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Metal Switch with Ceramic Actuator, Switching Voltage up to 30 VDC / 250 VAC



Newly available with bright illumination



### Description

- Momentary action switch available in version: Standard (ST), with Let-tering (LE), with Backlighting (BL)
- 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: Low Voltage Directive 2014/35/EU
- 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

### Characteristics

- Housing material: high-quality stainless steel, actuator material: highly durable ceramic
- 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
- Backlighting optional, this means the complete actuator surface is fully illuminated
- IP-Protection: IP 65 from front side to contact area, Micro-Switch is available in versions IP 40 or IP 67, moving actuator is rated IP 40 to frontside
- for use in harsh environments

### References

- Alternative: Standard version [MSM CS 22](#)
- Alternative: double-pole switch:
- Alternative: switch with latching function: [MSM LA 19](#)
- 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.
Number of Poles	1-pole
Supply Voltage	24 / 12 / 5 VDC Surface backlighting

**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,
Lifetime	1.5 million actuations
Shock Protection	IK 07
Tightening Torque Plastic Nut	max. 4.5 Nm for thread M19, 3.5 Nm for M22
Tightening Torque Stainless Steel Nut	max. 12 Nm for thread M19, 16 Nm for M22

**Climatical Data**

Operating Temperature	-25 to +85 °C
Storage Temperature	-25 to +85 °C
IP-Protection	IP 65 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

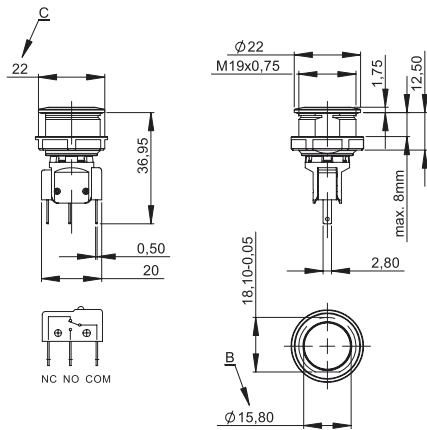
**Material**

Housings	Stainless Steel
Actuator	Ceramic (Zirconium Dioxide)
Light Conductor (Point Illumination)	NBR70
Illuminated Ring (Ring Illumination)	PA

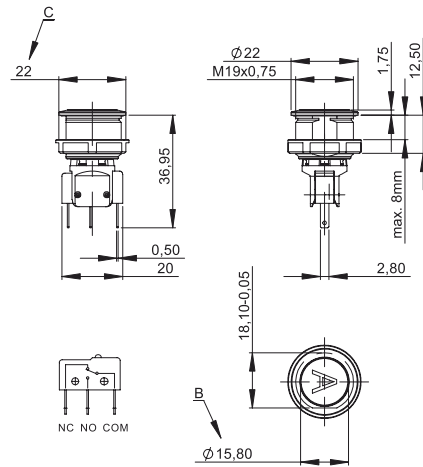
Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [General Product Information](#)



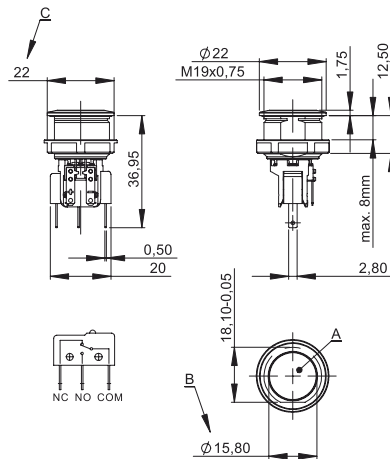
**Dimension**  
MSM 19 CS ST



MSM 19 CS LE



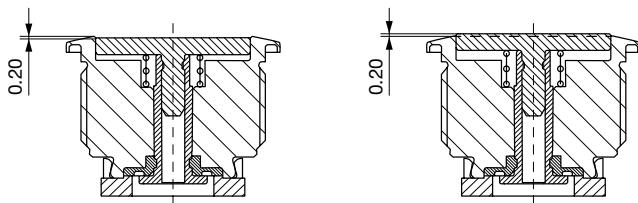
MSM 19 CS BL



**Legend**

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

**Tolerance Range**  
Actuator Tolerance Range

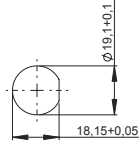
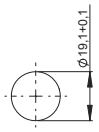


The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

## Dimension

MSM 19 CS ST

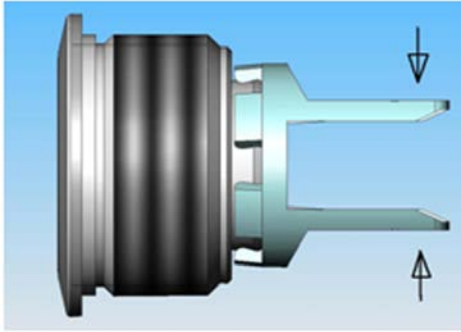
MSM 19 CS LE / MSM 19 CS BL



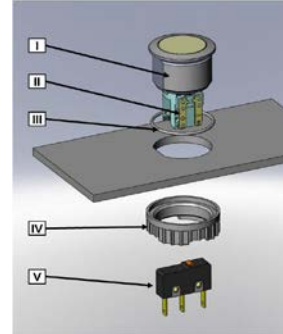
Drilling diagram

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.

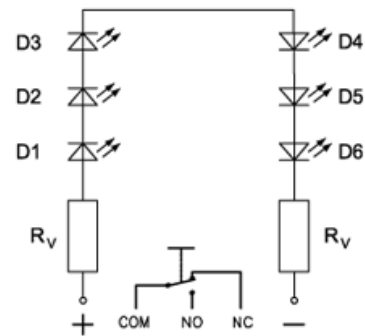
Installation information:

- 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 CS ST / MSM CS LE

MSM CS BL



## 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
Ceramic	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	Torsion Protection	Housing Material	Config. Code	Order Number
[mm]	[A]	[VAC/ VDC]					
19	0.1 A	30 VDC	Backlighted, bright red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright red	<a href="#">1241.8412</a>
19	0.1 A	30 VDC	Backlighted, bright green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright green	<a href="#">1241.8413</a>
19	0.1 A	30 VDC	Backlighted, bright blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright blue	<a href="#">1241.8415</a>
19	0.1 A	30 VDC	Backlighted, bright white, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright white	<a href="#">1241.8416</a>
19	10 A	250 VAC	Backlighted, bright red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright red	<a href="#">1241.8448</a>
19	10 A	250 VAC	Backlighted, bright green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright green	<a href="#">1241.8449</a>
19	10 A	250 VAC	Backlighted, bright blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright blue	<a href="#">1241.8451</a>
19	10 A	250 VAC	Backlighted, bright white, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright white	<a href="#">1241.8452</a>
19	5 A	250 VAC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	<a href="#">1241.7026.1181000</a>
19	5 A	250 VAC	Backlighted, green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL green	<a href="#">1241.7026.1182000</a>
19	5 A	250 VAC	Backlighted, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	<a href="#">1241.7026.1184000</a>
19	0.1 A	30 VDC	non-illuminated	no	Stainless Steel	MSM 19 CS ST	<a href="#">1241.7021.1110000</a>
19	5 / 3 A	125 / 250 VAC	non-illuminated	no	Stainless Steel	MSM 19 CS ST	<a href="#">1241.7021.1120000</a>
19	10 A	250 VAC	non-illuminated	no	Stainless Steel	MSM 19 CS ST	<a href="#">1241.7021.1130000</a>
19	5 A	250 VAC	non-illuminated	no	Stainless Steel	MSM 19 CS ST	<a href="#">1241.7021.1180000</a>
19	0.1 A	30 VDC	non-illuminated	yes	Stainless Steel	MSM 19 CS LE	<a href="#">1241.7022.1110000</a>
19	5 / 3 A	125 / 250 VAC	non-illuminated	yes	Stainless Steel	MSM 19 CS LE	<a href="#">1241.7022.1120000</a>

Diameter	Switching Current	Switching Voltage	Illumination, LED	Torsion Protection	Housing Material	Config. Code	Order Number
[mm]	[A]	[VAC/ VDC]					
19	10 A	250 VAC	non-illuminated	yes	Stainless Steel	MSM 19 CS LE	1241.7022.1130000
19	5 A	250 VAC	non-illuminated	yes	Stainless Steel	MSM 19 CS LE	1241.7022.1180000
19	0.1 A	30 VDC	Backlighting, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1111000
19	0.1 A	30 VDC	Backlighting, green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1112000
19	0.1 A	30 VDC	Backlighting, green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1112074
19	0.1 A	30 VDC	Backlighting, green, 12 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1112074E
19	0.1 A	30 VDC	Backlighting, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1114000
19	0.1 A	30 VDC	Backlighting, blue, 12 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1114000E
19	0.1 A	30 VDC	Backlighting, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1114076
19	5 / 3 A	125 / 250 VAC	Backlighting, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1121000
19	5 / 3 A	125 / 250 VAC	Backlighting, red, 12 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1121000E
19	5 / 3 A	125 / 250 VAC	Backlighting, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1121072
19	5 / 3 A	125 / 250 VAC	Backlighting, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1121075
19	5 / 3 A	125 / 250 VAC	Backlighting, green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1122000
19	5 / 3 A	125 / 250 VAC	Backlighting, green, 12 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1122000E
19	5 / 3 A	125 / 250 VAC	Backlighting, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1124000
19	5 / 3 A	125 / 250 VAC	Backlighting, blue, 5 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1124000B
19	5 / 3 A	125 / 250 VAC	Backlighting, blue, 12 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1124000E
19	5 / 3 A	125 / 250 VAC	Backlighting, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1124074
19	10 A	250 VAC	Backlighting, red, 24 VDC	yes	Stainless Steel	MSM 19 CS BL red	1241.7026.1131000
19	10 A	250 VAC	Backlighting, green, 24 VDC	yes	Stainless Steel	MSM 19 CS BL green	1241.7026.1132000
19	10 A	250 VAC	Backlighting, blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL blue	1241.7026.1134000
19	10 A	250 VAC	Backlighting, bright blue, 24 VDC	yes	Stainless Steel	MSM 19 CS BL bright blue	3-102-445

## Legend:

Type: MSM

CS = Ceramic Surface

ST = Standard: not lettered

LE = Lettering: lettered

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

IP 65 degree of protection front side contact area; degree of protection rear side contact area IP 40 or IP 67 optional -&gt; see Technical Data Micro Switch

Backlighting versions: Supply voltage 24 VDC, 12 VDC (E), 5 VDC (B), (further 12 or 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



- Actuating elements in ESD safe packaging
- Screw nuts and sealing rings in a bag (enclosed in the box)

## Accessories

### Description



**MSM Cover**  
Protection cover for MSM 19 and MSM 22



**Installation Wrench MSM 22**  
Installation wrench