 to 13,3 [20 to 48]	59,6 ±1,0 [2.345 ±0.040]	2,80 [0.110]	3,17 [0.125]	1,52 [0.060]	Double pole applications
	<b>DTE6-2RN8034-M</b>	DT, DPDT	B, 10 A	5,56 to 13,3 [20 to 48]	59,6 ±1,0 [2.345 ±0.040]	2,80 [0.110]	3,17 [0.125]	1,52 [0.060]	Low temp. -40 °C [-40 °F], M20 -1,5 conduit, Double pole applications
	<b>BZE6-2RN81</b>	BZ, SPDT	A, 15 A	2,50 to 6,67 [9 to 24]	56,7 ±1,14 [2.232 ±0.045]	1,98 [0.078]	5,56 [0.219]	0,05 [0.002]	

# MICRO SWITCH MEDIUM-DUTY LIGHT SWITCHES E6/V6 SERIES

**TABLE 6. (CONTINUED) ORDER GUIDE • E6 SERIES SWITCHES, SIDE MOUNT WITH BOOT SEAL**

For catalog listings not shown, please contact your Honeywell distributor or representative

	Catalog Listing	Switch type, Circuitry	Electrical Rating [page 6]	Operate Force N [oz]	Operate Point mm [in]	Pretravel mm [in] max.	Over Travel mm [in] min.	Differential Travel mm [in] max.	Comments
 Roller Lever	<b>BZE6-2RN2</b>	BZ, SPDT	A, 15 A	2,78 to 5,57 [10 to 20]	71,42 Ref [2.812]	4,83 [0.188]	5,56 [0.219]	0,15 [0.006]	
	<b>BZE6-2RN2-S</b>	BZ, SPDT	A, 15 A	2,78 to 5,57 [10 to 20]	71,42 Ref [2.812]	4,83 [0.188]	5,56 [0.219]	0,15 [0.006]	0.5-14 NPSM conduit thread
	<b>BZE6-2RN234</b>	BZ, SPDT	A, 15 A	2,78 to 5,57 [10 to 20]	71,42 Ref [2.812]	4,83 [0.188]	5,56 [0.219]	0,15 [0.006]	Low temperature -40 °C [-40 °F]
	<b>BZE6-2RN272</b>	BZ, SPDT	H, 1 A	2,78 to 5,57 [10 to 20]	71,42 Ref [2.812]	4,83 [0.188]	5,56 [0.219]	0,15 [0.006]	Gold-plated contacts
	<b>DTE6-2RN2</b>	DT, DPDT	B, 10 A	2,78 to 8,35 [10 to 30]	69,44 Ref [2.734]	6,76 [0.266]	5,56 [0.219]	4,19 [0.165]	Double pole applications
 One-way Roller Lever	<b>BZE6-2RN28</b>	BZ, SPDT	A, 15 A	2,22 to 5,56 [8 to 20]	-	5,94 [0.234]	5,56 [0.219]	0,15 [0.006]	
	<b>BZE6-2RN28-S</b>	BZ, SPDT	A, 15 A	2,22 to 5,56 [8 to 20]	-	5,94 [0.234]	5,56 [0.219]	0,15 [0.006]	0.5-14 NPSM conduit thread
	<b>DTE6-2RN28</b>	DT, DPDT	B, 10 A	5,56 to 10 [20 to 36]	-	7,92 [0.312]	5,56 [0.219]	4,19 [0.165]	Double pole applications
 Low-force Rod Lever	<b>BZE6-2RN62</b>	BZ, SPDT	A, 15 A	0,83 to 1,95 [3 to 7]	-	18,24 [0.718]	21,29 [838]	5,82 [0.229]	
 Coil-spring Wobble	<b>BZE6-2RN18</b>	BZ, SPDT	A, 15 A	1,95 N max. [7.0 oz max.]	-	15°	20° Ref	-	
	<b>BZE6-2RN1872</b>	BZ, SPDT	H, 1 A	1,95 N max. [7.0 oz max.]	-	15°	20° Ref	-	Gold-plated contacts
 Manual Palm Button	<b>BZE6-2RN4</b>	BZ, SPDT	A, 15 A	2,78 to 5,57 [10 to 20]	80,0 Ref [3.15]	4,83 [0.188]	5,56 [0.219]	0,15 [0.006]	