

Metal Switch, Latching Action, Switching Voltage up to 125 VDC / 250 VAC



MSM 22 LA CS AI blue



### Description

- Switch available in version: Standard (ST), with Lettering (LE), with area illumination (AI)
- Assembly by mounting with nut and subsequent clipping of the switching element
- Equipped with flat-pin plugs to permit fast connection

### Standards

- DIN EN 61058-1
- UL 1054

### Approvals

- Low Voltage Directive 2006/95/EC Low Voltage Directive 2006/95/EC
- KEMA / ENEC File Number (Marquardt): 2106068.01
- UL / CSA File Number (Marquardt): E41791

### Characteristics

- Housing material: high-quality stainless steel, actuator material: highly durable ceramic
- with or without surface backlighting in different colours
- Switching voltage up to 125 VDC respectively 250 VAC, switching current up to 12 A
- available with single-pole and double-pole switching system, switching status is easy to discern by looking at or feeling the resting position of the actuator
- for use in harsh environments

### References

- Alternative: switch with latching function: [MSM LA 19](#)
- Alternative: Standard version [MSM 19](#)
- Alternative: switch with backlit illumination: [MSM CS 19](#)

### Weblinks

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

### Technical Data

#### Electrical Data

|                          |   |
|--------------------------|---|
| Switching Function       | N.O.  |
| Number of Poles          | 1 pole and 2 pole   |
| Supply Voltage           | 24 VDC Surface backlighting   |
| Surge Strength           | 4 kV MSM LA CS ST   |
| Switching Voltage        | max. 250 VAC, 30 VDC (125 VDC at 0.5 A)   |
| Switching Current        | max. 12 A AC  |
| Rated Switching Capacity | 3000 W  |
| Lifetime                 | 0.05 million actuations (250 VAC / 8 A), 0.1 million actuations (125 VDC / 0.5 A) |
| Contact Resistance       | < 100 mΩ (12 VDC / 1 A)   |
| Insulation Resistance    | > 100 MΩ 500 VDC  |

#### Mechanical Data

|                                       |                                       |
|---------------------------------------|---------------------------------------|
| Actuating Force                       | 10 N                                  |
| Actuating Travel                      | 5.2 mm,                               |
| Lifetime                              | 0.1 million actuations                |
| Contact Gap                           | 3 mm                                  |
| Shock Protection                      | IK 07                                 |
| Tightening Torque Plastic Nut         | 4.5 Nm for thread M19, 3.5 Nm for M22 |
| Tightening Torque Stainless Steel Nut | 12 Nm for thread M19, 16 Nm for M22   |

#### Climatical Data

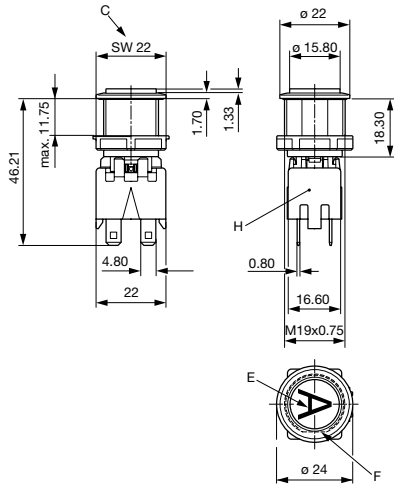
|  |   |
|--|---|
| Operating Temperature                  | -20 to +85 °C   |
| Storage Temperature                    | -20 to +85 °C   |
| IP-Protection                          | IP 64 Front Side Contact Area, IP 40 Front Side mechanical, IP 00 Rear Side |
| Salt Spray Test (acc. to DIN 50021-SS) | 24 h / 48 h / 96 h Residence Time   |

#### Material

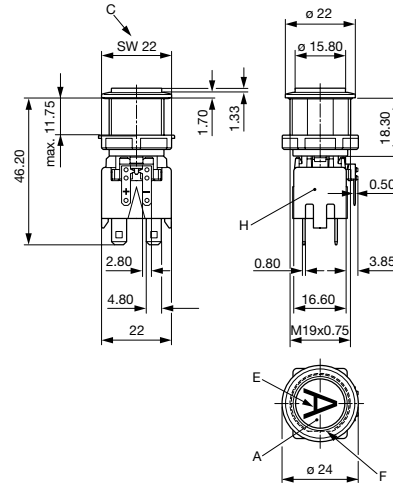
|                                  |                                      |
|----------------------------------|--------------------------------------|
| Housing                          | Stainless Steel                      |
| Actuator (disc, outside housing) | Ceramic                              |
| Gasket                           | NBR70                                |
| Switcher Collet                  | PA66 (UL94-V0 related to d ≥ 1.6 mm) |
| Intermediate Connector           | PA66 (UL94-V0 related to d ≥ 1.6 mm) |
| Contact Pin Adapter              | PA66 (UL94-V0 related to d ≥ 1.6 mm) |

## Dimension

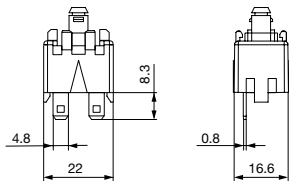
MSM 19 LA CS ST / double-pole



MSM 19 LA CS AI / double-pole



Switching Element single-pole with Push Button Holder



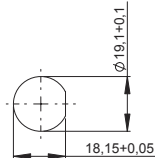
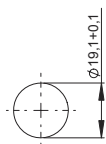
## Legend

- A = Illumination Area
- C = Width Across Flats
- D = Knurled Nut
- E = Lettering
- F = Anti-Rotation
- H = Switching Element

## Dimension

MSM 19 LA CS (without torsion protection)

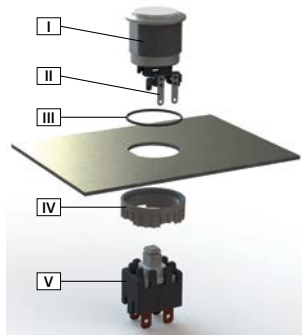
MSM 19 LA CS (with torsion protection)



Drilling diagram

Drilling diagram

## Assembly Instructions



I Housing

II Flat Pin Terminal (Illumination)

III Gasket

IV Nut (Nut type see Dimensions)

V Module Switching Contact

Installation Instruction:

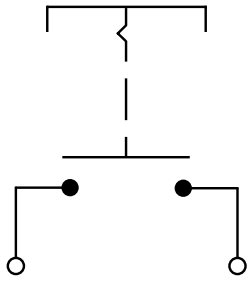
- 1.) Place the gasket accurately on the actuator housing. Then mount the actuator housing assembly into the panel.
- 2.) Tighten the screw nut according to the torque instructions.
- 3.) Clasp the module switching contact into the actuator housing.

Installation information:

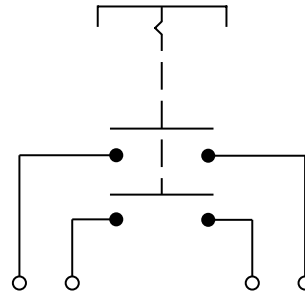
- 1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- 2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- 3.) Installation instructions according to VDE-standard DIN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

## Diagrams

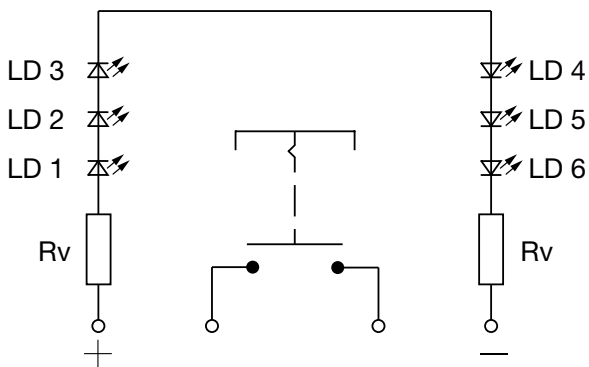
MSM LA CS ST / single-pole



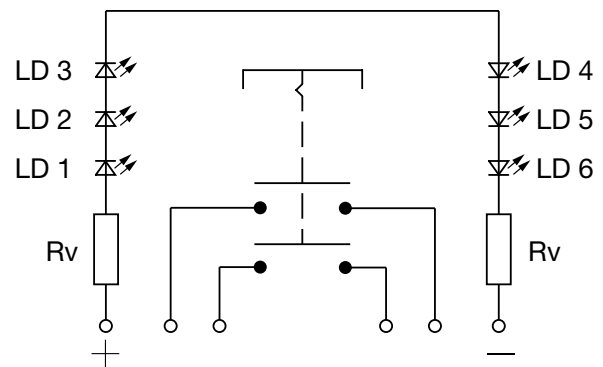
MSM LA CS ST / double-pole



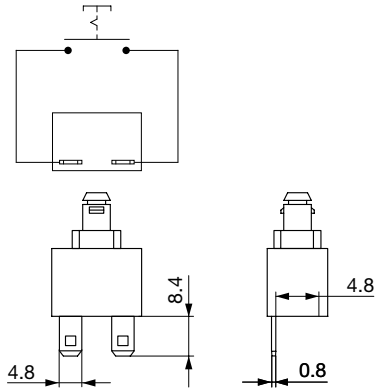
MSM LA CS AI / single-pole



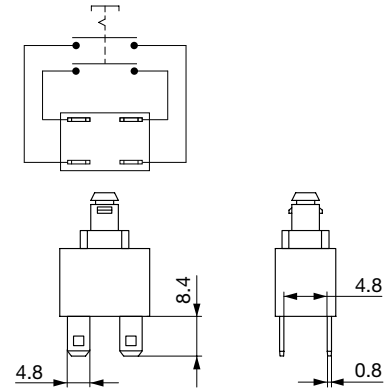
MSM LA CS AI / double-pole



Contact Layout single-pole



Contact Layout double-pole






## Lettering

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

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

### Order Index Lettering

|                |                |                     |   |
|----------------|----------------|---------------------|---|
| 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>   |   |
| 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>   |   |

### Lettering Colour of Laser Lettering

| Material | Lettering Colour     |
|----------|----------------------|
| Ceramic  | black Filled letters |

### All Variants

| Diameter | Number of Poles | Illumination, LED           | Torsion Protection | Config. Code           | Order Number      |
|----------|-----------------|-----------------------------|--------------------|------------------------|-------------------|
| [mm]     |                 |                             |                    |                        |                   |
| 19       | 1 pole          | non-illuminated             | yes                | MSM 19 LA CS ST        | 1241.7221.1110000 |
| 19       | 1 pole          | Backlighted, red, 24 VDC    | yes                | MSM 19 LA CS AI red    | 1241.7226.1111000 |
| 19       | 1 pole          | Backlighted, green, 24 VDC  | yes                | MSM 19 LA CS AI green  | 1241.7226.1112000 |
| 19       | 1 pole          | Backlighted, yellow, 24 VDC | yes                | MSM 19 LA CS AI yellow | 1241.7226.1113000 |
| 19       | 1 pole          | Backlighted, blue, 24 VDC   | yes                | MSM 19 LA CS AI blue   | 1241.7226.1114000 |
| 19       | 1 pole          | Backlighted, white, 24 VDC  | yes                | MSM 19 LA CS AI white  | 1241.7226.1115000 |
| 19       | 1 pole          | Backlighted, Orange, 24 VDC | yes                | MSM 19 LA CS AI orange | 1241.7226.1117000 |
| 19       | 2 pole          | non-illuminated             | yes                | MSM 19 LA CS ST        | 1241.7221.1120000 |
| 19       | 2 pole          | Backlighted, red, 24 VDC    | yes                | MSM 19 LA CS AI red    | 1241.7221.1121000 |
| 19       | 2 pole          | Backlighted, green, 24 VDC  | yes                | MSM 19 LA CS AI green  | 1241.7226.1122000 |
| 19       | 2 pole          | Backlighted, yellow, 24 VDC | yes                | MSM 19 LA CS AI yellow | 1241.7221.1123000 |
| 19       | 2 pole          | Backlighted, blue, 24 VDC   | yes                | MSM 19 LA CS AI blue   | 1241.7226.1124000 |
| 19       | 2 pole          | Backlighted, white, 24 VDC  | yes                | MSM 19 LA CS AI white  | 1241.7226.1125000 |
| 19       | 2 pole          | Backlighted, Orange, 24 VDC | yes                | MSM 19 LA CS AI orange | 1241.7226.1127000 |

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)

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.

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| Diameter | Number of Poles | Illumination, LED | Torsion Protection | Config. Code | Order Number |
|----------|-----------------|-------------------|--------------------|--------------|--------------|
|----------|-----------------|-------------------|--------------------|--------------|--------------|

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[mm]

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

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**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)
  - Micro switches in a bag (enclosed in the box)
- 

## Accessories

Description



[Installation Wrench MSM 22](#)  
Installation wrench

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