



Main data

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Possibility of application with the cable side close to the wall
- Frontal actuation
- Protection degree from IP00 to IP20
- Transparent cover

Markings and quality marks:



Approval IMQ-UNI: CA50.00541

EN 81-1:2005

EN 81-2:2005

230 Vac - 2 A

Approval UL: E131787

Approval EAC: RU C-IT DM94.B.01024

Technical data

Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin
Protection degree: IP00 according to EN 60529 (DS A•5VA)
IP20 according to EN 60529 (DS A•1VA)

General data

Ambient temperature: -30°C ... +80°C
(humidity ≤ 95%, without condensation)
Max operating frequency: 3600 operations cycles¹/hour
Mechanical endurance: 10 millions of operations cycles¹ (DS A•1VA)
5 millions of operations cycles¹ (DS A•5VA)
Max actuating speed: 0.5 m/s
Min. actuating speed: 1 mm/s
Actuating force: 1.2 ... 2.1 N (DS A•1VA)
1.2 ... 1.7 N (DS A•5VA)

With reduced actuating force on request: 0.8 ... 1.3 N (DS A•1VA)
0.8 ... 1.1 N (DS A•5VA)

Driving torque for installation: see page 126

Fixing screw: M4 self-tapping screw

Available on request versions with longer fixing screw

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

min. 1 x 0.5 mm² (1 x AWG 20)
max. 1 x 2.5 mm² (1 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN 60529, EN 81-20, EN 81-50

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Electrical data

Thermal current (I_{th}): 4 A
Rated insulation voltage (U_i): 500 Vac
Rated impulse with stand voltage (U_{imp}): 6 kV
Protection against short circuits: fuse 4 A
500 V type gG
Pollution degree: 3

According
EN 60947-5-1

EN 81 par. 14.1.2.2

Utilization categories:

AC15 (50, 60 Hz)

U_e (V) 120 250

I_e (A) 3 3

DC13

U_e (V) 125 250

I_e (A) 0.55 0.27

According
EN 81 par. F.1.2.4

AC (50, 60 Hz)

230 Vac

2 A

DC:

200 Vdc

2 A

According
EN 81 par. F.1.2.2.1.1

AC (50, 60 Hz)

230 Vac

2 A

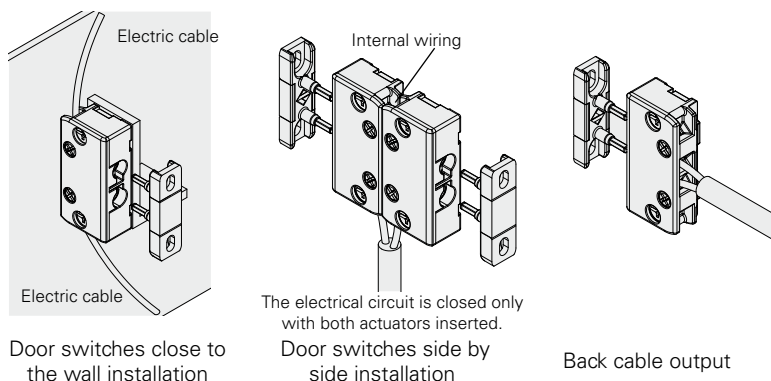
DC:

125 Vdc

0.5 A

Application examples DS A series

These devices have several cable outputs to allow installation also in restricted spaces, for example:



Data type approved by UL

Utilization categories Q300 (69VA, 125-250Vdc), 120-240Vac,
3 A pilot duty, 5 A thermal current

For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG.
Terminal tightening torque of 7.1 lb in (0.8 Nm).

In conformity with standard: UL 508

Please contact our technical service for the list of approved products.

Dimensional drawings

10 pcs packs

	Door switches with internal contacts		Door switches with external contacts	
	Switch without actuator	Switch without actuator	Switch without actuator	Switch without actuator
Slow action contacts	DS AA1VA 1NC	DS AE1VA 1NC	DS AA5VA 1NC	DS AE5VA 1NC
Max actuating travel	8 mm	8 mm	6 mm	6 mm
Travels diagrams				

Legend

Closed contact |
 Opened contact |
 40° Positive opening travel |
 2x2 mm contact opening travel according to EN81

Actuators for door switches with internal contacts

10 pcs packs

Article	Description	Article	Description
DS KA1A	Straight actuator	DS KB1A	Right-angled actuator
DS KA2A	Straight actuator	DS KB2A	Right-angled actuator
DS KA3A	Straight actuator	DS KB3A	Right-angled actuator

Actuator for door switches with external contacts

10 pcs packs

Article	Description
DS KP5A	Plane actuator

Centering device

100 pcs packs

Article	Description
VD CE1A20	Centering device
	<p>The centering device can be used on actuators type DS KA●● and DS KB●●. It grants an easy centering of the actuators on DS A●1VA switches during the fitting stage</p>

Items with code on the **green** background are available in stock

**Main data**

- Housing made of glass-reinforced polymer, self-extinguishing
- Self-cleaning contacts made of solid silver
- Three wiring possibilities
- Protection degree IP20
- Transparent cover

Markings and quality marks:

Approval IMQ-UNI: CA50.00541
 EN 81-1:2005
 EN 81-2:2005
 230 Vac - 2 A

Approval UL: E131787

Approval EAC: RU C-IT DM94.B.01024

Technical data**Description**

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin
 Protection degree: IP20 according to EN 60529

General data

Ambient temperature: -30°C ... +80°C
 (humidity ≤ 95%, without condensation)
 Max operating frequency: 3600 operations cycles¹/hour
 Mechanical endurance: 20 millions of operations cycles¹
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Max actuating force: 1.5 N
 Driving torque for installation: see page 126
 (1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

min. 1 x 0.5 mm² (1 x AWG 20)
 max. 1 x 2.5 mm² (1 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN 60529, EN 81-20, EN 81-50

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Electrical data

Thermal current (I_{th}): 6 A
 Rated insulation voltage (U_i): 500 Vac
 Rated impulse with stand voltage (U_{imp}): 6 kV
 Protection against short circuits: fuse 6 A
 500 V type gG
 Pollution degree: 3

According
 EN 60947-5-1

EN 81 par. 14.1.2.2

Utilization categories:

AC15 (50, 60 Hz)

U_e (V) 120 250

I_e (A) 3 3

DC13

U_e (V) 125 250

I_e (A) 0.8 0.45

According
 EN 81

par. F.1.2.4

AC (50, 60 Hz)

230 Vac

2 A

DC:

200 Vdc

2 A

According
 EN 81

par. F.1.2.2.1.1

AC (50, 60 Hz)

230 Vdc

2 A

DC:

125 Vdc

1 A

According
 UL508

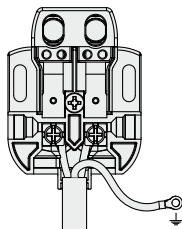
Ratings:

AC (50, 60 Hz)

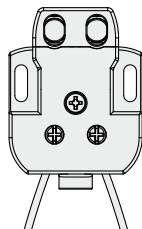
C300

DC:

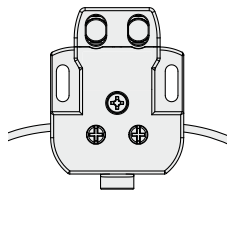
Q300

Three wiring possibilities

Standard wiring



Fast bottom wiring

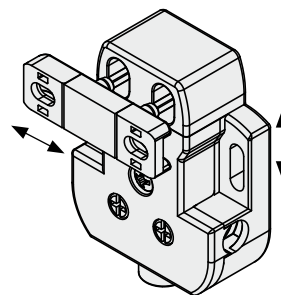


Fast lateral wiring

With a bipolar cable through the central hole on the housing bottom. Furthermore, using a three-pole cable it is possible to use the lateral hole with a wire for earthing other metal parts.

With two monopolar cables through two holes on the housing bottom. During this operation there is no need to open the contact cover.

With two monopolar cables through two holes on the housing sides. During this operation there is no need to open the contact cover.

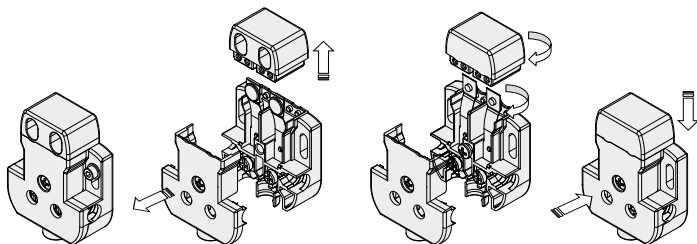
Transparent head and slotted holes

Transparent head on all sides in order to allow adjustment and centering of the actuator with the contacts.

The slotted holes on the actuator and on the contact housing allow to obtain a correct alignment between these two devices.

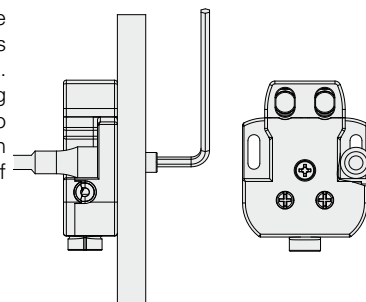
Items with code on the **green** background are available in stock

By rotating the head and the contact reeds of 180° it is possible to transform a door switch with frontal actuation into a door switch with actuation from back. The whole operation is possible by simply unscrewing three screws.



Housing back fixing

The particular shape of the housing allows fixing from the back. In fact near the fixing holes it is possible to fit a tubular wrench in order to keep hold of the nut while fixing.

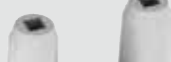
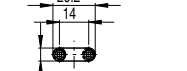


Dimensional drawings 10 pcs packs

	frontal actuation	back actuation
	Switch without actuator	Switch without actuator
Slow action contacts	DS CH1VA0 → 1NC	DS CN1VA0 → 1NC
Max actuating travel	6 mm	6 mm
Travels diagrams		

Centering device	100 pcs packs
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Article	Description
VD CE1A20	Centering device


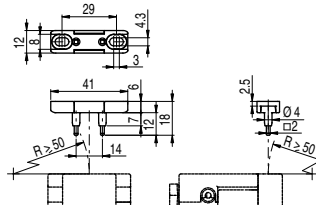

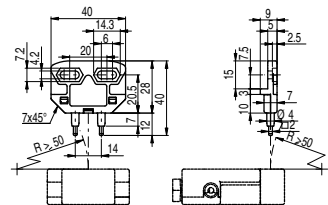

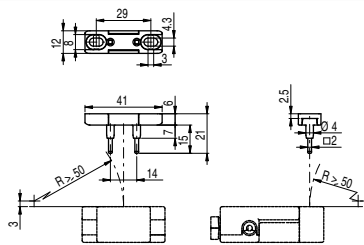

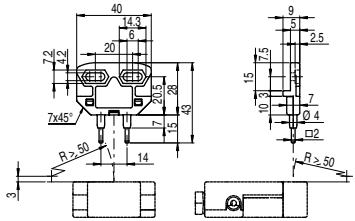

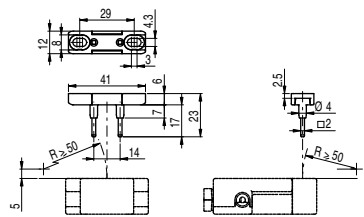

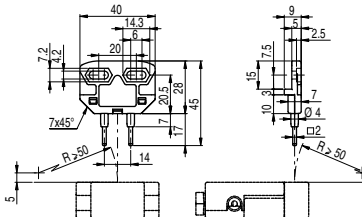



The centering device can be used on actuators type DS KA●● and DS KB●●. It grants an easy centering of the actuators on DS C●1VA switches during the fitting stage

Legend

■ Closed contact | □ Opened contact | ⊕40° Positive opening travel | ⊕ 2x2 mm contact opening travel according to EN81

Actuators **10 pcs** packs

Article	Description	Article	Description
DS KA1A	Straight actuator	DS KB1A	Right-angled actuator
			
Article	Description	Article	Description
DS KA2A	Straight actuator	DS KB2A	Right-angled actuator
			
Article	Description	Article	Description
DS KA3A	Straight actuator	DS KB3A	Right-angled actuator
			



Main data

- Reduced actuating force
- Protection degree IP67
- Polymer housing, one or two conduit entries
- Possibility of fixing the actuator in 2 perpendicular positions with respect to each other

Markings and quality marks:



Approval IMQ: EG610
 Approval IMQ-UNL: in progress
 Approval UL: E131787
 Approval EAC: RU C-IT DM94.B.01024

Technical data

Description

Safety switches with double interruption and positive opening. Suitable for the control of automatic lift doors.

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation 

FR series one conduit entry:

M20x1.5 (M16x1.5 on request)

FX series two knock out conduit entries:

M20x1.5 (M16x1.5 on request)

Protection degree:

IP67 according to EN 60529 with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C

Version for operation in ambient temperature from -40°C to +80° C on request

Max operating frequency: 3600 operations cycles¹/hour

Mechanical endurance: 10 million operations cycles¹

Max actuating speed: 0.5 m/s

Min. actuating speed: 1 mm/s

Assembling position: any

Driving torque for installation: see page 123

(1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 38, 39:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 50047, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-20, EN 81-50, NFC 63-140, VDE 0660-200, VDE 0113.


In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Installation for safety applications:

Use only switches marked with the symbol . The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 11-12, 21-22 or 31-32) as stated in the **standard ISO 14119, par. 5.4**. The switch must be actuated with **at least up to the positive opening travel** shown in the travels diagrams. The switch must be actuated **at least with the positive opening force**, shown in brackets, underneath each article, near the value of the min. force.

Electrical data

Thermal current (I _{th}):	10 A
Rated insulation voltage (U _i):	500 Vac 600 Vdc
Rated impulse withstand voltage (U _{imp}):	6 kV
Conditional short circuit current:	1000 A according to EN 60947-5-1
Protection against short circuits:	fuse 10 A 500 V type aM
Pollution degree:	3

Utilization categories

Alternate current: AC15 (50...60 Hz)			
U _e (V)	250	400	500
I _e (A)	6	4	1
Direct current: DC13			
U _e (V)	24	125	250
I _e (A)	6	1.1	0.4

Data type approved by IMQ

Rated insulation voltage (U_i): 500 Vac
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Y, Y+Y
 Positive opening of contacts on contact block 38, 39

In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2006/95/CE.

Data type approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc)
 A600 (720 VA, 120-600 Vac)
 Data of the housing type 1, 4X "indoor use only", 12, 13
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508

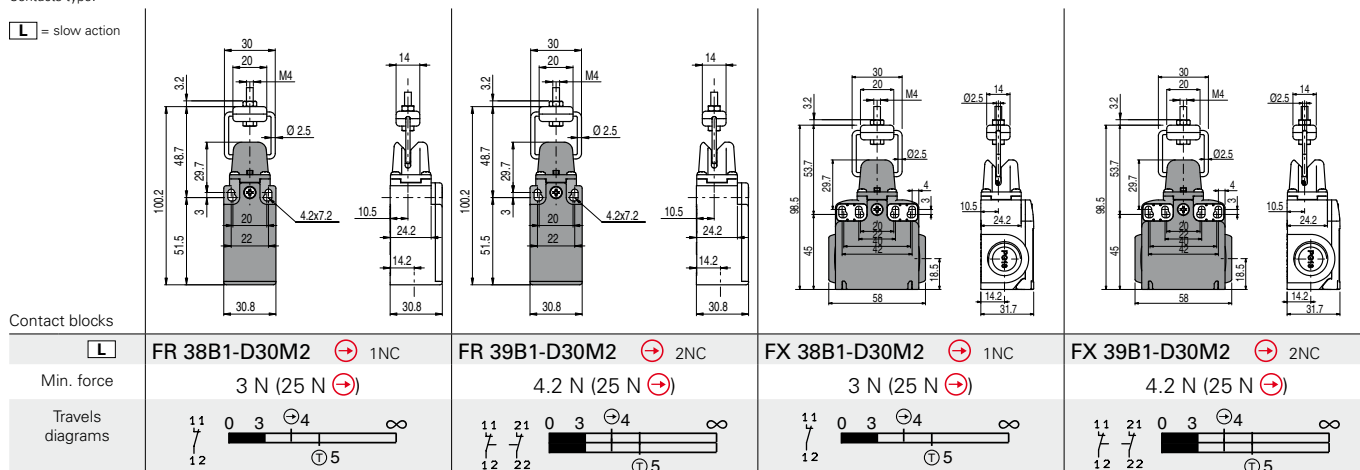
Please contact our technical service for the list of approved products.

Please contact our technical service for the list of type approved products.

Dimensional drawings

Contacts type:

L = slow action

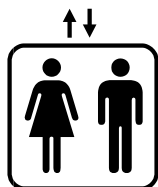


Legend

Legend

■ Closed contact | □ Opened contact | ⊕40° Positive opening travel | ⊕ 2x2 mm contact opening travel according to EN81

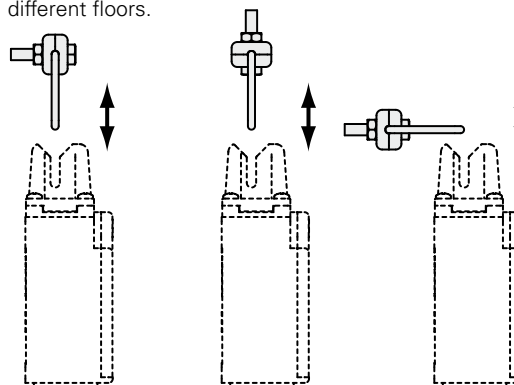
EN 81-20 standard



- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10^6 cycles.

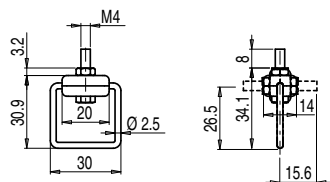
Adjustable actuator

It is possible to fix the actuator in two positions perpendicular to each other. Furthermore it is possible to operate the switch from different floors. \square



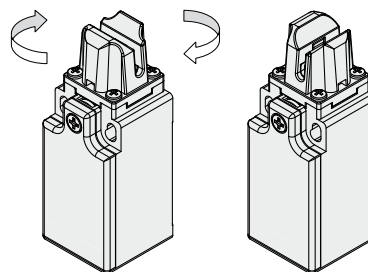
Separate actuator

Article	Description
VF KEYD30	Adjustable actuator



Rotating heads

In all switches, it is possible to rotate the head in 90° steps.





Main data

- Polymer housing, from one to three conduit entries
- Protection degree IP67
- 6 stainless steel actuators available
- M12 assembled connector versions
- Silver contacts gold plated versions

Markings and quality marks:



Approval IMQ: EG610
 Approval IMQ-UNL: in progress
 Approval UL: E131787
 Approval CCC: 2007010305230013
 Approval ECU: 101015
 Approval EAC: RU C-IT DM94.B.01024

Technical data

Housing

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin and with double insulation □

FR series one conduit entry: M20x1.5 (M16x1.5 on request)
 FK series one conduit entry: M16x1.5
 FX series two knock out conduit entries: M20x1.5 (M16x1.5 on request)
 FW series three knock out conduit entries: M20x1.5
 Protection degree: IP67 according to EN 60529 (electrical contacts) with cable gland having equal or higher protection degree

General data

Ambient temperature: -25°C ... +80°C
 Version for operation in ambient temperature from -40°C to +80° C on request
 Max operating frequency: 3600 operations cycles¹/hour
 Mechanical endurance: 1 million of operations cycles¹
 Max actuating speed: 0.5 m/s
 Min. actuating speed: 1 mm/s
 Actuator extraction force: 10 N
 Driving torque for installation: see page 123
 (1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

Contact blocks 20, 33, 34:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max.	2 x 1.5 mm ²	(2 x AWG 16)
Contact blocks 6:	min.	1 x 0.5 mm ²	(1 x AWG 20)
	max.	2 x 2.5 mm ²	(2 x AWG 14)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, IEC 60204-1, EN 60204-1, EN 1088, EN ISO 12100-1, EN ISO 12100-2, EN 60529, EN 60529, EN 81-20, EN 81-50, NFC 63-140, VDE 0660-200, VDE 0113, BG-GS-ET-15.

Approvals:

IEC 60947-5-1, UL 508, GB14048.5-2001

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Electrical data

Thermal current (I_{th}): 10 A
 Rated insulation voltage (U_i): 500 Vac 600 Vdc
 400 Vac 500 Vdc for contacts block 20, 33, 34
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV for contact blocks 20, 33, 34
 Conditional short circuit current: 1000 A according to EN 60947-5-1
 Protection against short circuits: fuse 10 A 500 V type aM
 Pollution degree: 3

Utilization categories

Alternate current: AC15 (50...60 Hz)
 U_e (V) 250 400 500
 I_e (A) 6 4 1
 Direct current: DC13
 U_e (V) 24 125 250
 I_e (A) 6 1.1 0.4

Data type approved by IMQ, CCC and ECU

Rated insulation voltage (U_i): 500 Vac
 400 Vac for contact blocks 20, 33, 34
 Thermal current (I_{th}): 10 A
 Protection against short circuits: fuse 10 A 500 V type aM
 Rated impulse withstand voltage (U_{imp}): 6 kV
 4 kV Vac for contact blocks 20, 33, 34
 Protection degree: IP67
 MV terminals (screw clamps)
 Pollution degree 3
 Utilization category: AC15
 Operation voltage (U_e): 400 Vac (50 Hz)
 Operation current (I_e): 3 A
 Forms of the contact element: Zb, Y+Y
 Positive opening of contacts on contact block 6, 20, 33, 34

In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2006/95/CE.

Please contact our technical service for the list of type approved products.

Data type approved by UL

Utilization categories Q300 (69 VA, 125-250 Vdc)
 A600 (720 VA, 120-600 Vac)
 Data of the housing type 1, 4X "indoor use only"; 12, 13
 For all contact blocks use 60 or 75 °C copper (Cu) conductor and wire size No. 12-14 AWG. Terminal tightening torque of 7.1 lb in (0.8 Nm).
 In conformity with standard: UL 508

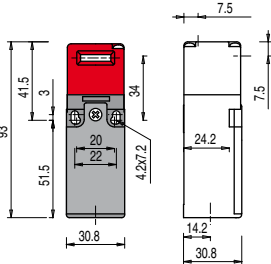
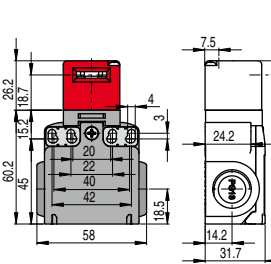
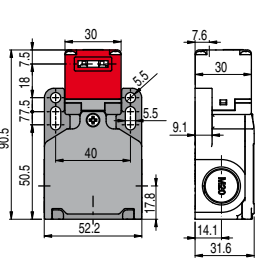
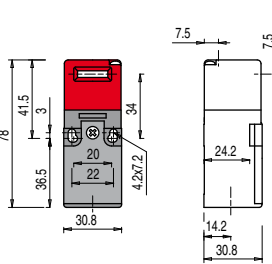












Please contact our technical service for the list of approved products.

Dimensional drawings

Contacts type:

L = slow action


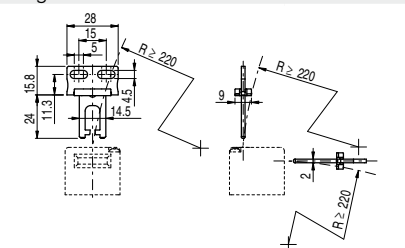

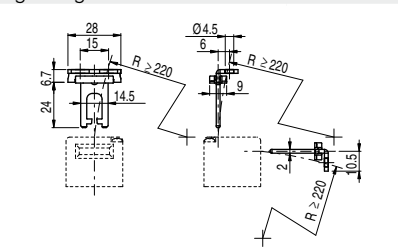

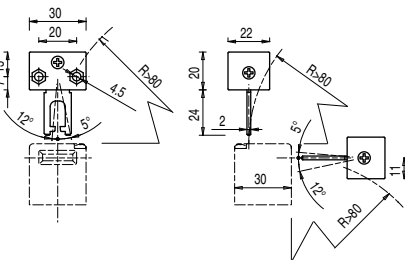

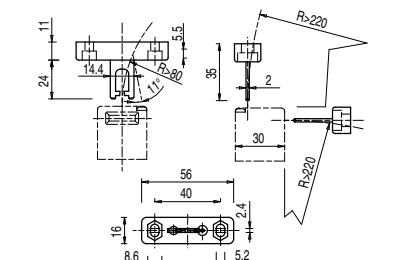
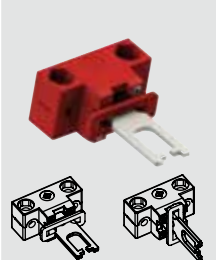
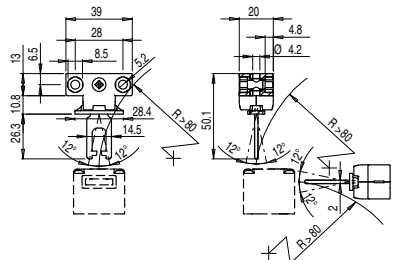

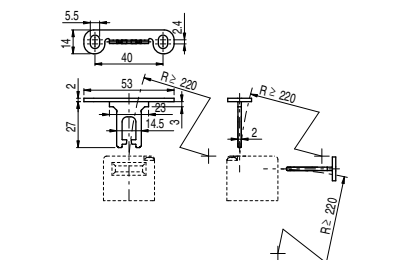
Contact blocks

	polymer housing Switch without actuator	polymer housing Switch without actuator	polymer housing Switch without actuator	polymer housing Switch without actuator
				
6 L	FR 693-M2  1NO+1NC	FX 693-M2  1NO+1NC		
20 L	FR 2093-M2  1NO+2NC	FX 2093-M2  1NO+2NC		
33 L			FW 3392-M2  1NO+1NC	FK 3393-M1  1NO+1NC
34 L			FW 3492-M2  2NC	FK 3493-M1  2NC
Min. force	10 N (18 N )	10 N (18 N )	10 N (18 N )	10 N (18 N )
Travel diagrams	page 114 - group 1e	page 114 - group 1e	page 114 - group 1e	page 114 - group 1e

Actuators stainless steel

10 pcs packs

IMPORTANT: These actuators must be used with FR, FX, FK e FW (e.g. FR 693).

Article	Description	Article	Description
VF KEYD	Straight actuator	VF KEYD1	Right-angled actuator
			
VF KEYD3	Jointed actuator adjustable in two directions	VF KEYD7	Jointed actuator adjustable in one direction
			
Actuator adjustable in two directions for doors with reduced dimensions.		Actuator adjustable in one direction for doors with reduced dimensions.	
VF KEYD8	Universal actuator	VF KEYD10	Shaped actuator
			

Jointed and two directions adjustable actuator for doors with reduced dimensions.

The actuator has two couples of fixing holes and it is possible to rotate by 90° the actuator-working plan.

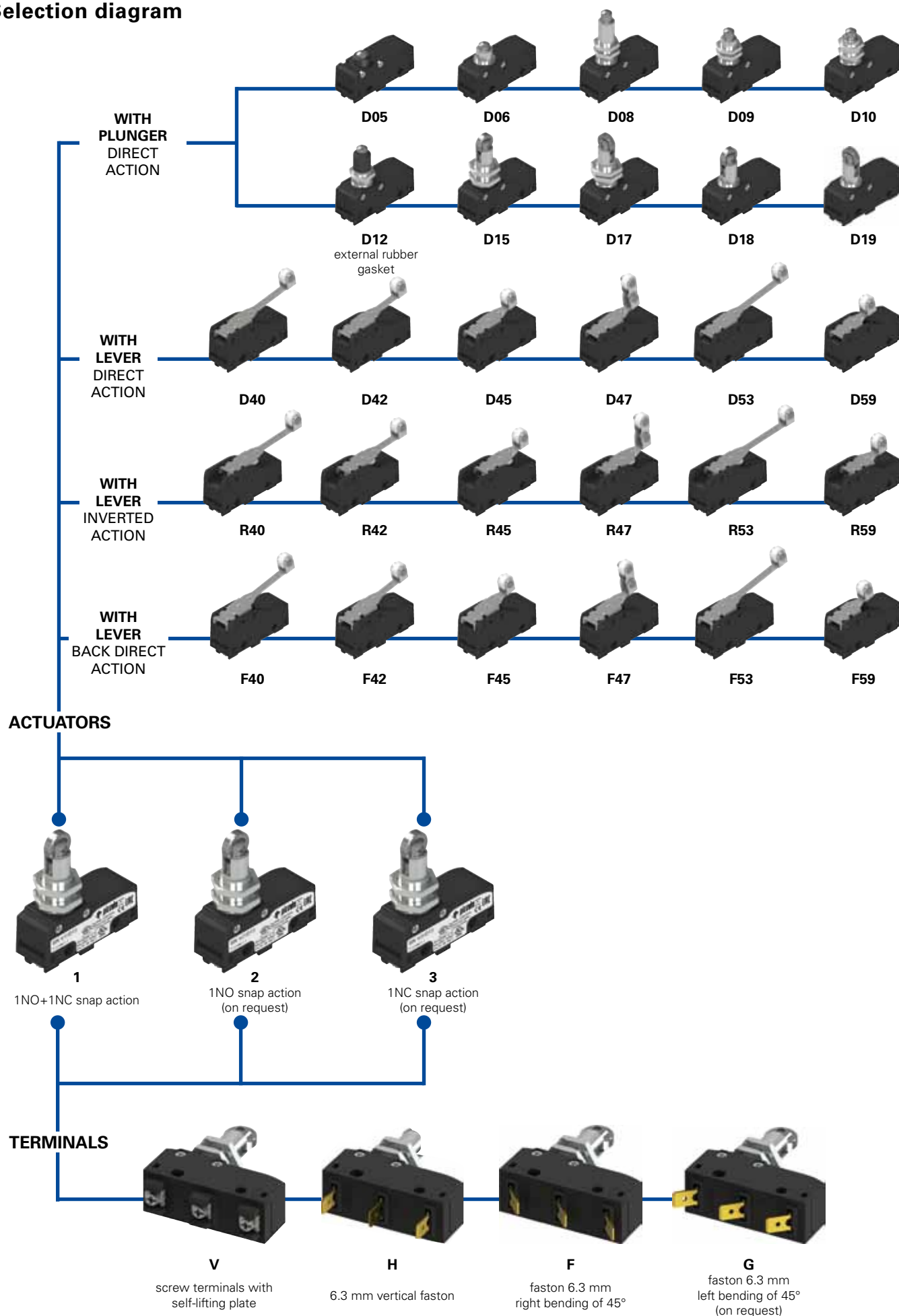
Accessories See page 119

Items with code on the **green** background are available in stock

→ 2D and 3D files available on www.pizzato.com

All measures in the drawings are in mm

Selection diagram



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
MK V12D40-GR16T6

Terminals type	
V	screw terminals with self-lifting late
H	vertical faston terminals
F	with faston, right bending of 45°
G	with faston, left bending of 45° (on request)

Contact block	
1	1NO+1NC, snap action
2	1NO, snap action (on request)
3	1NC, snap action (on request)

Max protection degree	
1	IP40 (with protection)
2	IP65 (with protection)

Actuation type	
D	direct action
R	inverted action
F	back direct action

Ambient temperature	
	-25°C ... +85°C (standard)
T6	-40°C ... +85°C

Suffix	
	no suffix (standard)
R16	Ø 9.5x4 mm metal roller (for actuator 40, 42 .45 47, 53, 59)
R10	Ø 9.8x8.4 mm polymer roller (for actuator 40, 42 .45, 53)

Contacts type	
	silver contacts (standard)
G	silver contacts gold plated 1 µm

Actuator	
01	with pin
02	with pin
03	with small push button
..

**Main data**

- Polymer housing
- Protection degree IP20, IP40 or IP65
- 4 terminal types available
- Versions with positive opening ⊕
- Silver contacts gold plated versions
- Terminal covers with wire trap cable gland

Markings and quality marks:

Approval IMQ: in progress
 Approval UL: E131787
 Approval CCC: 2013010305604291
 Approval EAC: RU C-IT DM94.B.01024

Technical data**Housing**

Made of glass-reinforced polymer, self-extinguishing, shock-proof thermoplastic resin.

Protection degree according to EN 60529: IP00 (without protection)
 IP20 (with protection VF C01 - VF C03)
 IP40 (with protection VF MKC•1• - VF C02)
 IP65 (with protection VF MKC•22 - VF MKC•23)

General data

Ambient temperature: -25°C ... +85°C
 Max operating frequency: 3600 operations cycles¹/hour
 Mechanical endurance: 10 million operations cycles¹
 Driving torque for installation: see page 126
 (1) One operation cycle means two movements, one to close and one to open contacts, as foreseen by EN 60947-5-1 standard.

Cross section of the conductors (flexible copper wire)

MK series:	min.	1 x 0.34 mm ²	(1 x AWG 22)
	max	2 x 1.5 mm ²	(2 x AWG 16)

In conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, EN 60529, EN 60529.

Approvals:

UL 508

In conformity with requirements requested by:

Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and EMC Directive 2004/108/EC.

Positive contact opening in conformity with standards:

IEC 60947-5-1, EN 60947-5-1, EN 60947-1, VDE 0660-206.

Installation for safety applications:

Use only switches marked with the symbol ⊕. The safety circuit must always be connected with the **NC contacts** (normally closed contacts) as stated in the **standard ISO 14119, par. 5.4**. The switch must be actuated with **at least up to the positive opening travel (FAP)** near the code article. The switch must be actuated **at least with the positive opening force (CAP)**, near the code article.

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 according to EN 60947-5-1
Protection against short circuits:	fuse 16 A 250 V type gG
Pollution degree:	3
Dielectric strength	2000 Vac/min.

Utilization categories

Alternate current: AC15 (50 ... 60 Hz)			
U _e (V)	250	120	
I _e (A)	4	6	
Direct current: DC13			
U _e (V)	24	125	250
I _e (A)	5	0.5	0.3

Data type approved by UL

Utilization categories	Q300 (69 VA, 125-250 Vdc)
	A300 (720 VA, 120-300 Vac)

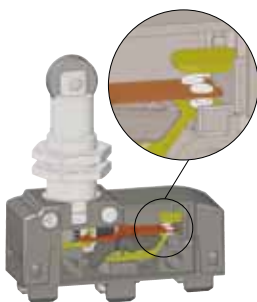
In conformity with standard: UL 508

Please contact our technical service for the list of approved products.

Contact block reliability

The electrical contact on new microswitch has been realized with higher reliability technology, thanks to the double and redundant shape

For high quantity it's possible to supply the microswitch only with the contact NO or NC, in order to minimize purchase costs.

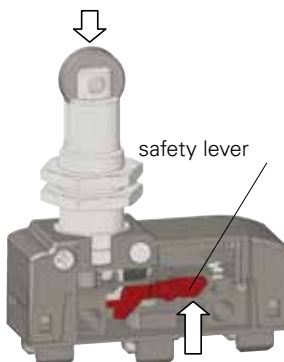


Protection degree IP65

IP65

The housing of the new microswitch provides the possibility to seat gaskets in order to seal the device against fine dusts or liquids up to IP65 degree. To obtain the protection degree match the appropriate version of the microswitch IP65 with the IP65 terminal cover.

Microswitches for safety applications



All microswitches that have the symbol beside the code are with positive opening, therefore suitable for safety applications.

These microswitches are provided with a rigid connection between push button and NC contacts, which are opened by force through a strong/sturdy internal safety lever.

The positive opening has been realised in conformity with the standard IEC 60947-5-1, enclosure K, therefore these microswitches are suitable for the installation for people's protection.

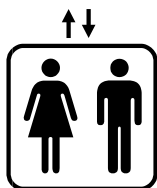


Clamping screw plates for different diameter cables (MK V•)



These clamping screw plates have a particular "roofing tile" structure and are connected loosely to the clamping screw. In this way, during the wires fixing, the clamping screw plate is able to suit to cables of different diameter (see picture) and tends to tighten the wires toward the screw instead of permitting them to escape towards the outside.

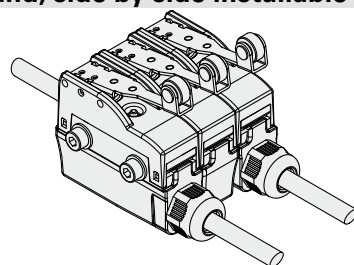
EN 81-20 standard



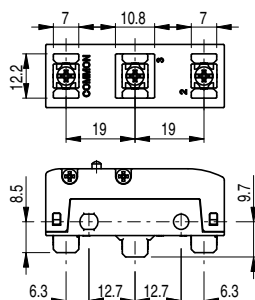
- Safety contacts according to EN 60947-5-1, encl. K.
- Protection degree higher than IP4x.
- Mechanical endurance higher than 10^6 cycles.

Terminal covers with wire trap cable gland, side by side installable

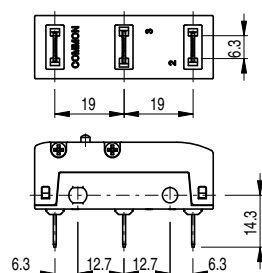
New terminal covers supplied with wire trap cable gland are provided for the protection degree up to IP65. These terminal covers are snap-in assembled and they have small dimensions in the microswitch profile, it's possible to install them also on microswitches fixed side by side.



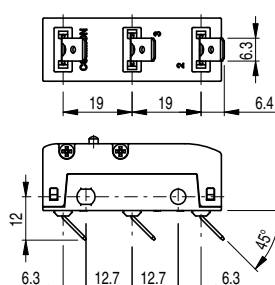
Terminals outline dimension



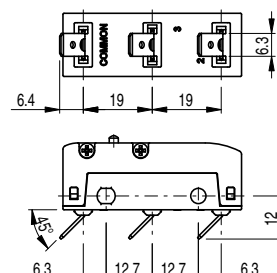
Screw terminals **V** with plate



Vertical faston **H** terminals



faston terminals **F**, right bending

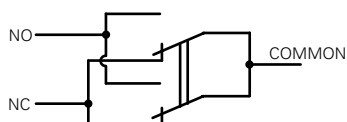


faston terminals **G**, left bending (on request)

Note: H vertical faston terminals can be bent according to one's installation requirements.

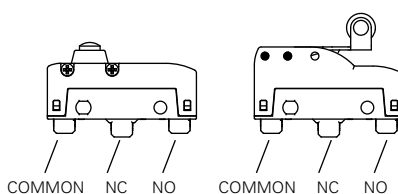
We recommend to bend the faston with an angle not higher than 45° and to carry out this operation no more than 5 times.

Wire diagram

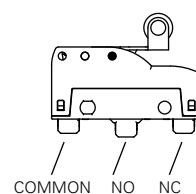


Contacts with single interruption and double contacts

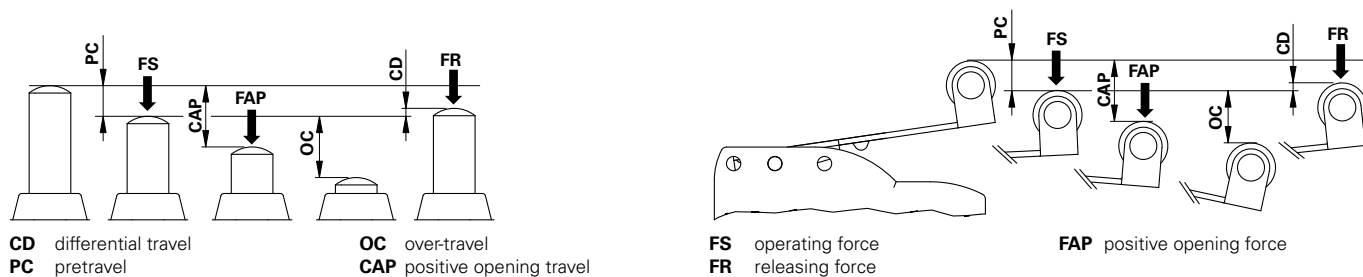
With direct and back direct action (F, D)



With inverted action (R)



Legend



Microswitches with direct action (All measures in the drawings are in mm)

10 pcs packs

	MK V11D05 → 1NO+1NC	PC 0.5 mm OC 2 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

	MK V11D06 → 1NO+1NC	PC 0.5 mm OC 3 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

	MK V11D08 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

	MK V11D09 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

	MK V11D10 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

	MK V11D12 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4.5 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 1			

Fixed only by threaded head			
	MK V11D15 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 2			

	MK V11D17 → 1NO+1NC	PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm	FS 4 N FR 3 N FAP 20 N
Max and min. speed page 126 - type 2			

Items with code on the green background are available in stock

MK V11D18 1NO+1NC PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm FS 4 N FR 3 N FAP 20 N Max and min. speed page 126 - type 2	MK V11D19 1NO+1NC PC 0.5 mm OC 5.5 mm CD 0.05 mm CAP 2.2 mm FS 4 N FR 3 N FAP 20 N Max and min. speed page 126 - type 2

MK V11D40 1NO+1NC PC 6.7 mm OC 7.8 mm CD 0.8 mm FS 0.86 N FR 0.66 N Max and min. speed page 126 - type 6	MK V11D42 1NO+1NC PC 5.3 mm OC 5.7 mm CD 0.6 mm FS 1.09 N FR 0.84 N Max and min. speed page 126 - type 6

MK V11D45 1NO+1NC PC 3.5 mm OC 4.5 mm CD 0.4 mm FS 1.66 N FR 1.28 N Max and min. speed page 126 - type 6	MK V11D47 1NO+1NC PC 3.5 mm OC 4 mm CD 0.4 mm FS 1.66 N FR 1.28 N Max and min. speed page 126 - type 6

MK V11D53 1NO+1NC PC 7.7 mm OC 8.9 mm CD 0.9 mm FS 0.76 N FR 0.58 N Max and min. speed page 126 - type 6	MK V11D59 1NO+1NC PC 2.5 mm OC 4.5 mm CD 0.2 mm FS 2.3 N FR 1.77 N Max and min. speed page 126 - type 6

Microswitches with inverted action (All measures in the drawings are in mm)

MK V11R40 1NO+1NC PC 3.4 mm OC 10.3 mm CD 0.7 mm FS 0.8 N FR 0.5 N Max and min. speed page 126 - type 7	MK V11R42 1NO+1NC PC 2.7 mm OC 7.9 mm CD 0.5 mm FS 1.2 N FR 1.7 N Max and min. speed page 126 - type 7

MK V11R45	1NO+1NC	PC 1.5 mm OC 5.5 mm CD 0.3 mm	FS 1.7 N FR 1 N
Max and min. speed page 126 - type 7		Max and min. speed page 126 - type 7	

MK V11R53	1NO+1NC	PC 4.3 mm OC 11.6 mm CD 0.8 mm	FS 0.8 N FR 0.4 N
MK V11R59	1NO+1NC	PC 1.5 mm OC 3.9 mm CD 0.3 mm	FS 2.4 N FR 1.3 N
Max and min. speed page 126 - type 7		Max and min. speed page 126 - type 7	

Microswitches with back direct action (All measures in the drawings are in mm)

10 pcs packs

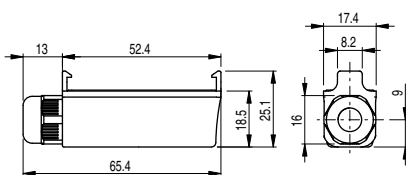
MK V11F40	1NO+1NC	PC 2.4 mm OC 10.4 mm CD 0.25 mm	FS 0.85 N FR 0.65 N
MK V11F42	1NO+1NC	PC 1.6 mm OC 8.4 mm CD 0.2 mm CAP 9 mm	FS 1 N FR 0.7 N FAP 4.9 N
Max and min. speed page 126 - type 8		Max and min. speed page 126 - type 8	

MK V11F45	1NO+1NC	PC 1.1 mm OC 6.6 mm CD 0.1 mm CAP 6.3 mm	FS 1.3 N FR 0.9 N FAP 6.9 N
MK V11F47	1NO+1NC	PC 1.1 mm OC 5.6 mm CD 0.1 mm CAP 6.3 mm	FS 1.3 N FR 0.9 N FAP 6.9 N
Max and min. speed page 126 - type 8		Max and min. speed page 126 - type 8	

MK V11F53	1NO+1NC	PC 2.5 mm OC 11.5 mm CD 0.3 mm	FS 0.7 N FR 0.6 N
MK V11F59	1NO+1NC	PC 0.8 mm OC 5.2 mm CD 0.08 mm CAP 4.9 mm	FS 1.7 N FR 1.3 N FAP 8.9 N
Max and min. speed page 126 - type 8		Max and min. speed page 126 - type 8	

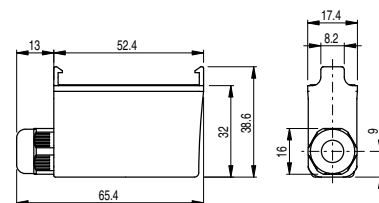
Protections (terminals covers)

10 pcs packs



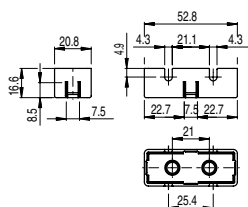
Protection terminal cover for screw terminals snap-in assembled and with wire trap cable gland. It allows the installation of more switches side by side.

Article	Description	Protection degree
VF MKCV11	Protection terminal cover without gasket for multipolar cables from Ø 5 to Ø 7.5 mm	IP40
VF MKCV12	Protection terminal cover without gasket for multipolar cables from Ø 4 to Ø 7.5 mm	IP40
VF MKCV13	Protection terminal cover without gasket for multipolar cables from Ø 2 to Ø 5 mm	IP40
VF MKCV22	Protection terminal cover with gasket for multipolar cables from Ø 4 to Ø 7.5 mm	IP65
VF MKCV23	Protection terminal cover with gasket for multipolar cables from Ø 2 to Ø 5 mm	IP65

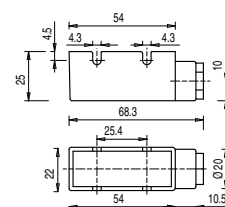


Protection terminal cover for vertical faston terminals snap-in assembled and with wire trap cable gland. It allows the installation of more switches side by side.

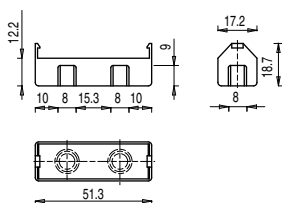
Article	Description	Protection degree
VF MKCH11	Protection terminal cover without gasket for multipolar cables from Ø 5 to Ø 7.5 mm	IP40
VF MKCH12	Protection terminal cover without gasket for multipolar cables from Ø 4 to Ø 7.5 mm	IP40
VF MKCH13	Protection terminal cover without gasket for multipolar cables from Ø 2 to Ø 5 mm	IP40
VF MKCH22	Protection terminal cover with gasket for multipolar cables from Ø 4 to Ø 7.5 mm	IP65
VF MKCH23	Protection terminal cover with gasket for multipolar cables from Ø 2 to Ø 5 mm	IP65



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



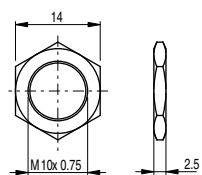
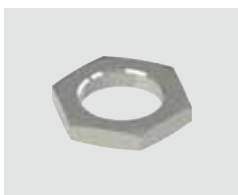
Article	Description	Protection degree
VF C02	Protection terminal cover for screw terminals with cable gland PG9 for multipolar cables from Ø 5 to Ø 7 mm	IP40



Article	Description	Protection degree
VF C03	Protection terminal cover for screw terminals snap-in assembled. It allows the installation of more switches side by side	IP20

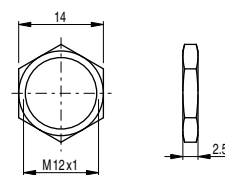
Accessories

10 pcs packs



Article	Description
AC83	Hexagonal threaded nut M10 x 0.75 for microswitches

Items with code on the **green** background are available in stock



Article	Description
AC72	Hexagonal threaded nut M12 x 1 for microswitches

→ 2D and 3D files available on www.pizzato.com