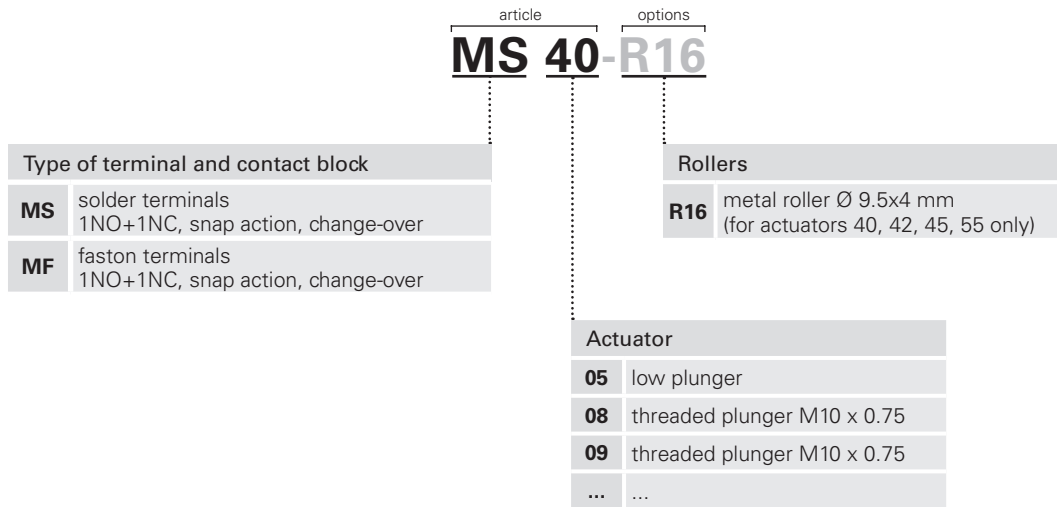
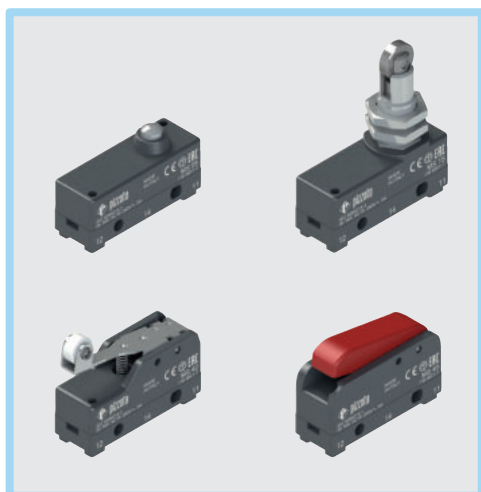


- Product options
- ▶— Sold separately as accessory

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



### Main features

- Technopolymer housing
- Protection degree IP20 or IP40
- 2 terminal types available
- 13 actuators available

### Quality marks:



IMQ approval: CA02.05772  
EAC approval: RU C-IT.YT03.B.00035/19

### Technical data

#### Housing

Housing made of glass fibre reinforced technopolymer, self-extinguishing and shock-proof.

Protection degree acc. to EN 60529: IP00 (without terminal cover)  
IP20 (with terminal covers VF C01, VF C03)  
IP40 (with terminal cover VF C02)

#### General data

Ambient temperature: -25°C ... +85°C  
Max. operating frequency: 3600 operating cycles/hour  
Mechanical endurance: 10 million operating cycles  
Tightening torques for installation: see page 240

#### In compliance with standards:

IEC 60947-5-1, EN 60947-5-1, IEC 60528, EN 60529, EN IEC 63000

#### Approvals:

EN 60947-5-1

#### Compliance with the requirements of:

Low Voltage Directive 2014/35/EU,  
EMC Directive 2014/30/EU,  
RoHS Directive 2011/65/EU.

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

### Electrical data

Thermal current ( $I_{th}$ ): 16 A  
Rated insulation voltage ( $U_i$ ): 250 Vac 300 Vdc  
Rated impulse withstand voltage ( $U_{imp}$ ): 4 kV  
Conditional short circuit current: 1000 A acc. to EN 60947-5-1  
Protection against short circuits: type gG fuse 16 A 250 V  
Pollution degree: 3  
Dielectric strength: 2000 V~ (between terminals and other metal parts to ground)

### Utilization category

Alternating current: AC15 (50÷60 Hz)  
 $U_e$  (V) 250  
 $I_e$  (A) 5  
Direct current: DC13  
 $U_e$  (V) 24 125 250  
 $I_e$  (A) 5 0.5 0.3

### Features approved by IMQ

Rated insulation voltage ( $U_i$ ): 250 Vac  
Conventional free air thermal current ( $I_{th}$ ): 16 A  
Protection against short circuits: type gG fuse 16 A 250 V  
Rated impulse withstand voltage ( $U_{imp}$ ): 4 kV  
Conditional short circuit current: 1000 A  
MF, MS terminals  
Pollution degree: 3  
Utilization category: AC15  
Operating voltage ( $U_e$ ): 250 Vac (50 Hz)  
Operating current ( $I_e$ ): 5 A

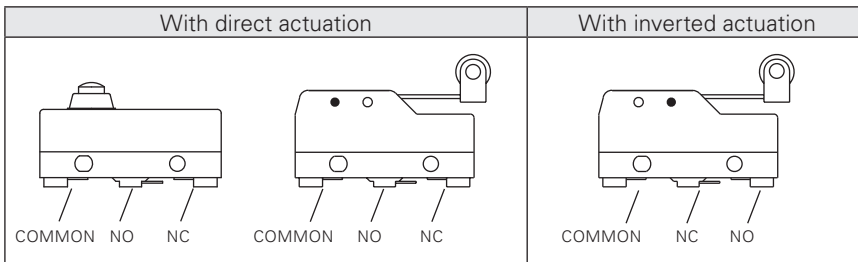
Forms of the contact element: C

In compliance with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

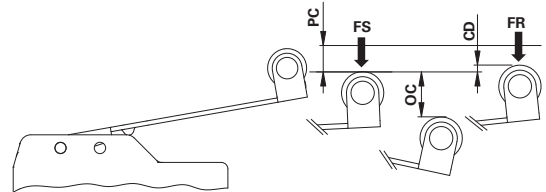
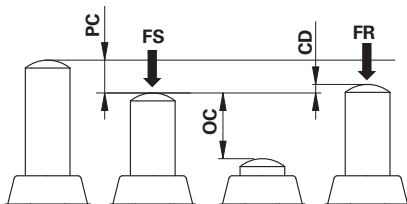
**Please contact our technical department for the list of approved products.**

**Orientable roller**


It is possible to rotate the roller of the M•20 microswitch in 90° steps.

**Circuit diagram**


Change-over contact element with single interruption and three terminals.

**Actuation forces and travels**


- PC** pre-travel
- OC** over-travel
- FR** release force
- CD** differential travel
- FS** Trigger force

**Microswitches with direct actuation**

All values in the drawings are in mm

<b>MS 05</b> PC 0.5 mm OC 2 mm CD 0.05 mm FS 3.9 N FR 2.7 N	<b>MS 08</b> PC 0.5 mm OC 5.5 mm CD 0.05 mm FS 3.9 N FR 2.7 N
Maximum and minimum speed see page 240 - type 1	
<b>MS 09</b> PC 0.5 mm OC 5.5 mm CD 0.05 mm FS 3.9 N FR 2.7 N	<b>MS 10</b> PC 0.5 mm OC 5.5 mm CD 0.05 mm FS 3.9 N FR 2.7 N
Maximum and minimum speed see page 240 - type 1	

## MS - MF series microswitches

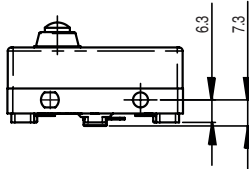
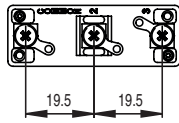
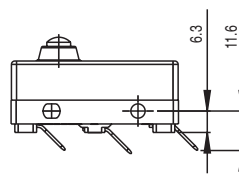
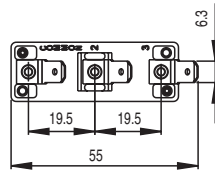
Secured only by means of threaded head		Secured only by means of threaded head	
<b>MS 15</b>	PC 0.5 mm OC 5.5 mm CD 0.05 mm	FS 3.9 N FR 2.7 N	
Maximum and minimum speed see page 240 - type 2		Maximum and minimum speed see page 240 - type 2	
Secured only by means of threaded head			
<b>MS 20</b>	PC 0.5 mm OC 5.5 mm CD 0.05 mm	FS 3.9 N FR 2.7 N	
Maximum and minimum speed see page 240 - type 2		Maximum and minimum speed see page 240 - type 3	
<b>MS 40</b>	PC 8.9 mm OC 4.3 mm CD 0.6 mm	FS 0.7 N FR 0.6 N	
Maximum and minimum speed see page 240 - type 6		Maximum and minimum speed see page 240 - type 6	
<b>MS 45</b>	PC 4.9 mm OC 3.2 mm CD 0.2 mm	FS 1.5 N FR 1.2 N	
Maximum and minimum speed see page 240 - type 6		Maximum and minimum speed see page 240 - type 1	
<b>Microswitches with inverted actuation</b>			
All values in the drawings are in mm			
<b>MS 55</b>	1NO+1NC PC 2 mm OC 7.7 mm CD 0.3 mm	FS 1.1 N FR 0.8 N	
Maximum and minimum speed see page 240 - type 7		Maximum and minimum speed see page 240 - type 7	

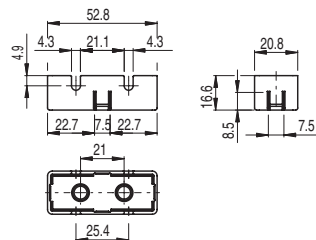
To order a product with faston terminals

replace MS with MF in the article codes. Example: MS15 → MF15

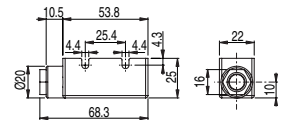
**Terminal dimensions**

All values in the drawings are in mm

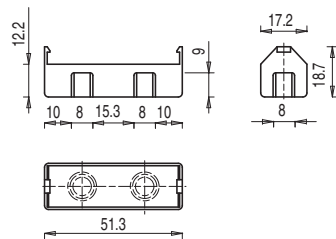
**Solder terminals**

**Faston terminals**

**Protective terminal covers**

 Packs of **10 pcs.**


Article	Description	Protection degree
VF C01	Protective terminal cover for screw terminals	IP20

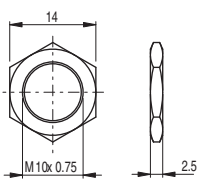


Article	Description	Protection degree
VF C02	Protective terminal cover for screw terminals with PG9 cable gland for multipolar cables Ø 5 ... 7 mm	IP40

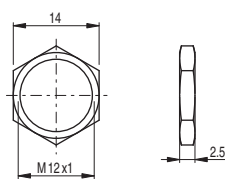


Article	Description	Protection degree
VF C03	Protective terminal cover for screw terminals, snap-in mounting. It allows to install multiple switches side-by-side	IP20

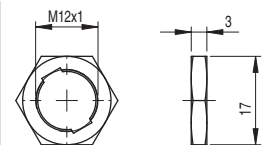
**Accessories**

 Packs of **10 pcs.**


Article	Description
VF AC83	Hex threaded nut for microswitches with actuators D06, D08, D09



Article	Description
VF AC72	Hex threaded nut for microswitches with actuators D10, D12, D13



Article	Description
AC 35	Hex threaded nut, notched, for microswitches with actuators D15, D17