

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

new



MSM 19 CS LE BL green



MSM 19 CS LE BL red



MSM 19 CS ST



### 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 2006/95/EC Low Voltage Directive 2006/95/EC
- 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, IP 69K 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 19](#)

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

Alternative: switch with latching function: [MSM LA 19](#); [MSM LA CS 19](#)

### Weblinks

[html-datasheet](#), [General Product Information](#), [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. / 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**

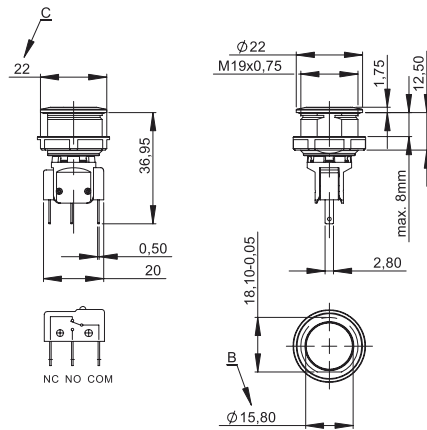
|                                        |                                                                                                                   |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Operating Temperature                  | -25 to +85 °C                                                                                                     |
| Storage Temperature                    | -25 to +85 °C                                                                                                     |
| IP-Protection                          | IP 65, IP 69K 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**

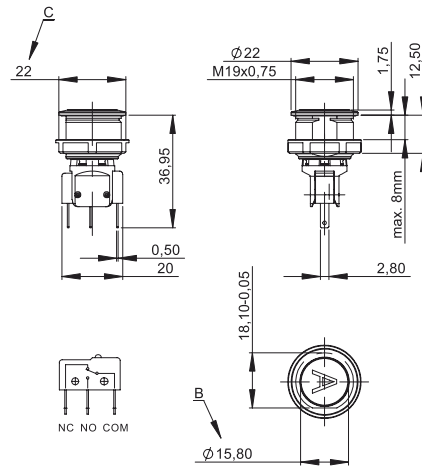
|                                      |                             |
|--------------------------------------|-----------------------------|
| Housing                              | Stainless Steel             |
| Actuator                             | Ceramic (Zirconium Dioxide) |
| Light Conductor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

## Dimension

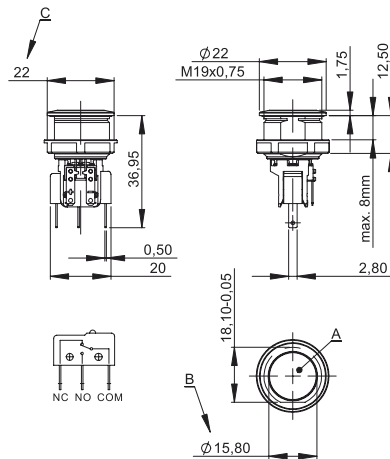
### MSM 19 CS ST



### MSM 19 CS LE



### MSM 19 CS BL

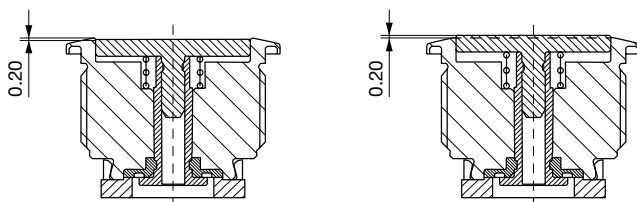


## Legend

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

## Tolerance Range

### Actuator Tolerance Range

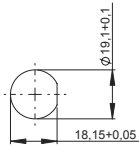
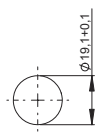


The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

Dimension

MSM 19 CS ST

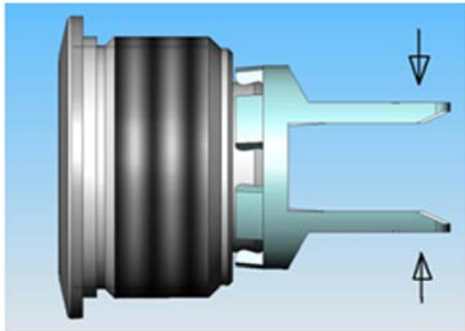
MSM 19 CS LE / MSM 19 CS BL



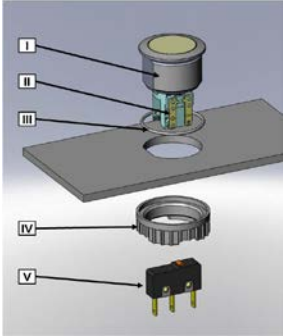
Drilling diagram

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:

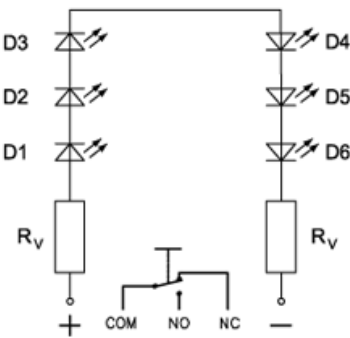
- 1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- 2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- 3.) Installation instructions according to VDE-standard DIN 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>   |                                                                                         |
| 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            | 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>  |
| 19       | 10 A              | 250 VAC           | non-illuminated            | yes                | Stainless Steel  | MSM 19 CS LE       | <a href="#">1241.7022.1130000</a>  |
| 19       | 5 A               | 250 VAC           | non-illuminated            | yes                | Stainless Steel  | MSM 19 CS LE       | <a href="#">1241.7022.1180000</a>  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111000</a>  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 5 VDC    | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111000B</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 12 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111004E</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 12 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111005E</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 12 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111006E</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, red, 12 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | <a href="#">1241.7026.1111009E</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, green, 24 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | <a href="#">1241.7026.1112000</a>  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, green, 24 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | <a href="#">1241.7026.1112074</a>  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, green, 12 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | <a href="#">1241.7026.1112074E</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | <a href="#">1241.7026.1114000</a>  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, blue, 5 VDC   | yes                | Stainless Steel  | MSM 19 CS BL blue  | <a href="#">1241.7026.1114000B</a> |
| 19       | 0.1 A             | 30 VDC            | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | <a href="#">1241.7026.1114000E</a> |

| 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, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1114046  |
| 19       | 0.1 A             | 30 VDC            | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1114076  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1121000  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, red, 12 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1121000E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1121072  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1121075  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, green, 24 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | 1241.7026.1122000  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, green, 12 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | 1241.7026.1122000E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124000  |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 5 VDC   | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124000B |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124000E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124002E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124014E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124016E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124018E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124028E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124029E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 12 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124071E |
| 19       | 5 / 3 A           | 125 / 250 VAC     | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1124074  |
| 19       | 10 A              | 250 VAC           | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1131000  |
| 19       | 10 A              | 250 VAC           | Backlighted, green, 24 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | 1241.7026.1132000  |
| 19       | 10 A              | 250 VAC           | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1134000  |
| 19       | 5 A               | 250 VAC           | Backlighted, red, 24 VDC   | yes                | Stainless Steel  | MSM 19 CS BL red   | 1241.7026.1181000  |
| 19       | 5 A               | 250 VAC           | Backlighted, green, 24 VDC | yes                | Stainless Steel  | MSM 19 CS BL green | 1241.7026.1182000  |
| 19       | 5 A               | 250 VAC           | Backlighted, blue, 24 VDC  | yes                | Stainless Steel  | MSM 19 CS BL blue  | 1241.7026.1184000  |

## 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)

IP 65, IP 69K 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



Installation Wrench MSM 22  
Installation wrench