

Выключатели, соответствующие директиве ATEX / серия FA

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Technical data

Housing

Metal housing, powder-coated
With cable in halogen-free polyurethane, 2 m, other lengths on request
Protection degree acc. to EN 60529: IP67

General data

Ambient temperature: -20°C ... +60°C
Max. actuation frequency: 3600 operating cycles/hour
Mechanical endurance: 10 million operating cycles
Mounting position: any
Safety parameters B_{10D} (NC contacts): 20,000,000
Mechanical interlock, not coded: type 1 acc. to EN ISO 14119
Tightening torques for installation: see page 237

Main features

- ATEX approval
- Metal housing
- Protection degree IP67
- Cable, halogen-free polyurethane

In compliance with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN ISO 14119, EN ISO 12100, IEC 60529, EN 60529, UL 508, CSA C22.2 No. 14, IEC 60079-0, EN 60079-0, IEC 60079-31, EN 60079-31, IEC 60079-15, EN 60079-15, EN IEC 63000.

ATEX markings:

Product code extension
Quality mark

Certificate type and notified body

-EX5



EU declaration of conformity
Pizzato Elettrica S.r.l.

Compliance with the requirements of:

ATEX Directive 2014/34/EU, EMC Directive 2014/30/EU, RoHS Directive 2011/65/EU.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1.

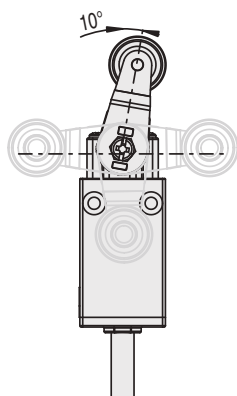
Installation for safety applications:

Use only switches marked with the  symbol beside the product code. Always connect the safety circuit to the **NC contacts** (normally closed contacts: see "Internal wiring") as required by **EN ISO 14119, paragraph 5.4** for specific interlock applications and **EN ISO 13849-2 tables D3** (well-trying components) and **D.8** (fault exclusions) for safety applications in general. Actuate the switch **at least up to the positive opening travel** shown in the travel diagrams on page 238. Actuate the switch **at least with the positive opening force**, reported in brackets below each article, next to the actuating force value.

 **If not expressly indicated in this chapter, for correct installation and utilization of all articles see the instructions given in the operating manual and on pages 227 to 242.**

Product code extension	Category	Zone	EPL	Approvals	
	3D	22	Dc		II 3D Ex tc IIIC T80°C Dc
	3G	2	Gc		II 3G Ex nC IICT6 Gc
-EX5	Electrical data				
	Thermal current (I _m):			10 A	
	Rated insulation voltage (U _i):			400 Vac/dc	
	Conditional short circuit current:			1000 A acc. to EN 60947-5-1	
	Protection against short circuits:			type aM fuse 10 A 500 V	
	Pollution degree:			3	
	Utilization category				
	Alternating current: AC15 (50÷60 Hz)				
	U _e (V)		120	250	400
	I _e (A)		6	4	3
	Direct current: DC13				
	U _e (V)		24	125	250
	I _e (A)		2.5	0.55	0.27

Adjustable levers

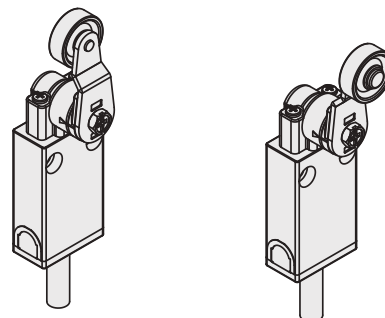


For these switches the lever can be adjusted in 10° steps over the entire 360° range. The positive movement transmission is always guaranteed thanks to the particular geometrical coupling between the lever and the revolving shaft as prescribed for safety applications by the German standard BG-GS-ET-15.

Reversible levers

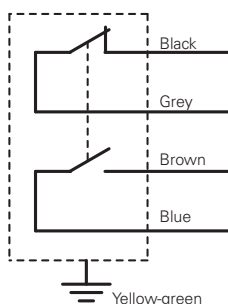
With these switches, the lever can be secured in either the normal or reverse position, whereby positive coupling is retained.

In this way two different working planes of the lever are possible.



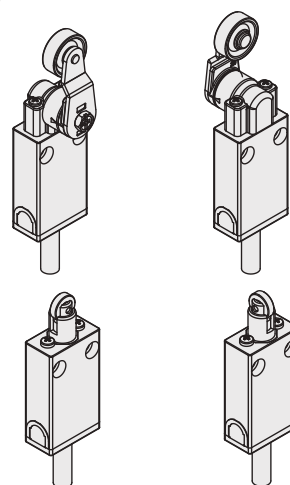
Internal wiring

1NO+1NC



Head with variable orientation

Depending on the model, it is possible to rotate the head in 90° or 180° steps.

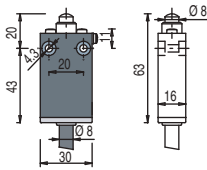
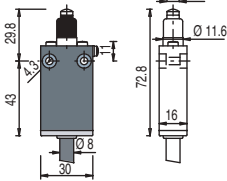
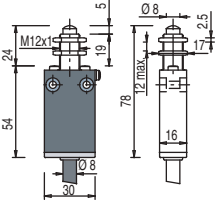


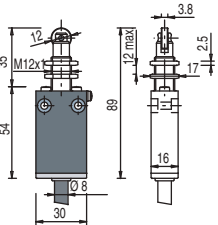
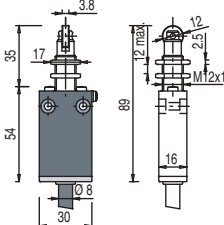
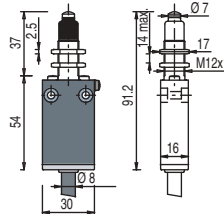
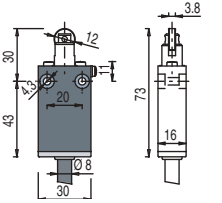
Code structure

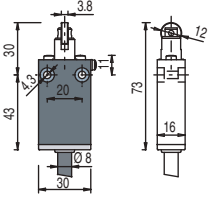
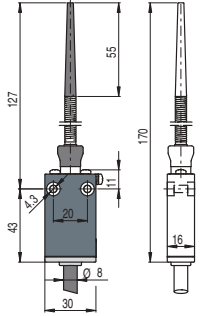
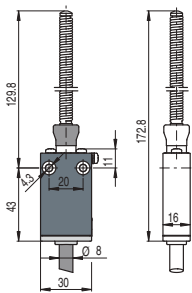
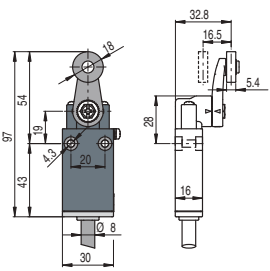
Attention! The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.

article		options	product code extension
FA 4501-2SHG-EX5			
Housing			ATEX approval
FA	metal		-EX5 II 3D Ex tc IIIC T80°C Dc II 3G Ex nC IICT6 Gc
Contact block			Contact type
45	1NO+1NC, snap action		silver contacts (standard)
46	1NO+1NC, slow action		G silver contacts, 1 µm gold coating
Actuators			Cable type
01	short plunger		H PUR cable, halogen free
02	unidirectional lever		Output direction
08	plunger		S bottom output
...	...		
Connection type			
1	cable, length: 1 m		
2	cable length: 2 m		
...	...		
0	cable, length: 10 m		

Other lengths on request.

		Unidirectional operation		External gasket	Secured only by means of threaded head
Contact type: R = snap action L = slow action					
Category	Contact block				
3D	45 R	FA 4501-2SH-EX5  1NO+1NC		FA 4502-2SH-EX5  1NO+1NC	FA 4508-2SH-EX5  1NO+1NC
3G	46 L	FA 4601-2SH-EX5  1NO+1NC		FA 4602-2SH-EX5  1NO+1NC	FA 4608-2SH-EX5  1NO+1NC
Max. speed		0.5 m/s		0.5 m/s	0.5 m/s
Actuating force		10 N (25 N )		10 N (25 N )	10 N (25 N )
Travel diagrams		page 238 - group 1		page 238 - group 1	page 238 - group 1

		Secured only by means of threaded head	Secured only by means of threaded head	External gasket	Steel roller, Ø 12 mm, with self-lubrication
Contact type: R = snap action L = slow action					
Category	Contact block				
3D	45 R	FA 4511-2SH-EX5  1NO+1NC	FA 4512-2SH-EX5  1NO+1NC	FA 4513-2SH-EX5  1NO+1NC	FA 4515-2SH-EX5  1NO+1NC
3G	46 L	FA 4611-2SH-EX5  1NO+1NC	FA 4612-2SH-EX5  1NO+1NC	FA 4613-2SH-EX5  1NO+1NC	FA 4615-2SH-EX5  1NO+1NC
Max. speed		0.1 m/s with cam at 30°		0.5 m/s	0.1 m/s with cam at 30°
Actuating force		10 N (25 N )		10 N (25 N )	10 N (25 N )
Travel diagrams		page 238 - group 1		page 238 - group 1	page 238 - group 1

		Steel roller, Ø 12 mm, with self-lubrication	External gasket	External gasket	With Ø 20 mm steel roller with self-lubrication on request
Contact type: R = snap action L = slow action					
Category	Contact block				
3D	45 R	FA 4517-2SH-EX5  1NO+1NC	FA 4520-2SH-EX5 1NO+1NC	FA 4525-2SH-EX5 1NO+1NC	FA 4530-2SH-EX5  1NO+1NC
3G	46 L	FA 4617-2SH-EX5  1NO+1NC	/	/	FA 4630-2SH-EX5  1NO+1NC
Max. speed		0.1 m/s with cam at 30°	1 m/s	1 m/s	1.5 m/s with cam at 30°
Actuating force		10 N (25 N )	0.03 Nm	0.06 Nm	0.03 Nm (25 N )
Travel diagrams		page 238 - group 1	page 238 - group 3	page 238 - group 3	page 238 - group 4



Contact type:		with steel roller with self-lubrication on request		Square rod, 3x3 mm		with steel roller with self-lubrication on request	
R L = snap action = slow action							
Category	Contact block						
3D	45	R	FA 4531-2SH-EX5	1NO+1NC	FA 4533-2SH-EX5	1NO+1NC	FA 4534-2SH-EX5
3G	46	L	FA 4631-2SH-EX5	1NO+1NC	FA 4633-2SH-EX5	1NO+1NC	FA 4634-2SH-EX5
Max. speed	1.5 m/s with cam at 30°						
Actuating force	0.03 Nm (0.25 Nm →)						
Travel diagrams	page 238 - group 4						

Category		Contact block	Stainless steel round rod, Ø 3 mm, with self-lubrication		With steel roller with self-lubrication on request		With steel roller with self-lubrication on request		With steel roller with self-lubrication on request	
3D	45	R	FA 4550-2SH-EX5	1NO+1NC	FA 4551-2SH-EX5	➡ 1NO+1NC	FA 4552-2SH-EX5	➡ 1NO+1NC	FA 4554-2SH-EX5	➡ 1NO+1NC
3G	46	L	FA 4650-2SH-EX5	1NO+1NC	FA 4651-2SH-EX5	➡ 1NO+1NC	FA 4652-2SH-EX5	➡ 1NO+1NC	FA 4654-2SH-EX5	➡ 1NO+1NC
Max. speed			1.5 m/s		1.5 m/s with cam at 30°		1.5 m/s with cam at 30°		1.5 m/s with cam at 30°	
Actuating force			0.03 Nm		0.03 Nm (0.25 Nm ➡)		0.03 Nm (0.25 Nm ➡)		0.03 Nm (0.25 Nm ➡)	
Travel diagrams			page 238 - group 4		page 238 - group 4		page 238 - group 4		page 238 - group 4	

		With steel roller with self-lubrication on request		With steel roller with self-lubrication on request		With steel roller with self-lubrication on request		Glass fibre rod						
Contact type:														
Category	Contact block													
3D 3G	45	R	FA 4555-2SH-EX5		1NO+1NC	FA 4556-2SH-EX5		1NO+1NC	FA 4557-2SH-EX5		1NO+1NC	FA 4569-2SH-EX5		1NO+1NC
	46	L	FA 4655-2SH-EX5		1NO+1NC	FA 4656-2SH-EX5		1NO+1NC	FA 4657-2SH-EX5		1NO+1NC	FA 4669-2SH-EX5		1NO+1NC
Max. speed		1.5 m/s with cam at 30°												
Actuating force		0.03 Nm (0.25 Nm												
Travel diagrams		page 238 - group 4												

⁽¹⁾ Positive opening only with actuator set to max.

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