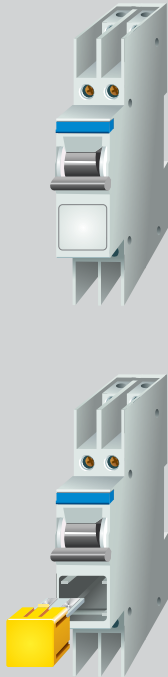


TUMBLER SWITCHES



- They can be used in both building and industrial installations and safety technology
- Possibility of locking by means of locking insert VU-LSN
- Modular design with mounting on the rail DIN EN 50 022 - width 35 mm

Tumbler switches MS

- For switching up to 4 electric circuits up to 25 A

Tumbler switches with light indication MS..N, MS..X

- They are created by insertion of one indicator lights S... into the switch module MS..N or MS..X
- The modular design enables indicator light replacement and creation of tens of different variants
- For signalling and switching of up to 4 electric circuits up to 25 A

Tumbler switches

Contact sequence ¹⁾	Type	Product code	Weight [kg]	Packing [pcs]
11	MS11	08629	0.1	12
20	MS20	08630	0.1	12
22	MS22	08952	0.1	12
30	MS30	08632	0.1	12
40	MS40	08633	0.1	12

¹⁾ Each digit indicates successively the number of make and break contacts

Accessories to MS

Labels	P...-LSN	page 25
Locking insert	VU-LSN	page 25

Modules of tumbler switches with light indication

Connector for indicator light ¹⁾	Contact sequence ²⁾	Type	Product code	Weight [kg]	Packing [pcs]
Between contact and terminal	11	MS11N	08634	0.1	12
	20	MS20N	08950	0.1	12
	30	MS30N	08636	0.1	12
Between contacts	20	MS20X	08638	0.1	12
	30	MS30X	08639	0.1	12
	40	MS40X	08640	0.1	12

¹⁾ See the schematic symbol

²⁾ Each digit indicates successively the number of make and break contacts

Accessories to MS..N, MS..X

Labels	P...-LSN	page 25
Locking insert	VU-LSN	page 25
Indicator lights	S...	page 87

Specification

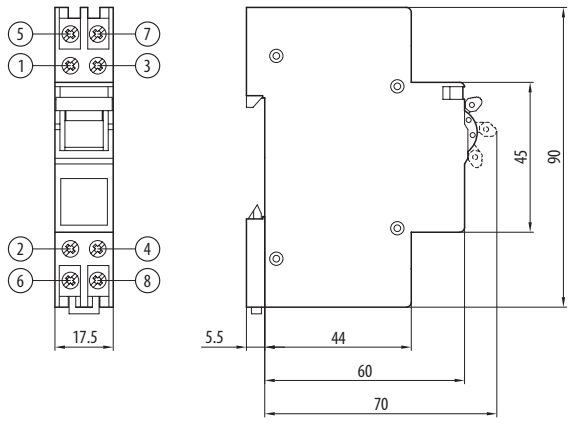
Type		MS	MS..N, MS..X
Standards		EN 60 947-5-1	EN 60 947-5-1
Approval marks			
Contacts			
Sequence ¹⁾		11, 20, 22, 30, 40	11, 20, 30, 40
Rated operating voltage	U_e	230/400 V a.c., 220 V d.c.	230/400 V a.c., 220 V d.c.
Rated thermal current	I_{th}	25 A	25 A
Rated operating current	AC12 I_e	25 A	25 A
	AC15 I_e	6 A	6 A
	DC12 I_e	1 A	1 A
Endurance		30 000 operating cycles	30 000 operating cycles
Connection		0.75 ÷ 6 mm ² , 2x(0.75 ÷ 2.5) mm ²	0.75 ÷ 6 mm ² , 2x(0.75 ÷ 2.5) mm ²
Light signalling			
Power		-	0.8 W
Rated operating voltage	U_e	-	24 V a.c./d.c., 230 V a.c./d.c.
Colour		-	
Light		-	permanent, flashing
Source		-	LED
Dispersion		-	by raster in front of LED
Connection		-	0.75 ÷ 6 mm ² , 2x(0.75 ÷ 2.5) mm ²
Other data			
Mounting on the rail DIN EN 50 022 - width		35 mm	35 mm
Degree of protection		IP20	IP20
Ambient temperature		-25 ÷ +55 °C	-25 ÷ +55 °C
Operating position		arbitrary	arbitrary
Seismic immunity (8 ÷ 50 Hz)		3 g	3 g

¹⁾ Each digit indicates successively the number of make and break contacts

TUMBLER SWITCHES

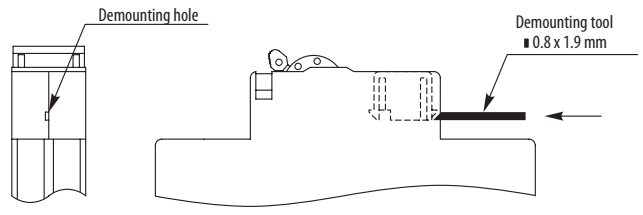
Dimensions

MS, MS...N, MS...X

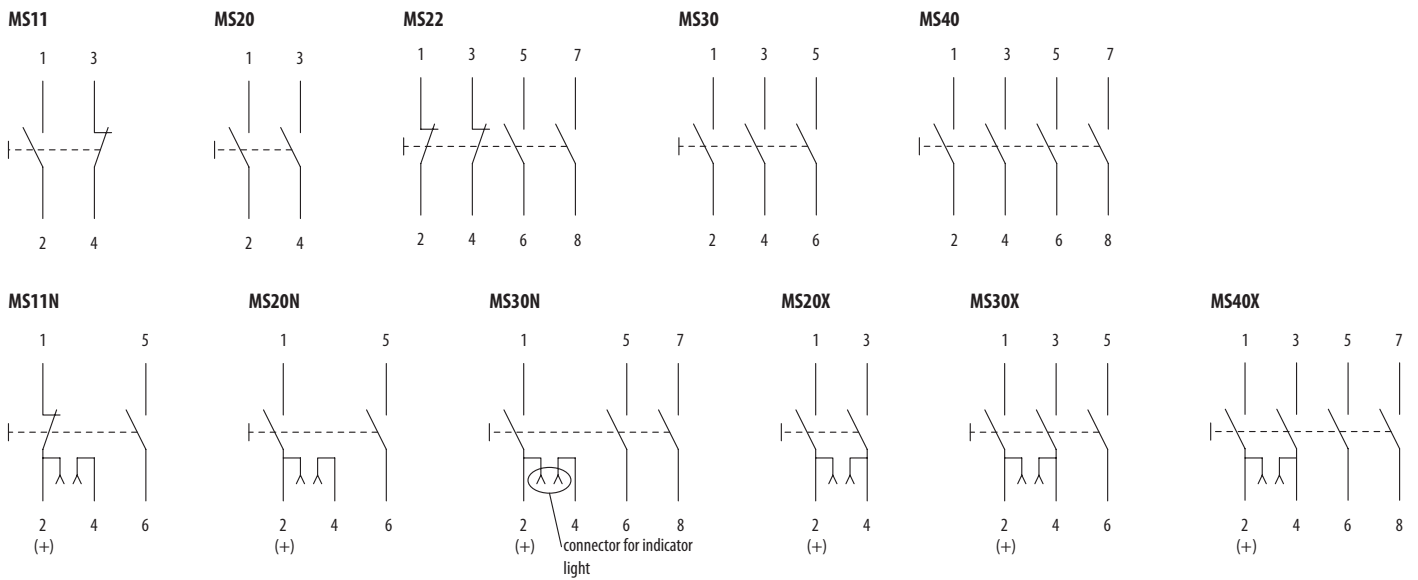


Demounting

■ Demounting of tumbler switches with indication (MS...N, MS...X + indicator light)

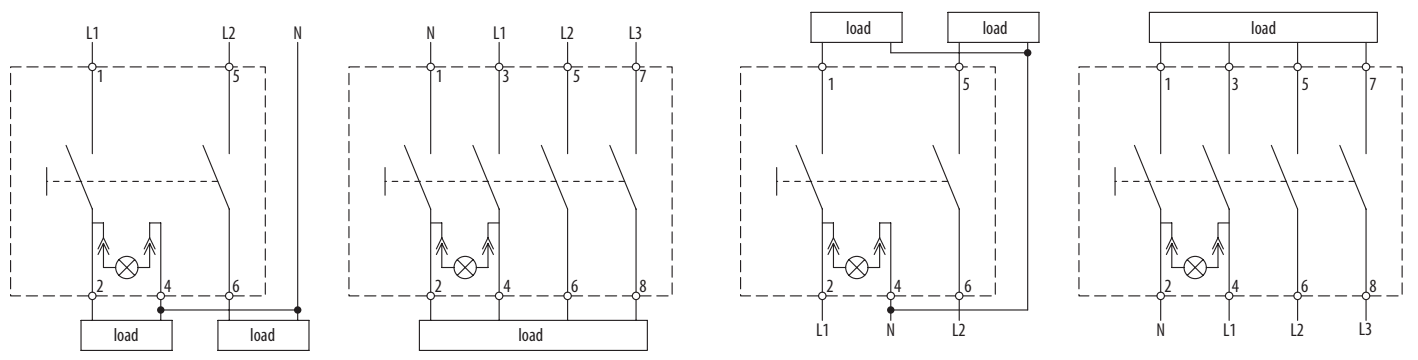


Diagram



Wiring diagram examples

- The indicator light can be connected in two ways:
 - to indicate the connection of a load
 - to indicate presence of voltage and enable easy finding of the switch in the dark



- The indicator light indicates load connection (MS20N + indicator light)
- Indicator light indicates load connection (MS40X + indicator light)
- Indicator light indicates voltage presence (MS20N + indicator light)
- Indicator light indicates voltage presence (MS40X + indicator light)

LOCKING INSERT, LABELS



Locking insert VU-LSN

- Accessories to: LSN, LSE, ASN, MS
- For reliable locking in both closed and open positions
- The breaking function of miniature circuit breakers is possible also in the locked position
- Max. diameter of the lock shank – 4.5 mm
- The padlock is not a part of delivery

Label P...-LSN

- Accessories to: LSN, ASN, MS, MT, MK, M2T, MCR, IR116K, C-IR, D-IR, PR116, PR208, ...
- For better orientation in the switchboard
- Use spirit marker for description of blank labels

Locking insert

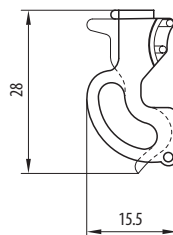
Type	Product code	Weight [kg]	Packing [pcs]
VU-LSN	09087	0.002	1

Labels

Description	Colour	Type	Product code	Weight [kg]	Packing [pcs]
	■	PB-LSN	01499	0.001	20
L1	■	PB07-LSN	01506	0.001	20
L2	■	PB08-LSN	01507	0.001	20
L3	■	PB09-LSN	01508	0.001	20
	□	PW-LSN	01509	0.001	20

Dimensions

VU-LSN



INDICATOR LIGHTS AND PUSH-BUTTONS



Indicator lights S...

- They are designed for signalling after insertion into the modules MS..N, MS..X, MT11N, MT22X, MT20S, MK1, MK2
- Indicator light power: 0.8 W
- Indicator light contains a LED

Push-buttons T...

- They are designed control after insertion into the modules MT2B..., MT..., MT11N, MT22X, MT20S, M2T11-11

Indicator lights

Colour	Light ¹⁾	Voltage [V]		Type	Product code	Weight [kg]	Packing [pcs]
		AC	DC				
■ (red)	permanent	230	-	SC/230	11102	0.003	12
		24	24	SC/24	11106	0.003	12
	flashing	230	220	SPC/230	11110	0.003	12
■ (green)	permanent	230	-	SE/230	11103	0.003	12
		24	24	SE/24	11107	0.003	12
	flashing	230	220	SPE/230	11111	0.003	12
■ (yellow)	permanent	230	-	SD/230	11104	0.003	12
		24	24	SD/24	11108	0.003	12
	flashing	230	220	SPD/230	11112	0.003	12
□ (white)	permanent	230	-	SG/230	11101	0.003	12
		24	24	SG/24	11105	0.003	12
	flashing	230	220	SPG/230	11109	0.003	12
		24	24	SPG/24	11117	0.003	12

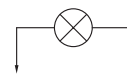
¹⁾ Flashing indicator lights are identified by "*" on the front face

Push-buttons

Colour	Type	Product code	Weight [kg]	Packing [pcs]
■ (black)	TB	08932	0.002	12
■ (red)	TC	08930	0.002	12
■ (yellow)	TD	08933	0.002	12
■ (green)	TE	08931	0.002	12
■ (blue)	TF	08935	0.002	12
□ (white)	TG	08934	0.002	12

Diagram

Indicator light



Push-button



Meaning of push-button and indicator light colours at coding - general principles ²⁾

Colour	Safety of personnel or environment	Operating conditions	Equipment condition
■ (red)	danger	emergency	without a general meaning
■ (yellow)	warning	extraordinary	without a general meaning
■ (green)	safe condition	normal	without a general meaning
■ (blue)	special meaning - an order	special meaning - an order	without a general meaning
□ (white)			
■ (grey)		without a special meaning	
■ (black)			

²⁾ According to EN 60 073