

Metal Switch Medium Stroke, Switching Voltage up to 250 VAC



MSM 30 RI red



### Description

- Momentary action switch available in version: Standard (ST), with Lettering (LE), from diameter 19 mm with Point Illumination (PI) and with Ring Illumination (RI) Assembly method: clip micro-switch into the saddle, secure switch using mounting nut
- Equipped with flat-pin plugs to permit fast connection

### Standards

- DIN EN 61058-1
- UL 1054

### Approvals

- Low Voltage Directive 2014/35/EU: compliant; following certificate numbers apply to micro switch
- VDE / ENEC Certificate Number (Omron): 40008425, 129246, 125256
- UL / CSA File Number (Omron): E41515
- VDE / ENEC Certificate Number (Marquardt): 097550
- UL / CSA File Number (Marquardt): E41791
- KEMA / ENEC File Number (Cherry): 2089323.01
- UL / CSA File Number (Cherry): E23301
- CQC File Number (Marquardt): CQC13005090991

### Characteristics

- Housing and actuator material: high-quality stainless steel
- Variety of design options regarding size, colour, illumination, connection or lettering
- Switching voltage from 30 VDC to 250 VAC, switching current from 0.1 A to 10 A
- optional with point or ring illumination
- IP-Protection: IP 67 from front side to contact area, Micro-Switch is available in versions IP 40 or IP 67
- for use in harsh environments

### References

Alternative: double-pole switch: [MSM DP 19](#); [MSM DP 22](#); [MSM DP 30](#)

Alternative: Other diameter

### Weblinks

[html-datasheet](#), [General Product Information](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [CAD-Drawings](#), [Product News](#), [Detailed request for product](#)

**Technical Data****Electrical Data**

Switching Function	N.O., N.C., N.O./N.C.
Number of Poles	1-pole
Supply Voltage	24 / 12 / 5 VDC Ring Illumination, Point Illumination without series resistor, LED operating data are listed in separate table
Impulse Withstand Voltage (ESD)	4 kV MSM ST / MSM LE

**Micro Switch 5 A / 125 VAC or 3 A / 250 VAC, IP40**

Contact Material	Ag
Switching Voltage	max. 125 / 250 VAC
Switching Current	max. 5 / 3 A
Rated Switching Capacity	750 W
Lifetime	0.2 million actuations at Rated Switching Capacity
Contact Resistance	< 30 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch 0,1 A / 30 VDC, IP40**

Contact Material	Au
Switching Voltage	max. 30 VDC
Switching Current	max. 0.1 A
Rated Switching Capacity	3 W
Lifetime	0.2 million actuations at Rated Switching Capacity
Contact Resistance	< 50 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch for Electrical Rating 10 A / 250 VAC (Protection Class IP40)**

Contact Material	Ag
Switching Voltage	max. 250 VAC
Switching Current	max. 10 A
Rated Switching Capacity	2500 W
Lifetime	0.05 million actuations at Rated Switching Capacity
Contact Resistance	< 30 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch 5 A / 250 VAC, IP67**

Switching Voltage	max. 250 VAC
Switching Current	max. 5
Rated Switching Capacity	1250 W
Lifetime	0.05 million actuations at Rated Switching Capacity

**Micro Switch 0,1 A / 250 VAC, IP67 - on request**

Switching Voltage	max. 250 VAC
Switching Current	max. 0.1
Rated Switching Capacity	25 W
Lifetime	0.05 million actuations at Rated Switching Capacity

**Micro Switch 10 A / 250 VAC, IP67 - on request**

Switching Voltage	max. 250 VAC
Switching Current	max. 10 A
Rated Switching Capacity	2500 W
Lifetime	0.01 million actuations at Rated Switching Capacity

**Mechanical Data**

Actuating Force	4.5 N
Actuating Travel	1.0 mm, for mounting diameter 16, 19, 22 mm 1.2 mm for mounting diameter 30 mm
Lifetime	1.5 million actuations
Shock Protection	IK 07 for mounting diameter 19, 22, 30 mm, IK 06 for mounting diameter 16 mm
Tightening Torque Plastic Nut	max. 2 Nm for thread M16, 4.5 Nm for M19, 3.5 Nm for M22, 8 Nm for M30
Tightening Torque Stainless Steel Nut	max. 10 Nm for thread M16, 12 Nm for M19, 16 Nm for M22, 50 Nm for M30

**Climatical Data**

Operating Temperature	-25 to +85 °C
Storage Temperature	-25 to +85 °C
IP-Protection	IP 67 Front Side Contact Area, IP 40 Front Side mechanical, IP 40 / IP 67 Rear Side Contact Area optional
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time

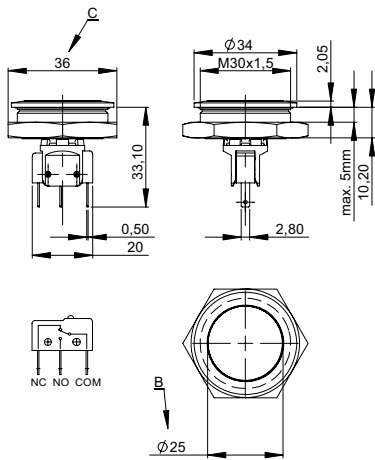
**Material**

Housings	Stainless Steel
Actuator	Stainless Steel
Light Conductor (Point Illumination)	PC
Illuminated Ring (Ring Illumination)	PA
Gasket	NBR70
Switcher Collet	PA

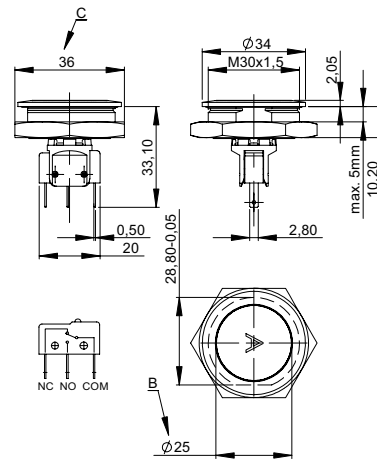
Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [General Product Information](#)

Dimension

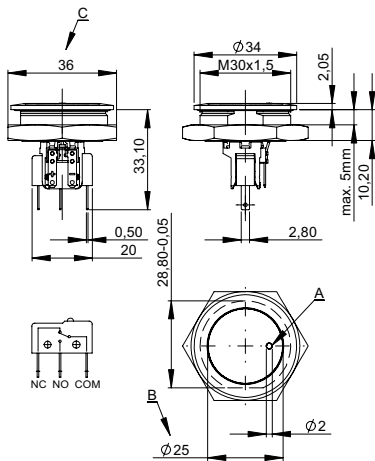
MSM 30 ST



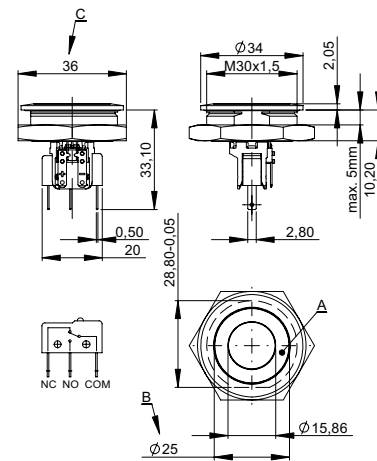
MSM 30 LE



MSM 30 PI



MSM 30 RI

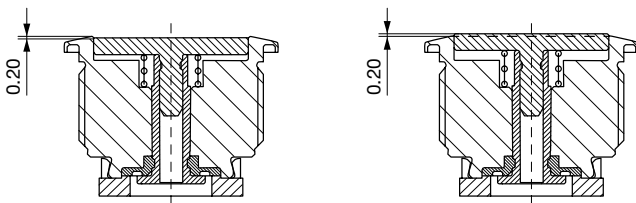


Legend

- A = Illumination Area
- B = Actuating Area
- C = Width Across Flats
- D = Nut

Tolerance Range

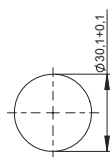
Actuator Tolerance Range



The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

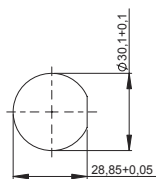
## Dimension

MSM 30 ST / MSM 30 RI



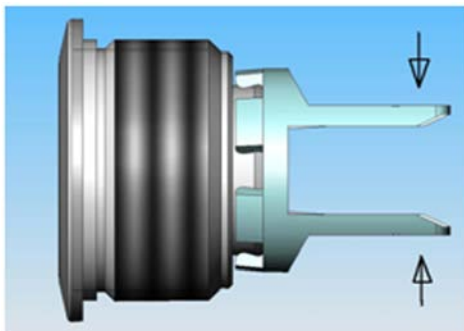
Drilling diagram

MSM 30 LE / MSM 30 PI / MSM 30 RI optional

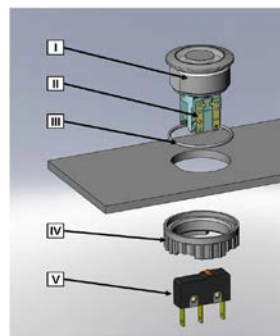


Drilling diagram

## Assembly Instructions



During assembly, the protruding bars of the holder should not be pressed together.



- I Housing
- II Flat Pin Terminal (Illumination)
- III Gasket
- IV Nut (Nut type see Dimensions)
- V Module Switching Contact

### Installation Instruction:

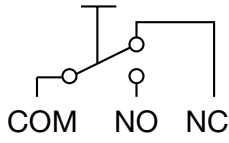
- 1.) Place the gasket accurately on the actuator housing. Then mount the actuator housing assembly into the panel.
- 2.) Tighten the screw nut according to the torque instructions.
- 3.) Clasp the module switching contact into the micro switch holder of the actuator housing.

### Installation information:

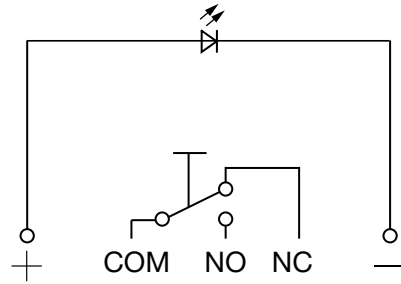
- 1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- 2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- 3.) Installation instructions according to VDE-standard DIN VDE 0100-100 or alternatively IEC 60354 standard.

Diagrams

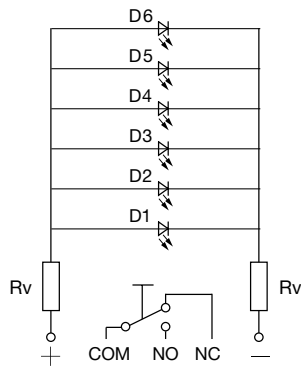
MSM ST / MSM LE



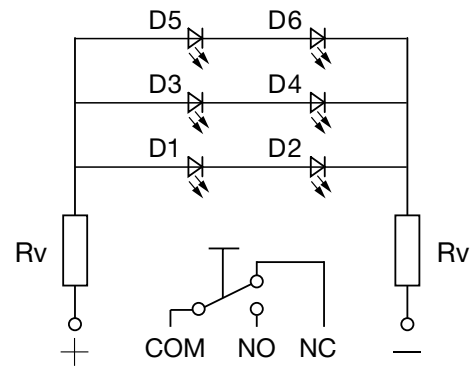
MSM PI



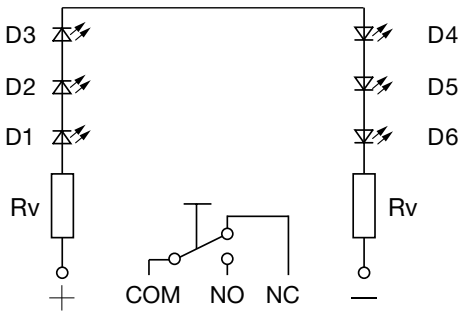
MSM RI / 5 V



MSM RI / 12 V



MSM RI / 24 V



Point Illumination

Operating Data	Forward Current max.	Forward Voltage at 10 mA	Forward Voltage at 8 mA	Forward Voltage at 20 mA	Forward Voltage max.
LED red	30 mA	1.9 VDC			3.0 VDC
LED green	30 mA	2.1 VDC			3.0 VDC
LED yellow	30 mA	2.1 VDC			3.0 VDC
LED blue	20 mA		3.7 VDC		4.5 VDC
LED white	30 mA			3.6 VDC	4.0 VDC

Attention: Switches are delivered without series resistor.

Lettering



The last three digits in the order number define the lettering:

000	No Lettering
001-074	Standard Lettering
101-	Customized Lettering

## Lettering Colour of Laser Lettering

Material	Lettering Colour	
Stainless Steel	black	Filled letters

## Order Index Lettering

Laser Marking			
001 = <b>A</b>	021 = <b>U</b>	041 = ÷	061 = <b>EIN</b>
002 = <b>B</b>	022 = <b>V</b>	042 = *	062 = <b>AUS</b>
003 = <b>C</b>	023 = <b>W</b>	043 = =	063 = <b>AUF</b>
004 = <b>D</b>	024 = <b>X</b>	044 = #	064 = <b>AB</b>
005 = <b>E</b>	025 = <b>Y</b>	045 = ↔	065 = <b>ON</b>
006 = <b>F</b>	026 = <b>Z</b>	046 = †	066 = <b>OFF</b>
007 = <b>G</b>	027 = <b>0</b>	047 = →	067 = <b>UP</b>
008 = <b>H</b>	028 = <b>1</b>	048 = ←	068 = <b>DOWN</b>
009 = <b>I</b>	029 = <b>2</b>	049 = ↓	069 = <b>HIGH</b>
010 = <b>J</b>	030 = <b>3</b>	050 = ↑	070 = <b>LOW</b>
011 = <b>K</b>	031 = <b>4</b>	051 = %	071 = <b>ON/OFF</b>
012 = <b>L</b>	032 = <b>5</b>	052 = √	072 = <b>START</b>
013 = <b>M</b>	033 = <b>6</b>	053 = <b>CTRL</b>	073 = <b>RESET</b>
014 = <b>N</b>	034 = <b>7</b>	054 = <b>RETURN</b>	074 = 
015 = <b>O</b>	035 = <b>8</b>	055 = <b>SHIFT</b>	075 = 
016 = <b>P</b>	036 = <b>9</b>	056 = <b>LOCK</b>	076 = 
017 = <b>Q</b>	037 = <b>+</b>	057 = <b>STOP</b>	077 = 
018 = <b>R</b>	038 = <b>-</b>	058 = <b>ENTER</b>	
019 = <b>S</b>	039 = <b>.</b>	059 = <b>BACK</b>	
020 = <b>T</b>	040 = <b>x</b>	060 = <b>LINE</b>	

## All Variants

Diameter	Switching Current	Switching Voltage	Illumination, LED	Housing Material, Torsion Protection	Actuator Material	Config. Code	Order Number
[mm]	[A]	[VAC/ VDC]					
30	100 mA	30 VDC	non-illuminated	Stainless Steel ,no	Stainless Steel	MSM 30 ST	1241.6661.1110000
30	5 / 3 A	125 / 250 VAC	non-illuminated	Stainless Steel ,no	Stainless Steel	MSM 30 ST	1241.6661.1120000
30	10 A	250 VAC	non-illuminated	Stainless Steel ,no	Stainless Steel	MSM 30 ST	1241.6661.1130000
30	0.1 A	250 VAC	non-illuminated	Stainless Steel ,no	Stainless Steel	MSM 30 ST	1241.6661.1170000
30	100 mA	30 VDC	Point Illumination, red	Stainless Steel ,yes	Stainless Steel	MSM 30 PI red	1241.6663.1111000
30	100 mA	30 VDC	Point Illumination, blue	Stainless Steel ,yes	Stainless Steel	MSM 30 PI blue	1241.6663.1114000
30	5 / 3 A	125 / 250 VAC	Point Illumination, red	Stainless Steel ,yes	Stainless Steel	MSM 30 PI red	1241.6663.1121000
30	5 / 3 A	125 / 250 VAC	Point Illumination, green	Stainless Steel ,yes	Stainless Steel	MSM 30 PI green	1241.6663.1122000
30	5 / 3 A	125 / 250 VAC	Point Illumination, blue	Stainless Steel ,yes	Stainless Steel	MSM 30 PI blue	1241.6663.1124000
30	5 / 3 A	125 / 250 VAC	Point Illumination, white	Stainless Steel ,yes	Stainless Steel	MSM 30 PI white	1241.6663.1125000
30	10 A	250 VAC	Point Illumination, green	Stainless Steel ,yes	Stainless Steel	MSM 30 PI green	1241.6663.1132000
30	5 / 3 A	125 / 250 VAC	Point Illumination, red	Alu red ,yes	Alu red	MSM 30 PI red	1241.6663.3121
30	100 mA	30 VDC	Ring Illumination, red, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI red	1241.6664.1111000
30	100 mA	30 VDC	Ring Illumination, green, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI green	1241.6664.1112000
30	100 mA	30 VDC	Ring Illumination, yellow, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI yellow	1241.6664.1113000
30	100 mA	30 VDC	Ring Illumination, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI blue	1241.6664.1114000
30	5 / 3 A	125 / 250 VAC	Ring Illumination, red, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI red	1241.6664.1121000
30	5 / 3 A	125 / 250 VAC	Ring Illumination, green, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI green	1241.6664.1122000
30	5 / 3 A	125 / 250 VAC	Ring Illumination, yellow, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI yellow	1241.6664.1123000
30	5 / 3 A	125 / 250 VAC	Ring Illumination, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI blue	1241.6664.1124000

Diameter	Switching Current	Switching Voltage	Illumination, LED	Housing Material, Torsion Protection	Actuator Material	Config. Code	Order Number
[mm]	[A]	[VAC/ VDC]					
30	5 / 3 A	125 / 250 VAC	Ring Illumination, blue, 12 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI blue	1241.6664.1124000E
30	5 / 3 A	125 / 250 VAC	Ring Illumination, white, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI white	1241.6664.1125000
30	10 A	250 VAC	Ring Illumination, green, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI green	1241.6664.1132000
30	10 A	250 VAC	Ring Illumination, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel	MSM 30 RI blue	1241.6664.1134000

Legend:

Type: MSM

CS = Ceramic Surface

ST = Standard: not lettered

LE = Lettering: lettered

AI = BL = Full Surface Backlighting: Lettering possible (see Lettering, last 3 digits)

Alu red = red anodized aluminum housing, actuator stainless steel

1241.6622.3120062 -> 3 last numbers (062) see Order Index Lettering

IP-Protection: IP 67 from front side to contact area, Micro-Switch is available in versions IP 40 or IP 67, see Technical Data Micro-Switch

Ring illuminated versions: supply voltage 24 VDC, 12 VDC (E), 5 VDC (B), (further 12 and 5 VDC versions on request)

Customer-specific versions available on request.

Special materials for use in salt and chlorinated environment on request.

The nut with gasket and micro switch are enclosed in the box.

Most Popular.

Availability for all products can be searched real-time: <http://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER>

**Packaging unit** 10 in box with insert or packed in air cushion bags

