

Overview

PERSONAL SAFETY

The command circuit that authorises the start-up of the process is closed only by the complete insertion of the safety key, and the circuit is opened when this is removed. This prevents intentional tampering with the machine by the operator until the safety protection device is opened.

OPERATING SAFETY

Designed to lock the safety device when closed, when the key is inserted in the switch the multiple block device is activated and the NC contact can be closed.

SAFETY IN USE

The device has been designed to permit limited key vibration to make it relatively insensitive to mechanical disturbances.

B

5 WAY KEY SWITCHES



Distributed by
General Safety Company Ltd.
(416) 645-0242

● 5 WAY COMMAND KEYS



Overview

The **E802 series electromagnetic lock/release 5-way key safety switches** are used in the protection barriers of machines **with inertia** movement (machines whose stoppage time is greater than the access time to the action zone), which require controlled opening of the protection systems.

The switches are in accordance with the EN292, EN294, EN60204, EN1088 and EN945-1 safety standards.

The range is available in metal and thermoplastic versions, both with five types of contact element, each of which is associated with three types of coil, depending on the operating voltage.

E802...S5 - E802...S5/B

SPRING LOCK DESIGN (E802...S5 and E802...S5/B)

The spring lock holding mechanism operates on the **rest current** principle. When the power supply voltage of the electromagnet is cut off, it is not possible to open the safety barrier directly. This means that once the key has been inserted it is locked in place by elastic force and can be removed only by supplying power to the magnet or rotating the auxiliary release device.

B



Dual insulation plastic



E102 - 5 way with Z5 key

Code	Model	Description	Type	Travel diagram	Weight
EN840010	E102 01 S5I	1NO+1NC Slow action	01		0,100
EN840020	E102 04 S5I	2NC Slow action	04		0,100



E202 - 5 way with Z5 key

Code	Model	Description	Type	Travel diagram	Weight
EN840030	E202 01 S5I	1NO+1NC Slow action	01		0,105
EN840040	E202 04 S5I	2NC Slow action	04		0,105

- Accessories page **B13**
- Installation examples page **B15**
- Dimensions page **B17**
- Technical information page **B4**
- Operating features page **B5**
- Approval and certification page **D8**

Accessories

5 way – command keys – E102...E402



Code	Model	Description	Weight
ER840130	Z5	Angle key with fixing perpendicular to the drive direction, supplied as series	0,100



Code	Model	Description	Weight
ER840140	Z5-1	Straight key for straight line shift	0,100



Code	Model	Description	Weight
ER840150	Z5-2	Hinged key with screw for key angle regulation	0,150



Code	Model	Description	Weight
ER844510	Z5-3	Long straight key for straight line shift	0,200



Code	Model	Description	Weight
ER844500	Z5-4	Long angle key with fixing perpendicular to the drive direction	0,200

- Installation examples page **B15**
- Dimensions page **B18**

Dual insulation plastic

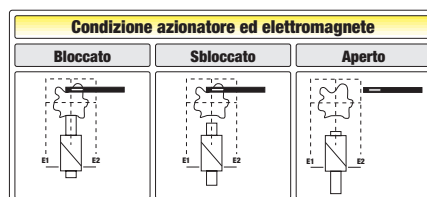


5 way with electromagnetic release

Driver locked mechanically. Can be removed electrically by supplying power to the electromagnet or rotating the auxiliary release device.

Code	Model	Description	Type	Contact release		Electrom.	Weight
				Locked	position Open		
EN842600	E802 10 24 S5I/B	1NO+1NC	10			24 V DC	0,375
EN842610	E802 10 110 S5I/B	Slow action				110 V AC	0,375
EN842620	E802 10 230 S5I/B					230 V AC	0,375

B



Locked: electromagnet de-energised, key in
 Released: electromagnet excited, key in
 Open: electromagnet excited, key out

Accessories

5 way – command keys – E802

Code	Model	Description	Weight
ER840150	Z5-2	Hinged key with screw for key angle regulation 0,150	



Code	Model	Description	Weight
ER844510	Z5-3	Long straight key for straight line shift	0,200



Code	Model	Description	Weight
ER844500	Z5-4	Long angle key with fixing perpendicular to the drive direction	0,200



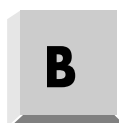
- Installation examples page **B16**
- Dimensions page **B17**
- Technical information page **B4**
- Operating features page **B5**
- Approval and certification page **D8**

5 way – Examples of installation

Installing the key driver

Assembly of the driver on a rotating protective device (allow space for pivot points)

Type of key	Horizontal mounting	Vertical mounting
Z5 Z5-1 Z5-3 Z5-4		
Z52		
NFC		Assembly Never use the safety switch as a mechanical travel stop. Recommended positioning for correct operation A (contact switching point) = 4 mm B (driver limit switch point) = 0 to 1 mm max The contacts remain closed from point A to point B (4 mm max travel)



5 way – Examples of installation

Installing the key driver

Assembly of the driver on a rotating protective device (allow space for pivot points)

B

Type of key	Horizontal mounting	Vertical mounting
Z5-3 Z5-4		
Z5-2		
NFC		Assembly Never use the safety switch as a mechanical travel stop. Recommended positioning for correct operation A (contact switching point) = 4 mm B (driver limit switch point) = 0 to 1 mm max The contacts remain closed from point A to point B (4 mm max travel)

Command Key - Dimensions (mm)

Series	Side view	Front view	Top view
Z5 (5 way)			
Z5-1 (5 way)			
Z5-2 (5 way)			
Z5-3 (5 way)			
Z5-4 (5 way)			

Technical information

General features

Activation speed	mm/s			1...1500 (5...500 for key and hinge switches)
Frequency of operation	operat./min			30 max
Insulation	500 V DC	MΩ		100
Insulation strength	50/60 Hz per 1' *	V AC		2500
Rated insulation voltage	Ui	IEC947-5-1	V AC	500
Rated thermal current	Ithe	IEC947-5-1	A	10
Rated operating current	IEC947-5-1/EN60947-5-1			
Category AC15 A300	le	24 V	A	10
		125 V	A	10
		230 V	A	6
		400 V	A	4
		500 V	A	3
	le	24 V	A	10
		48 V	A	4
		120 V	A	1
		250 V	A	0,4
Contact resistance	IEC255-7 cat.3	initial value	mΩ	25
Protection against short circuit	IEC269 (IEC947-5-1)	gl or gG type fuse	A	10
Conditional short circuit current	IEC947-5-1		A	100
Pollution level	IEC947-5-1			3
Protection level	EN 60529		IP	66
Protection against voltage peaks		plastic	class	II
		Metal	class	I
Resistance to vibrations	IEC68-2-6		mm	0,35 ± 15% (10 to 55Hz ± 1Hz)
Resistance to shock	IEC68-2-27	11 ms	g	30
Mechanical duration			min cycles	1.000.000
Electrical duration	at 250 V AC 6A with resistant load cosβ=1		min cycles	500.000
	at 250 V AC 6A with resistant load cosβ=0,4		min cycles	500.000
Distance between contacts	fast action models		mm	2x2
Terminals	type			Screw with combined notch and removable plate (notch Ph, size 1)
	screw		M	3,5
	protection level		IP	20 A
	material			Steel class 8.8 / galvanised iridescent yellow 6 to 8μ
	max screw tightening force	N cm (Kg cm)		120 (12,24)
	connecting sections	rigid cable	mm²	2x1,5
		flexible cable	mm²	2x1,5
	with prod terminal		mm²	1x1,5
	terminal numbering			in accordance with EN50013

Conditions of use

Ambient operating temperature	°C	-35 to +85 (without formation of ice)
Relative operating humidity		95% max

* between terminals of the same polarity; between terminals of different polarity; between live mechanical parts and mass; between live mechanical parts and unpowered mechanical parts

