Technical Information

Legend Plates, Three Styles Available

Panel

Optional Anti-Rotation Ring #E22LRP

3-Way Mounting Adapter #E22BA1

Terminal Clamps Are Shipped Open, Ready to Wire

Bezel, Choice of Chrome or Matte Black

T3-1/4 Bayonet Base Lamps Used Throughout

Light Units and Contact Blocks Secured to Mounting Adapter Without Tools

Octagonal Mounting Nut Which Eliminates Spacer Washers and Set Screws #15-1438. Tightening Torque: 15 lb-in (1.7 Nm)

Variety of Operators

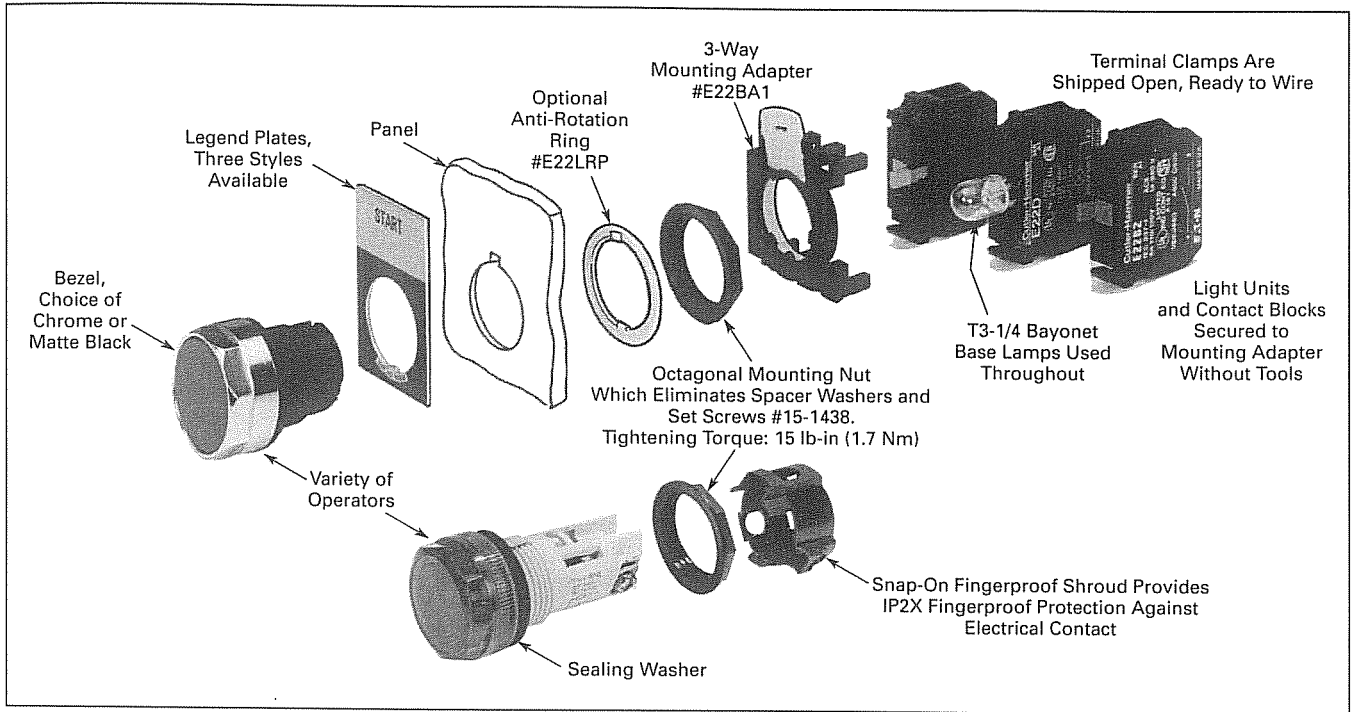**Snap-On Fingerproof Shroud Provides IP2X Fingerproof Protection Against Electrical Contact**

Sealing Washer

General

Cutler-Hammer's 22.5 mm Industrial Heavy-Duty Pushbutton line offers a wide array of functional, smartly styled illuminated and non-illuminated push-pulls, twist releases and more. The complete line also includes transformer, full voltage, resistor, LED or neon light units. The operators are available with either a traditional chrome or matte black front-of-panel appearance. The space-saving design and modular construction of the E22 line makes on-the-job assembly fast and simplifies the stocking of both components and complete devices.

Complete and Component Devices

The complete devices listed on **Pages 4A-4 – 4A-14** represent many commonly ordered units. These devices are shipped complete with operator, contact blocks and light units (if applicable). The compo-

nents are listed on **Pages 4A-15 – 4A-38.** For colors, circuit arrangements or options not listed in the complete device section, see components listing for desired device.

NOTE: See assembly instruction per **Page 4A-39** and **Appendix D**.

Ratings

The Cutler-Hammer E22 pushbuttons are designed for industrial applications and are UL listed for NEMA type 1, 2, 3, 3R, 4, 4X, 12 and 13 applications.

They are UL 508 A600 and Q600 rated. See table on **Page 4A-3** for current-voltage ratings. The 90% silver contact area, with reliability nibs, provides positive contact through light, medium or heavy loads.

The standard pushbuttons have a mechanical life of 5 million operations.

Terminals meet fingerproof requirements.

For additional applicable ratings, see **Pages 4A-2 – 4A-3**.

Contact Operation

Linear make and break. All normally closed (NC) contacts are Direct Opening Action, i.e., NC contacts are physically forced open by direct LINKAGE with the pushbutton operator in the unlikely event of contact weld.

The contact block contacts are provided with "Reliability Nibs." The precisely shaped point of the nib, coined on the silver contact alloy, helps penetrate dust, film and other contaminants. This improves contact reliability even under dry circuit, corrosive atmospheres and fine dust conditions. Contact block body is 30% glass-filled nylon. Contact bars are a polyester material. Contact material is 90% silver, 10% nickel.

Logic level contact blocks are available for low power switching — minimum 1 mA @ 5V DC.

Technical Information

Standards and Certifications

- UL Listed 508 . . . . File E131568, Category NKCR
- CSA Certified . . . . Class 3211 03, LR 68551
- UL486E . . . . Terminal Secureness Tests
- IEC 947-5-1 . . . . Maximum AC and DC insulation voltage 690V
- CE Marked EN60 947-5-1
- BS EN60 947-5-1 . . . . AC15, DC13
- VDE0660 Parts 200 – 202, 204, 205. . . . . . Maximum AC and DC insulation voltage 690V
- M.T.T.A.. . . . . Machine Tools Trade Association
- BS 5472 (EN50005) . . . . . Terminal Markings
- LLOYDS . . . . Certificate No. 88100397 (E2)

Ingress Protection (IP65, IP66 Ratings to IEC 529)

- All operators . . . . UL Enclosure Types (NEMA) 1, 2, 3, 3R, 4, 4X, 12 and 13 when mounted in enclosure rated for those same applications.
- Ingress protection IP65
- Fingerproof protection — back of panel devices . . . IP20

Mechanical Ratings

- Frequency of operations:
  Pushbuttons. . . . . 6,000 operations/hr
  Selector switches. . . . . . . 3,000 operations/hr
  Twist-to-release devices . . . . 1,200 operations/hr
  Push-pull operators. . . . . 3,000 operations/hr
- Life:
  Pushbutton. . . . . 5 million operations
  Selector switch . . . . 500,000 operations
  Push-pull and twist-to-release . . . . 300,000 operations
  Contact block . . . . 3 million operations
- Vibration: (IEC 68-2 [BS 2011])
  Vibration. . . . . 5g/0.7 mm peak to peak, 10 sweeps, 10 – 500 Hz
  Shock . . . . 30g, 18 ms
  Bump . . . . 25g, 6 ms for 1,000 cycle

Climate Conditions

- Operating temperature . . . . -4° to +158°F (-20° to +70°C) up to 95% relative humidity

- Storage temperature. . . . . . .-40° to +176°F (-40° to +80°C) up to 95% relative humidity
- Altitude. . . . . .Up to 6562 feet (2000 meters)
- Pollution degree (IEC 947-1) 3
- Impulse withstand voltage (Uimp). . . . .4 kV
- Humidity . . . . .Maximum 95% RH @ 60°C

Terminal Markings

All rear of panel devices are marked with the circuit configuration per CENELEC 50013 standards.

Contact Blocks

Circuit Configuration	Description
2 ——／— 1	1NC
4 ——／ 3	1NO
2 ——／— 1 4 ——／ 3	1NO-1NC
4A ——／ 3A 4 ——／ 3	2NO

Lights Units

Circuit Configuration	Description
X1 —⊗— X2	Full Voltage
X1 —▭—⊗—▭— X2	Resistor
X1 —[⊗]— X2	Transformer

NEW

E22B1 and E22B11, NC contact blocks are marked with Direct Opening Action (DOA) Symbol "⊖" per IEC 60947-5-1, Annex K and NEMA ICS 5, Part 6. For Mechanical Operating Parameters, see **Page 4A-9.**

Terminal Clamps

- Clamp type. . . . . . . .Self-lifting
- Screw type. . . . . . . .Plus/minus, captive
- Wire range . . . . .18 to 12 AWG (0.75 to 4.0 mm^2)
- Fingerproof protection. IP20
- Tightening torque . .7 lbs-in (0.8 Nm)

E22 SERIES PUSHBUTTONS

Assembled Stations

Complete Assembled Stations, UL (NEMA) 4, 4X and 13

Totally insulated, light gray polycarbonate enclosures with black bezel pushbuttons. E22ASB105 and E22ASB106 assembled stations are complete with a safety yellow cover and a gray base. To order pushbuttons with chrome bezels, remove 6th character "**B**" from Catalog Number.
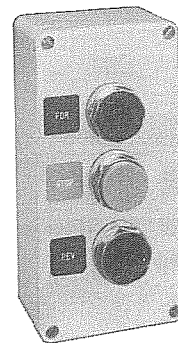
Example: E22AS108, 1 pushbutton enclosure START Flush Green Pushbutton.
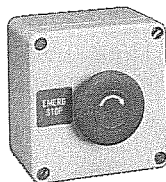
Cat. No. E22ASB106
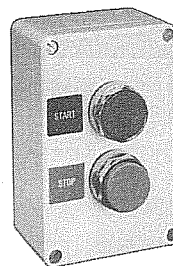
Cat. No. E22AS204

Cat. No. E22AS304

Operator	Contact Symbol	Button Type/Color	Legend Marking	Dimension A — Inches (mm)	Catalog Number	*	Approximate Dimensions — Inches (mm)
One Pushbutton	1NC	40 mm Mushroom, Momentary Action/Red	EMERGENCY STOP Yellow Cover	0.87 (22.0)	E22ASB105		
		40 mm Latch in Twist-to-Release/Red	EMERGENCY STOP Yellow Cover	0.87 (22.0)	E22ASB106		
		Extended/Red	STOP	0.65 (16.4)	E22ASB109		
	1NO	Flush/Green	START	0.57 (14.4)	E22ASB108		
Two Pushbuttons	1NO	Flush/Green Extended/Red	START STOP	0.65 (16.4)	E22ASB204		
		Flush/Green Mushroom/Red	START STOP	0.87 (22.0)	E22ASB205		
	1NC	Flush/Green Latch-In Twist-to-Release/Red	START STOP	0.87 (22.0)	E22ASB206		
Three Pushbuttons	1NO	Flush/Black Extended/Red Flush/Black	FOR STOP REV	0.65 (16.4)	E22ASB304		
	1NC	Flush/Black Extended/Red Flush/Black	CLOSE STOP OPEN	0.65 (16.4)	E22ASB305		
	1NO	Flush/Black Extended/Red Flush/Black	UP STOP DOWN	0.65 (16.4)	E22ASB306		

One Pushbutton dimensions: 2.76 (70), 3.15 (80), 2.36 (60), 3.23 (82), 4-0.17 (4.2) Mtg. Holes, 1.97 (50), A, Top View, Side View, 0.87 (22), 0.83 (21) Cable Entry, Bottom View

Two Pushbuttons dimensions: 4.25 (108), 3.15 (80), 2.36 (60), 4.72 (120), 4-0.17 (4.2) Mtg. Holes, 1.97 (50), A, Top View, Side View, 0.87 (22), 0.83 (21) Cable Entry, Bottom View

Three Pushbuttons dimensions: 5.82 (148), 3.15 (80), 2.36 (60), 6.3 (160), 4-0.17 (4.2) Mtg. Holes, 1.97 (50), A, 0.87 (22) Top View, Side View, 0.83 (21) Cable Entry, Bottom View

E22 SERIES PUSHBUTTONS

*Prices — Consult Sales Office or Price List

Cutler-Hammer
August 1999

Pushbuttons and Indicating Lights
22.5 mm Heavy-Duty Double Insulated

E22 SERIES   4A-3

Technical Information

Electrical Ratings

Contact Block [1]

Meet or Exceed NEMA Contact Rating Designations A600 and Q600								
Description	A600 (AC)				Q600 (DC)			
	120V	240V	480V	600V	125V	250V	440V	600V
Make and emergency interrupting capacity (Amp)	60	30	15	12	0.55	0.27	0.1	0.1
Normal load break (Amp)	6	3	1.5	1.2	0.55	0.27	0.1	0.1
Thermal current (Amp)	10	10	10	10	2.5	2.5	2.5	2.5

[1] Rotary cam switch does not apply, see Ratings Page 4A-33.

■ A600, Q600 per UL 508
■ AC15, DC13 per IEC 60947-5-1

Logic level contact blocks are UL A600, Q600 and IEC AC15, DC13 rated and also have a minimum rating of 1 mA @ 5V DC.

Short Circuit Coordination to IEC/EN 60947-5-1:

■ Rated conditional short circuit
  current . . . . .1 kA
■ Fuse type . . . . .BS88, Type gG, 10A,
  to IEC 60269-2-1

IEC 947-5-1 Electrical Ratings

■ Rated insulation voltage. . .U_i = 690V
■ Rated operation voltage. . .U_e = 600V
■ Rated impulse voltage . . .U_{imp} = 4 kV
■ Rated thermal current . . .I_{th} = 10A
■ Operating frequency . . . .50 – 60 Hz

Electrical Life

■ AC15 durability:
  120V, 6A. . . . . .1 x 10^6 operations
■ DC13 durability:
  24V, 8A. . . . . .0.15 x 10^6 operations
  660V, 0.1A . . . . .0.5 x 10^6 operations

Material

■ Housing, bezel,
  mounting rings . . . . .Glass filled nylon
■ Metallic bezels . . . . .Chrome plated brass
■ Internal seal . . . . .Nitrile rubber
■ Panel gasket . . . . .Nitrile rubber
■ Illuminated lenses . . . . . .Polycarbonate
■ Buttons . . . . .Polyester or polycarbonate
■ Springs . . . . .Stainless steel
■ Contacts . . . . .Silver
■ Terminal screws . . . . .Brass
■ Terminals. . . . . .Brass

Mounting

■ Panel thickness — Inches (mm):

Nominal . . . . 0.27 (6.8) [2]
  Legend plates, aluminum or plastic. 0.05 (1.3)
  Locating ring. 0.06 (1.5)
  Large yellow round legend plate 0.04 (1.0)
  Padlockable cover 0.06 (1.6)
  Rubber boot 0.05 (1.3)
Minimum 0.04 (1.0)

[2] Installation of certain accessories will increase the total (overall) panel thickness by the amount shown. The total panel thickness with all accessories installed cannot exceed the maximum allowable nominal dimension of 0.27 inch (6.8 mm).

Minimum Spacing — Inches (mm)

Size/Type of Operator	Dimensions		
	A [3]	A [4]	B
All Types up to 1.18 (30) Dia. Including Knob and Key Operated Selector Switches — except those listed below			
3-way adapter	1.18 (30)	—	1.97 (50)
5-way adapter	1.58 (40)	1.97 (50)	1.97 (50)
Lever Operated Selector Switch Operators and 1.18 – 1.57 (30 – 40) Dia. Operators	1.77 (45)	1.97 (50)	1.97 (50)
1.97 (50) Dia. Operators	2.16 (55)	2.16 (55)	2.16 (55)
Large Yellow Round Legend Plate — 2.76 (70) Dia.	2.95 (75)	2.95 (75)	2.95 (75)
Pushbutton Operators fitted with Rubber Boots or Padlockable Cover			
3-way adapter	1.38 (35)	—	1.97 (50)
5-way adapter	1.58 (40)	1.97 (50)	1.97 (50)

[3] Horizontal spacing for one 3-way and one 5-way mounting adapter.
[4] Horizontal spacing for two 5-way mounting adapters.

0.89 (22.5) +0.02 (0.4) Diameter

0.13 (3.2) ±0.01 (0.2)
0.96 (24.3) +0.02 (0.4) -0 (0)
Notch Mounting Hole as Shown

Minimum Spacing — Inches (mm)
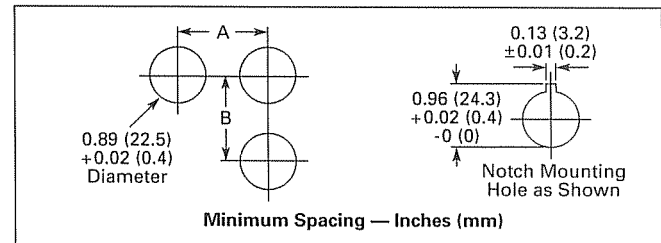
Back-of-Panel Extensions
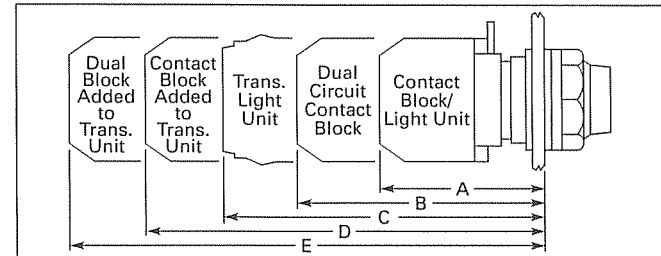
Approximate Dimensions — Inches (mm)				
A	B	C	D	E
Single Circuit Block — Full Voltage and Resistor Units	Dual Circuit, Contact Block	Trans- former Light Unit	Trans. Light Unit and Single Circuit Contact Block	Trans. Light Unit and Dual Circuit Contact Block
Pushbuttons All Types and Push-Pull				
2.0 (51)	2.6 (66)	2.91 (74)	3.7 (94)	4.3 (110)
Key, Lever and Knob Selector Switches				
2.22 (57)	2.83 (72)	3.15 (80)	3.9 (99)	4.5 (115)

Cutler-Hammer
August 1999

Pushbuttons and Indicating Lights
**22.5 mm Heavy-Duty Double Insulated**

**E22**
SERIES

4A-7

Complete Devices

Indicating Light Units — UL (NEMA) 4, 4X and 13

▨ Double Insulated
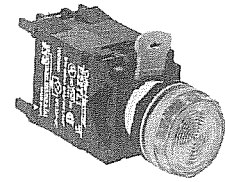▨ Standard and PresTest Types
▨ Plastic Lenses

PresTest — This device incorporates a press-to-test feature whereby depressing the lens disconnects the light from the source being monitored and connects the lamp to a continuously energized circuit for immediate test for a faulty lamp.
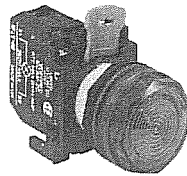
24V Full Voltage Indicating Light
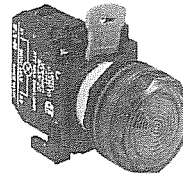
120V Resistor Indicating Light

120V Transformer Indicating Light

Indicating and PresTest Light Units — Including Light Unit and Contact Blocks. Components overpacked in single bag.

Lamp	Voltage	Type	Color	Indicating Light		PresTest		LED/Lamp Number
				Catalog Number	*	**Catalog Number**	*	
LED	24V AC/DC	Full Voltage	Red	E22H22X40		—		Bayonet Base
			Green	H33X41		—		
			White	H5X90		—		
			Blue	H66X52		—		
			Amber	H9X95		—		
			Clear	H0X90		—		
	120V AC		Red	E22H22X43		—		
			Green	H33X44		—		
			White	H5X92		—		
			Blue	H66X61		—		
			Amber	H9X96		—		
			Clear	H0X92		—		
Incandescent	24V AC/DC	Full Voltage	Red	E22H2X4		E22T2X20		#1819
			Green	H3X4		T3X20		
			White	H5X4		T5X20		
			Blue	H6X4		T6X20		
			Amber	H9X4		T9X20		
			Clear	H0X4		T0X20		
	120V AC/DC	Resistor	Red	E22H2X10		E22T2X26		W1226
			Green	H3X10		T3X26		
			White	H5X10		T5X26		
			Blue	H6X10		T6X26		
			Amber	H9X10		T9X26		
			Clear	H0X10		T0X26		
	120V AC	Transformer	Red	E22H2X11		E22T2X27		#755
			Green	H3X11		T3X27		
			White	H5X11		T5X27		
			Blue	H6X11		T6X27		
			Amber	H9X11		T9X27		
			Clear	H0X11		T0X27		

E22 SERIES PUSHBUTTONS

*Prices — Consult Sales Office or Price List

8

**E22
SERIES**

**Pushbuttons and Indicating Lights
22.5 mm Heavy-Duty Double Insulated**

Cutler-Hammer

August 1999

Complete Devices
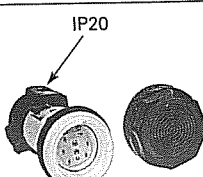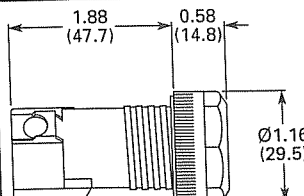
Full Voltage LED Indicating Lights — UL (NEMA) 4, 4X and 13

Cluster LED Type Units
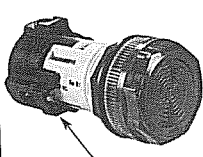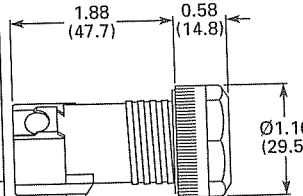
The board mounted, cluster style LEDs provide superior illumination in an economical integrated indicating light unit. The LEDs are not replaceable but provide up to 100,000 hours of illumination. Excellent for high shock/vibration applications.

Product Description		Supply Voltage	LED Color	Lamp Life ①	Catalog Number ②	✱	Dimensions in Inches (mm)
IP20	Includes permanently attached lens and board mounted, cluster style LEDs	24V AC/DC	Red Green Amber	100,000	E22HL2X4 HL3X4 HL9X4		1.88 (47.7) 0.58 (14.8) Ø1.16 (29.5)
		48V AC/DC	Red Green Amber	100,000	E22HL2X6 HL3X6 HL9X6		
		110/120V AC/DC	Red Green Amber	100,000	E22HL2X8 HL3X8 HL9X8		
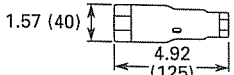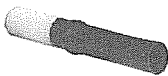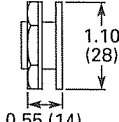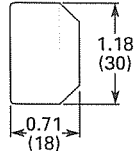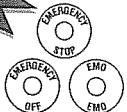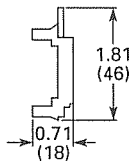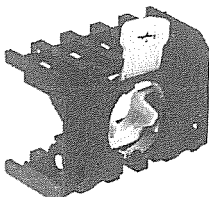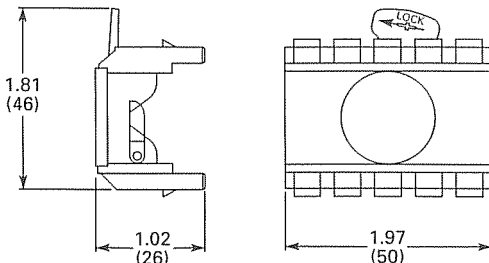
Standard LED — Replaceable bayonet base LEDs

Product Description			Supply Voltage	Color	Lamp Life ①	Catalog Number ②	✱	Dimensions in Inches (mm)
IP20 Replacement Shroud Available Order #303398-8		Includes lens and T 3-1/4 bayonet base LED	12V AC/DC	Clear Red Green Yellow White Blue Amber		E22HV0X89 HV22X37 HV33X38 HV4X39 HV5X89 HV66X51 HV9X94		
			24V AC/DC	Clear Red Green Yellow White Blue Amber		E22HV0X90 HV22X40 HV33X41 HV4X42 HV5X90 HV66X52 HV9X95		1.88 (47.7) 0.58 (14.8) Ø1.16 (29.5)
			48V AC/DC	Clear Red Green Yellow White Blue Amber	100,000	E22HV0X91 HV22X53 HV33X54 HV4X55 HV5X91 HV66X56 HV9X87		
			60V AC/DC	Clear Red Green Yellow White Blue Amber		E22HV0X97 HV22X57 HV33X58 HV4X59 HV5X97 HV66X60 HV9X98		
			120V AC	Clear Red Green Yellow White Blue Amber		E22HV0X92 HV22X43 HV33X44 HV4X45 HV5X92 HV66X61 HV9X96		

① Published theoretical lamp lives are based on ideal laboratory conditions and should be used for comparison only. Actual life may be shorter due to various application conditions described in Technical Data, Publication Number **TD.7.4.T.E.04** or **Appendix B.**

② For terminals with quick connects, add Suffix **"F"** to the end of the Catalog Number. Example: E22HV0X89F.
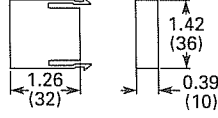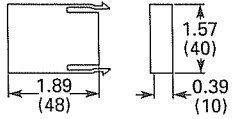
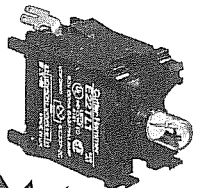**4A-40** | **E22 SERIES** | **Pushbuttons and Indicating Lights 22.5 mm Heavy-Duty Double Insulated** | **Cutler-Hammer**

August 1999
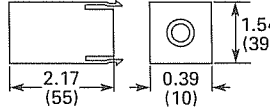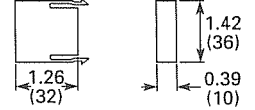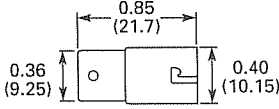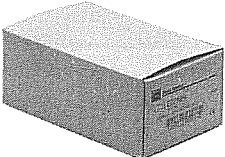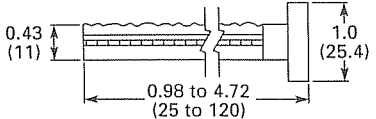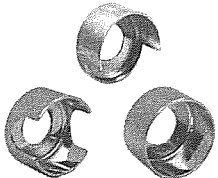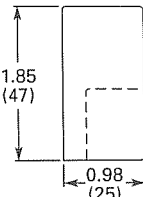
Accessories

Accessories

	Description	Catalog Number	*	Overall Dimensions Inches (mm)
	Octagonal Wrench — For easy tightening of back-of-panel mounting nut on all operators	E22CW		1.57 (40) 4.92 (125)
	Bulb Removal Tool — To facilitate bulb removal from front of panel on all illuminated operators	E22BA3		0.39 (10) 2.44 (62)
	Hole Cutting Tool — For 22.5 mm Diameter mounting hole	E22BA5		
	Hole Plug — Forms oil- and watertight seal for unused panel holes — UL Listed Type 4-4X-13 Black Nylon Stainless Steel	E22BHP BA8		1.10 (28) 0.55 (14)
	Protective Boot — Silicon Rubber. For use with 25 mm Diameter Flush and Extended pushbutton operators only — Clear Red Green Black	E22BCM BRM BGM BBM		1.18 (30) 0.71 (18)
	Oversize Yellow Legend Plates ① — 1.77" (45 mm) Blank 2.76" (70 mm) Blank 2.76" (70 mm) Printed EMERGENCY STOP 2.76" (70 mm) Printed EMERGENCY OFF 2.76" (70 mm) Printed EMO	E22VA2 VA1 VA8 VA4 VA5		
	Mounting Adapter — Supplied as standard with operators. Provides contact block and light unit mounting. Order for replacement or to retrofit new contact blocks to existing E22 operators.	E22BA1		1.81 (46) 0.71 (18)
	5-Way Mounting Adapter ② — Provides contact block and light unit mounting for up to 10 circuits. The standard 3-way mounting adapter E22BA1 allows up to 6 circuits. For non-illuminated PBs and 2-position selector switches For illuminated PBs and 2-position selector switches For non-illuminated 3-position selector switches with Cam #1 For illuminated 3-position selector switches with Cam #1 (Additional information – See **Pages 4A-45 – 4A-47**)	E22BA11 BA11L BA12 BA12L		1.81 (46) 1.02 (26) 1.97 (50)

Accessories

Accessories

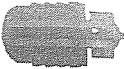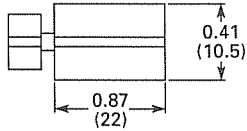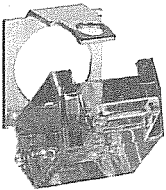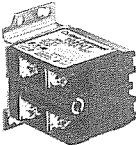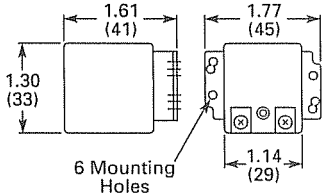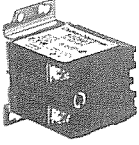| Description	Catalog Number	*	Overall Dimensions — Inches (mm)
Contact Blocks with Quick Connect Terminal Assembled — 300V clearance — 1NC 1NO 1NO Early Make 1NC Late Break 1NO-1NC 2NO	E22BF1 BFR2 BF3 BF4 ① BF11 BF20		1.42 (36) Single Circuit 1.26 (32) 0.39 (10) 1.57 (40) Dual Circuit 1.89 (48) 0.39 (10)
Light Units with Quick Connect Terminals Assembled ② — 300V clearance — Transformer Type AC Only — 120/110V, 60/50 Hz Resistor/Diode AC 120/110V Full Voltage AC/DC 24V Without Bulb	E22TLF1 E22RF2 E22DF24 DF		1.54 (39) Transformer Type 2.17 (55) 0.39 (10) 1.42 (36) Full Voltage & Resistor Types 1.26 (32) 0.39 (10)
Bulb Extender — For use with T3-1/4 bayonet base bulbs. To provide increased illumination with illuminated selector and push-pull switches.	E22BA4		0.85 (21.7) 0.36 (9.25) 0.40 (10.15)
Contact Blocks or Light Units Master Packed in Quantities of 100 Only — Contact Block 1NC (Available singly in Catalog as E22B1) Contact Block 1NO (Available singly in Catalog as E22B2) Light Unit without Lamp Full Voltage (Available singly in Catalog as E22D) Light Unit Resistor Type 120V 60 Hz (Available singly in Catalog as E22R2) Light Unit Transformer Type 120V 60 Hz (Available singly in Catalog as E22TL1)	E22AA6 AA7 AA12 AA24 AA11	)	
Mechanical Push Rod — For use with all non-illuminated pushbutton and momentary mushroom head operators. Suitable for external mechanical reset of overload relays. Must be cut to proper length. Uncut — 4.72" long	E22MRL		0.43 (11) 1.0 (25.4) 0.98 to 4.72 (25 to 120)
Mushroom Shroud — Protects against inadvertent operation. Chrome shroud (cut-away type) Chrome shroud (full type) Black shroud (cut-away type) Black shroud (full type) Chrome shroud (cut-away type for use with push/pull pushbuttons) Black shroud (cut-away type for use with push/pull pushbuttons)	E22MS MSF MBFS MBFSF MSP MBSP		1.85 (47) 0.98 (25)
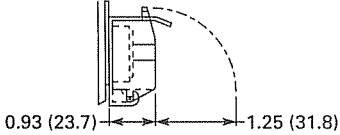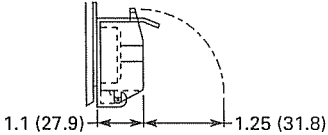
① E22BF4 contact block not available for use with 5-way mounting adapters.
② For devices not listed, contact your Cutler-Hammer Distributor or call our Customer Service Center 1-800-833-3927.
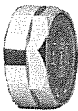
*Prices — Consult Sales Office or Price List

E22 SERIES PUSHBUTTONS

NEW

Cutler-Hammer

August 1999

Pushbuttons and Indicating Lights
22.5 mm Heavy-Duty Double Insulated

E22
SERIES

4A-41

Accessories

Accessories

	Description	Catalog Number	*	Overall Dimensions Inch (mm)
	Operator Plug — Must be inserted into rear of momentary action pushbutton and mushroom head operators when 3rd Contact Block is installed in center position. Not to be used with maintained action or illuminated operators — minimum order quantity 10 pieces. To assemble, push plug into the rear of the operator. On mushroom operators, cut down the plug to 15.2 mm (0.62") prior to assembly. Plug is notched to indicate cut down length.	E22BA2		0.41 (10.5) 0.87 (22)
	Locating Ring — Provides additional anti-rotation features when using optional panel mounting hole notch — minimum order quantity 10 pieces (metal)	E22LRM		
	Padlockable Transparent Cover — Suitable for use with 25 mm Flush and Extended Pushbutton operators only	E22PCM		0.93 (23.7) 1.25 (31.8)
	Padlockable Transparent Cover — Suitable for use with 25 mm Extended Pushbutton operators only. Enables NC circuit to be held open.	E22PCPM		
	Padlockable Transparent Cover — Suitable for use with 28 mm Mushroom operators, Knob and Key Selector switches	E22BA9		1.1 (27.9) 1.25 (31.8)
	Master Test (Dual Input) Module — Internal Form C relay suitable for either AC or DC applications. Total electrical isolation between monitored and test circuit. Fits all illuminated 10250T, E22, E30 and E34 devices. 24V AC 120V AC 24V DC 48V DC	10250TMT2 MT1 MT7 MT8		1.61 (41) 1.77 (45) 1.30 (33) 6 Mounting Holes 1.14 (29)
	Flasher Module — Changes any AC illuminated device to a controlled flashing light. Remote panel mounted. One required for each illuminated device used will flash LED or incandescent. 120V AC 24V AC	10250TFL1 FL2		
	Quick Connect Terminals — For easy installation of wired connections. 300V clearance. Minimum order quantity 10 pieces.	E22AT		

Accessories and Replacement Caps and Lenses

Description	Catalog Number	*
Adapter Kit — Enables 22.5 mm operator to be mounted in a 30.5 mm mounting hole — panel thickness from 1/16" to 7/32"	E22ARK	
Octagonal Mounting Nut	15-1438	

	Description	Color	Catalog Number	*
	Molded Black Bezel — For converting chrome bezel to black bezel — Suitable for Knob, Lever and Key Selector Switches		E22AZB	
	Chrome Bezel — Suitable for Knob, Lever and Key Selector Switches		28-6028	
Flush 25 mm Dia.	Lenses with Octagonal Bezel for 25 mm Diameter Flush Illuminated Pushbutton — 10 per package, minimum order 10.	Red Green Blue Clear Amber White Yellow	E22ADR ADG ADV ADC ADA ADW ADY	
Ext. 25 mm Dia.	Lenses with Octagonal Bezel for 25 mm Diameter Extended Illuminated Pushbuttons — 10 per package, minimum order 10.	Red Green Blue Clear Amber White Yellow	E22AER AEG AEV AEC AEA AEW AEY	
Std. Flush Button 25 mm Dia.	Color Caps with Octagonal Bezel for Standard Non-illuminated 25 mm Diameter Flush Pushbuttons — 10 per package, minimum order 10.	Red Green Blue White Yellow Black Gray Orange	E22ABR ABG ABV ABW ABY ABB ABE ABN	
Std. Ext. Button 25 mm Dia.	Color Caps with Octagonal Bezel for Standard Non-illuminated 25 mm Diameter Extended Pushbuttons — 10 per package, minimum order 10.	Red Green Blue White Yellow Black Gray Orange	E22ACR ACG ACV ACW ACY ACB ACE ACN	

Replacement Lenses — Indicating Lights

Color	Standard Indicating Light	For Use with Insert ①	*	Glass Lens	*
	Catalog Number			**Cat. No.**	
Clear	E22AE0	E22AG0		E22AC0	
Red	AE2	AG2		AC2	
Green	AE3	AG3		AC3	
Yellow	AE4	AG4		AC4	
White	AE5	AG5		AC5	
Blue	E22AE6	E22AG6		E22AC6	
Amber	AE9	AG9		AC9	

For Use with LEDs

Red	28-3339-8	—		—	
Green	28-3339-9	—		—	
Blue	28-3339-10	—		—	

① Plastic indicating light lens with insert suitable for printed legends. For replacement Indicating Light Legend Inserts, order E22AL5. Minimum order quantity 10 pieces.

Replacement Caps — Push-Pull

Description	Catalog Number		*
	1.16" (29.5 mm)	1.57" (40 mm)	
Non-illuminated			

		1.16" (29.5 mm)	1.57" (40 mm)	*
	Black Red Green Yellow White	E22AHS1 AHS2 AHS3 AHS4 AHS5	E22AH1 AH2 AH3 AH4 AH5	
	Blue Gray Amber Red EMERGENCY STOP	E22AHS6 AHS7 AHS8 —	E22AH6 AH7 AH8 AH2N8	

Illuminated

		1.16" (29.5 mm)	1.57" (40 mm)	*
	Clear Red Green Yellow White	E22AFS0 AFS2 AFS3 AFS4 AFS5	E22AF0 AF2 AF3 AF4 AF5	
	Blue Amber Red EMERGENCY STOP	E22AFS6 AFS9 —	E22AF6 AF9 AF2N8	

E22 SERIES PUSHBUTTONS