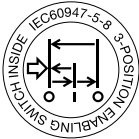


HE2B Redundant (Double) Basic Enabling Switch

Key features:

- 3-position functionality (OFF – ON –OFF) as required for manual robotic control
- Ideally suited for use as enabling (aka “deadman”) switch on teach pendants
- Provides a high level of safety based on human behavioral studies that determine personnel may squeeze OR let go when presented with a panic situation
- Snap acting contacts from Off→On (1→2)
- Positive action contacts from On→Off (2→3) ensure no contact welding (per EN60947-5-1 / IEC60947-5-1)
- Contacts will not re-close when released from Off→On (3→1) (per IEC60204-1; 9.2.5.8)
- Multiple contacts for enhanced reliability
- Monitoring contacts in addition to main load contacts
- Available with or without rubber cover (cover provides IP65 watertight seal)

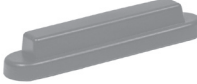


Part Numbers

Style		Number of Contacts			Part Number
		3 Position Switch	Push Monitor Switch	Return Monitor Switch	
	Without Rubber Cover	2	0	0	HE2B-M200
		2	1	1	HE2B-M211
		2	2	2	HE2B-M222
	With Rubber Cover	Yellow	2	0	HE2B-M200PY
			2	1	HE2B-M211PY
			2	2	HE2B-M222PY
		Black	2	0	HE2B-M200PB
			2	1	HE2B-M211PB
			2	2	HE2B-M222PB
		Gray	2	0	HE2B-M200PN1
			2	1	HE2B-M211PN1
			2	2	HE2B-M222PN1

Accessories

Replacement Rubber Cover

Apperance	Color	Part Number	Material
	Yellow	HE9Z-D2Y	Silicon Rubber
	Black	HE9Z-D2B	
	Gray	HE9Z-D2N1	NBR/PVC Polyblend

Specifications

Conforming to Standards		UL508 (UL recognized), CSA C22.2, No. 14 (c-UL recognized), IEC/EN 60947-5-1, IEC/EN 60947-5-8 (TÜV approval)
Application Standards		ISO 12100-1, -2, EN 12100-1, 2 / EN 292, IEC 60204-1 / EN 60204-1 ISO11161 / prEN 11161, ISO10218 / EN 775, ANSI / RIA R15.06, ANSI B11.19
Operating Temperature		–25 to +60°C (no freezing)
Operating Humidity		45 to 85% RH (no condensation)
Storage Temperature		–40 to +80°C (no freezing)
Pollution Degree		2 (inside of panel/contact side) 3 (outside of panel/operating side)
Contact Resistance		50mΩ maximum
Insulation Resistance		Between live and dead metal parts: 100MΩ maximum Between positive and negative live parts: 100MΩ minimum
Impulse Withstand Voltage		2.5kV
Operating Frequency		1200 operations/hour
Mechanical Life		Position 1→2: 1,000,000 operations minimum Position 1→2→3→1: 100,000 operations minimum
Electrical Life		100,000 (at full rated load)
Shock Resistance	Operating Extremes	150m/s ² (15 G)
	Damage Limits	1000m/s ² (100 G)
Vibration Resistance	Operating Extremes	5 to 55Hz, amplitude 0.5mm minimum
	Damage Limits	16.7Hz, amplitude 1.5mm minimum
Terminal		0.110" quick connect / solder terminal
Recommended Wire Size		0.5mm ² maximum / 1 line (20AWG)
Solder Heat Resistance		310 ~ 350°C / 3 seconds maximum
Terminal Pulling Strength		20N minimum
Recommended Screw Torque		0.5 to 0.8Nm
Degree of Protection		with rubber cover: IP65, without rubber cover: IP40 (IEC 60529),
Conditional Short-Circuit Current		50A (250V)
Recommended Short Circuit Protection		250V/10A fast blow fuse (IEC 60127-1)
Circuit Opening Force		60N minimum (button return monitor & button push monitor)
Actuating Force (Operating)		500N minimum
Weight		Approx. 26g (without cover), 30g (with cover)

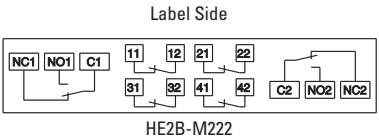
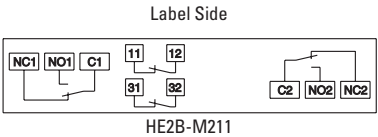
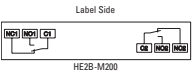
Contact Ratings

Rated Insulation Voltage (Ui)				250V		
Thermal Current (Ith)				3A		
Rated Operating Voltage (Ue)				30V	125V	250V
Rated Operating Current (Ie)	3 Position Switch	AC	Resistive Load (AC-12)	—	1A	0.5A
			Inductive Load (AC-15)	—	0.7A	0.5A
		DC	Resistive Load (DC-12)	1A	0.2A	—
			Inductive Load (DC-13)	0.7A	0.1A	—
	Push/return Monitor Switch (NC Contacts)	AC	Resistive Load (AC-12)	—	2.5A	1.5A
			Inductive Load (AC-15)	—	1.5A	0.75A
		DC	Resistive Load (DC-12)	2.5A	1.1A	0.55A
			Inductive Load (DC-13)	2.3A	0.55A	0.27A
Contact Configuration		3 Position Switch		2 contacts (DPDT)		
		Return Monitor Switch		0 ~ 2 contacts (NC)		
		Push Monitor Switch		0 ~ 2 contacts (NC)		

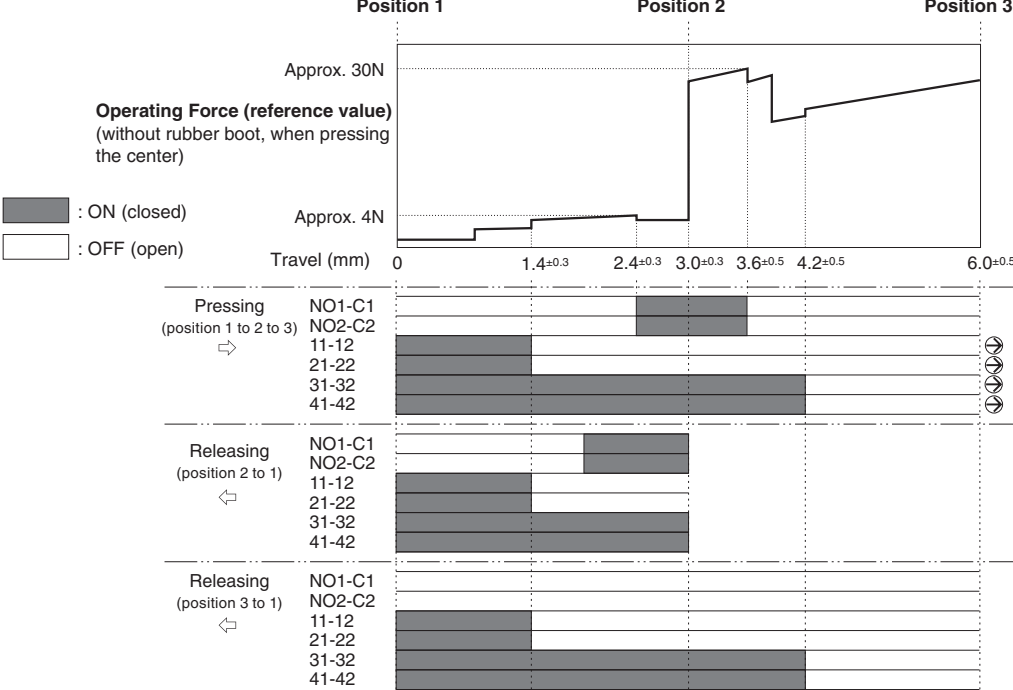


Minimum applicable load (reference) = AC/DC3V • 5mA (for reference only)

Circuit Diagrams
Terminal Circuit Diagrams (bottom view)

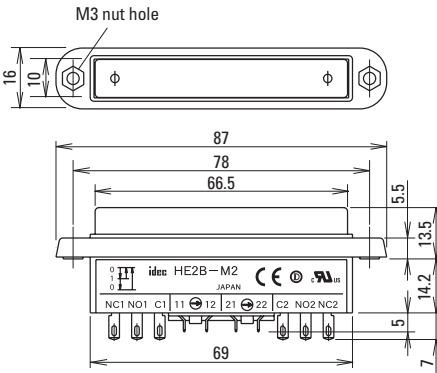


Operating Characteristics
Operating Characteristics (without rubber cover/center of button being pushed)

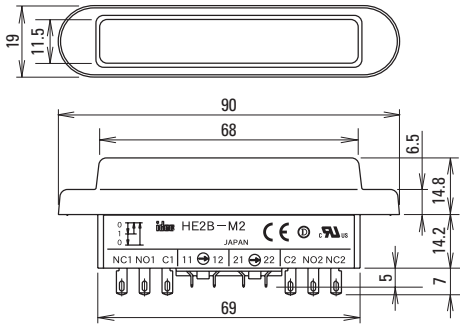


Using rubber boot will change the operating force depending on the operating temperature.

Dimensions (mm)
Without Rubber Cover



With Rubber Cover



Mounting Hole Layout

