#### F:T•N **Cutler-Hammer**

August 2007

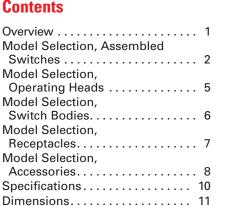
Dozens of

Wobble

### **Heavy-Duty Plug-In Switches**

1

### Modular Limit Switches Provide Extremely Easy Installation, High Reliability, and Low Maintenance and Inventory Costs



Cutler-Hammer<sup>®</sup> E50 Modular Plug-In Limit Switch Components from Eaton's electrical business are the industry standard with versatility of design and high reliability for low maintenance, installation and inventorv costs. Standard Viton® gaskets. seals and boots and a zinc die cast enclosure provide exceptional chemical resistance to the common coolants, cleansing agents, and hydraulic fluids found in machine tool, automotive, waste water treatment and other heavy-duty industrial applications. Mounting dimensions accommodate both U.S. and DIN standards for easy retrofit installations. Super bright 24 - 120V AC/DC LED indicating light versions simplify setup and troubleshooting operations.

### Approvals

- UL Listed
- CSA Certified
- IEC.947.5.1
- TUV E9271605E02

(€ (where shown)



**Operators** Switches or Components to Perfectly Fit Your Application Rotary, Top and Side Push. and Specialty **Operating Heads** Viton Gasket Seals Single- or Double-**Pole Switch Bodies** with Optional Indicating Lights **Rugged Zinc** Die-Cast



A Variety of **Receptacles Meet** Your Wiring Needs

Conduit, Cable and **Connector Wiring Options** 

Available as Assembled

# **Product Features**

Housing

- Modular, plug-in components (head, body and receptacle) provide application flexibility, reduced inventory and less downtime
- Manufactured to take the physical and environmental abuse (including cutting fluids and chemicals) of harsh industrial environments
- Chemical resistant Viton<sup>®</sup> gaskets, seals and boots are standard, and so are captive, posi-drive screws
- The switches have terminal identification on the nameplate for a visual wiring checkout without guesswork. Heads and switch bodies can be replaced without rewiring
- E50 devices can be ordered in separate components or as complete assembled switches
- 600V rating, ridge-topped contacts and wiping action assure continuity even to logic level circuits
- Keyed, four direction head positioning
- Standard 5° pre-travel and 90° total travel
- 24 120V AC/DC LED and 120V AC neon indicating lights available
- Rotary heads are field convertible CW, CCW, or both, without special tools
- Epoxy filled, pin connector or piqtail pin connector receptacles available

Viton® is a registered trademark of Dupont Dow Elastomers.

For Customer Service in the U.S. call 1-877-ETN CARE (386-2273), in Canada call 1-800-268-3578. For Application Assistance in the U.S. and Canada call 1-800-426-9184.

## **Cutler-Hammer**

# Limit Switches E50 Heavy-Duty Plug-In Switches

August 2007

F:T-N

Assembled Switch		Single Pole (5 Terminal Receptacle)			Double Pole (9 Terminal Re	ceptacle)			
	Indicating Light:	None	LED (24 – 120V AC/DC)	Neon (120V AC)	None	LED (24 – 120V AC/DC)	Neon (120V AC)	LED (24 – 120V AC/DC)	Neon (120V AC)
	Switch Body:	E50SA 1N.O1N.C.	E50SAL 1N.O1N.C.	E50SAN 1N.O1N.C.	E50SB 2N.02N.C.	E50SBL 2N.02N.C.	E50SBN 2N.02N.C.	E50SCL 1N.02N.C.	-
	Receptacle: ①	E50RA	E50RA	E50RA	E50RB	E50RB	E50RB	E50RB	E50RB
Operating Head Type	2	Catalog Numb	er for Assembled S	Switches (Head +	- Receptacle + Bo	ody)			
Side Rotary (requires an operating lever,	Standard Spring Return — E50DR1 <sup>③</sup>	E50AR1	E50ALR1	E50ANR1	E50BR1	E50BLR1	E50BNR1	—	-
see PG.05C.04.T.E)	Low Force Spring Return — E50DL1 ③	E50AL1	E50ALL1	E50ANL1	E50BL1	E50BLL1	E50BNL1	-	-
	Maintained Two-Position — E50DM1	E50AM1	E50ALM1	E50ANM1	E50BM1	E50BLM1	E50BNM1	—	-
Side Pushbutton, Spring Return — E50DS1	5	E50AS1	E50ALS1	E50ANS1	E50BS1	E50BLS1	E50BNS1	E50CLS1	-
Side Pushbutton, Adjustable Spring Return — E50DS2	5	E50AS2	E50ALS2	E50ANS2	E50BS2	E50BLS2	E50BNS2	E50BLS2	E50CNS2
Side Push Roller, Spring Return — E50DS3 ④	a de la dela dela dela dela dela dela de	E50AS3	E50ALS3	E50ANS3	E50BS3	E50BLS3	E50BNS3	E50BLS3	-
Side Pushbutton, Maintained — E50DH1	5	е50АН1 С Є	E50ALH1	E50ANH1	E50BH1	E50BLH1	E50BNH1	E50BLH1	-
	Wiring:	Single Pole 1 Must be sam			Double Pole 2N.C. Paralle Indicator ligh Same polarit each pole	l wired		Double Pole 1N.O2N.C. Series wired Indicator light; Same polarity each pole	

0 Connection options (add the Code Suffix from the table below to the end of the Catalog Number):

Option		Mating Cordset Catalog Number	Code Suffix
Mini-Connector (5)	Single Pole (5-Pin Mini-Connector)	CSMS5D5CY1602	<b>P5</b> 6
(with epoxy filled receptacle)	Double Pole (9-pin Mini-Connector)	CSMS9D9CY1602	<b>P9</b> 6
Micro-Connector (5) (with epoxy filled receptacle)	Single Pole (5-Pin Micro-Connector)	CSDS5A5CY2202	A5 6
Cable Connection	8-foot cable length	—	S
(with epoxy filled receptacle)	12-foot cable length	—	S12
	20-foot cable length	_	S20
Manifold Mount (rear wiring entrance)		—	М
20 mm Conduit Entrance	—	20	

<sup>(2)</sup> For Operating Head specifications, see Page 5.

<sup>3</sup> CW (clockwise) and CCW (counterclockwise) operation, easily convertible to CW only or CCW only operation.

 $\overset{(4)}{=}$  Roller can be converted in the field between horizontal and vertical.

<sup>6</sup> For a full selection of cable connectors, see **PG.05.05.T.E**.

<sup>6</sup> Refer to **Page 7** for wiring diagram.

Fast turn product with typical one business day lead-time to shipment.

Stocked product, typical order quantities guaranteed in stock.

2

Assembled Switch		Single Pole (5 Terminal Receptacle)			Double Pole ( Receptacle)	9 Terminal					
	Indicating Light:	None	LED (24 – 120V AC/DC)	Neon (120V AC)	None	LED (24 120V AC	C/DC)	Neon (120V AC)	LED (24 - 120V AC/		Neon (120V AC)
-3	Switch Body:	E50SA 1N.O1N.C.	E50SAL 1N.O1N.C.	E50SAN 1N.O1N.C.	E50SB 2N.O2N.C.	E50SBL 2N.02		E50SBN 2N.O2N.C.	E50SCL 1N.02N	. <b>C</b> .	-
	Receptacle: 1	E50RA	E50RA	E50RA	E50RB	E50RB		E50RB	E50RB		E50RB
Operating Head Type 🗵	)	Catalog Num	ber for Assembl	ed Switches							
Top Pushbutton, Spring Return — E50DT1		E50AT1	E50ALT1	E50ANT1	E50BT1	E50BL1	[1	E50BNT1	E50CLT1	I	E50BNT1
Top Pushbutton, Adjustable Spring Return — E50DT2		E50AT2	E50ALT2	E50ANT2	E50BT2	E50BL1	[2	E50BNT2	-		_
Top Push Roller, Spring Return — E50DT3 ③		Е50АТ3 С <del>С</del>	E50ALT3	E50ANT3	E50BT3	E50BL1	[3	E50BNT3	-		_
Nobble Head, Spring Return requires a wobble operator, see PG.05C.04.T.E)	Standard Duty — E50DW1	E50AW1	E50ALW1	E50ANW1	E50BW1	E50BLV	W1	E50BNW1	EB50BI	.W1	_
	Heavy-Duty High Strength Steel — E50DW2	E50AW2	E50ALW2	E50ANW2	E50BW2	E50BLV	N2	E50BNW2	E50CLW	12	E50BNW2
	Wiring:	Single Pole 1 polarity		be same	Double Pole Indicator lig				Series v	vired I	N.O2N.C. ndicator light each pole
	s (add the Code Suffi	x from the tab	le below to th	end of the	Catalog Num						
Option							Mating ( Catalog	Cordset Number	(	Code S	uffix
Mini-Connector ④		Si	ngle Pole (5-Pin	Mini-Connecto	nr)		-	D5CY1602		P5 ©	

#### Model Selection — Assembled Switches — Standard (Continued)<sup>①</sup>

Option		Mating Cordset Catalog Number	Code Suffix
Mini-Connector ④	Single Pole (5-Pin Mini-Connector)	CSMS5D5CY1602	P5 6
(with epoxy filled receptacle)	Double Pole (9-pin Mini-Connector)	CSMS9D9CY1602	<b>P9</b> 6
Micro-Connector  (with epoxy filled receptacle)	Single Pole (5-Pin Micro-Connector)	CSDS5A5CY2202	A5 6
Cable Connection	8-foot cable length	—	S
(with epoxy filled receptacle)	12-foot cable length	—	S12
	20-foot cable length	—	S20
Manifold Mount (rear wiring entrance)		—	M
20 mm Conduit Entrance	—	20	

<sup>②</sup> For Operating Head specifications, see **Page 5**.

<sup>③</sup> Roller can be converted in the field between horizontal and vertical.

<sup>(4)</sup> For a full selection of cable connectors, see PG.05.05.T.E.

<sup>5</sup> Refer to **Page 7** for wiring diagram.

<sup>®</sup> Refer to Page 7 for wiring diagram.

Fast turn product with typical one business day lead-time to shipment.

# F:T•N

**Cutler-Hammer** 

# Limit Switches E50 Heavy-Duty Plug-In Switches

August 2007

	Operating Data — Nominal	Catalog Numb	er			Circuit Diagram		
		Assembled Switch	Switch Body Only	Receptacle Only	Operating Head Only			
Neutral Position	5° Travel	E50NN1	E50SN	E50RB	<b>E50DN1</b> ①	Same Polarity		
requires an operating ever, see <b>PG.05C.04.T.E</b> )	5° Travel; Stainless Steel Shaft	E50NN1SPL	—	—	—	Each Pole		
evel, see T d.050.04.1.L/	15° Travel	E50NN2	NN2 E50SN E50RB E50DN2 (1					
	Travel to Reset Contacts: Total Travel: Force to Operate Contacts: Minimum Return Force:			5° or 15° (depending upon model selected) 2° 90° 1.8 in-lbs 2.5 in-oz 14° to 200°F (-10° to 94°C)				
wo Step CW, CCW or both,		E50TD1	E50ST	E50RB	E50DD1	Same Polarity		
Convertible (requires an operating lever, see PG.05C.04.T.E)	Travel to Operate Contacts: Travel to Reset Contacts: Total Travel: Force to Operate Contacts: Minimum Return Force: Operating Temperature:	4° Each 90° 3 in-lbs 4.5 in-oz CW or CCW:	1st Step 10°; 2nd Step 20° 4° Each 90° 3 in-lbs			Each Pole 1 $1 $ $1 $ $2 $ $1 $ $2 $ $1 $ $2 $ $1 $ $1$		
Gravity Return	Without Indicating Light	E50GG1	E50SG	E50RA	E50DG1	Must Be Same		
requires E50KL220, 50KL226 or equivalent	With LED Indicating Light (24-120V AC/DC)	E50GLG1	E50SGL			Polarity		
perating lever, see	With Neon Indicating Light (120V AC)	E50GNG1	E50SGN					
PG.05C.04.T.E)	Travel to Operate Contacts: Travel to Reset Contacts: Total Travel: Force to Operate Contacts: Minimum Return Force: Operating Temperature:	10° to 170° 8° 360° 3.0 in-oz Gravity 14° to 200°F (	-10° to 94°C)			10 <u>0</u> 2 30 <u>0</u> 4		

 $^{(1)}$  Add  ${\bf 9}$  suffix to the model number for low temperature (-40 to 79°C) versions.

Fast turn product with typical one business day lead-time to shipment.

### Model Selection — Operating Heads

Description		Travel to	Travel to		Force to		Operating Temperature 1		Catalog
-		Operate Contacts	Reset Contacts	Travel	Operate Contacts	Return Force	Without Cable	With Pre-wired Cable	Number
Side Rotary (requires an operating lever, see <b>PG.05C.04.T.E</b> )	Standard Spring Return <sup>②</sup>	5°	2°	90°	3 in-lbs	4.5 in-oz	10° to 200°F (-12° to 94°C) ③	10° to 200°F (-12° to 94°C) ③	E50DR1
	Low <sup>②</sup> Temperature Spring Return	5°	2°	90°	3 in-Ibs	4.5 in-oz	-40° to 175°F (-40° to 79°C)	-31° to 175°F (-34° to 79°C)	E50DR19
9	Low Force Spring Return <sup>②</sup>	15°	6°	90°	1.5 in-lbs	2.5 in-oz	10° to 200°F (-12° to 94°C) ③	10° to 200°F (-12° to 94°C) ③	E50DL1
	Maintained Two-Position	50°	50°	90°	3 in-Ibs	_	14° to 200°F (-10° to 94°C)	14° to 200°F (-10° to 94°C)	E50DM1
Side Pushbutton, Spring Return		0.065 inch	0.030 inch	0.250 inch	4 lbs	8 oz	14° to 200°F (-10° to 94°C)	14° to 200°F (-10° to 94°C)	E50DS1
Side Pushbutton, Adjustable Spring Return		0.065 inch	0.030 inch	0.250 inch	4 lbs	8 oz	14° to 200°F (-10° to 94°C)	14° to 200°F (-10° to 94°C)	E50DS2
Side Push Roller, Spring Return ④		0.065 inch	0.030 inch	0.250 inch	4 lbs	8 oz	14° to 200°F (-10° to 94°C)	14° to 200°F (-10° to 94°C)	E50DS3 6
2									E50DS4 6
Side Pushbutton, Maintained		0.200 inch	0.130 inch	0.320 inch	5 lbs	5 lbs	14° to 200°F (-10° to 94°C)	14° to 200°F (-10° to 94°C)	E50DH1
Top Pushbutton, Spring Return		0.040 inch	0.020 inch	0.280 inch	4 lbs	8 oz	14° to 250°F (-10° to 121°C)	14° to 221°F (-10° to 105°C)	E50DT1
Top Pushbutton, Adjustable Spring Return		0.040 inch	0.020 inch	0.280 inch	4 lbs	8 oz	14° to 250°F (-10° to 121°C)	14° to 221°F (-10° to 105°C)	E50DT2
Top Push Roller, Spring Return		0.040 inch	0.020 inch	0.280 inch	4 lbs	8 oz	14° to 250°F (-10° to 121°C)	14° to 221°F (-10° to 105°C)	E50DT3
Wobble Head, Spring Return (requires a wobble operator, see <b>PG.05C.04.T.E</b> )	Standard Duty	10°	6°	15°	2 in-Ibs	2.4 in-oz	14° to 250°F (-10° to 121°C)	14° to 221°F (-10° to 105°C)	E50DW1
	Heavy-Duty High Strength Steel	10°	6°	15°	2 in-Ibs	2.4 in-oz	14° to 250°F (-10° to 121°C)	14° to 221°F (-10° to 105°C)	E50DW2

<sup>①</sup> Temperature ranges below +32°F (0°C) are based on absence of freezing moisture or water.

<sup>②</sup> CW (clockwise) and CCW (counterclockwise) operation, easily convertible to CW only or CCW only operation.

③ For CW and CCW operation. For CW only or CCW only operation, high temperature limit increases to 250°F (121°C) without cable, and 221°F (105°C) with pre-wired cable.

 ${}^{\textcircled{3}}$  Roller can be converted in the field between horizontal and vertical.

<sup>(5)</sup> Roller shaft is 0.38 inches (9.5 mm) longer on E50DS4, see dimensions on Page 11.

# **Cutler-Hammer**

August 2007

F-T-N

#### Model Selection — Switch Bodies

would Selection -			
	Circuit	Switch Body Construction	Catalog Number
Switch Bodies	Single Pole 1N.O1N.C. Must Be Same Polarity 🛈	Without Indicating Light	E50SA CE
		With LED Indicating Light 24 – 120V AC/DC	E50SAL
		With Neon Indicating Light 120V AC	E50SAN
	Double Pole 2N.O2N.C. Parallel Wired Ind. Light Same Polarity Each Pole	Without Indicating Light	E50SB
		With LED Indicating Light 24 – 120V AC/DC	E50SBL
		With Neon Indicating Light 120V AC	E50SBN
	Double Pole 2N.C1N.O. Series Wired Ind. Light Same Polarity Each Pole ①	With LED Indicating Light 24 – 120V AC/DC	E50SCL

<sup>①</sup> Indicating lights are supplied from the factory wired as shown. However, they can easily be re-connected to terminals 1 and 2 if necessary (SPDT).

Fast turn product with typical one business day lead-time to shipment.

Stocked product, typical order quantities guaranteed in stock.

#### **Model Selection** — Receptacles

	Description	Poles	Conduit Entrance	Cable Length	Catalog Number	Wiring
Surface Mount	Conduit entrance, front or rear mounting	Single Pole (5 Terminal)	1/2 NPT	-	E50RA	0
	mounting	(5 reminut)	20 mm	-	E50RA20	
1 2 3		Double Pole (9 Terminal)	1/2 NPT	-	E50RB	1
		(5 Terminal)	3/4 NPT	-	E50RB34	
- ME			20 mm	-	E50RB20	
Manifold Mount	nifold Mount Rear wiring entrance instead of conduit hole, gasket on back for oil tightness	Single Pole (5 Terminal)	_	_	E50RAM	0
		Double Pole (9 Terminal)		_	E50RBM	1

0 See Model Selection — Switch Bodies for wiring information.

Fast turn product with typical one business day lead-time to shipment.

#### Description Poles Conduit Cable Catalog Number Wiring Entrance Length Epoxy filled receptacle with pre-wired Mini-Connector. (The -W Mini-Connector E50RAP5 🕄 Single Pole 5-pin Mini-RED 2 ORANG (5 Terminal) Connector version is a wiring scheme typically used in automotive applications.) E50RAP5-W 😯 1 2 BLACK RED ORANG Double Pole E50RBP9 🏵 9-pin Mini-(1) RED/BLK WHT/BLH (9 Terminal) Connector GRN/BLK 6 RED ORANGE BLACK BLUE 8 WHITE REEN E50RAA5 Micro-Connector Epoxy filled receptacle with pre-Single Pole Blue 4 Black 3 wired Mini-Connector. (5 Terminal) Micro Style Straight Female White Brown (1 (4 Green/Yellow GND Pre-wired Cable Epoxy filled receptacle with pre-Single Pole 1/2 NPT 8-foot E50RAS 1 2 BLACK wired 16 gauge, yellow jacketed, (5 Terminal) WHITE 1 12-foot E50RAS12 type SOOW-A cable. Cable enters RED ORANGE 20-foot E50RAS20 through hole threaded for conduit 5 20 mm E50RA20S 8-foot GREEN E50RA20S12 12-foot GND 20-foot E50RA20S20 Double Pole 1/2 NPT 8-foot E50RBS (9 Terminal) WHITE BROWN 12-foot E50RBS12 BLACK 20-foot E50RBS20 RED YELLOW 20 mm E50RB20S 8-foot ORANGE BLUE E50RB20S12 12-foot GREEN 20-foot E50RB20S20 GND

Model Selection — Receptacles (Continued)

<sup>①</sup> The wire colors referenced on these diagrams are those internal to the switch itself.

See listing of compatible connector cables on Page 8.

# **Cutler-Hammer**

# Limit Switches E50 Heavy-Duty Plug-In Switches

August 2007

F:T•N

#### Model Selection — Compatible Connector Cables ①

	Voltage Style	Number of Pins	Gauge	Length	Catalog Number	Pin Configuration/Wire Colors (Face View Female Shown)
Standard Cables — Mini Style						•
Mini Style Straight Female	_	5-pin	16 AWG	6 feet (2m)	CSMS5D5CY1602	(5) (1) (4) (2) (4) (3) (2) (3) (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4
Current Rating @ 600V 5-pin: 8A 9-pin: 7A		9-pin	16 AWG	12 feet (4m)	CSMS9D9CY1602	1-Orange 2-Blue 3-Red/Black 4-Green/Black 5-White 6-Red 7-Green 8-White/Black 9-Black
Micro Style	_	5-pin 5-wire	22 AWG	6.0 feet (2m)	CSDS5A5CY2202	(10) (10) (10) (10) (10) (2) (2) (3) (4) (4) (4) (4) (4) (4) (5) (5) (4) (5) (4) (5) (5) (5) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7

<sup>①</sup> For a full selection of connector cables, see **PG.05.05.T.E**.

Stocked product, typical order quantities guaranteed in stock.

#### Model Selection — Accessories

Approximate	Dimensions in mm [Inches]	Description	Catalog Number
Adapter Plate	E50 ATTACHING HOLES (2) 11.00]	Allows E50 to replace Eaton's Cutler-Hammer 10316 Type LP Surface Mounting Plug-In Limit Switch Allows E50 to replace Eaton's Cutler-Hammer	E50KH1
	2 HOLES 5.10 (0.20) 29.4 (1.156)	10316 Type LP Manifold Mounting Plug-In Limit Switch	LJUKITIM
Adapter Plate	12.7         ES0 MTG           10.5]         HOLES           11000         10000           4 HOLES         10000           10.33         10000           COUNTER BORE         26.9           10.20         DEEP           20000         10.00	Allows E50 to replace Square D Type AW Surface Mounting Non Plug-In Standard Box Limit Switch	E50KH7
Adapter Plate	46 (1.81) (0.515) (1.5	Allows E50 to replace National Acme, Type D- 1200M, Style 2 Mounting. Denison LoxSwitch, Model L-100W, Style 2 Mounting. Square D 9007 Type T, Style B Mounting. (Adapter plate is 1/8 inch thick, with 1/4 inch mounting holes.)	E50KH4 ①
Adapter Plate	83 71.4 [2.8] [2.8] [0.66] 74.6 [2.94] 52 [2.4] 52 [2.4]	Allows E50 to replace National Acme, Type D- 1200M, Style 1 Mounting. Denison LoxSwitch, Model L-100W, Style 1 Mounting. Square D 9007 Type T, Style C Mounting. (Adapter plate is 1/8 inch thick, with 1/4 inch mounting holes.)	E50KH5 ①

<sup>①</sup> Limit Switch not included.

8

### Model Selection — Accessories (Continued)

Approximate	Dimensions in mm [Inches]	Description	Catalog Number
Adapter Plate	0.52 DIA. (0.204) 2 HOLES E50 MTG. HOLES 3.00 (0.12) THICK 10-32 2 HOLES 2 HOLES 2 HOLES 10-32 10-32 2 HOLES 10-32 10-	Allows E50 to replace Eaton's Cutler-Hammer 10316 Type LT Non Plug-In 2-Pole Limit Switch	E50KH2
Adapter Plate	(1.54) (1.54) (1.54) (1.160) (1.9) (1.5	Allows E50 to replace Allen-Bradley 802M Sealed Limit Switch	E50KH10
Adjustable Mounting Plate	95 (3.75) (1.00) ADJ. 19 [0.75] (3.10) (3.10) (3.10) (3.10) (3.12) (3.13) ADJ.	This is a mounting plate only 5/16 inch thick and includes the proper mounting bolts and nuts. The slots in the plate allow a maximum horizontal adjustment of 1 inch and vertical adjustment of 1-1/4 inches	E50KH3 ①
Conduit Sealing Nut		1/2 inch oiltight	E50KH6

① Limit Switch not included.

# F:T•N

August 2007

#### **Specifications**

Description	Specification
Environmental Ratings	NEMA 1, 3, 3S, 4, 4X, 6, 6P, 13, IP67
Material of Construction	Zinc die cast
Switch Gasket Material	Viton ®
Universal U.S./DIN Mounting Dimensions	1.16 in (30 mm) x 2.34 in (60 mm)
Conduit Entrance	1/2 in NPT or 20 mm threading
Contact Ratings	See below
Contact Operation	Snap action over center mechanism
Contact Material	Fine silver
Maximum Frequency of Operation	8000 operations per hour
Mechanical Life: Side Rotary Side or Top Push	13,000,000 operations minimum 10,000,000 operations minimum
Electrical Life: Single Pole Double Pole	1,000,000 operations typical at full load 100,000 operations typical at full load
Ambient Temperature Range — Standard Standard without Cable Standard with Cable Low Temperature without Cable Low Temperature with Cable	14° to 250°F (-10° to 121°C) 14° to 221°F (-10° to 105°C) -40° to 250°F (-40° to 121°C) -40° to 221°F (-40° to 105°C)
Repeat Accuracy — Standard Side Operated Top Operated Side Rotary	Within 0.0012 in Within 0.0003 in Within 0.0014 in
Torque Requirements: Switch Body Screws Operating Head Screws	25 – 30 lb-in 14 – 18 lb-in
Wire Size	Will accept AWG #22 – #12, single or stranded wire

### Electrical Data — Maximum Contact Ratings (Same polarity each pole)

AC Volts	Current, Amperes			Voltamperes		DC Volts	Current, Amperes	
	Make	Break	Cont. 1	Make	Break		Max. Make or Break	Cont. 1
All Switch	es Except Gr	avity Return	and Indicat	ing Light V	ersions			
NEMA A600 Rating						NEMA R300		
120 240 480 600	60 30 15 12	6 3 1.5 1.2	10	7200	720	125 250	0.22 0.11	1.0 1.0
Switches v	vith Indicati	ng Lights (LE	D or Neon)	•	•			
NEMA A150 Rating						NEMA R150		
120	60	6	10	7200	720	125	0.22	1.0
Gravity Ret	urn Switche	s — Maximu	m Contact	Ratings				
NEMA 6600 Rating — Contacts on Same Polarity								
120 240 480 600	30 15 7.5 6	3 1.5 0.75 0.60	5	3600	360	_	_	_

<sup>①</sup> Thermal rating. Valid only if switch does not have to make or break.

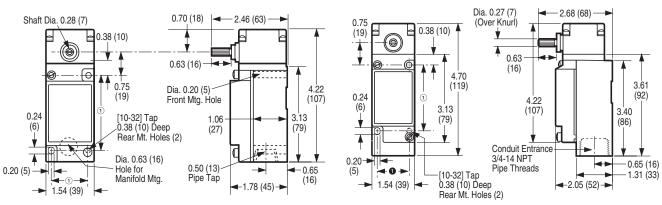
# **F·T**•**N** Cutler-Hammer

August 2007

#### Approximate Dimensions in Inches (mm)

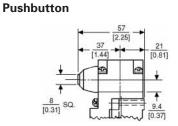


E50SB34

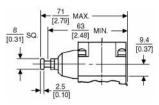


 $^{\odot}$  Can accommodate both U.S., 1.16 (29.4) x 2.34 (59.5) and DIN, 1.18 (30) x 3.26 (60), mounting dimensions.

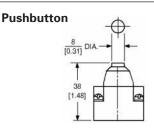
#### Side Push Operators in mm [Inches]



#### Adjustable Pushbutton



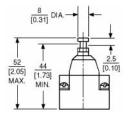
#### Top Push Operators in mm [Inches]



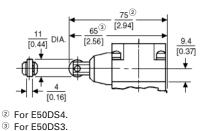
#### **Wobble Operators**

See Operators, PG.05C.04.T.E

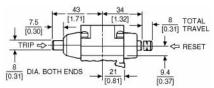
**Adjustable Pushbutton** 







#### **Maintained Pushbutton**



### Roller

