

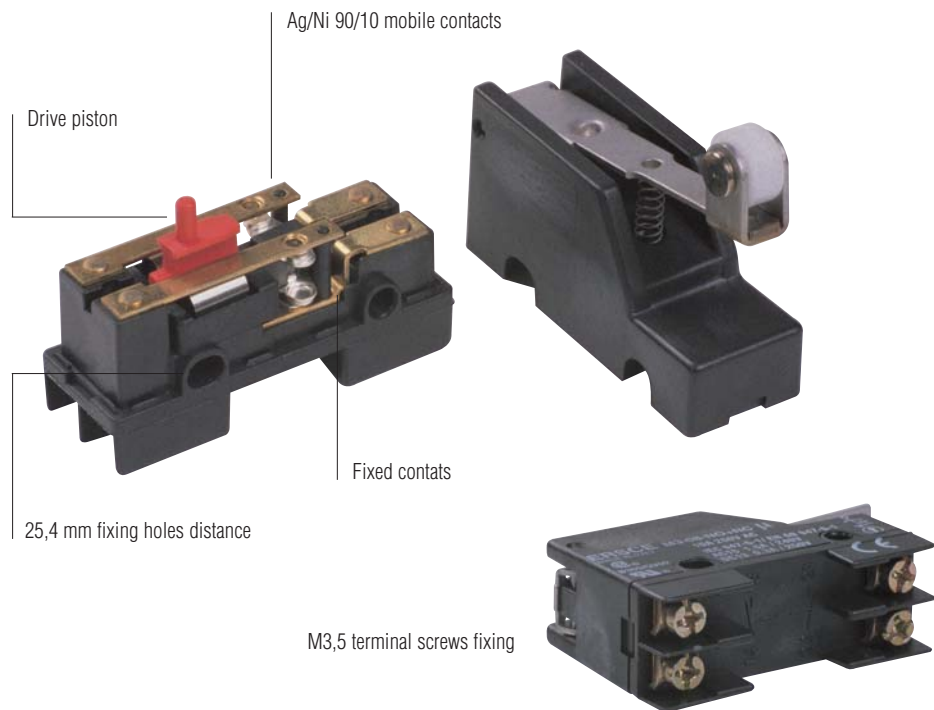


ERSCE

Miniaturized
position
switches

Overview

The **M3** series miniaturized position switches are among the most compact on the market. Contact blocks are 1NO+1NC snap action, with positive opening of NC contact. The switches are made of PA6 double insulated thermoplastic reinforced with fibreglass, class V2. The **M3** series is equipped with M3,5 screw terminals.



Galvanically separated snap action contacts (Zb) with positive opening in accordance to VDE0113, VDE0660-200, IEC 947-5-1, EN60204 and EN292 standards.

Mechanical life of 15 million cycles.

25,4 mm fixing holes distance.

Available on request: terminal cover with PG9 cable clamp to achieve IP40 protection degree.

Actuators



04
Steel plunger Ø8,3 mm



05
Steel roller plunger



06
Steel roller plunger,
turned 90°



08
Lever, length 54 mm



09
Lever, length
63,5 mm



11
Thermoplastic
roller lever, length
26,6 mm



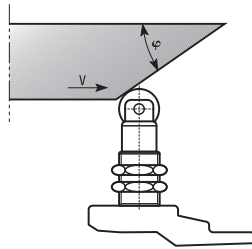
13
Thermoplastic
roller lever, length
37 mm



14
Thermoplastic
roller lever, length
50,5 mm

All actuators are made of metal.

Operating characteristics

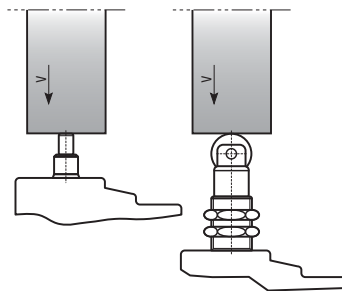


Roller plunger, side travel

Actuators: M...05-06

Operating parameters of the drive cam

ϕ	V max (m/s)
30°	0,2
20°	0,5

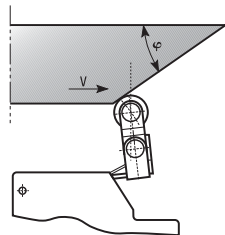


Plunger, roller plunger, vertical travel

Actuators: M...04-05-06

Drive forces

Minimum operating force	4 N
Minimum positive opening force	16 N

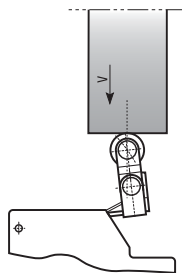


Lever, roller lever, side travel

Actuators: M...11-13-14

Operating parameters of the drive cam

ϕ	V max (m/s)
30°	0,5
45°	0,3
60°	0,2



Lever, roller lever, vertical travel

Drive forces

Actuator: M...11

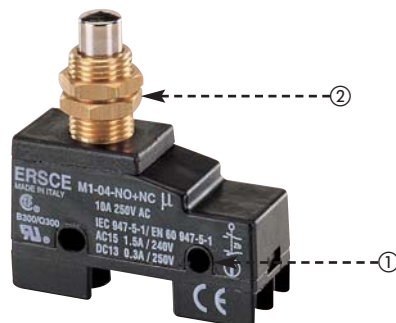
Minimum operating force	2 cNm
Minimum positive opening force	13 cNm

Actuators: M...08-13

Minimum operating force	1,6 cNm
Minimum positive opening force	12 cNm

Actuators: M...09-14

Minimum operating force	1,3 cNm
Minimum positive opening force	11 cNm



Tightening torque

- ① Tighten the fixing screws of the appliance with a torque of 1,2÷1,5 Nm
- ② Max tightening torque 4 Nm for actuators with hexagonal nuts

Technical data

Operating speed		mm/s	1...1000
Operating frequency		operaz./sec (Hz)	0,5
Insulation resistance		500 V DC M Ω	100
Dielectric strength		50/60 Hz per 1' *	V AC 2500
Rated insulation voltage	Ui	IEC947-5-1	V AC 250
Rated thermal current	Ithe	IEC947-5-1	A 10
Rated operating current		IEC947-5-1/EN60947-5-1	
Category AC15	le	24 V	A 5
B300		125 V	A 3
		230 V	A 1,5
Category DC13	le	24 V	A 2
Q300		120 V	A 0,6
		230 V	A 0,2
Contact resistance	IEC255-7 cat.3	initial value	m Ω 25 max
Short circuit protective devices	IEC269 (IEC947-5-1)	gl or gG type fuse	A 3
Pollution degree	IEC947-5-1		3
Actuator protection degree	EN 60529	IP	40
Vibration resistance	IEC68-2-6	mm	0,35 \pm 15% (10 \div 55 Hz \pm 1 Hz)
Shock resistance	IEC68-2-27	11 ms	g 30
Mechanical life			cycles 15.000.000
Electrical life	a 250 V AC 1,5A with resistance load $\cos \varphi=1$		cycles 500.000
	a 250 V AC 1,5A with resistance load $\cos \varphi=0,4$		cycles 500.000
Terminals	Type		Screw with combined notch and retractable plate (notch Ph. Size 1)
Protection degree	EN60529	IP	20
		IP	40 with terminal covers
Material			Steel class 8,8/ Galvanized
Max. screw tightening torque		cNm (Kg cm)	120 (12,24)
Max connecting capacity		rigid cable mm ²	2x1,5
		flexible cable mm ²	2x1,5
With prod terminal		mm ²	1x1,5
Terminal numbering			In accordance with EN50013


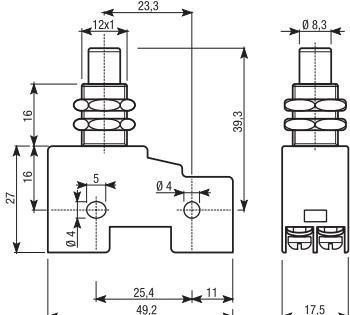
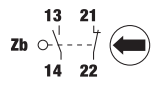
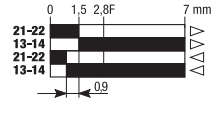
Condition of use

Air ambient temperature	operational	°C	-25 \div +85 (without formation of ice)
Relative humidity	operational		95% max


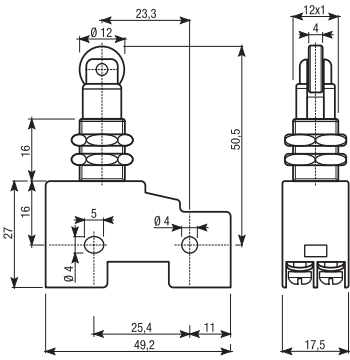
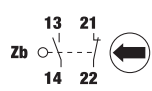
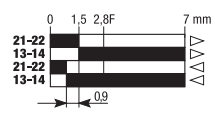
* between terminals of the same polarity; between terminals with different polarity; between live mechanical parts and ground; between live mechanical parts and non-current-carrying metal parts




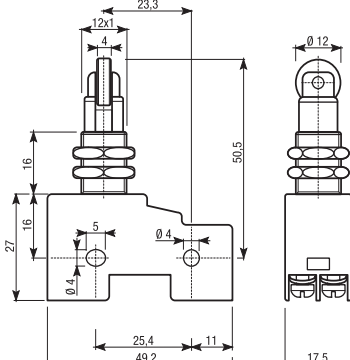
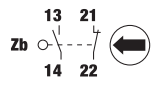
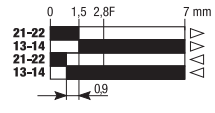
■ Steel plunger ø 8,3 mm

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack		
		ER200380	M3-04 NO+NC	Snap action 1NO+1NC			20


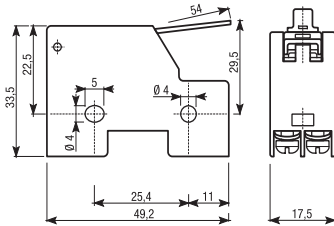
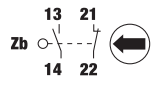
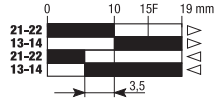
■ Steel roller plunger

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack		
		ER200390	M3-05 NO+NC	Snap action 1NO+1NC			20


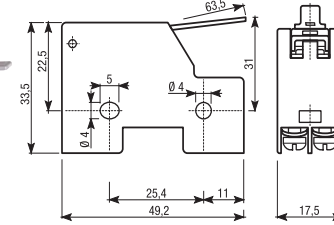
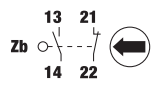
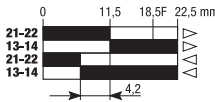
■ Steel roller plunger, turned 90°

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack		
		ER200400	M3-06 NO+NC	Snap action 1NO+1NC			20


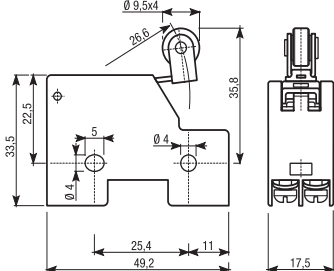
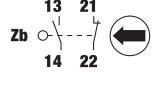
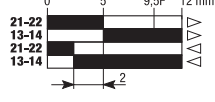
■ Lever, length 54 mm

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack	
		ER200420	M3-08 NO+NC	Snap action 1NO+1NC	 	10


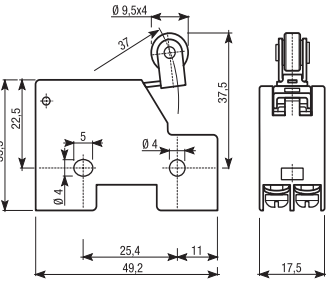
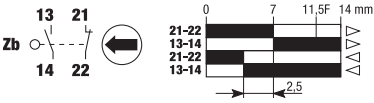
■ Lever, length 63,5 mm

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack	
		ER200430	M3-09 NO+NC	Snap action 1NO+1NC	 	10


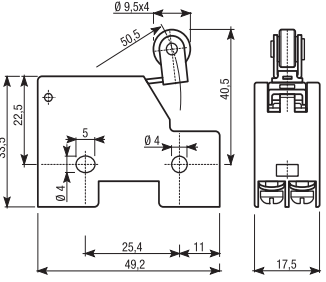
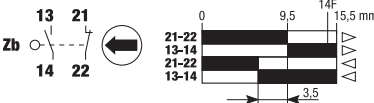
■ Thermoplastic roller lever, length 26,6 mm

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack	
		ER200450	M3-11 NO+NC	Snap action 1NO+1NC	 	20

■ Thermoplastic roller lever, length 37 mm


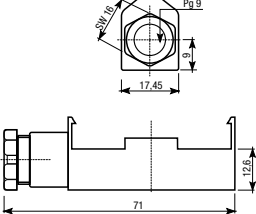
Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack	
		ER200470	M3-13 NO+NC	Snap action 1NO+1NC		20

■ Thermoplastic roller lever, length 50,5 mm

Part no.	Type	Contact block	Circuit diagram	Contact travel	Pack	
		ER200480	M3-14 NO+NC	Snap action 1NO+1NC		20

Accessories

■ Terminal covers for M3 Series

Part no.	Type	Contact block	Pack		
		ER200690	M3PROTA	Terminal cover with PG9 cable clamp	20