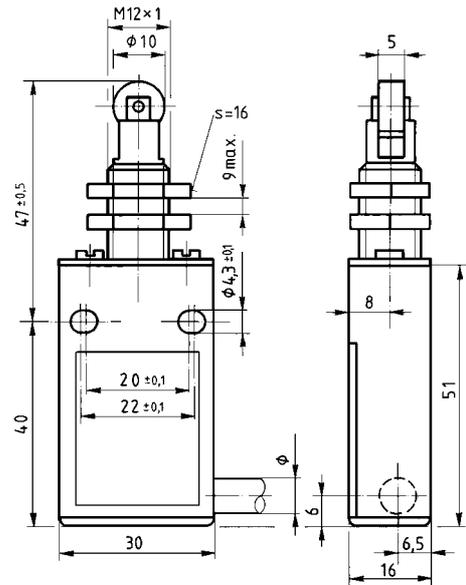


SERIES MP720 & DERIVATIVES

MP720

**SEALED POSITION SWITCH
WITH POSITIVE
OPENING OPERATION
OVERMOULDED
CABLE - DEGREE OF
PROTECTION IP67**

The MP720 positive opening position switch is a dependent-action, changeover, double-gap, contact element, which is connected by means of a cable directly overmoulded into the housing.

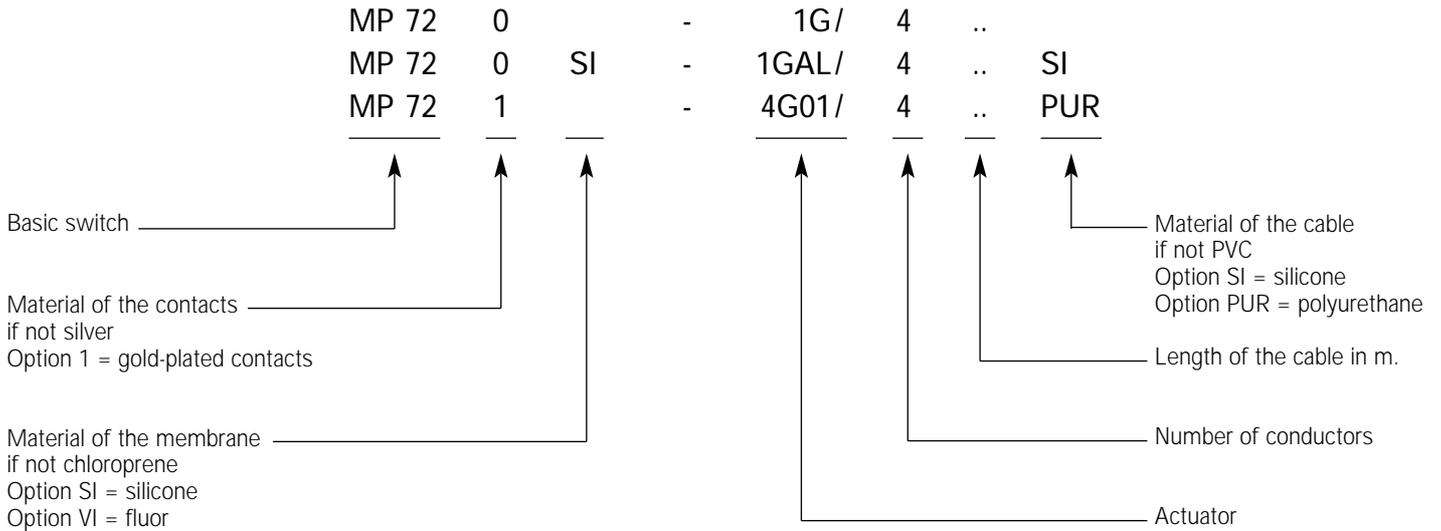


GENERAL CHARACTERISTICS, MP720 TYPES

Approvals	: VDE SUVAPro N° E6204.d
Nominal switching capacity	: 6A 250VAC
Degree of protection	: IP67
Class of protection	: II
Reinforced insulation	: 
Positive break	: 
Complies with standards	: EN60947-1 as VDE 0660 part 100 EN60947-5 as VDE 0660 part 200
Mechanical life	: 10x10 ⁶ operations
Frequency of operation	: 3600 operations per hour
Type of use	: AC15 (3A 240VAC) DC13 (0.27A 250VDC)
Assigned insulation voltage Ui	: 250VAC
Electrical protection	: 6A gI according to VDE 0636
Connection	: Cable directly overmoulded to the housing section 4x0.75mm ²
Overall dimensions	: DIN43695, EN 50047 and NFC 63-145, class Y2

REFERENCE CODE OF THE ARTICLE

SERIES MP720 & DERIVATIVES



Housing:	PBT reinforced with glass fibre Auto-extinguishing according to UL94V-O	- 40°C to + 130°C
Sealing membrane:	Chloroprene rubber CR	- 20°C to + 80°C
	SI Silicone rubber	- 40°C to + 200°C
	VI Fluor rubber	- 05°C to + 150°C
Cable:	PVC	- 20°C to + 70°C
	SI Silicone rubber	- 40°C to + 150°C
	PUR polyurethane rubber	- 40°C to + 90°C

SWITCHING DIAGRAM

Depending on the type of cable

Cable isolation	PVC	Polyurethane	Silicone
Code in the reference of the article		PUR	SI
Element of contact Za form			

According to the availability of the market we reserve ourselves the right to modify the colors of identification of wire connection.

11 - 12: Positive Break contact : positive opening operation.

23 - 24: Working contacts. They are designed for switching circuits and must never be used for breaking a safety circuit.

COMMAND CHARACTERISTICS TERMINOLOGY

Additional definitions for the MP720.

Pmp

Positive opening operation position. Actuator position at the point where the positive opening of the contacts is achieved.

Position of the actuator when the positive opening operation on the circuit-breaking contacts has been achieved. Position in, which pre-determined dielectric voltage rating requirements is met between the open contacts in the switchable circuit.

smp

Positive opening operation travel. The minimum distance between the start of the movement of the actuator and the position where the positive opening of the contacts is achieved.

Distance between the rest position and the positive opening operation position.

Fmp

Positive opening operation force. The actuating force applied to the actuator to cause it to achieve the positive opening operation.

SAMPLES APPLICATIONS

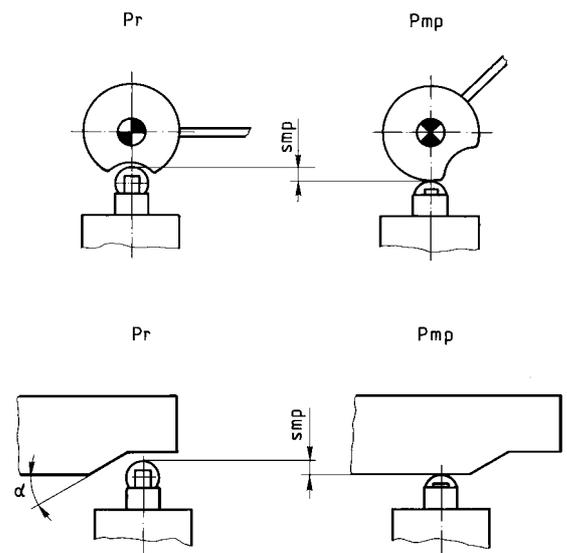
• Hinged door (rotating)

The problem with fitting a positive opening operation position switch to a hinged door is that the switch has to be operated as the door opens. Hence, the switch cannot be operated directly by the door but rather via a notched cam.

• Sliding door (lateral movement)

In this case also the switch has to be operated as the door opens. Care has to be taken to ensure that the positive opening operation switch remains in that position during the full open travel of the door.

Protective doors of this type are generally used on machines operating at high revolutions with cooling fluids. Consequently, it is essential in such applications that a switch with IP67 protection be used.



FITTING INSTRUCTIONS

Additional instructions supplementing those on page 6 to 15.

When fitting **MP720** positive opening operation position switches, account has to be taken of the following points:

- The switch **must be actuated with the minimum positive opening operation travel (smp)** given for each type of actuator. This travel insures the opening of the contacts, hence the interruption of the circuit.
- The switch must be secured to a rigid support. Care must be taken to ensure that the retaining screws cannot work loose in use.
- The cam must be positioned and insured against maladjustment.
- The actuators must be set at the proper angle to avoid the accumulation of foreign bodies.
- Components must be correctly selected according to temperatures and chemical resistance.

DOMED PLUNGER

The actuator must be operated axially.
Vertical button operating speed >1mm/s.

ACTUATING FORCE Fa max. (N)	POSITIVE OPENING FORCE Fmp min. (N)	FREE POSITION Pr (mm)	POSITIVE OPENING OPERATION POSITION Pmp max. (mm)	DESIGNATION	
4,0	10,0	20,5 ± 0,5	16,60	MP720-1G/4..	
4,0	10,0	35,0 ± 0,5	31,10	MP720-1GA/4..	

Switching diagram

* = Positive opening operation travel (smp)



In free position, a clearance of 0.5 to 1.0 mm has to be left from the top of the actuating button.
The plunger **must not** be used as a mechanical endstop.

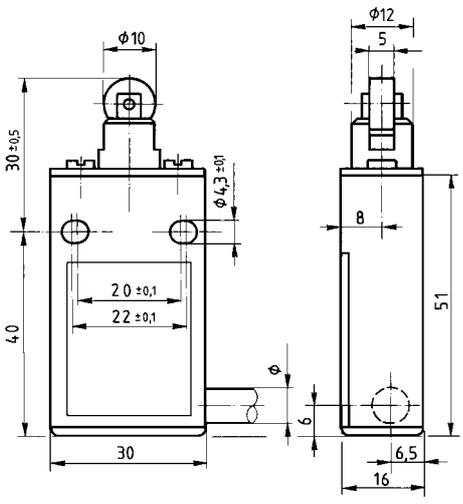
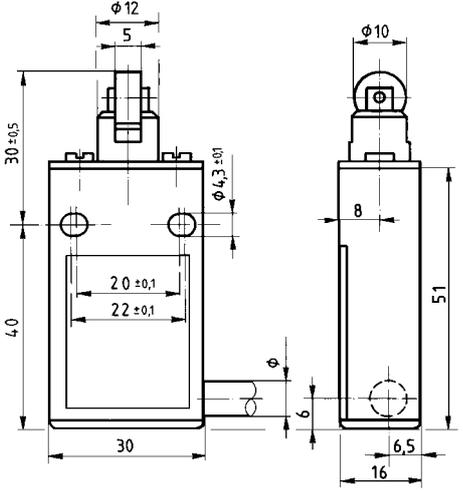
Plunger actuators with a M12x1 male threaded collar must be secured by that collar using the nuts provided for that purpose.

ROLLER PLUNGER

This may be operated by means of a rotating or sliding cam.

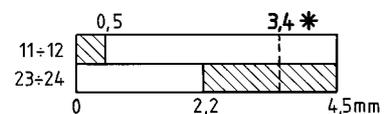
A cam the **angles of which are in excess of 40°** or the speed of which is in excess of **2m/s** must not strike the roller plunger.

The contact point must be directly above the axis of the roller.

DESIGNATION	ACTUATING FORCE Fa max. (N)	POSITIVE OPENING FORCE Fmp min. (N)	FREE POSITION Pr (mm)	POSITIVE OPENING OPERATION POSITION Pmp max. (mm)
 <p>MP720-1GL/4..</p>	4,0	10,0	30,0 ± 0,5	26,10
 <p>MP720-1GT/4..</p>	4,0	10,0	30,0 ± 0,5	26,10

Switching diagram

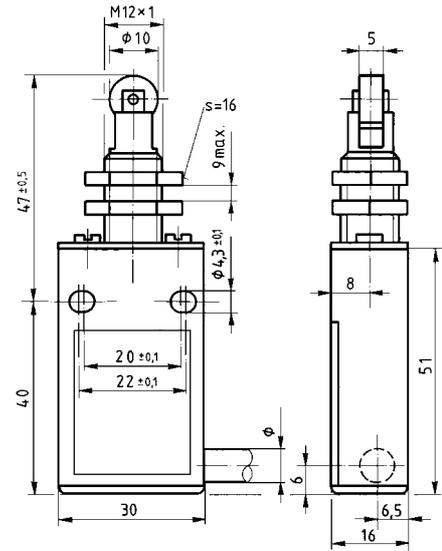
* = Positive opening operation travel (smp)



The strike angles and position must be so calculated as to avoid a violent shock to the roller; the cam must be so shaped as to ease the roller back to the free position.

4,0 10,0 47,0 ± 0,5 43,10

MP720-1GAL/4..



ACTUATING FORCE
Fa max. (N)

POSITIVE OPENING FORCE
Fmp min. (N)

FREE POSITION
Pr (mm)

POSITIVE OPENING
OPERATION POSITION
Pmp max. (mm)

DESIGNATION

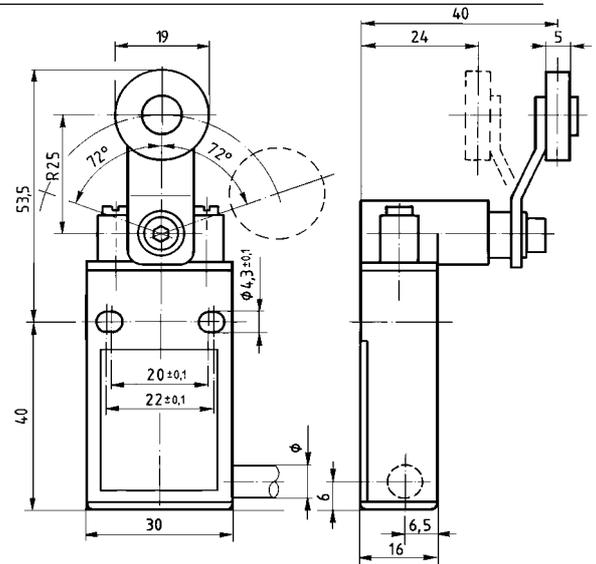
ROLLER LEVER 4G

The actuator 4G is recommended for rapid movements although sharp movements and shocks to the roller should be avoided. The lever must be eased back to the free position.

Strike angle: 30°
Maximum speed: 5m/sec.

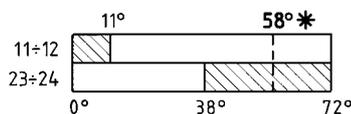
1,0 2,5 0° 58°

MP720-4G01/4..



Switching diagram (4G..)

* = Positive opening operation travel (smp)



Reference of the article	Distance between the axis of the roller and the front face of the fixation screen
4G01	40 mm
4G02	24 mm
4G11	40 mm
4G12	24 mm