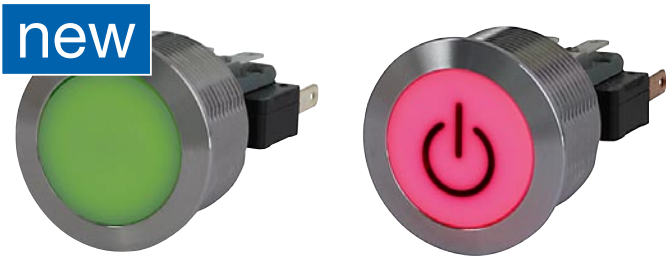


Metal Switch with Ceramic Actuator, Switching Voltage up to 30 VDC / 250 VAC



MSM CS 22 BL green

MSM 22 CS BL red



### Description

- Momentary 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 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
- for use in harsh environments

### References

- Alternative: Standard version
- Alternative: double-pole switch:
- Alternative: switch with latching function:

### 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. / 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 Breaking Capacity	1250 W
Lifetime	0.2 mill. actuations at Rated Braking 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 Breaking Capacity	3 W
Lifetime	0.2 mill. actuations at Rated Braking 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 Breaking Capacity	2500 W
Lifetime	0.05 mill. actuations at Rated Braking 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 Breaking Capacity	1500 W
Lifetime	0.05 mill. actuations at Rated Braking Capacity

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

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

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

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

**Mechanical Data**

Actuating Force	4.5 N
Actuating Travel	1.0 mm,
Lifetime	1.5 mill. actuations
Shock Protection	IK 07
Starting Torque Plastic Nut	max. 4.5 Nm for thread M19, 3.5 Nm for M22
Starting Torque Stainless Steel Nut	max. 12 Nm for thread M19, 16 Nm for M22

**Climatical Data**

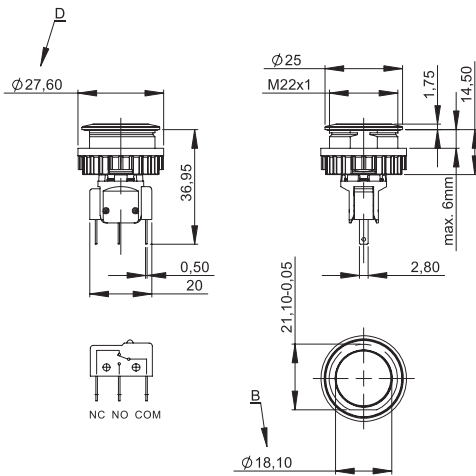
Operating Temperature	-25 to +85 °C
Storage Temperature	-25 to +85 °C
IP-Protection	IP 40 Front Side mechanical, IP 65, IP 69K Front Side Contact Area, IP 40 / IP 67 Rear Side Contact Area optional
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time

**Material**

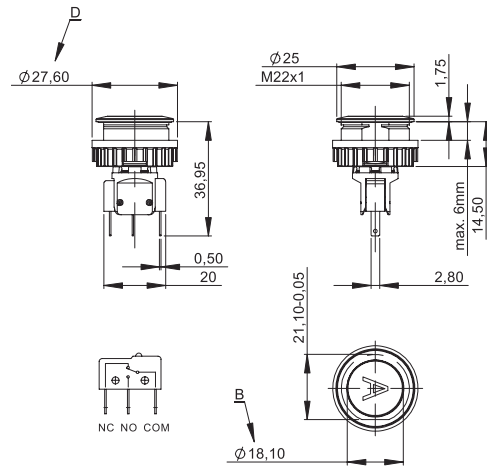
Housing	Stainless Steel
Actuator	Ceramic (Zirconium Dioxide)
Light Conductor (Point Illumination)	NBR70
Illuminated Ring (Ring Illumination)	PA

## Dimensions

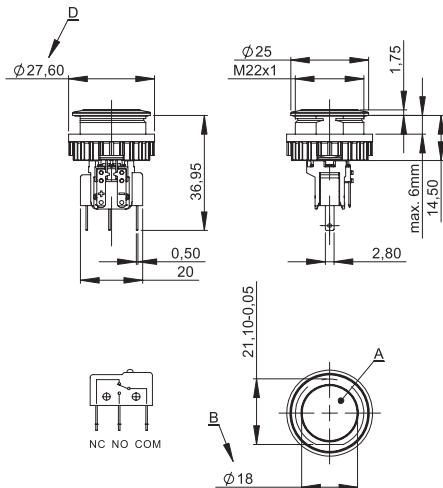
### MSM 22 CS ST



### MSM 22 CS LE



### MSM 22 CS BL

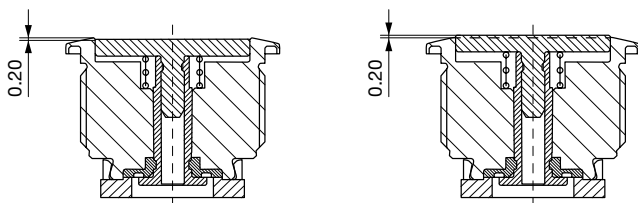


## Legend

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

## Tolerance Range

### Actuator Tolerance Range

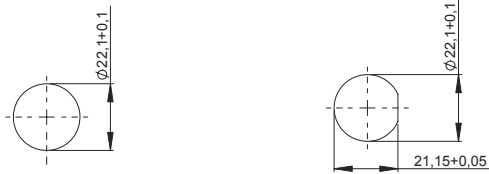


The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

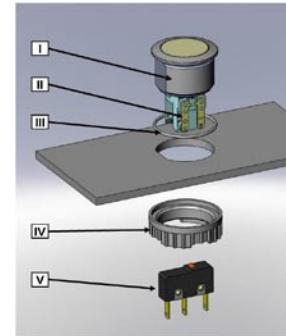
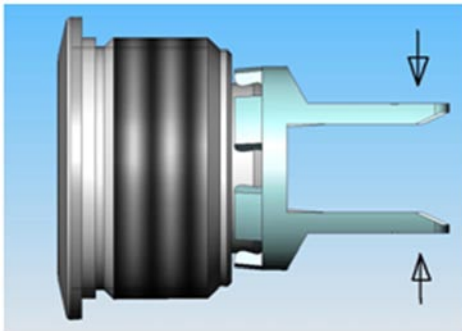
## Dimensions

MSM 22 CS ST

MSM 22 CS LE / MSM 22 CS BL



## Mounting 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.

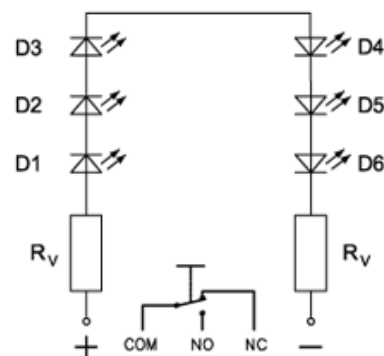
Installation information:

- 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

## Order Index Lettering

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	
018 = R	038 = -	058 = ENTER	
019 = S	039 = .	059 = BACK	
020 = T	040 = x	060 = LINE	

## Lettering Colour of Laser Lettering

Material	Lettering Colour
Ceramic	black Filled letters

## Variants

Diameter	Switching Current	Switching Voltage	Illumination, LED	Torsion Protection	IP-Protection Frontside Contact/mechanical; Microswitch	Type	Order Number
[mm]	[A]	[VAC/ VDC]					
22	0.1 A	30 VDC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS ST	1241.7031.1110000
22	5 / 3 A	125 / 250 VDC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS ST	1241.7031.1120000
22	10 A	250 VAC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS ST	1241.7031.1130000
22	6 A	250 VAC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 67	MSM 22 CS ST	1241.7031.1180000
22	0.1 A	30 VDC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS LE	1241.7032.1110000
22	5 / 3 A	125 / 250 VDC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS LE	1241.7032.1120000
22	10 A	250 VAC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS LE	1241.7032.1130000
22	6 A	250 VAC	non-illuminated	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS LE	1241.7032.1180000
22	0.1 A	30 VDC	Backlighted, red, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL red	1241.7036.1111000
22	0.1 A	30 VDC	Backlighted, green, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL green	1241.7036.1112000
22	0.1 A	30 VDC	Backlighted, blue, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL blue	1241.7036.1114000
22	5 / 3 A	125 / 250 VAC	Backlighted, red, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL red	1241.7036.1121000
22	5 / 3 A	125 / 250 VAC	Backlighted, green, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL green	1241.7036.1122000
22	5 / 3 A	125 / 250 VAC	Backlighted, blue, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL blue	1241.7036.1124000
22	10 A	250 VAC	Backlighted, red, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL red	1241.7036.1131000
22	10 A	250 VAC	Backlighted, green, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL green	1241.7036.1132000
22	10 A	250 VAC	Backlighted, blue, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 40	MSM 22 CS BL blue	1241.7036.1134000
22	6 A	250 VAC	Backlighted, red, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 67	MSM 22 CS BL red	1241.7036.1181000
22	6 A	250 VAC	Backlighted, green, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 67	MSM 22 CS BL green	1241.7036.1182000
22	6 A	250 VAC	Backlighted, blue, 24 VDC	yes	IP 65, IP 69K / IP 40 ;IP 67	MSM 22 CS BL blue	1241.7036.1184000

Diameter	Switching Current	Switching Voltage	Illumination, LED	Torsion Protection	IP-Protection Frontside Contact/mechanical; Microswitch	Type	Order Number
[mm]	[A]	[VAC/ VDC]					

Legend:  
 Type:  
 ST = Standard: not lettered  
 LE = Lettering: lettered  
 PI = Point Illumination: Lettering possible  
 RI = Ring Illumination: Lettering possible

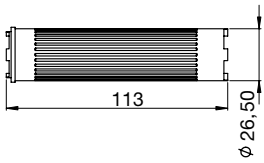
Backlighting versions: 24 VDC supply voltage (12 or 5 VDC on request)

Customer-specific versions on request.

<b>Packaging unit</b>	10 blistered in boxes (10 pcs.)
-----------------------	---------------------------------

### Accessories

**Description**



[Installation Wrench MSM 22 CS](#)  
 Installation Wrench for MSM 22 CS

MSM 22 CS		1141.1337
-----------	--	-----------