



HEAVY DUTY 22.5 mm PUSHBUTTONS

EM22 Series Starts at £6.70



EM22 Operators

- Heavy-Duty Zinc Diecast Construction
- Metal Mounting Nut Doubles as Grounding and Anti-Rotation Device
- Chrome Plated Metal Bezel (Matte Black Not Available)

Features

- Reliability Nibs on Contact Blocks
- Plain or Notched Hole Mounting
- Direct Opening Action Normally Closed Contacts
- Fingerprint Terminals

The 22.5 mm industrial heavy-duty pushbutton line offers a wide array of functional, smartly styled illuminated and non-illuminated pushbuttons, selector switches, push pulls, alternate action and twist-to-release operators. The complete line also includes transformer, full voltage, resistor, LED or neon light units. The EM22 Metal Series is a rugged line of metal construction 22.5 mm pushbutton devices. The devices are an extension of the industrially proven E22 Series heavy-duty double insulated 22.5 mm pushbutton family. EM22 Series operators are heavy-duty zinc die-cast construction plated with a corrosion-resistant chromate finish. Operators are complete with a very durable chrome plated metal bezel. Indicating light units in the EM22 Series feature smartly styled round lenses that enhance their appearance and brightness. All EM22 Series operators are compatible with existing E22 Series contact blocks, light units, accessories and enclosures. EM22 Series metal operators and indicating lights are grounded when mounted to metal panels through the toothed mounting nut. They are not grounded when mounted to plastic panels.



EM22E2, £6.70



EM22JL2N8, £27



EM22T2, £8.60

All models shown larger than actual size.



EM22P3, £6.70

SPECIFICATIONS

Standards and Certifications:

UL 508: File No. E131568
CSA: File No. LR68551

Additional Certifications for Trigger Action E-Stop Devices:

UL Listed E-Stop Device:
File No. E217948
Machinery Safety Directive: EN418
Semiconductor Manufacturing

Equipment: SEMI S2-0200

DEMKO Third Party Certification:
Certificate No. 129648-01
and 129648-02

Ingress Protection: IP65, UL, NEMA
Type 1, 2, 3, 3R, 4, 4X,
12 and 13

Note: Ratings apply when mounted in enclosures with the same ratings.



MECHANICAL ENDURANCE RATINGS

Frequency of Operation:

- Pushbuttons:** 6000 operations per hr
- Push-Pulls:** 3000 operations per hr
- Push-Push:** 1800 cycles per hr
- Selector Switches:** 3000 operations per hr
- Trigger-Action E-Stop:** 360 cycles per hr
- Twist-to-Release:** 1200 cycles per hr

MECHANICAL LIFE

- Contact Blocks:** 3M operations
- Pushbuttons:** 5M operations
- Push-Pulls:** 300,000 operations
- Push-Push:** 300,000 operations
- Selector Switches:** 500,000 operations
- Trigger-Action E-Stop:** 100,000 operations
- Twist-to-Release:** 300,000 operations
- Joysticks:** 500,000 operations;
- vibration IEC 68-2 (BS 2011)
- Vibration:** 5 g/0.7 mm peak to peak, 10 sweeps, 10 to 500 Hz
- Shock:** 30 g, 18 ms
- Bump:** 25 g, 6 ms for 1000 cycle

ENVIRONMENTAL CONDITIONS

- Operating Temperature:** -20 to 60°C
- Storage Temperature:** -40 to 80°C
- Altitude:** Up to 2000 m
- Pollution Degree (IEC 947-1):** 3
- Humidity:** Maximum 95% RH @ 60°C

CONTACT BLOCK TERMINAL CLAMPS

- Clamp Type:** Self-lifting
- Screw Type:** Plus/minus, captive
- Wire Range:** 0.75 to 4.0 mm² (18 to 12 AWG)
- Fingerproof Protection:** IP2X
- Tightening Torque:** 0.8 Nm

ELECTRICAL RATINGS

Meet or exceed NEMA contact rating designations A600 and Q600

A600: Q600 per UL 508

AC15: DC13 per IEC 60947-5-1

Logic Level Contact Blocks: UL A600, Q600 and IEC AC15, DC13 rated and also have a minimum rating of 1 mA @ 5 Vdc

Impulse Withstand Voltage (Uimp): 4 kV

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

Rated Conditional Short Circuit Current: 1 kA

Fuse Type: GE power controls TIA 10, red spot type gG, 10 A, 660 Vac, 460 Vdc, BS88-2, IEC 60269-2-1

ELECTRICAL RATINGS FOR CONTACT BLOCKS

Description	A600 Vac				Q600 Vdc			
	120	240	480	600	125	250	440	600
Make and emergency interrupting capacity (A)	60	30	15	12	0.55	0.27	0.1	0.1
Normal load break (A)	6	3	1.5	1.2	0.55	0.27	0.1	0.1
Thermal current (A)	10	10	10	10	2.5	2.5	2.5	2.5

*Ratings do not apply to rotary cam switches.

ELECTRICAL LIFE

AC15 Durability:

120V: 6 A – 1 x 106 operations

DC13 Durability:

24V: 4 A – 0.15 x 106 operations

660V: 0.1 A – 0.5 x 106 operations

MATERIAL

Housing, Bezel, Mounting Rings: Glass filled nylon

Metal Bezels: Chrome plated brass

Internal Seal: Nitrile rubber

Panel Gasket: Nitrile rubber

Illuminated Lenses: Polycarbonate

Buttons: Polyester or polycarbonate

Contacts: Silver

Terminals: Brass

TERMINAL MARKINGS

All rear of panel devices are marked with the circuit configuration per CENELLEC 500013 standards.

CONTACT BLOCKS

Circuit Configuration	Description	Plunger Colour
	1 NC	Red
	1 NO	Green
	1 NO-1 NC	White
	2 NO	Green
	1 NO Early Make	Black
	1 NC Late Break	Grey

LIGHTED UNITS

Circuit Configuration	Description
	Full Voltage
	Resistor
	Transformer

- E22CB1, E22CB11, E22CB1E, E22B1, and E22B11 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 parameter.
- E22CB1, E22CB11 and E22CB1E contact blocks will be marked as suitable for isolation per IEC 60947-5-1.



EM22JL2N8, £27

All models shown smaller than actual size.

All dimensions: mm



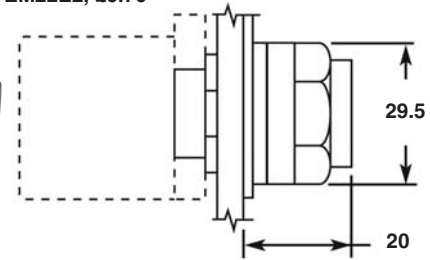
EM22P3, £6.70



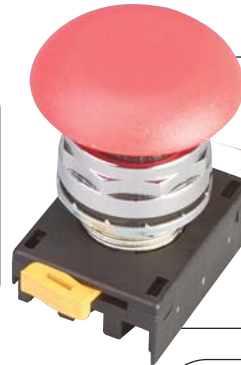
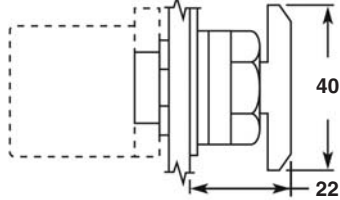
EM22PP5, £9



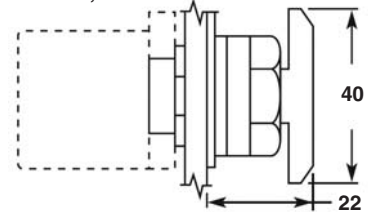
EM22E2, £6.70



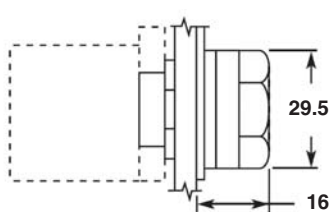
EM22LL2, £34



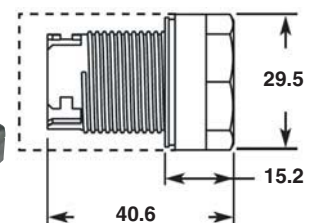
EM22LP2, £20.75



EM22P1, £6.70



EM22PP1, £9



To Order (Specify Model Number)

AVAILABLE FOR FAST DELIVERY!

MODEL NO.	PRICE	DESCRIPTION
22 mm METAL		
PUSHBUTTONS OPERATORS ONLY		
EM22E2	£6.70	Red extended pushbutton operator, chrome bezel
EM22JL2N8	27.00	Red (alum) 50 mm MRH operator engraved EMERGENCY STOP
EM22LL2	34.00	Red 40 mm MRH twist-to-release operator
EM22LP2	20.75	Red 40 mm MRH push-pull (maint) operator
EM22P1	6.70	Black flush pushbutton operator, chrome bezel
EM22P3	6.70	Green flush pushbutton operator, chrome bezel
EM22PP1	9.00	Black flush push-push (alternate action) pushbutton
EM22PP5	9.00	White flush push-push (alternate action) pushbutton

Comes with instruction sheet

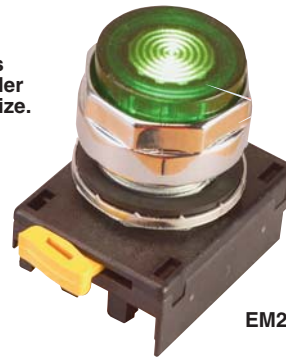
Ordering Example: EM22E2, red extended pushbutton operator, £6.70.



EM22T0, £8.60



EM22T2, £8.60



EM22T3, £8.60

All models shown smaller than actual size.

To Order (Specify Model Number)

AVAILABLE FOR FAST DELIVERY!

MODEL NO.	PRICE	DESCRIPTION
22 mm METAL		
E22 INDICATING LIGHT AND ILLUMINATED PUSHBUTTON OPERATORS		
EM22T0	£8.60	Clear Pres-Test or illuminated PB operator, chrome bezel
EM22T2	8.60	Red Pres-Test or illuminated PB operator, chrome bezel
EM22T3	8.60	Green Pres-Test or illuminated PB operator, chrome bezel

Comes with instruction sheet

Ordering Example: EM22T0, clear pres-test or illuminated pushbutton operator, £8.60.

All dimensions: mm



EM22V561, £12



EM22VE61, £14

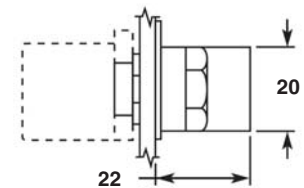


EM22VM61, £14



EM22X661, £14

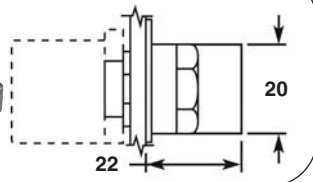
EM22XG61, £12



Dimensions: mm



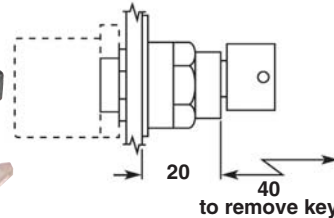
EM22X561, £11.75



All models shown smaller than actual size.



EM22KF5, £39.50



to remove key

EM22XM61, £14



To Order (Specify Model Number)

AVAILABLE FOR FAST DELIVERY!

MODEL NO.	PRICE	DESCRIPTION
E22 SELECTOR SWITCHES OPERATORS ONLY		
EM22V561	£12.00	2-position maintained selector switch, lever
EM22VE61	14.00	2-position momentary selector switch, lever
EM22VH61	11.75	3-position maintained selector switch, lever
EM22VM61	14.00	3-position momentary selector switch, lever
EM22X561	11.75	2-position maintained selector switch, knob
EM22X661	14.00	2-position momentary selector switch, knob
EM22XG61	12.00	3-position maintained selector switch, knob, 60°
EM22XM61	14.00	3-position momentary selector switch, knob
EM22KF5	39.50	2-position maintained selector switch, key, 45°
EM22KH7	39.50	3-position maintained selector switch, key, 45°

Comes with instruction sheet

Ordering Example: EM22V561, lever 2 position switch, £12.

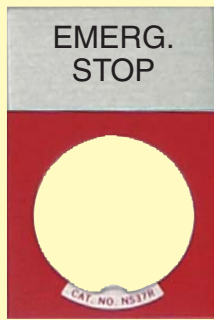


Build Your Own System



EM22JL2N8, £27

+



E22NS13, £1.75

+



E22B20, £20

Note: To order complete system add a contact block and legend plate to operator.



EM22H0, £4.30



EM22H2, £4.30



EM22H3, £4.30



EM22H5, £4.30



EM22H9, £4.30

To Order (Specify Model Number)

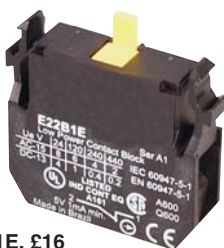
All models shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

MODEL NO.	PRICE	DESCRIPTION
E22 INDICATING LIGHT AND ILLUMINATED PUSHBUTTON OPERATORS		
EM22H0	£4.30	Clear lens unit
EM22H2	4.30	Red lens unit
EM22H3	4.30	Green lens unit
EM22H5	4.30	White lens unit
EM22H9	4.30	Amber lens unit

Comes with instruction sheet.

Ordering Example: EM22H2, red lens unit, £4.30.



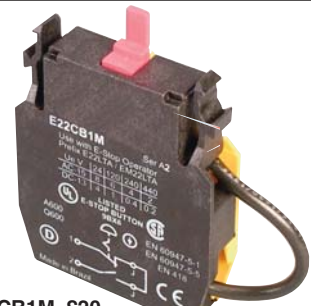
E22B1E, £16



E22B2E, £16



E22B20, £16



E22CB1M, £20

To Order (Specify Model Number)

All models shown smaller than actual size.

AVAILABLE FOR FAST DELIVERY!

MODEL NO.	PRICE	DESCRIPTION
22 mm HEAVY DUTY PLASTIC		
E22 CONTACT BLOCKS		
E22B20	£16.00	Contact Block, 2 NO
E22B1E	16.00	Contact Block, 1 NC, Logic
E22B2E	16.00	Contact Block, 1 NO, Logic
E22CB1M	20.00	Self monitoring contact block, 1 NC

Comes with instruction sheet

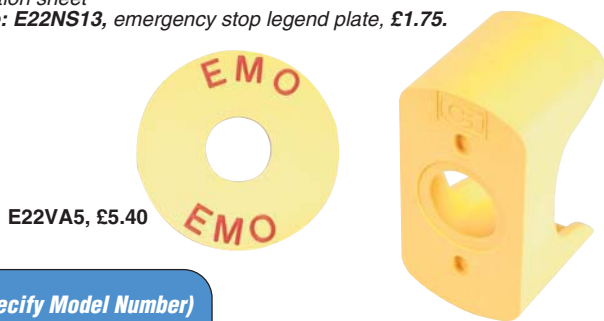
Ordering Example: E22B20, 2 normally open contacts, £16.



All models shown smaller than actual size.

To Order (Specify Model Number)		AVAILABLE FOR FAST DELIVERY!
MODEL NO.	PRICE	DESCRIPTION
E22 LEGEND PLATES		
E22NS13	£1.75	Emergency Stop
E22NS24	1.75	Off
E22NS25	1.75	On
E22NS31	1.75	Run
E22NS33	1.75	Start
E22NS34	1.75	Stop
E22NS36	1.75	Blank, Black
E22NS37	1.75	Blank, Red
E22NS38	1.75	For Rev
E22NS42	1.75	Off On
E22NS47	1.75	Start Stop
E22NS50	1.75	F - O - R
E22NS51	1.75	H - O - A
E22NS80	1.75	Power On

Comes with instruction sheet
 Ordering Example: E22NS13, emergency stop legend plate, £1.75.



Both models shown smaller than actual size.

E22VA5, £5.40

E22MGTA, £14

To Order (Specify Model Number)		AVAILABLE FOR FAST DELIVERY!
MODEL NO.	PRICE	DESCRIPTION
E22 PUSHBUTTONS ACCESSORIES		
E22MGTA	£14.00	Rectangular guard
E22VA5	5.40	EMO round yellow nameplate

Comes with instruction sheet
 Ordering Example: E22MGTA, rectangular guard, £14.

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