

EX Series Standard Explosion Proof Switches



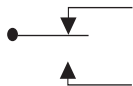
Actuators



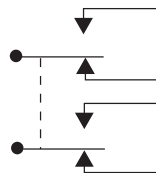
Sealing:	NEMA 1, 7 (Class I, Division I, Groups C, D) 9, (Class II, Division I, Groups E, F, G)
Operating temperature:	Standard -40 °C to 71 °C (-40 °F to 160 °F) High 100 hr @ 400 °F
Approvals:	UL, CSA
Conduit:	½ in - 14NPT
Contacts:	Silver
Electrical ratings:	
A	UL/CSA Rating: 15 A, 125, 250 or 480 Vac; ⅛ Hp, 125 Vac; ¼ Hp, 250 Vac; ½ A, 125 Vdc; ¼ A, 250 Vdc.
B	UL/CSA Rating: 20 A, 125, 250 or 480 Vac; 10 A, 125 Vac "L"; 1 Hp, 125 Vac; 2 Hp, 250 Vac; ½ A, 125 Vdc; ¼ A, 250 Vdc.
C	UL/CSA Rating: 10 A, 125 or 250 Vac; 0.3 A, 125 Vdc; 0.15 A, 250 Vdc
D	UL/CSA Rating: 10 A, 125, 250 or 480 Vac; ½ A, 125 Vdc; ¼ A, 250 Vdc.
E	UL Rating: 1 A, 125 Vac.

Switching options:

SPDT
Single Pole, Double Throw
Snap action contacts (1NC/1NO)



DPDT
Double Pole, Double Throw
Snap action contacts (2NC/2NO)



The EX Series features the smallest UL listed housings available for use in hazardous locations. Flame paths within the housing cool exploding gases below the kindling temperature before they reach the explosive gases surrounding the housing.

Options available include single or double conduit connection.

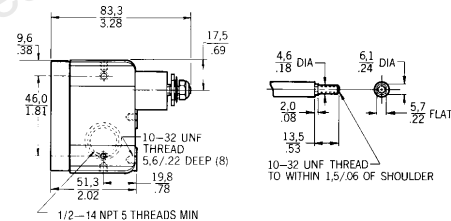
These switches are not sealed against liquids and should not be used where there will be liquid splash. If a weather sealed explosion proof switch is required please select from the CX or LSX/BX series.

Side rotary actuated switches

OPTIONS

No lever

Note: Levers are ordered separately (see pages 69-71 for details)



Operating force max. (OF):

Electrical rating A	0,22 N m (31.25 in oz)
Electrical rating B	3,34 N to 8,90 N (0.75 lb to 2.0 lb)

Pretravel max. (PT):

5,56 mm (0.219 in) 8°

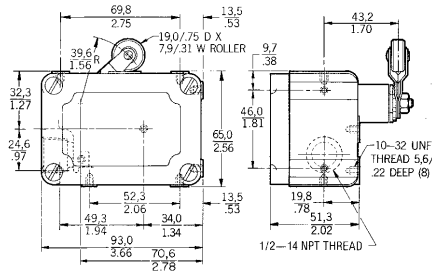
Overtravel max. (OT):

Electrical rating A	90°
Electrical rating B	25°

Differential travel max. (DT):

Electrical rating A	0,18 mm (0.007 in) 0.25°
Electrical rating B	0,3 mm (0.012 in) 4°

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW	SPDT	A	EX-AR20
CCW	SPDT	A	EX-AR230
CW	SPDT	B	EXA-AR20

Roller lever**Roller material:**

Bronze

Operating force max. (OF):**Electrical rating A**

Clockwise (CW)

2,22 N to 5,56 N (0.5 lb to 1.25 lb)

Counter clockwise (CCW)

11,1 N (2.5 lb)

Electrical rating B

3,34 N to 8,90 N (0.75 lb to 2.0 lb)

Pretravel max. (PT):**Electrical rating A, B**

Clockwise (CW)

5,56 mm (0.219 in) 8°

Counter clockwise (CCW)

1,65 mm (0.065 in) 3.5°

Overtravel max. (OT):**Electrical rating A**

Clockwise (CW)

90°

Counter clockwise (CCW)

25°

Electrical rating B

25°

Differential travel max. (DT):**Electrical rating A**

0,18 mm (0.007 in) 0.25°

Electrical rating B

0,3 mm (0.012 in) 4°

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW	SPDT	A	EX-AR
CCW	SPDT	A	EX-AR30
CW/Class 1 Group B	SPDT	A	EX-AR800
CCW/Class 1 Group B	SPDT	A	EX-AR830
CW/High temperature	SPDT	A	EX-AR400
CW	SPDT	B	EXA-AR
CW/No mounting bracket	SPDT	B	EXA-AR62
CW/Nylon roller	SPDT	A	EX-AR182
CW/No mounting bracket	SPDT	A	EX-AR141

CW or CCW actuation, no return spring, low operating force**Operating force max. (OF):** 0,56 N (2 oz)

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW/CCW/No mounting bracket	SPDT	A	EX-AR16

Maintained contact**Operating force max. (OF):** 3,34 N (0.75 lb)**Pretravel max. (PT):** 5,56 mm (0.219 in) 8°**Overtravel max. (OT):** 90°

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW	SPDT	A	EX-XR3

DPDT, Prelead with 0,91 m (3 ft) leadwire**Operating force max. (OF):**

Clockwise (CW)

2,22 N to 6,67 N (0.5 lb to 1.5 lb)

Counter clockwise (CCW)

12,2 N (2.75 lb)

Pretravel max. (PT):

6,35 mm (0.250 in)

Overtravel max. (OT):

25°

Differential travel max. (DT):

2,77 mm (0.109 in) 4°

Sealing:

NEMA Class 1 Group B

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW	DPDT	C	EXD-AR-3
CCW	DPDT	C	EXD-AR30-3

Hermetically sealed**Operating force max. (OF):**

Clockwise (CW)

2,22 N to 6,67 N (0.5 lb to 1.5 lb)

Counter clockwise (CCW)

11,1 N (2.5 lb)

Pretravel max. (PT):

Clockwise (CW)

5,56 mm (0.219 in) 8°

Counter clockwise (CCW)

1,65 N (0.065 in) 3.5°

Overtravel max. (OT):

25°

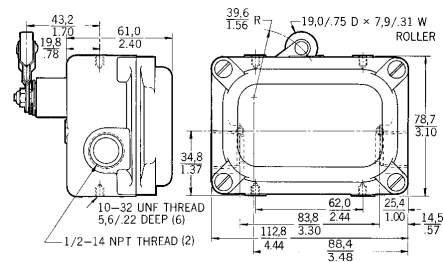
Differential travel max. (DT):

0,64 mm (0.025 in)

Sealing:

NEMA Class 1 Group B

ACTUATION	CONTACT	ELECTRICAL RATING	REFERENCE
CW/3,2 m (10.5 ft) leadwire	SPDT	E	EXH-AR3
CCW/0,91 m (3 ft) leadwire	SPDT	E	EXH-AR33
CW/0,91 m (3 ft) leadwire	SPDT	E	EXH-AR7

2 Conduit openings**Operating force max. (OF):**

Electrical rating A

2,22 N to 5,56 N (0.5 lb to 1.25 lb)

Electrical rating B

3,61 N to 8,90 N (0.8 lb to 2 lb)

Electrical rating C

2,22 N to 6,67 N (0.5 lb to 1.5 lb)

Pretravel max. (PT):

Electrical rating A, B

5,56 mm (0.219 in) 8°

Electrical rating C

6,35 mm (0.250 in)

Overtravel max. (OT):

Electrical rating A

90°

Electrical rating B, C

25°

Differential travel max. (DT):

Electrical rating A

0,18 mm (0.007 in) 0.25°

Electrical rating B

0,3 mm (0.012 in) 0.5°

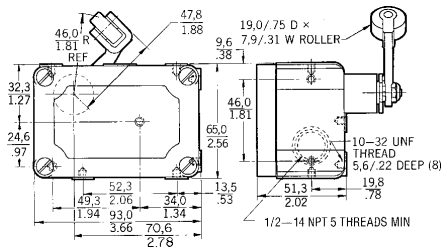
Electrical rating C

2,77 mm (0.109 in) 4°

CONTACT	ELECTRICAL RATING	REFERENCE
DPDT	C	4EX1-3
SPDT	B	2EX1
SPDT	A	1EX1

EX Series Side rotary actuated switches (continued)

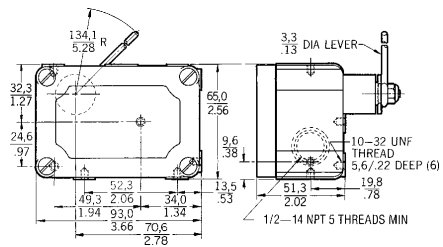
Cross roller lever, rotated 90°



Operating force max. (OF):	2,22 N to 5,56 N (0.5 lb to 1.25 lb)
Pretravel max. (PT):	5,56 mm (0.219 in) 8°
Overtravel max. (OT):	90°
Differential travel max. (DT):	0,18 mm (0.007 in) 0.25°

CW	CONTACT	ELECTRICAL RATING	REFERENCE
	SPDT	A	EX-CR

Rod lever



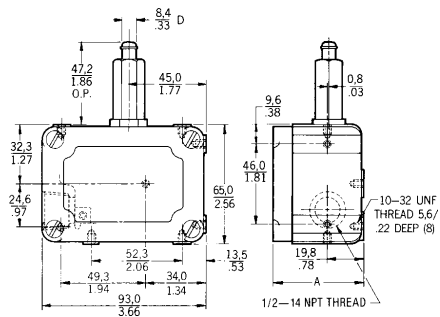
Operating force max. (OF):	0,56 N (2 oz)
Pretravel max. (PT):	18°
Overtravel min. (OT):	40°

CW/No mounting bracket	CONTACT	ELECTRICAL RATING	REFERENCE
	SPDT	A	EX-AR1613

Overtravel plunger actuated switches

OPTIONS

Top pin plunger

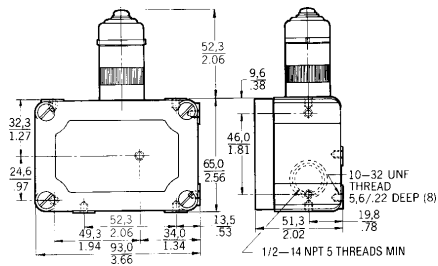


Operating force max. (OF):	
Electrical rating A, C	13,34 N (3.0 lb)
Electrical rating B	8,90 N (2 lb)
Pretravel max. (PT):	
Electrical rating A	1,98 mm (0.078 in)
Electrical rating B	1,27 mm (0.050 in)
Electrical rating C	3,96 mm (0.156 in)
Overtravel min. (OT):	
Electrical rating A	4,78 mm (0.188 in)
Electrical rating B	3,18 mm (0.125 in)
Electrical rating C	3,48 mm (0.141 in)
Differential travel max. (DT):	
Electrical rating A	0,10 mm (0.004 in)
Electrical rating B	0,23 mm (0.009 in)
Electrical rating C	1,52 mm (0.060 in)

	CONTACT	ELECTRICAL RATING	REFERENCE
No mounting bracket	SPDT	A	EX-Q
High temperature	SPDT	A	EX-062
Low OF	SPDT	B	EX-Q400
	SPDT	B	EXA-Q

Sealing NEMA Class 1 Group B

	CONTACT	ELECTRICAL RATING	REFERENCE
	SPDT	A	EX-Q800
Preleaded with 0,91 m (3 ft) leadwire	DPDT	C	EXD-Q-3

Boot sealed**Operating force max. (OF):**

Electrical rating D 13,34 N (3.0 lb)

Electrical rating B 15,57 N (3.5 lb)

Pretravel max. (PT):

Electrical rating D 1,98 mm (0.078 in)

Electrical rating B 2,77 mm (0.109 in)

Overtravel min. (OT):

Electrical rating D 4,78 mm (0.188 in)

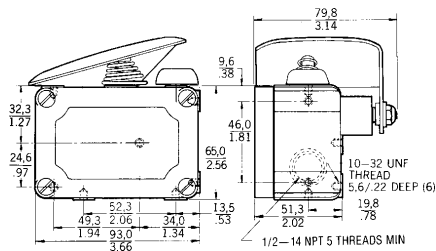
Electrical rating B 3,18 mm (0.125 in)

Differential travel max. (DT):

Electrical rating D 0,10 mm (0.004 in)

Electrical rating B 0,23 mm (0.009 in)

	CONTACT	ELECTRICAL RATING	REFERENCE
Class 1 Group B	SPDT	D	EX-N15
	SPDT	B	EXA-N

Manually actuated**Operating force max. (OF):**

11,1 N (2.5 lb)

	CONTACT	ELECTRICAL RATING	REFERENCE
	SPDT	A	EX-AR50