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

non-illuminated
grey

Ring illumination
red

Point Illumination
blue

See below:
Approvals and Compliances

Description

- Switch available in version: Standard (ST), with Lettering (LE), with Point Illumination (PI), with Ring Illumination (RI)
- 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

Characteristics

- Housing and actuator material: high-quality stainless steel
- Variety of design options regarding size, colour, illumination, connection or lettering
- Switching voltage up to 125 VDC respectively 250 VAC, switching current up to 16 A
- optional with point or ring illumination
- 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 (see technical data)

References

Alternative: double-pole switch MSM DP 22
Alternative: switch with backlighted illumination: MSM CS 22
Alternative: Other diameter
Alternative: Standard version MSM LA 19

Weblinks

pdf data sheet, html datasheet, General Product Information, CAD-Drawings, Product News, Detailed request for product

Technical Data

Electrical Data	
Switching Function	latching
Number of Poles	SPST, DPST
Supply Voltage	24 VDC Ring Illumination , Point Illumination without series resistor , LED operating data are listed in a separate table
	5 VDC and 12 VDC RI variants on request (MOQ 500 pieces)
Impulse Withstand Voltage (ESD)	2 kV with Ring Illumination
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	IK07
Mounting screw torque Plastic Nut	max. 3.5 Nm
Mounting screw torque Stainless Steel Nut	max. 16 Nm

Climatical Data	
Operating Temperature	-20 to 85 °C
Storage Temperature	-20 to 85 °C
Protection Class	IP64
Switching Unit	IP40
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time
Material	
Housing	Stainless Steel
Actuator (disc, outside housing)	Stainless Steel
Illuminated Ring (die-casting, inside housing)	PC
Seal Ring	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)
Plastic Nut	PA, UL94

Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in Details about Approvals

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

Product standards

Product standards that are referenced

Organization	Design	Standard	Description
DIN	Designed according to	DIN EN 61058-1	Switches for appliances. Part 1. General requirements
UL	Designed according to	UL 1054	UL standard for safety special-use switches

Application standards

Application standards where the product can be used

Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

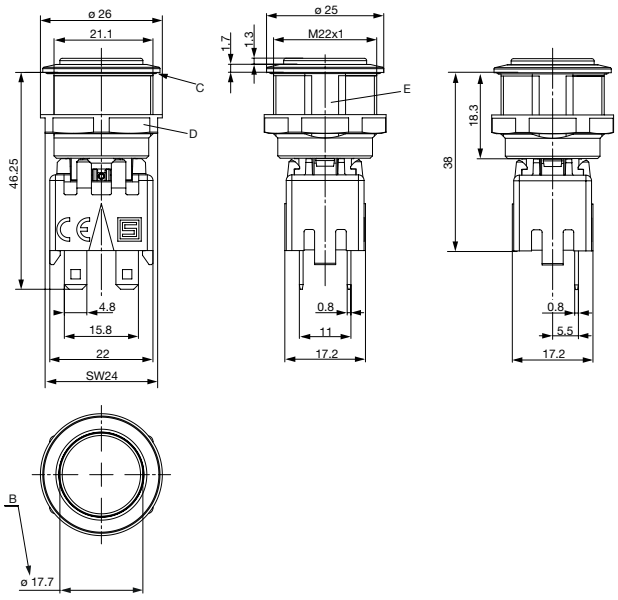
Compliances

The product complies with following Guide Lines

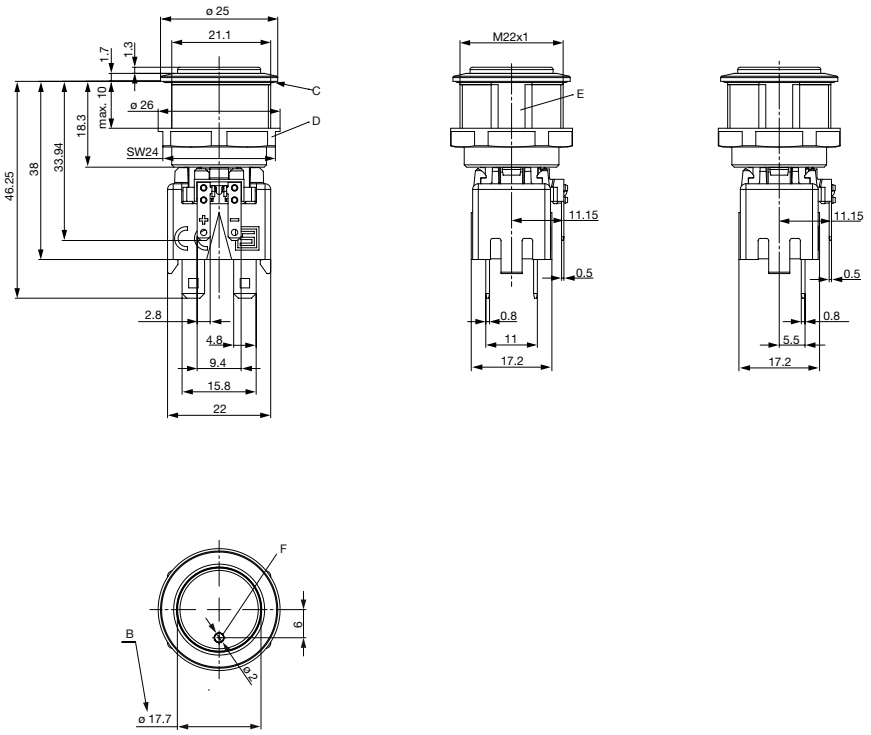
Identification	Details	Initiator	Description
RoHS COMPLIANT	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
REACH	REACH	SCHURTER AG	On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.

Dimension [mm]

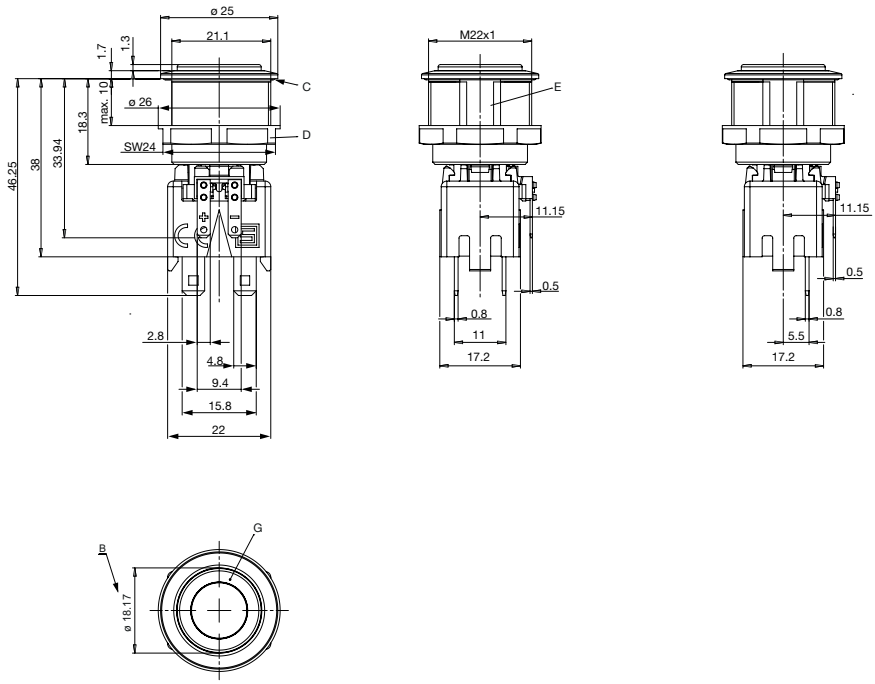
MSM 22 LA ST / LE double-pole



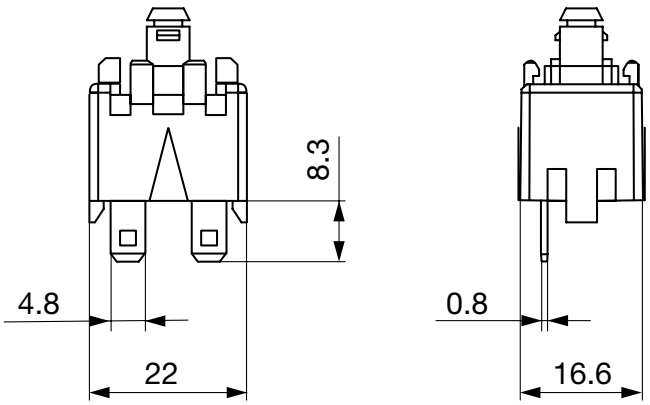
MSM 22 LA PI double-pole



MSM 22 LA RI double-pole



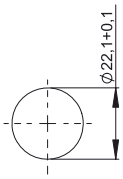
Switching Element single-pole with Push Button Holder



Legend
B = Actuating Area
C = Sealing
D = Nut
E = Anti-rotation protection
F = Point illumination
G = Illumination ring

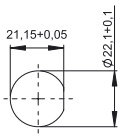
Dimension

MSM 22 LA ST / MSM 22 LA RI



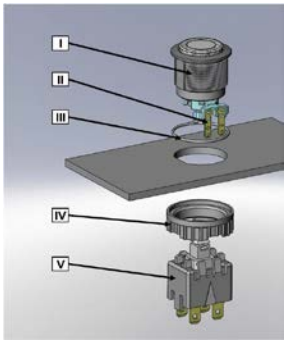
Drilling diagram

MSM 22 LA LE / MSM 22 LA PI / MSM 22 LA RI optional



Drilling diagram

Assembly Instructions

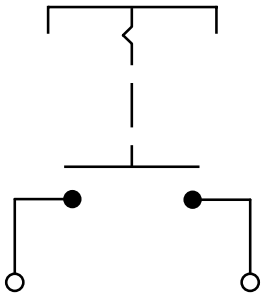


I Housing
II Flat Pin Terminal (Illumination)
III Gasket
IV Nut (Nut type see Dimensions)
V Module Switching Contact

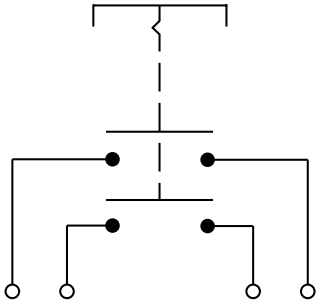
Installation Instruction:
1.) Place the gasket accurately on the actuator housing. Then mount the actuator housing assembly into the panel.
2.) Tighten the screw nut according to the torque instructions.
3.) Clasp the module switching contact into the actuator housing.
Installation information:
1.) The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

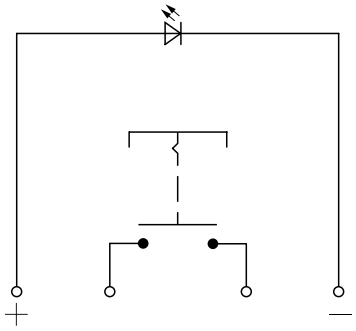
MSM LA ST / LE single-pole



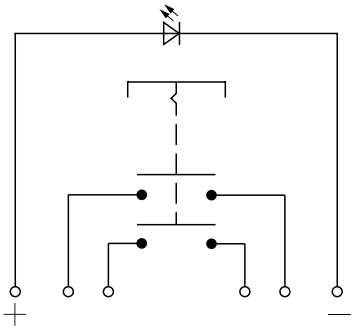
MSM LA ST / LE double-pole



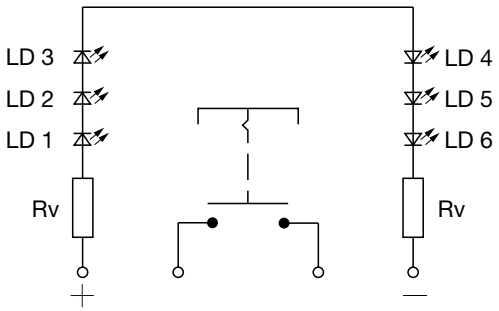
MSM LA PI single-pole



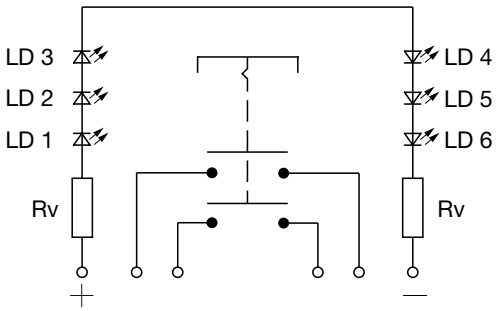
MSM LA PI double-pole



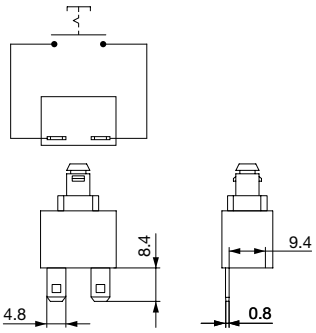
MSM LA RI single-pole



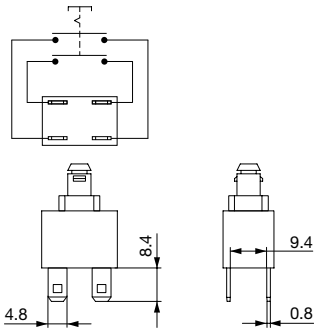
MSM LA RI double-pole



Contact Layout single-pole



Contact Layout double-pole



Point Illumination

Operating Data	Forward Current max.	Forward Voltage at 10 mA	Forward Voltage max.
LED red	30 mA	1.9 VDC	3.0 VDC
LED green	30 mA	2.4 VDC	3.0 VDC
LED yellow	30 mA	2.4 VDC	3.0 VDC
LED blue	20 mA	3.8 VDC	4.5 VDC
LED red/green	25 mA	2.0 VDC	2.5 VDC
Attention: Switches are delivered without series resistor.			

Marking

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	
Stainless Steel	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**	
Please note that the font size depends on the number of characters			

All Variants

Diameter	Number of Poles	Switching Current	Illumination, LED	Torsion Protection Housing/Actuator	Config. Code	Order Number	
[mm]		[A]					
22	DPST	12	non-illuminated	yes / yes	MSM 22 LA Pcs	1241.6831.1120000	▮
22	DPST	12	Point Illumination, red	yes / yes	MSM 22 LA PI red	1241.6833.1121000	▮
22	DPST	12	Point Illumination, green	yes / yes	MSM 22 LA PI green	1241.6833.1122000	▮
22	DPST	12	Point Illumination, blue	yes / yes	MSM 22 LA PI blue	1241.6833.1124000	▮
22	DPST	12	RI dotted, red, 24 VDC	yes / yes	MSM 22 LA RI red	1241.6834.1121000	▮
22	DPST	12	RI dotted, green, 24 VDC	yes / yes	MSM 22 LA RI green	1241.6834.1122000	▮
22	DPST	12	RI dotted, blue, 24 VDC	yes / yes	MSM 22 LA RI blue	1241.6834.1124000	▮
22	SPST	12	non-illuminated	yes / yes	MSM 22 LA Pcs	1241.6831.1110000	▮
22	SPST	12	Point Illumination, red	yes / yes	MSM 22 LA PI red	1241.6833.1111000	
22	SPST	12	Point Illumination, green	yes / yes	MSM 22 LA PI green	1241.6833.1112000	
22	SPST	12	Point Illumination, blue	yes / yes	MSM 22 LA PI blue	1241.6833.1114000	
22	SPST	12	RI dotted, red, 24 VDC	yes / yes	MSM 22 LA RI red	1241.6834.1111000	
22	SPST	12	RI dotted, green, 24 VDC	yes / yes	MSM 22 LA RI green	1241.6834.1112000	▮
22	SPST	12	RI dotted, blue, 24 VDC	yes / yes	MSM 22 LA RI blue	1241.6834.1114000	▮
22	DPST	16	RI dotted, green, 24 VDC	yes / yes	MSM 22 LA RI green	3-100-912	▮
22	DPST	16	non-illuminated	yes / yes	MSM 22 LA Pcs	3-101-012	▮
22	DPST	16	RI dotted, red, 24 VDC	yes / yes	MSM 22 LA RI red	3-101-016	▮
22	DPST	16	RI dotted, blue, 24 VDC	yes / yes	MSM 22 LA RI blue	3-101-018	▮
22	SPST	16	non-illuminated	yes / yes	MSM 22 LA Pcs	3-101-001	▮
22	SPST	16	RI dotted, red, 24 VDC	yes / yes	MSM 22 LA RI red	3-101-013	▮
22	SPST	16	RI dotted, green, 24 VDC	yes / yes	MSM 22 LA RI green	3-101-014	▮
22	SPST	16	RI dotted, blue, 24 VDC	yes / yes	MSM 22 LA RI blue	3-101-015	▮

Legend:
Type:
MSMCS = 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 MOQ for standard laser lettering on standard variants is a packing unit.

The nut with gasket and micro switch are enclosed in the box.

▮ Most Popular.

Availability for all products can be searched real-time:https://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 (enclosd in the box)
- Micro switches (enclosed in the box)

Accessories

	Description
	Power Supply Power Supply IP42 for LED- and Illumination applications indoor 90~264 VAC => 24 VDC 0.34 A 8 W