Metal Switch, Switching Voltage up to 250 VAC



Ring illumination
red



Area illumination
blue



Point Illumination
blue

See below:
Approvals and Compliances

Description

- Mechanical switch with stroke LA (Latching)
- With or without illumination
- With torsion protection for easier positioning
- Equipped with quick connect terminals to permit fast connection
- Protection class IP65 frontside

Unique Selling Proposition

- Attractive tactile feedback
- High quality materials
- Long life span

Characteristics

- Housing made from stainless steel
- Variety of design options regarding size, colour, illumination, connection or lettering
- Switching voltage 125 VAC / 250 VAC
  Switching current 12 A / 16 A
- Actuator in stainless steel or ceramic

References

Other versions on request

Weblinks

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

Technical Data

Electrical Data	
Supply Voltage LED	see table of variants
Micro Switch	see details in table 'Micro Switch'
Impulse Withstand Voltage (ESD)	2 kV
Mechanical Data	
Actuating Force	10 N
Actuating Travel	5.2 mm
Lifetime	1.5 million actuations
Shock Protection	IK07
Mounting screw torque Plastic Nut	max. 3.5 Nm

Climatical Data	
Operating Temperature	-20 to 85 °C
Storage Temperature	-20 to 85 °C
Salt Spray Test (acc. to IEC 60068-2-11)	24 h / 48 h / 96 h Residence Time
Material	
Housing	Stainless Steel
Actuator	Stainless Steel / Ceramics
Seal Ring	NBR70
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

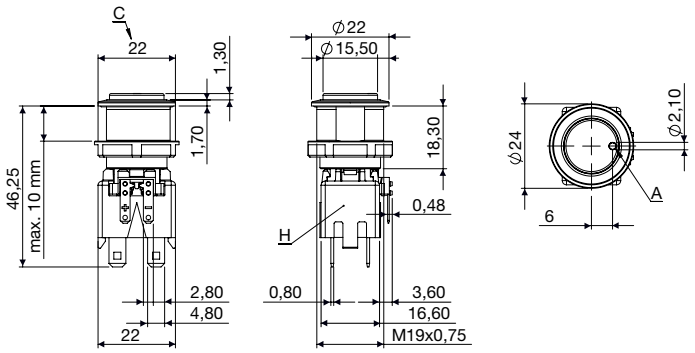
SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical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

Compliances

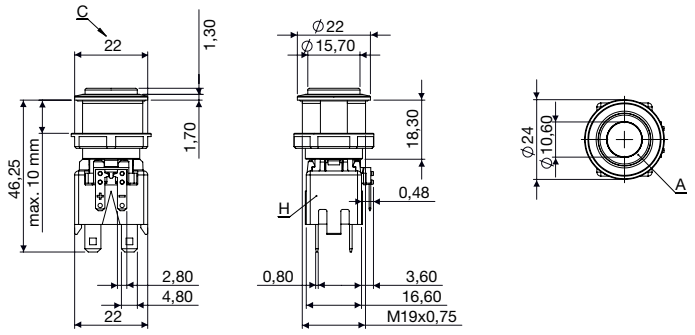
The product complies with following Guide Lines

Identification	Details	Initiator	Description
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.
UKCA	UKCA declaration of conformity	SCHURTER AG	The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008.
RoHS	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.

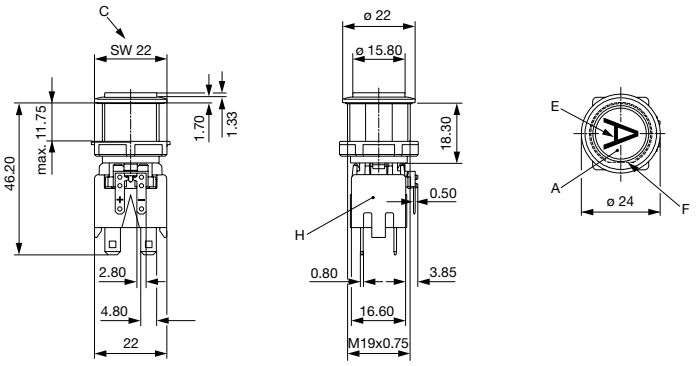
Dimension [mm]
MSM 19 LA PI double-pole



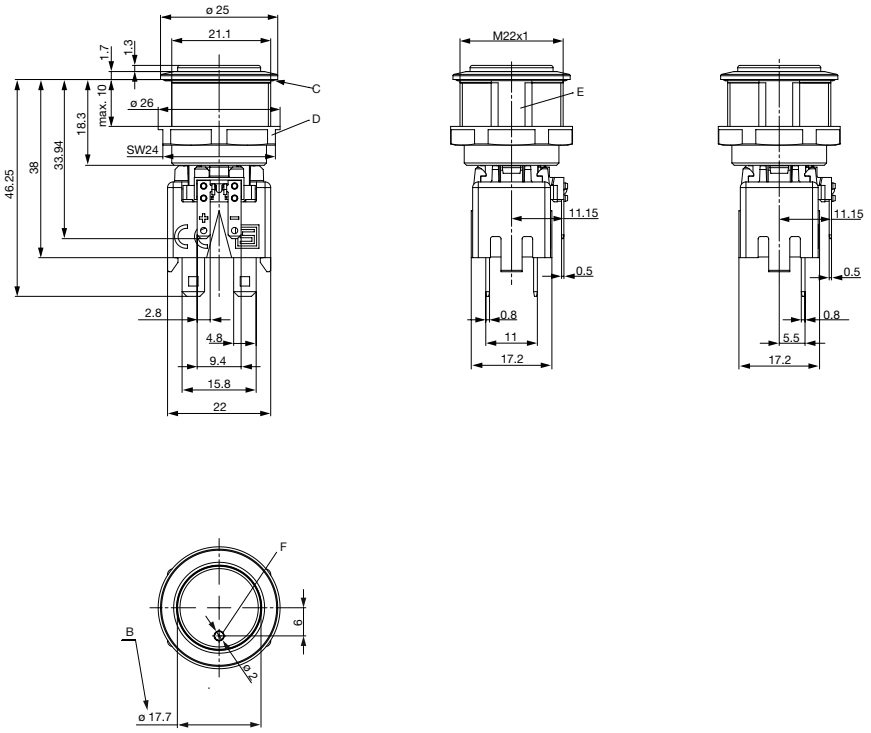
MSM 19 LA RI double-pole



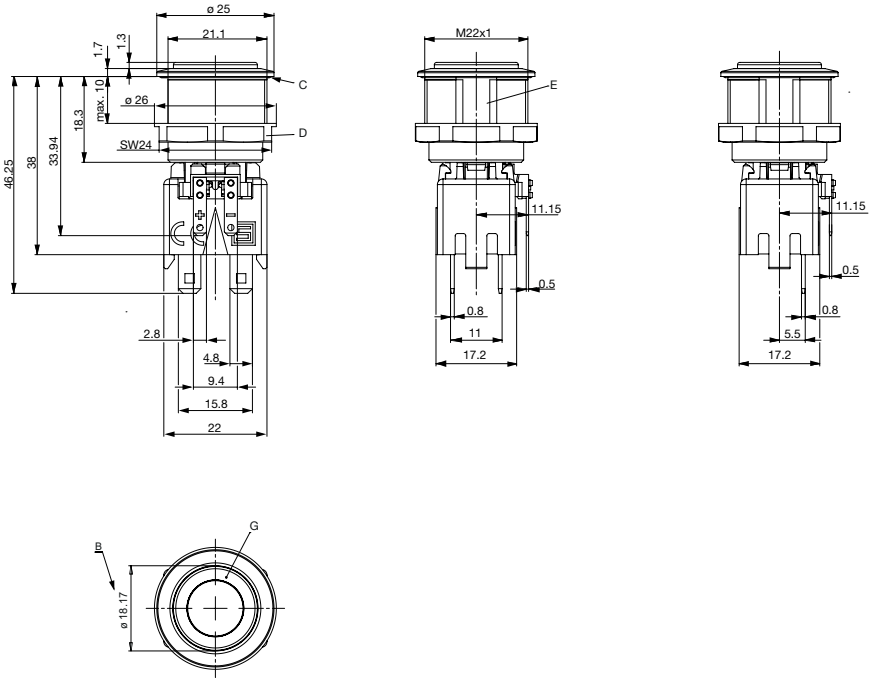
MSM 19 LA AI double-pole



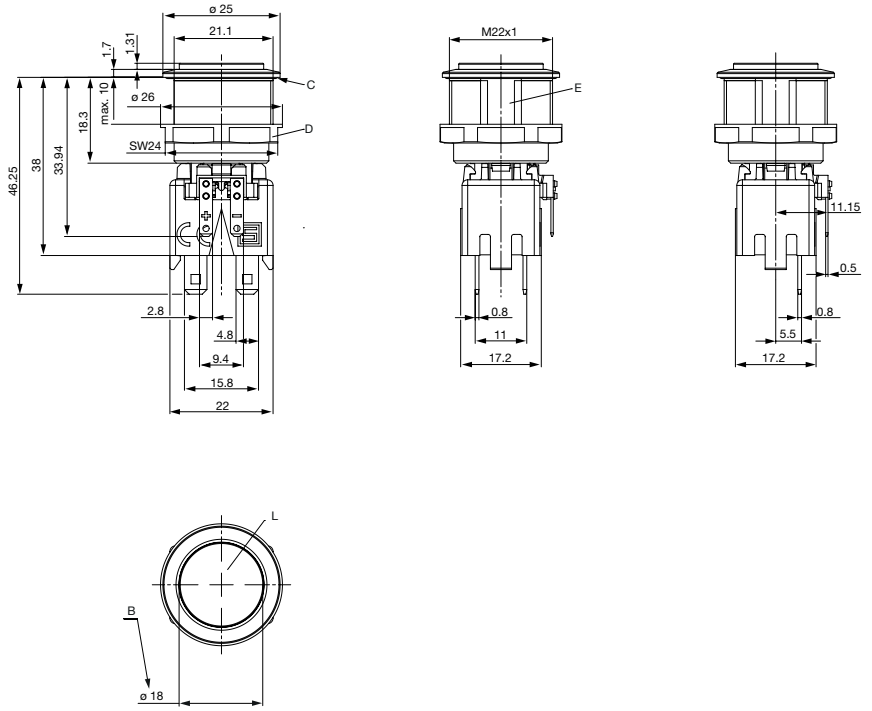
MSM 22 LA PI double-pole



MSM 22 LA RI double-pole



MSM 22 LA AI double-pole

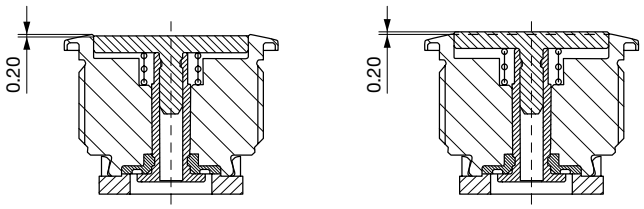


Legend to MSM Latching

B	Actuating Area
C	Sealing
D	Nut
E	Anti-rotation protection
L	Illuminated Area

Tolerance Range

Actuator Tolerance Range

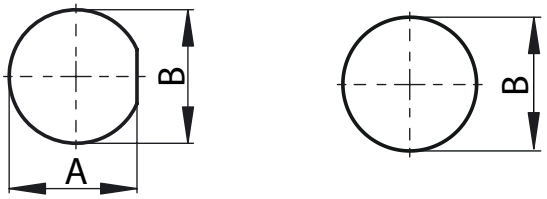


The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

Dimension

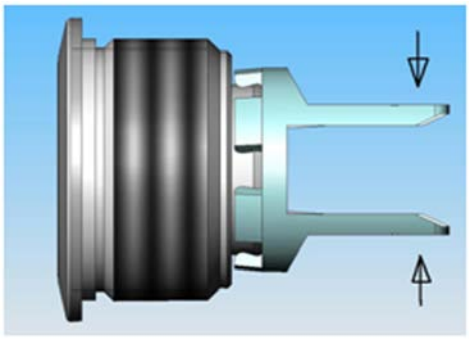
All illuminated products and all non illuminated push buttons with symbols are supplied with anti-rotation protection

Non-illuminated push-buttons are supplied without anti-rotation protection

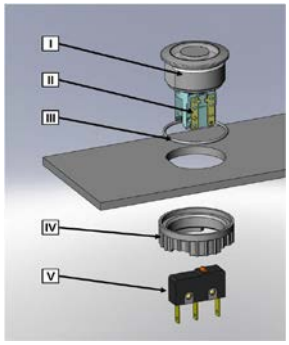


Diameter (mm)	A	B
19	18.15+0.05	19.1 +0.1
22	21.15+0.05	22.1 +0.1

Assembly Instructions



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



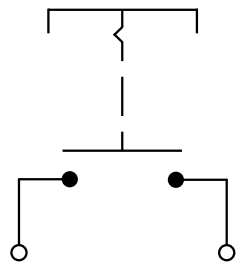
I Housing
II Flat Pin Terminal (Illumination)
III O-Ring gasket
IV Nut (Nut type see Dimensions)
V Module Switching Contact

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.

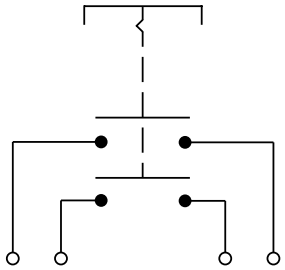
Installation information:
- The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- Installation instructions according to VDE-standard DIN VDE 0100-100 or alternatively IEC 60354 standard.
- During assembly, the protruding bars of the holder should not be pressed together.

Diagrams

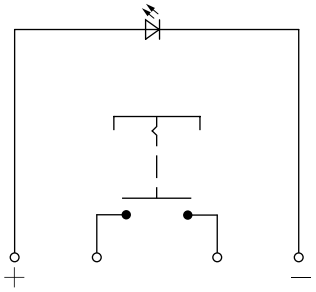
MSM LA ST / LE single-pole



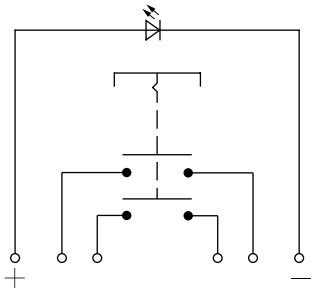
MSM LA ST / LE double-pole



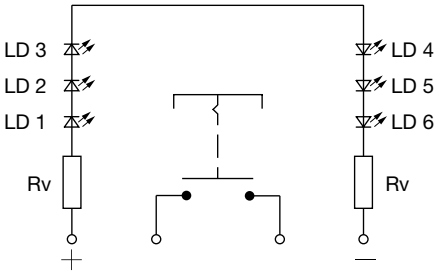
MSM LA PI single-pole



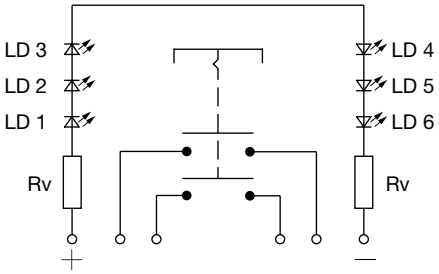
MSM LA PI double-pole



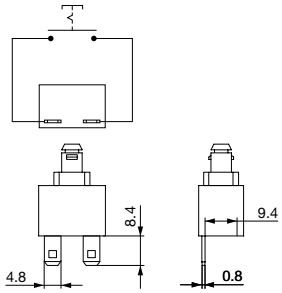
MSM LA RI single-pole



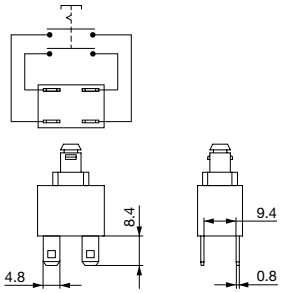
MSM LA RI double-pole

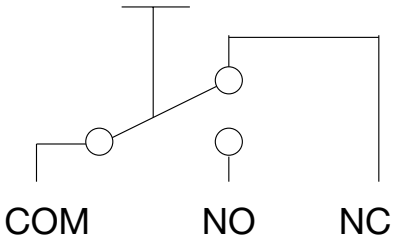


Contact Layout single-pole



Contact Layout double-pole





Illumination options for RGB

Lighting type	Wire red	Wire green	Wire blue	Resulting Color
Multicolor Singlecolor	x			Red
Multicolor Singlecolor		x		Green
Multicolor Singlecolor			x	Blue
Multicolor RGB Additive 2	x	x		Yellow
Multicolor RGB Additive 2	x		x	Magenta
Multicolor RGB Additive 2		x	x	Cyan
Multicolor RGB Additive 3	x	x	x	White

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 with point illumination (PI) are delivered without series resistor.

Micro Switch

Micro Switch	Switch type	Contact Material	Switching Voltage	Switching current	Rated Switching	Lifetime	Contact Resistance	Insulation Resistance	Duration of Bounce
0.1 A, IP40	MO	Au	max. 30 VDC	max. 0.1 A	3 W	0.2 Mio.	< 50 mΩ	> 100 MΩ	< 5 ms
0.1 A, IP67	MO		max. 30 VDC	max. 0.1 A	25 W	0.05 Mio.			
5 A / 125 VAC bzw. 3 A / 250 VAC, IP40	MO	Ag	max. 125 / 250 VAC	max. 5 / 3 A	750 W	0.2 Mio.	< 30 mΩ	> 100 MΩ	< 5 ms
6 A, IP67	MO		max. 250 VAC	max. 5 A	1250 W	0.01 Mio.			
10 A, IP40	MO	Ag	max. 250 VAC	max. 10 A	2500 W	0.05 Mio.	< 30 mΩ	> 100 MΩ	< 5 ms
10 A, IP67	MO		max. 250 VAC	max. 10 A	2500 W	0.01 Mio.			
12 A, IP40	LA	Ag	max. 250 VAC	max. 12 A	3000 W	0.05 Mio.	< 100 mΩ		
16 A, IP40	LA	Ag	max. 250 VAC	max. 16 A	4000 W	0.04 Mio.	< 100 mΩ	> 100 MΩ	

Marking

The three digits are part of the ordner number key	
000	No Lettering
001-100	Standard Lettering
101-	Customized Lettering

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			

Order number key

M	S	M	-	19	-	LA	NO	12A	-	B	-	B	A4	-	A	-	PI	0GN	00R	0	A0	-	S0	NC	B	-	SO	NC	NF	-	0	000	-	C
				1		2	3	4		5		6	7		8		9	10	11	12	13		14	15	16		17	18	19		20	21		22

Diameter — 1

19 mm	=	19
22 mm	=	22

Switch type — 2

Latching	=	LA

Switch function — 3

Normally open	=	NO

Switching current — 4

12A	=	12A
16A	=	16A

Contact configuartion — 5

SPST	=	A
SPDT	=	B
DPST	=	C
DPDT	=	D

Contact material — 6

Silver	=	B

Terminal switch — 7

QC 4.8 x 0.8	=	A4

Switch IP specification — 8

IP40	=	A

Illumination type — 9

No illumination	=	00
Area illumination	=	AI
Ring illumination	=	RI
Point illumination	=	PI

Illumination color — 10

None	=	000
Red	=	0RD
Green	=	0GN
Blue	=	0BL
Yellow	=	0YL
White	=	0WT
Orange	=	0OR

Supply voltage illumination — 11

5 V	=	005
12 V	=	012
24 V	=	024
W/O (without) resistors	=	00R

Illumination sub type — 12

Standard	=	0
Homogen-scaled	=	4

Terminal illumination — 13

QC 2.8 x 0.5	=	A0

Housing material — 14

Stainless steel	=	S0

Housing color — 15

Neutral	=	NC

Mounting — 16

Thread (M) with antirotation protection	=	B

Actuator material — 17

Ceramics	=	C0
Stainless steel	=	S0

Actuator color — 18

White	=	WT
Neutral	=	NC

Actuator style — 19

No Finger guide	=	NF

Lettering type — 20

None	=	0
Laser	=	1

Marking type — 21

None	=	000

See in the table "Order Index Lettering"

Accessories — 22

Hex nut plastic with O-Ring	=	C

Variants

Diameter	Switch type	Switching current	Electrical contact	IP specification backside	Illumination	Illumination color	Housing material	Order Number
19	LA	12A	SPST	IP40	Area illumination	yellow	Stainless Steel	1241.8546
19	LA	12A	SPST	IP40	Area illumination	orange	Stainless Steel	1241.8549
19	LA	12A	DPST	IP40	Area illumination	yellow	Stainless Steel	1241.8552
19	LA	12A	DPST	IP40	Area illumination	orange	Stainless Steel	1241.8555
19	LA	16A	SPST	IP40	non-illuminated	-	Stainless Steel	3-100-987
19	LA	16A	DPST	IP40	non-illuminated	-	Stainless Steel	3-100-989
19	LA	16A	SPST	IP40	RI dotted	red	Stainless Steel	3-100-990
19	LA	16A	SPST	IP40	RI dotted	green	Stainless Steel	3-100-991
19	LA	16A	DPST	IP40	RI dotted	blue	Stainless Steel	3-100-999
19	LA	16A	SPST	IP40	RI dotted	blue	Stainless Steel	3-101-002
19	LA	16A	DPST	IP40	RI dotted	red	Stainless Steel	3-101-003
19	LA	16A	DPST	IP40	RI dotted	green	Stainless Steel	3-101-004
19	LA	16A	SPST	IP40	Area illumination	green	Stainless Steel	3-101-007
19	LA	16A	SPST	IP40	Area illumination	blue	Stainless Steel	3-101-009
19	LA	16A	DPST	IP40	Area illumination	blue	Stainless Steel	3-101-010
19	LA	16A	DPST	IP40	Area illumination	white	Stainless Steel	3-101-011
19	LA	16A	SPST	IP40	Area illumination	white	Stainless Steel	3-101-022
19	LA	16A	DPST	IP40	Area illumination	red	Stainless Steel	3-101-023
19	LA	16A	DPST	IP40	Area illumination	green	Stainless Steel	3-101-024
19	LA	12A	SPST	IP40	non-illuminated	-	Stainless Steel	1241.6821.1110000
19	LA	12A	SPST	IP40	Point Illumination	red	Stainless Steel	1241.6823.1111000
19	LA	12A	SPST	IP40	Area illumination	red	Stainless Steel	1241.8544
19	LA	12A	SPST	IP40	Point Illumination	green	Stainless Steel	1241.6823.1112000
19	LA	12A	SPST	IP40	Point Illumination	blue	Stainless Steel	1241.6823.1114000
19	LA	12A	SPST	IP40	Area illumination	green	Stainless Steel	1241.8545
19	LA	12A	SPST	IP40	RI dotted	red	Stainless Steel	1241.6824.1111000
19	LA	12A	SPST	IP40	RI dotted	green	Stainless Steel	1241.6824.1112000
19	LA	12A	SPST	IP40	Area illumination	blue	Stainless Steel	1241.8547
19	LA	12A	SPST	IP40	RI dotted	blue	Stainless Steel	1241.6824.1114000
19	LA	12A	SPST	IP40	RI dotted	white	Stainless Steel	1241.6824.1115000
19	LA	12A	SPST	IP40	Area illumination	white	Stainless Steel	1241.8548
19	LA	12A	DPST	IP40	non-illuminated	-	Stainless Steel	1241.6821.1120000
19	LA	12A	DPST	IP40	Point Illumination	red	Stainless Steel	1241.6823.1121000
19	LA	12A	DPST	IP40	Point Illumination	green	Stainless Steel	1241.6823.1122000
19	LA	12A	DPST	IP40	Point Illumination	blue	Stainless Steel	1241.6823.1124000
19	LA	12A	DPST	IP40	RI dotted	red	Stainless Steel	1241.6824.1121000
19	LA	12A	DPST	IP40	RI dotted	green	Stainless Steel	1241.6824.1122000
19	LA	12A	DPST	IP40	RI dotted	blue	Stainless Steel	1241.6824.1124000
19	LA	12A	DPST	IP40	Area illumination	red	Stainless Steel	1241.8550
19	LA	12A	DPST	IP40	Area illumination	green	Stainless Steel	1241.8551
19	LA	12A	DPST	IP40	Area illumination	blue	Stainless Steel	1241.8553
19	LA	12A	DPST	IP40	Area illumination	white	Stainless Steel	1241.8554
22	LA	16A	DPST	IP40	RI dotted	green	Stainless Steel	3-100-912
22	LA	16A	SPST	IP40	non-illuminated	-	Stainless Steel	3-101-001

Diameter	Switch type	Switching current	Electrical contact	IP specification backside	Illumination	Illumination color	Housing material	Order Number
22	LA	16A	SPST	IP40	non-illuminated	-	Stainless Steel	3-101-005
22	LA	16A	DPST	IP40	non-illuminated	-	Stainless Steel	3-101-012
22	LA	16A	SPST	IP40	RI dotted	red	Stainless Steel	3-101-013
22	LA	16A	SPST	IP40	RI dotted	green	Stainless Steel	3-101-014
22	LA	16A	SPST	IP40	RI dotted	blue	Stainless Steel	3-101-015
22	LA	16A	DPST	IP40	RI dotted	red	Stainless Steel	3-101-016
22	LA	16A	DPST	IP40	RI dotted	blue	Stainless Steel	3-101-018
22	LA	16A	SPST	IP40	Area illumination	blue	Stainless Steel	3-101-029
22	LA	16A	SPST	IP40	Area illumination	white	Stainless Steel	3-101-030
22	LA	16A	DPST	IP40	Area illumination	red	Stainless Steel	3-101-031
22	LA	16A	SPST	IP40	Area illumination	red	Stainless Steel	3-101-032
22	LA	16A	SPST	IP40	Area illumination	green	Stainless Steel	3-101-033
22	LA	16A	DPST	IP40	Area illumination	green	Stainless Steel	3-101-039
22	LA	16A	DPST	IP40	Area illumination	blue	Stainless Steel	3-101-040
22	LA	16A	DPST	IP40	Area illumination	white	Stainless Steel	3-101-041
22	LA	12A	SPST	IP40	non-illuminated	-	Stainless Steel	1241.6831.1110000
22	LA	12A	SPST	IP40	Point Illumination	red	Stainless Steel	1241.6833.1111000
22	LA	12A	SPST	IP40	Point Illumination	green	Stainless Steel	1241.6833.1112000
22	LA	12A	SPST	IP40	Point Illumination	blue	Stainless Steel	1241.6833.1114000
22	LA	12A	SPST	IP40	RI dotted	red	Stainless Steel	1241.6834.1111000
22	LA	12A	SPST	IP40	RI dotted	green	Stainless Steel	1241.6834.1112000
22	LA	12A	SPST	IP40	RI dotted	blue	Stainless Steel	1241.6834.1114000
22	LA	12A	DPST	IP40	non-illuminated	-	Stainless Steel	1241.6831.1120000
22	LA	12A	DPST	IP40	Point Illumination	red	Stainless Steel	1241.6833.1121000
22	LA	12A	DPST	IP40	Point Illumination	green	Stainless Steel	1241.6833.1122000
22	LA	12A	DPST	IP40	Point Illumination	blue	Stainless Steel	1241.6833.1124000
22	LA	12A	DPST	IP40	RI dotted	red	Stainless Steel	1241.6834.1121000
22	LA	12A	DPST	IP40	RI dotted	green	Stainless Steel	1241.6834.1122000
22	LA	12A	DPST	IP40	RI dotted	blue	Stainless Steel	1241.6834.1124000
22	LA	12A	SPST	IP40	Area illumination	red	Stainless Steel	1241.8556
22	LA	12A	SPST	IP40	Area illumination	green	Stainless Steel	1241.8557
22	LA	12A	SPST	IP40	Area illumination	blue	Stainless Steel	1241.8559
22	LA	12A	SPST	IP40	Area illumination	white	Stainless Steel	1241.8560
22	LA	12A	DPST	IP40	Area illumination	red	Stainless Steel	1241.8562
22	LA	12A	DPST	IP40	Area illumination	green	Stainless Steel	1241.8563
22	LA	12A	DPST	IP40	Area illumination	blue	Stainless Steel	1241.8565
22	LA	12A	DPST	IP40	Area illumination	white	Stainless Steel	1241.8566

Availability for all products can be searched real-time: https://www.schurter.com/en/info-center/support-tools/stock-check-distributors

Packaging unit	10 pcs.	In box or packed in air cushion bags



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

27.02.2025

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.