

Product Selection — Components

Emergency Stop

Table 47-45. Standard Emergency Stop and Emergency OFF Operators — UL (NEMA) 3, 3R, 4, 4X, 12, 13

All Shown with Chrome Bezel	Action	Color	Button Diameter/ Material	Legend/ Engraving	Black Bezel	Price U.S. \$	Chrome Bezel	Price U.S. \$
					Catalog Number		Catalog Number	
Maximum of 3 Contact Blocks (6 Circuits) When Used with Supplied 3-Way Adapter and Optional Operator Plug								
	Momentary	Red	40 mm/Plastic		E22LB2	13.70	E22L2	14.70
			50 mm/Plastic		E22JPB2	15.90	E22JP2	16.90
			50 mm/Alum. ①		E22JB2	27.25	E22J2	28.25
				EMERG. STOP	E22JB2N8	29.00	E22J2N8	30.00
	Maintained Trigger-Action Twist-to-Release	Red	40 mm/Plastic		E22LTA2	48.00	—	—
	Maintained Trigger-Action Twist-to-Release	Red	40 mm/Plastic	EMO	E22LTA2N123	49.85	—	—
Maximum of 2 Contact Blocks (4 Circuits) When Used with Supplied 3-Way Adapter								
	Maintained — Twist-to-Release	Red	40 mm/Plastic	 (White)	E22LLB2	35.75	E22LL2	36.75
				 OFF (White)	E22LLB2N886	37.50	E22LL2N886	38.50
	Maintained — Key Release	Red	40 mm/Plastic		E22GB2	68.50	E22G2	69.50
	Maintained — 2-Position Push-Pull	Red	40 mm/Plastic		E22LPB2	20.60	E22LP2	21.60
	Maintained — 2-Position Push-Pull	Red	50 mm/Plastic		E22JPLB2	21.70	E22JPL2	22.70
			50 mm/Alum. ①		E22JLB2	27.25	E22JL2	28.25
				EMERG. STOP	E22JLB2N8	29.00	E22JL2N8	30.00
	Maintained — 2-Position Push-Pull	Red	40 mm/Plastic		E22EDB2	20.60	E22ED2	21.60
				EMERG. STOP	E22EDB2N8	22.40	E22ED2N8	23.40
				EMERG. STOP	E22EDB2N796 ②	22.40	E22ED2N796 ②	23.40
	Maintained — 2-Position Push-Pull	Red	40 mm/Plastic Illuminated		E22GDB2	25.25	E22GD2	26.25
				EMERG. STOP	E22GDB2N8	27.00	E22GD2N8	28.00
				EMERG. STOP	E22GDB2N796 ②	27.00	E22GD2N796 ②	28.00

① Anodized aluminum head — not suitable for ultraviolet light applications.

② Yellow field — red letters.

Contact Blocks Page 47-40 or 47-71
Enclosures Pages 47-65 – 47-66
5-Way Adapter Page 47-57
Legend Plates Pages 47-60 – 47-63
Discount Symbol 1CD1

Features

- Heavy-duty oiltight construction
- Reliability nibs on contact blocks
- Chrome metal or black nylon bezels
- Plain or notched hole mounting
- Snap-lock contact block mounting
- Direct opening action $\ominus$ normally closed contacts
- Fingerproof terminals

Benefits

- Modular construction makes assembly fast and simplifies stocking of components and complete devices
- Reliability nibs provide positive contact through light, medium or heavy loads
- Chrome finish and plastic construction are corrosion resistant

Contact Block 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 oxide layers and other contaminants. This improves contact reliability even under dry circuit and fine dust conditions.

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

Standards and Certifications

- CE EN 60947-5-1
- UL 508 — File No. E131568
- CSA — File No. LR68551
- MTTA
- Lloyds Cert. No. 88100397 (E2)

Technical Data

Ingress Protection

- NEMA 1, 2, 3, 3R, 4, 4X, 12 and 13
- IEC IP65

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 operation
 - 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 +140°F (-20° to +60°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 (2000m)
- Pollution degree (IEC 947-1): 3
- Impulse withstand voltage (Uimp): 4 kV
- Humidity: Maximum 95% RH @ 60°C

E22 Series, Technical Data

Terminal Markings

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

Table 47-24. Contact Blocks

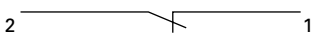
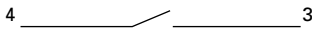
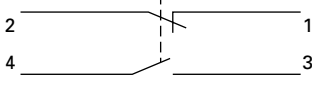
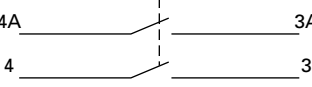
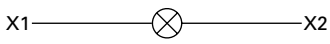
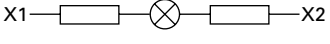
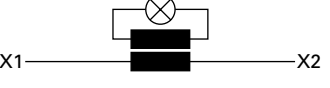
Circuit Configuration	Description
	1NC
	1NO
	1NO-1NC
	2NO

Table 47-25. Lights Units

Circuit Configuration	Description
	Full Voltage
	Resistor
	Transformer

- 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 47-40**.

Terminal Clamps

- Clamp type: Self-lifting
- Screw type: Plus/minus, captive
- Wire range: 18 to 12 AWG (0.75 to 4.0 mm²)
- Fingerproof protection: IP2X
- Tightening torque: 7 lb-in (0.8 Nm)

Electrical Ratings

Table 47-26. Contact Block ①

Description	A600 (AC) Volts				Q600 (DC) Volts			
	120	240	480	600	125	250	440	600
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 47-69**.

- 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

Electrical Life

- AC15 durability
 - 120V, 6A – 1 x 10⁶ operations
- DC13 durability
 - 24V, 8A – 0.15 x 10⁶ operations
 - 660V, 0.1A – 0.5 x 10⁶ 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
- Contacts: Silver
- Terminals: Brass