MSM CS 22

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

new







Newly available with bright illumination

RoHS COMPLIANT

Description

- Momentary action switch available in version: Standard (ST), with Lettering (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 16; MSM 27
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

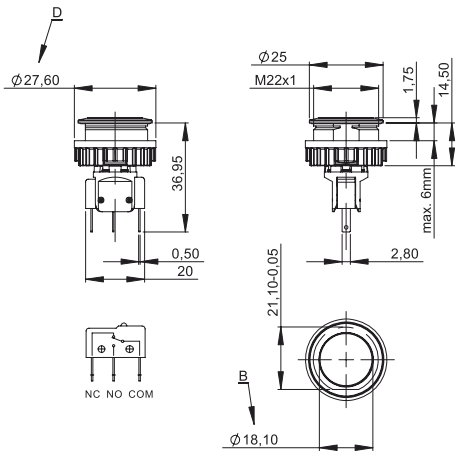
Technical Data

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

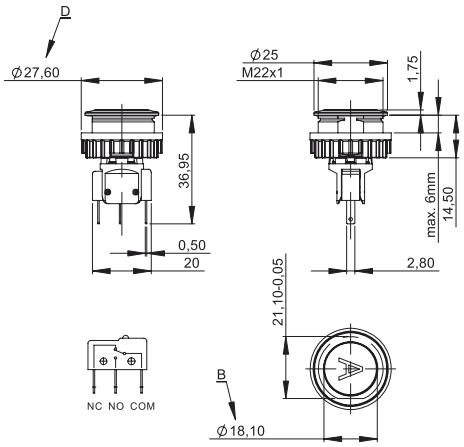
Mechanical Data	
Actuating Force	4.5 N
Actuating Travel	1.0 mm,
Lifetime	1.5 million actuations
Shock Protection	IK 07
Tightening Torque Plastic Nut	max. 4.5 Nm for thread M19, 3.5 Nm for M22
Tightening Torque Stainless Steel Nut	max. 12 Nm for thread M19, 16 Nm for M22
Climatical Data	
Operating Temperature	-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

Dimension

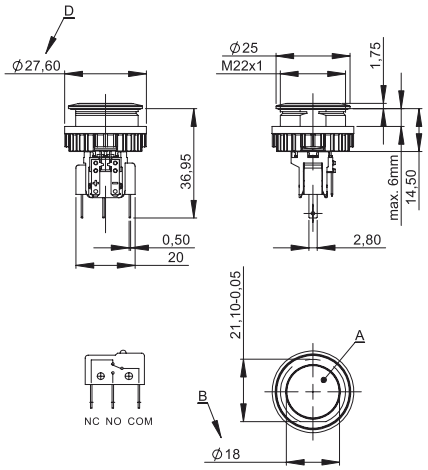
MSM 22 CS ST



MSM 22 CS LE



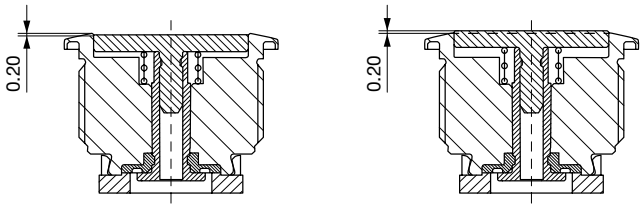
MSM 22 CS BL



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

Tolerance Range

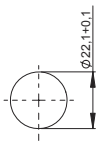
Actuator Tolerance Range



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.

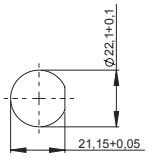
Dimension

MSM 22 CS ST



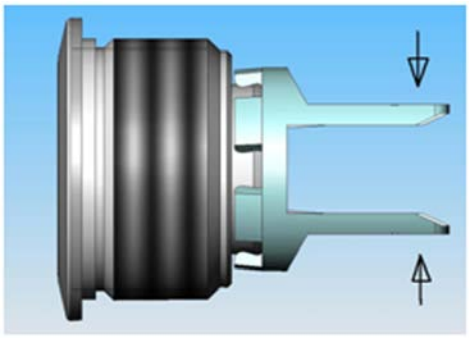
Drilling diagram

MSM 22 CS LE / MSM 22 CS BL

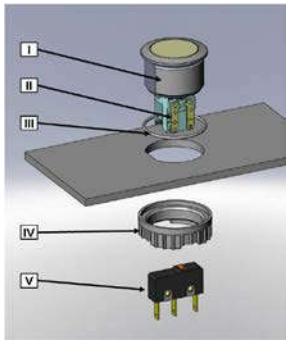


Drilling diagram

Assembly Instructions



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



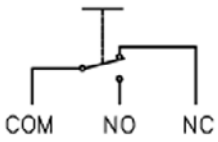
I Housing
II Flat Pin Terminal (Illumination)
III Gasket
IV Nut (Nut type see Dimensions)
V Module Switching Contact

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.

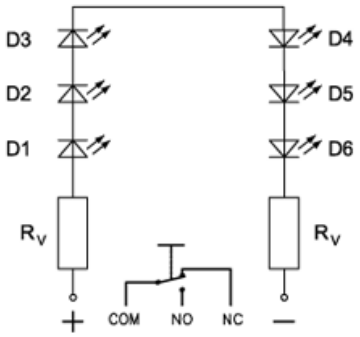
Installation information:
1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
3.) Installation instructions according 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 = **A**	021 = **U**	041 = ÷	061 = **EIN**
002 = **B**	022 = **V**	042 = ✳	062 = **AUS**
003 = **C**	023 = **W**	043 = **=**	063 = **AUF**
004 = **D**	024 = **X**	044 = #	064 = **AB**
005 = **E**	025 = **Y**	045 = ↔	065 = **ON**
006 = **F**	026 = **Z**	046 = ↕	066 = **OFF**
007 = **G**	027 = **0**	047 = →	067 = **UP**
008 = **H**	028 = **1**	048 = ←	068 = **DOWN**
009 = **I**	029 = **2**	049 = ↓	069 = **HIGH**
010 = **J**	030 = **3**	050 = ↑	070 = **LOW**
011 = **K**	031 = **4**	051 = %	071 = **ON/OFF**
012 = **L**	032 = **5**	052 = √	072 = **START**
013 = **M**	033 = **6**	053 = **CTRL**	073 = **RESET**
014 = **N**	034 = **7**	054 = **RETURN**	074 = ⏻
015 = **O**	035 = **8**	055 = **SHIFT**	075 = 💡
016 = **P**	036 = **9**	056 = **LOCK**	076 = 🔔
017 = **Q**	037 = **+**	057 = **STOP**	077 = ⓘ
018 = **R**	038 = **-**	058 = **ENTER**	
019 = **S**	039 = **.**	059 = **BACK**	
020 = **T**	040 = x	060 = **LINE**	

All Variants

Diameter	Switching Current	Switching Voltage	Illumination, LED	Torsion Protection	Housing Material	Config. Code	Order Number
[mm]	[A]	[VAC/ VDC]					
22	0.1 A	30 VDC	Backlighted, bright red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright red	1241.8484
22	0.1 A	30 VDC	Backlighted, bright green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright green	1241.8485
22	0.1 A	30 VDC	Backlighted, bright blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright blue	1241.8487
22	0.1 A	30 VDC	Backlighted, bright white, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright white	1241.8488
22	10 A	250 VAC	Backlighted, bright red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright red	1241.8520
22	10 A	250 VAC	Backlighted, bright green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright green	1241.8521
22	10 A	250 VAC	Backlighted, bright blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright blue	1241.8523
22	10 A	250 VAC	Backlighted, bright white, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright white	1241.8524
22	0.1 A	30 VDC	non-illuminated	no	Stainless Steel	MSM 22 CS ST	1241.7031.1110000
22	5 / 3 A	125 / 250 VAC	non-illuminated	no	Stainless Steel	MSM 22 CS ST	1241.7031.1120000
22	10 A	250 VAC	non-illuminated	no	Stainless Steel	MSM 22 CS ST	1241.7031.1130000
22	5 A	250 VAC	non-illuminated	no	Stainless Steel	MSM 22 CS ST	1241.7031.1180000
22	0.1 A	30 VDC	non-illuminated	yes	Stainless Steel	MSM 22 CS LE	1241.7032.1110000
22	5 / 3 A	125 / 250 VAC	non-illuminated	yes	Stainless Steel	MSM 22 CS LE	1241.7032.1120000
22	10 A	250 VAC	non-illuminated	yes	Stainless Steel	MSM 22 CS LE	1241.7032.1130000
22	5 A	250 VAC	non-illuminated	yes	Stainless Steel	MSM 22 CS LE	1241.7032.1180000
22	0.1 A	30 VDC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1111000

Diameter	Switching Current	Switching Voltage	Illumination, LED	Torsion Protection	Housing Material	Config. Code	Order Number	
[mm]	[A]	[VAC/ VDC]						
22	0.1 A	30 VDC	Backlighted, green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1112000	
22	0.1 A	30 VDC	Backlighted, green, 12 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1112074E	
22	0.1 A	30 VDC	Backlighted, blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL blue	1241.7036.1114000	
22	0.1 A	30 VDC	Backlighted, blue, 12 VDC	yes	Stainless Steel	MSM 22 CS BL blue	1241.7036.1114000E	
22	0.1 A	30 VDC	Backlighted, white, 5 VDC	yes	Stainless Steel	MSM 22 CS BL white	1241.7036.1115000B	
22	5 / 3 A	125 / 250 VAC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1121000	■
22	5 / 3 A	125 / 250 VAC	Backlighted, red, 12 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1121000E	
22	5 / 3 A	125 / 250 VAC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1121074	
22	5 / 3 A	125 / 250 VAC	Backlighted, green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1122000	
22	5 / 3 A	125 / 250 VAC	Backlighted, green, 5 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1122065B	
22	5 / 3 A	125 / 250 VAC	Backlighted, blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL blue	1241.7036.1124000	■
22	10 A	250 VAC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1131000	
22	10 A	250 VAC	Backlighted, green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1132000	
22	10 A	250 VAC	Backlighted, blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL blue	1241.7036.1134000	
22	5 A	250 VAC	Backlighted, red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL red	1241.7036.1181000	
22	5 A	250 VAC	Backlighted, green, 24 VDC	yes	Stainless Steel	MSM 22 CS BL green	1241.7036.1182000	
22	5 A	250 VAC	Backlighted, blue, 24 VDC	yes	Stainless Steel	MSM 22 CS BL blue	1241.7036.1184000	■
22	10 A	250 VAC	Backlighted, bright red, 24 VDC	yes	Stainless Steel	MSM 22 CS BL bright red	3-102-446	

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 degree of protection front side contact area; degree of protection rear side contact area IP 40 or IP 67 optional -> 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/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 (enclosd in the box)

Accessories

	Description
	MSM Cover Protection cover for MSM 19 and MSM 22
	Installation Wrench MSM 22 Installation wrench

10.01.2017

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.