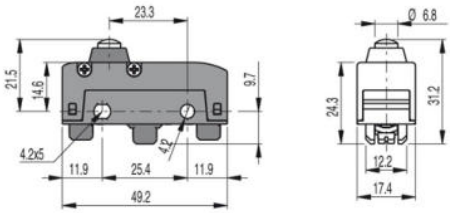
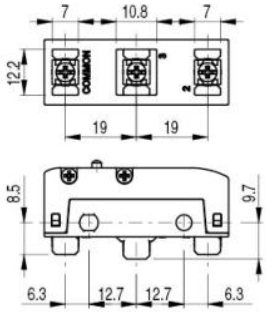
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Article: **MK V11D05**
Description: Microswitch with short plunger







Screw terminals **V** with plate

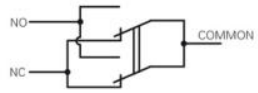
Housing:
Technopolymer housing

Protection degree:
IP00 without terminal cover
IP20 with terminal cover VF C01, VF C03
IP40 with terminal cover VF MKCx1x, VF C02

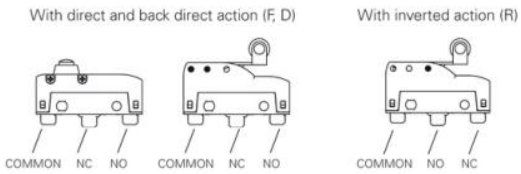
General data:
Ambient temperature: -25°C … +85°C
Max. actuation frequency: 3600 operating cycles/hour
Mechanical endurance: 10 million operating cycles
Safety parameters B_{10D}: 20,000,000 for NC contacts

Contact block characteristics:
1NO+1NC changeover
Mobile contact with single interruption and double contacts

Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1.

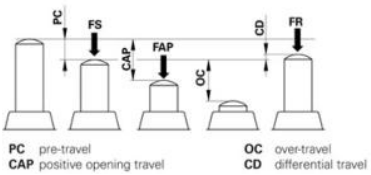


Contacts with single interruption and double contacts

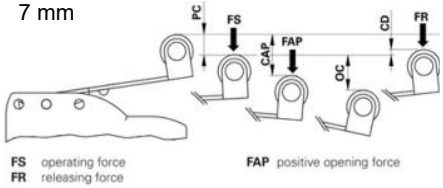


Actuation forces and travels:

PC: 0,5mm	FS: 4N
OC: 2mm	FR: 3N
CD: 0,05mm	FAP: 20N
CAP: 2,2mm	



Cable cross section (flexible copper strands):
min. 1 x 0,34 mm2 (1 x AWG 22)
max. 2 x 1,5 mm2 (2 x AWG 16)
Wire stripping length:
7 mm



Compliance with the requirements of:
Low Voltage Directive 2014/35/EU,
EMC Directive 2014/30/EU,
RoHS Directive 2011/65/EU.

Conformità alle norme:
IEC 60947-5-1, EN 60947-5-1, IEC 60529, EN 60529, EN 60947-1, IEC 60947-1, EN IEC 63000.
Approvals:
UL 508, CSA C22.2 No. 14, EN 60947-1, EN 60947-5-1

Device screw tightening torques:
Head nuts: 2 … 3 Nm
Head screws: 0.3 … 0.4 Nm
Terminal screws: 0,6 ... 0,8 Nm
M4 fixing screws, body (insert washer): 0.8 … 1.2 Nm
Attention: A tightening torque higher than 1.2 Nm can cause the breaking of the microswitch.

Markings and quality marks:

Electrical data:

Thermal current (Ith): 16 A
Rated insulation voltage (Ui): 250 Vac 300 Vdc
Rated impulse withstand voltage (Uimp): 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 Vac/min.

Utilization category:

Alternate current: AC15 (50...60 Hz)

Ue (V)	120	250
Ie (A)	3	5

Direct current: DC13

Ue (V)	24	125	250
Ie (A)	4	0,6	0,3

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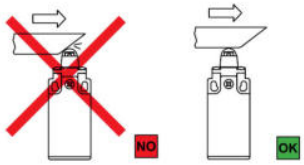
Characteristics approved by IMQ and CCC
Rated insulation voltage (Ui): 250 Vac
Conventional free air thermal current (Ith): 16 A
Protection against short circuits: type gG fuse 16 A 250 V
Rated impulse withstand voltage (Uimp): 4 kV
Conditional short circuit current: 1000 A
Protection degree of the housing: IP00
Terminals: screw terminals/faston
Pollution degree: 3
Utilization category: AC15
Operating voltage (Ue): 250 Vac (50 Hz)
Operating current (Ie): 5 A

Forms of the contact element: A; B; C
Positive opening of contacts on contact blocks: 1, 3
In conformity with standards: EN 60947-1, EN 60947-5-1, fundamental requirements of the Low Voltage Directive 2014/35/EU.

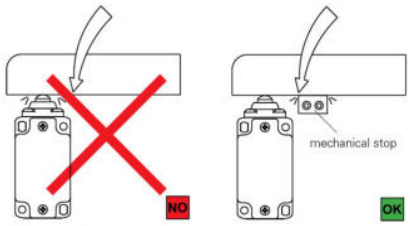
Characteristics approved by UL
Electrical Ratings:
Q300 pilot duty (69 VA, 125-250 V dc)
A300 pilot duty (720 VA, 120-300 V ac)

Mechanical stop

Acc. to EN ISO 14119 paragraph 5.2 "the position sensors must not be used as mechanical stop".



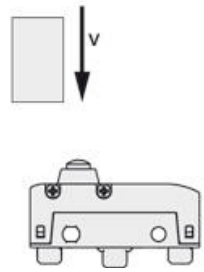
The actuator must not exceed the max. travel as indicated in the travel diagrams.



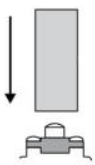
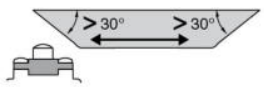
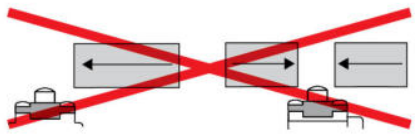
The guard must not use the switch head as a mechanical stop.

Plunger - Type 1

Vmax (m/s)	Vmin (mm/s)
0,5	0,05



Actuation modes

Recommended application	Application to avoid This application is possible, but increased mechanical stress may shorten the operating life of the switch	Forbidden application
		

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Installation of single switches for safety applications

- Use **only** switches with the symbol ⊖ .
- Connect the safety circuit to **the NC normally closed contacts**, as stated in **standard EN 60947-5-1, encl. K, par. 2**.
- **The NO normally open contacts** should be used **only for signalling**; these contacts are not to be connected with the safety circuit. However, if in the same protection two or more switches are used, it is possible to connect the contact NO to the safety circuit. In this case at least one of the two switches must have a positive opening and a normally closed contact NC must be connected to the safety circuit.
- Actuate the switch **at least up to the positive opening travel (CAP)** stated aside the article code.
- Actuate the switch **at least with the positive opening force (FAP)** stated aside the article code.
- The fixing of the device must occur in compliance with the standard EN ISO 14119.

Whenever the machine guard is opened and during the whole opening travel, **the switch must be pressed directly** (fig. 1) **or through a rigid connection** (fig. 2)**.**
Only in this way the positive opening of the NC normally closed contacts is guaranteed.

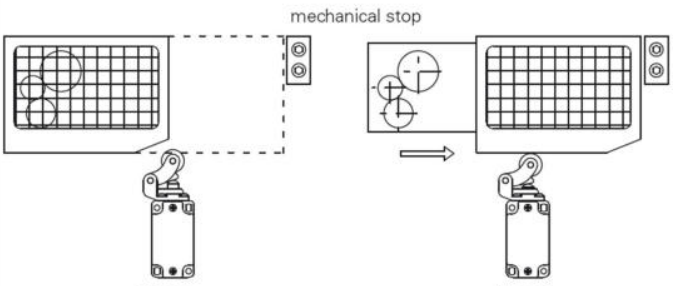


Fig.1

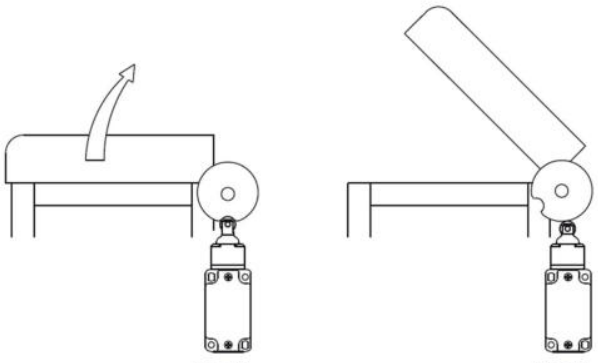
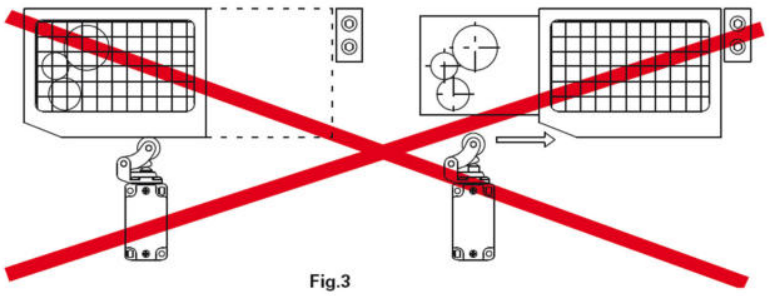
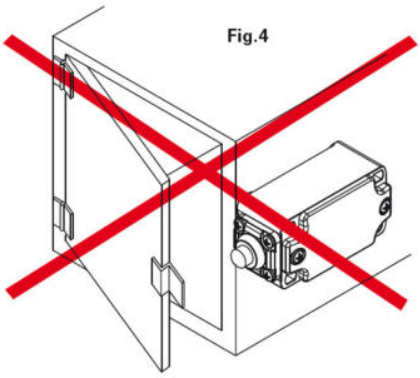


Fig.2

In the safety application with only one switch for each guard, the switches **should not be applied to activate by release** (fig. 3 and 4) **or through a non rigid connection** (i.e. by a spring).


Fig.3


Fig.4

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