

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



Newly available with bright illumination



### Description

- Switch available in version: Standard (ST), with Lettering (LE), with area illumination (AI)
- Available with bright illumination
- Available with 12 A and 16 A switching current
- 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 2014/35/EU: Low Voltage Directive 2014/35/EU
- KEMA / ENEC File Number (Marquardt): 2181991.01
- 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 16 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:
- Alternative: Standard version [MSM 16](#); [MSM 27](#)
- Alternative: double-pole switch: [MSM DP 19](#); [MSM DP 22](#); [MSM DP 30](#)
- 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.
Number of Poles	1-pole and 2-pole
Supply Voltage	24 VDC Surface backlighting
Impulse Withstand Voltage (ESD)	4 kV MSM LA CS ST
Switching Voltage	max. 250 VAC, 30 VDC (125 VDC at 0.5 A)
Switching Current	12 A AC / 16 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), 0.02 million actuations (250 VAC / 16 A)
Contact Resistance	< 100 mΩ (12 VDC / 1 A)
Insulation Resistance	> 100 MΩ 500 VDC

### Mechanical Data

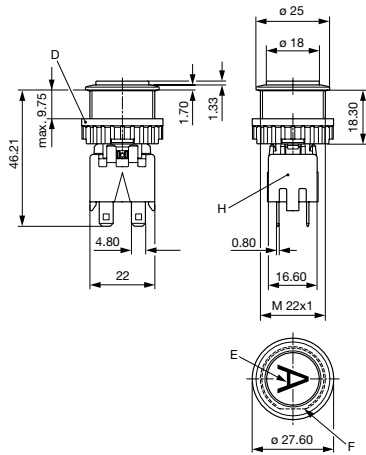
Actuating Force	10 N
Actuating Travel	5.2 mm,
Lifetime	0.1 million actuations
Contact Gap	3 mm
Shock Protection	IK 07
Tightening Torque Plastic Nut	4.5 Nm for thread M19, 3.5 Nm for M22
Tightening Torque Stainless Steel Nut	12 Nm for thread M19, 16 Nm for M22

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

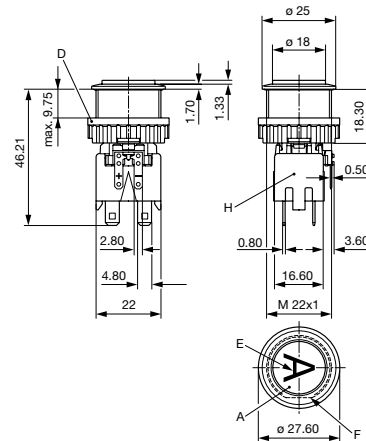
Material	
Housings	Stainless Steel
Actuator (disc, outside housing)	Ceramic
Gasket	NBR70
Switcher Collet	PA66 (UL94-V0 related to d ≥ 1.6 mm)
Intermediate Connector	PA66 (UL94-V0 related to d ≥ 1.6 mm)
Contact Pin Adapter	PA66 (UL94-V0 related to d ≥ 1.6 mm)

## Dimension

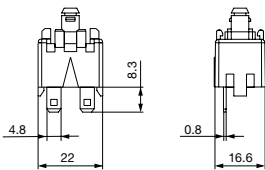
MSM 22 LA CS ST / double-pole



MSM 22 LA CS AI / double-pole



Switching Element single-pole with Push Button Holder

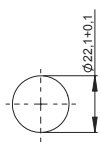


## Legend

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

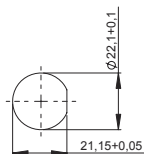
## Dimension

MSM 22 LA CS (without torsion protection)



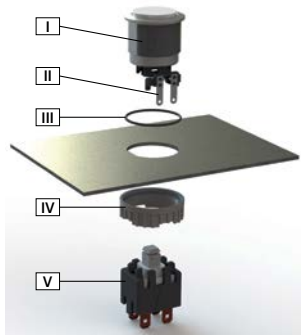
Drilling diagram

MSM 22 LA CS (with torsion protection)



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:

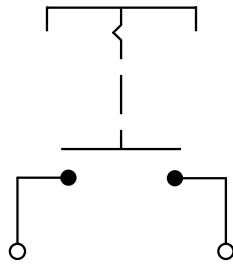
- 1.) Place the gasket accurately on the actuator housing. Then mount the actuator housing assembly into the panel.
- 2.) Tighten the screw nut according to the torque instructions.
- 3.) Clasp the module switching contact into the actuator housing.

Installation information:

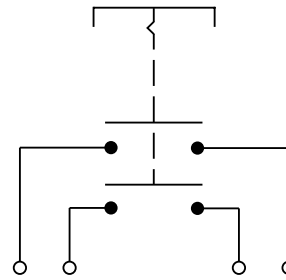
- 1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- 2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- 3.) Installation instructions according to VDE-standard DIN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

## Diagrams

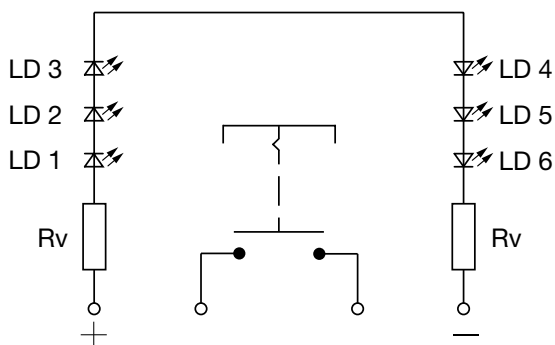
MSM LA CS ST / single-pole



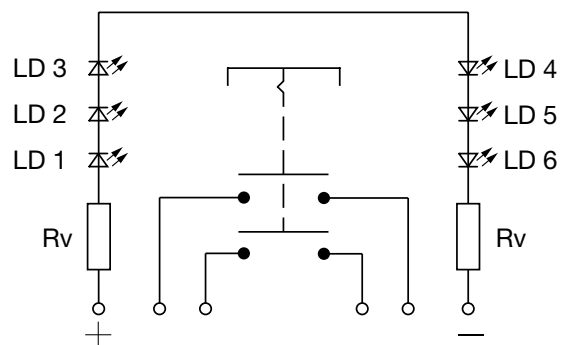
MSM LA CS ST / double-pole



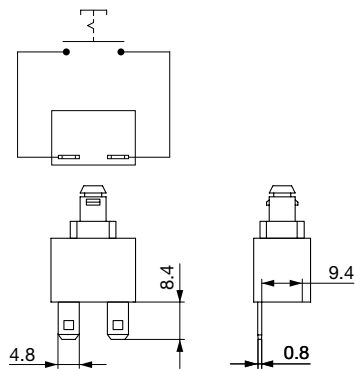
MSM LA CS AI / single-pole



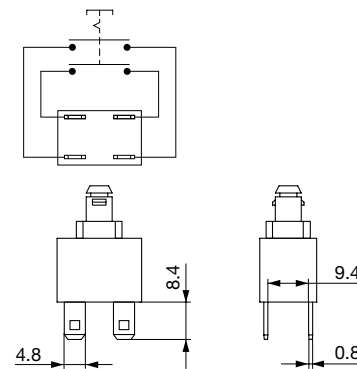
MSM LA CS AI / double-pole



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

## 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	Number of Poles	Switching Current	Illumination, LED	Torsion Protection	Config. Code	Order Number
[mm]						
19	1-pole	12 A	non-illuminated	yes	MSM 19 LA CS ST	1241.7221.1110000
19	1-pole	12 A	Backlighted, red, 24 VDC	yes	MSM 19 LA CS AI red	1241.7226.1111000
19	1-pole	12 A	Backlighted, green, 24 VDC	yes	MSM 19 LA CS AI green	1241.7226.1112000
19	1-pole	12 A	Backlighted, yellow, 24 VDC	yes	MSM 19 LA CS AI yellow	1241.7226.1113000
19	1-pole	12 A	Backlighted, blue, 24 VDC	yes	MSM 19 LA CS AI blue	1241.7226.1114000
19	1-pole	12 A	Backlighted, white, 24 VDC	yes	MSM 19 LA CS AI white	1241.7226.1115000
19	1-pole	12 A	Backlighted, orange, 24 VDC	yes	MSM 19 LA CS AI orange	1241.7226.1117000
19	1-pole	12 A	Backlighted, bright red, 24 VDC	yes	MSM 19 LA CS AI bright red	1241.8544
19	1-pole	12 A	Backlighted, bright green, 24 VDC	yes	MSM 19 LA CS AI bright green	1241.8545
19	1-pole	12 A	Backlighted, bright blue, 24 VDC	yes	MSM 19 LA CS AI bright blue	1241.8547
19	1-pole	12 A	Backlighted, bright white, 24 VDC	yes	MSM 19 LA CS AI bright white	1241.8548
19	2-pole	12 A	non-illuminated	yes	MSM 19 LA CS ST	1241.7221.1120000
19	2-pole	12 A	Backlighted, red, 24 VDC	yes	MSM 19 LA CS AI red	1241.7226.1121000
19	2-pole	12 A	Backlighted, green, 24 VDC	yes	MSM 19 LA CS AI green	1241.7226.1122000
19	2-pole	12 A	Backlighted, yellow, 24 VDC	yes	MSM 19 LA CS AI yellow	1241.7226.1123000
19	2-pole	12 A	Backlighted, blue, 24 VDC	yes	MSM 19 LA CS AI blue	1241.7226.1124000
19	2-pole	12 A	Backlighted, white, 24 VDC	yes	MSM 19 LA CS AI white	1241.7226.1125000
19	2-pole	12 A	Backlighted, orange, 24 VDC	yes	MSM 19 LA CS AI orange	1241.7226.1127000
19	2-pole	12 A	Backlighted, bright red, 24 VDC	yes	MSM 19 LA CS AI bright red	1241.8550
19	2-pole	12 A	Backlighted, bright green, 24 VDC	yes	MSM 19 LA CS AI bright green	1241.8551
19	2-pole	12 A	Backlighted, bright blue, 24 VDC	yes	MSM 19 LA CS AI bright blue	1241.8553
19	2-pole	12 A	Backlighted, bright white, 24 VDC	yes	MSM 19 LA CS AI bright white	1241.8554
19	1-pole	16 A	Backlighted, bright red, 24 VDC	yes	MSM 19 LA CS AI bright red	3-101-005
19	1-pole	16 A	Backlighted, bright green, 24 VDC	yes	MSM 19 LA CS AI bright green	3-101-007
19	1-pole	16 A	Backlighted, bright blue, 24 VDC	yes	MSM 19 LA CS AI bright blue	3-101-009
19	1-pole	16 A	Backlighted, bright white, 24 VDC	yes	MSM 19 LA CS AI bright white	3-101-022

Diameter	Number of Poles	Switching Current	Illumination, LED	Torsion Protection	Config. Code	Order Number
[mm]						
19	2-pole	16 A	Backlighted, bright blue, 24 VDC	yes	MSM 19 LA CS AI bright blue	3-101-010
19	2-pole	16 A	Backlighted, bright white, 24 VDC	yes	MSM 19 LA CS AI bright white	3-101-011
19	2-pole	16 A	Backlighted, bright red, 24 VDC	yes	MSM 19 LA CS AI bright red	3-101-023
19	2-pole	16 A	Backlighted, bright green, 24 VDC	yes	MSM 19 LA CS AI bright green	3-101-024

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.

■ 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 (enclosed in the box)
- Micro switches (enclosed in the box)