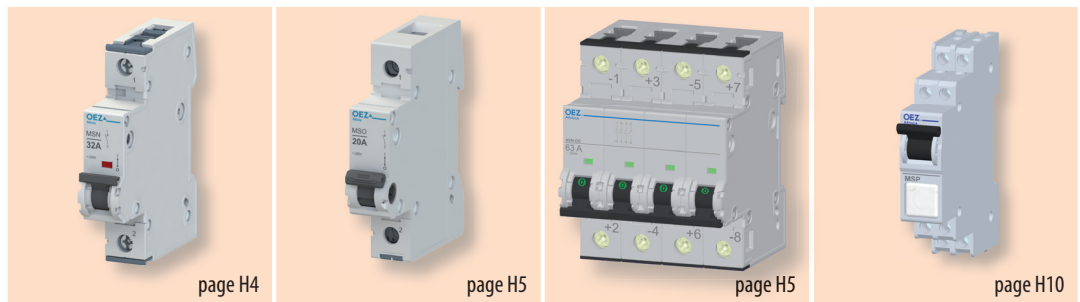







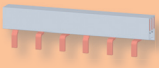
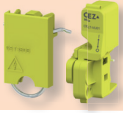



Modular devices



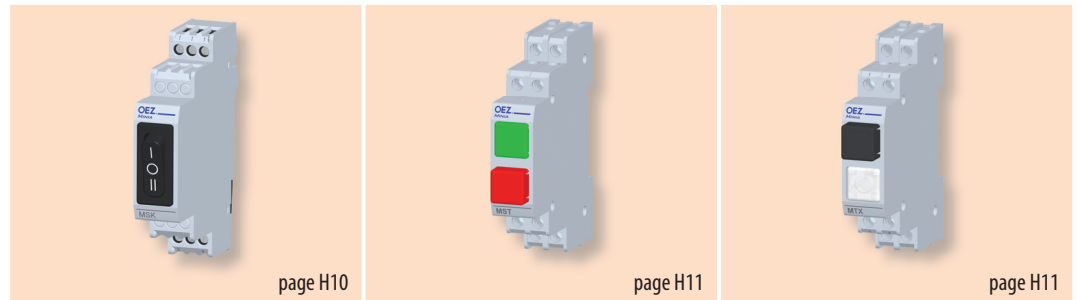
SUMMARY OF MODELS



Type	MSN	MSO	AVN-DC	MSP
Function	Switch			Tumbler switch
Control part shape	Lever			
Rated operating current I _n AC-1	up to 125 A	up to 125 A	63 A	25 A
Rated voltage U _n	AC 230/400 V	AC 230/400 V	DC 1000 V	AC 230/400 V
Number of poles	1, 2, 3, 4	1, 1N, 3, 3N	4	-
Arrangement of contacts	-	-	-	11, 22, 40

Accessories				
Auxiliary switches 	PS-LT			-
Signal switches 	SS-LT	-	-	-
Shunt trips 	SV-LT	-	-	-
Undervoltage releases 	SP-LT	-	-	-
Remote control 	RC-LT			-
Interconnecting busbars 	S1L, S2L, S2L+N, S3L, S3L+N, S4L			-
Locking inserts 	OD-LT-VU01	OD-LT-VU02	OD-LT-VU01	-
Sealing insert 	OD-LT-VP01			-
Indicator lights 	-	-	-	SC, SE, SD, SG
Push-buttons 	-	-	-	-

SUMMARY OF MODELS






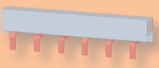
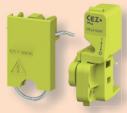





page H10

page H11

page H11

Type	MSK	MST	MT
Function	Rocker-type switch	Push-button switch	Control push-button
Control part shape	Rocker	Push-button	
Rated operating current I _e AC-1	16 A	25 A	25 A
Rated voltage U _n	AC 230/400 V	AC 230/400 V	AC 230/400 V
Number of poles	-	-	-
Arrangement of contacts	10, 001	11, 22, 40	10, 01, 11, 22, 20

Accessories			
Auxiliary switches 	-	-	-
Signal switches 	-	-	-
Shunt trips 	-	-	-
Undervoltage releases 	-	-	-
Remote control 	-	-	-
Interconnecting busbars 	-	-	-
Locking inserts 	-	-	-
Sealing insert 	-	-	-
Indicator lights 	-	-	SC, SE, SD, SG
Push-buttons 	-	TC, TE, TB, TG	TC, TE, TB, TG

SWITCHES AND PUSH-BUTTONS



MSP-11



MSP-11-SG-A230

Tumbler switches

- For switching of up to 4 electric circuits up to 25 A.
- They can be used in both building and industrial installations and in security technology.

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
11	MSP-11	OEZ:35865	1	0.084	1
22	MSP-22	OEZ:35870	1	0.094	1
40	MSP-40	OEZ:35874	1	0.094	1

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

Tumbler switches with signalling

- For electric circuit switching up to 25 A.
- They can be used in both building and industrial installations and in security technology.
- Installed indicator light of white colour AC 230 V can be replaced by other one.
- White indicator light is connected between the contact and the terminal (see the diagram).

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
11	MSP-11-SG-A230	OEZ:37262	1	0.0940	1
20	MSP-20-SG-A230	OEZ:37263	1	0.0940	1

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

Empty modules of tumbler switches

- Empty modules of tumbler switches are intended for installation of any indicator light, see page H12.

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
11	MSP-11N	OEZ:35866	1	0.084	1
20	MSP-20N	OEZ:35868	1	0.084	1

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



MSK-10-SE

MSK-001-102

Rocker-type switches and change-over switches

- For electric circuit switching up to 16 A.
- They can be used in both building and industrial installations and in security technology.
- Switches with backlighting (glow lamp).
- Change-over switches with interposition.
- Change-over switches with interposition without arresting.

Design	Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
Switch	10	MSK-10	OEZ:35678	1	0.065	1
Switch with red backlight	10	MSK-10-SC	OEZ:35679	1	0.065	1
Switch with green backlight	10	MSK-10-SE	OEZ:35680	1	0.065	1
Change-over switch	001	MSK-001-1X2	OEZ:35682	1	0.065	1
Change-over switch with intermediate position	001	MSK-001-102	OEZ:35681	1	0.065	1
Change-over switch with intermediate position without arrestment	001	MSK-001-1T2	OEZ:35683	1	0.065	1

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

SWITCHES AND PUSH-BUTTONS



MST-11

Push-button switches

- They can be used in both building and industrial installations and in security technology.
- For electric circuit switching up to 25 A.
- The circuit is switched on permanently by upper green push-button, and switched off by lower red push-button.
- Already installed push-button can be replaced.
- With arrestment.

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
11	MST-11	OEZ:35554	1	0.12	1
22	MST-22	OEZ:35555	1	0.12	1
40	MST-40	OEZ:35556	1	0.12	1

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



MTX-01-TC

Control push-buttons

- They can be used in both building and industrial installations and in security technology.
- For electric circuit switching up to 25 A.
- Already installed push-button can be replaced.
- Without arrestment.

Colour of push-button	Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
black	01	MTX-01-TB	OEZ:37265	1	0.072	1
	10	MTX-10-TB	OEZ:37268	1	0.072	1
	22	MTX-22-TB	OEZ:37271	1	0.097	1
red	01	MTX-01-TC	OEZ:37266	1	0.072	1
	10	MTX-10-TC	OEZ:37269	1	0.072	1
	22	MTX-22-TC	OEZ:37272	1	0.097	1
green	01	MTX-01-TE	OEZ:37267	1	0.072	1
	10	MTX-10-TE	OEZ:37270	1	0.072	1
	22	MTX-22-TE	OEZ:37273	1	0.097	1

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



MTX-11-TB-SG-A230

Control push-buttons with signalling

- They can be used in both building and industrial installations and in security technology.
- For electric circuit switching up to 25 A.
- The installed push-button of black colour and indicator lights of white colour AC 230 V can be replaced.
- Without arrestment.

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
11	MTX-11-TB-SG-A230	OEZ:37274	1	0.107	1
20	MTX-20-TB-SG-A230	OEZ:37275	1	0.107	1

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



MT2-11-TB

Double control push-buttons

- They can be used in both building and industrial installations and in security technology.
- For switching two independent electric circuits up to 25 A.
- The installed push-button of black colour can be replaced.
- Without arrestment.

Arrangement of contacts ¹⁾	Type	Order code	Number of modules	Weight [kg]	Package [pcs]
2x 11	MT2-11-TB	OEZ:37264	1	0.097	1

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

SWITCHES AND PUSH-BUTTONS

TC



TE



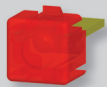
TB



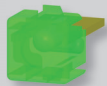
TG



SC-A230



SE-A230



SD-A230



SG-A230



Accessories

Push-buttons to MST, MTX, MT2

- They are intended for replacement of the already installed push-buttons.

Colour	Type	Order code	Weight [kg]	Package [pcs]
red	TC	OEZ:08930	0.002	12
green	TE	OEZ:08931	0.002	12
black	TB	OEZ:08932	0.002	12
white	TG	OEZ:08934	0.002	12

Indicator lights to MSP, MTX, MKA

- Indicator light power: 0.8 W.
- Indicator light contains a LED.
- Indicator lights light permanently.

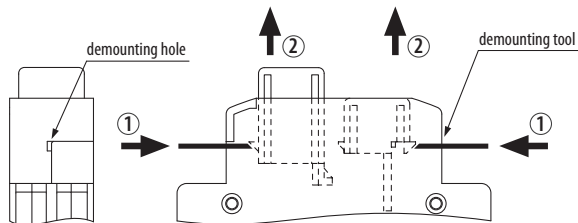
Colour of cover	Rated voltage	Type	Order code	Weight [kg]	Package [pcs]
red	AC 230 V	SC-A230	OEZ:11102	0.003	12
	AC/DC 24 V	SC-X024	OEZ:11106	0.003	12
green	AC 230 V	SE-A230	OEZ:11103	0.003	12
	AC/DC 24 V	SE-X024	OEZ:11107	0.003	12
yellow	AC 230 V	SD-A230	OEZ:11104	0.003	12
	AC/DC 24 V	SD-X024	OEZ:11108	0.003	12
white	AC 230 V	SG-A230	OEZ:11101	0.003	12
	AC/DC 24 V	SG-X024	OEZ:11105	0.003	12

Replacement of push-button and Indicator light

- Installed push-button or indicator light can be replaced by other one (see accessories).

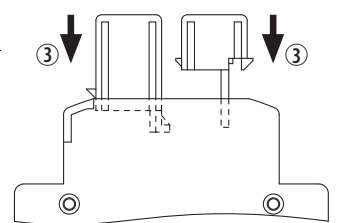
Push-button or indicator light demounting:

- 1) Insert demounting tool (e.g. paper-clip) in the demounting hole to ensure that the push-button or indicator light jumps up a little.
- 2) Remove push-button or the indicator light from control push-button.



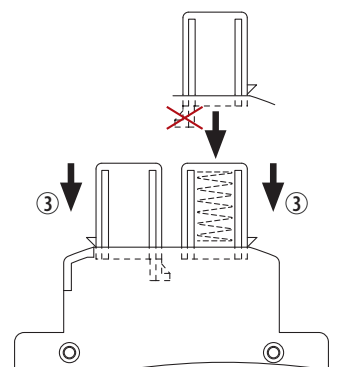
Installation of a push-button or indicator light:

- 3) Insert and press the push-button or the indicator light in the hole in the control push-button.



Installation of the push-button for MST design:

For MST design with blocking mechanism with the spring it is necessary in installation of the new push-button to cut off the projection on the push-button and only after it, insert the push-button in the opening in the push-button switch, and press it in.



SWITCHES AND PUSH-BUTTONS

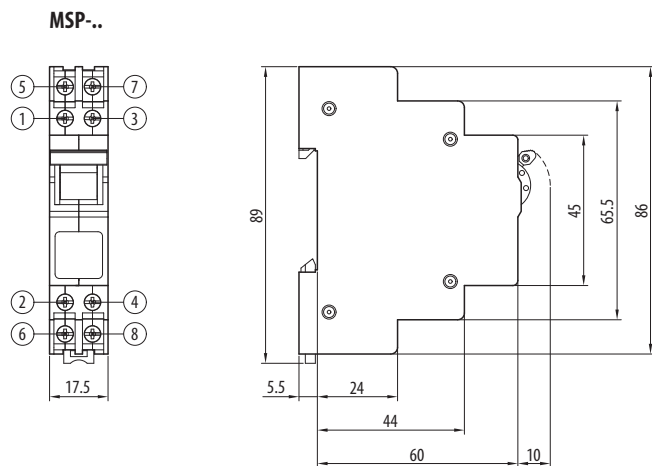
Specifications MSP

Type		MSP..	MSP..-SG-A230
Standards		EN 60947-5-1	EN 60947-5-1
Approval marks			
Contacts			
Arrangement of contacts ¹⁾		11, 22, 40	11, 20
Rated operating voltage	U_e	AC 230/400 V, DC 220 V	AC 230/400 V, DC 220 V
Rated thermal current	I_{th}	25 A	25 A
Rated operating current	I_c	AC-12	25 A
		AC-15	6 A
		DC-12	1 A
Mechanical endurance		30 000 operating cycles	30 000 operating cycles
Connection - conductor Cu		0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²
Torque		0.8 Nm	0.8 Nm
Light signalling			
Power output		-	0.8 W
Rated operating voltage	U_e	-	AC/DC 24 V, AC 230 V
Colour of cover		-	white, red, green, yellow ²⁾
Light		-	permanent
Source		-	LED
Dispersion		-	by raster in front of LED
Connection - conductor Cu		-	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²
Torque		-	0.8 Nm
Other data			
Mounting on "U" rail according to EN 60715 - type		TH 35	TH 35
Degree of protection		IP20	IP20
Ambient temperature		-25 ÷ +55 °C	-25 ÷ +55 °C
Working position		arbitrary	arbitrary

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

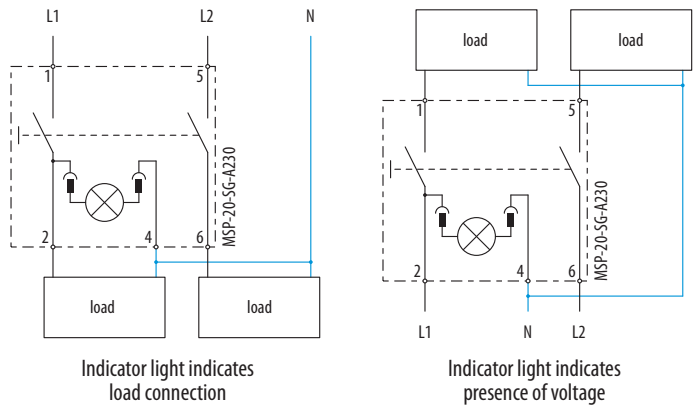
²⁾ Tumbler switch with signalling contains a white indicator light. Other colours can be bought optionally as accessory and replaced.

Dimensions

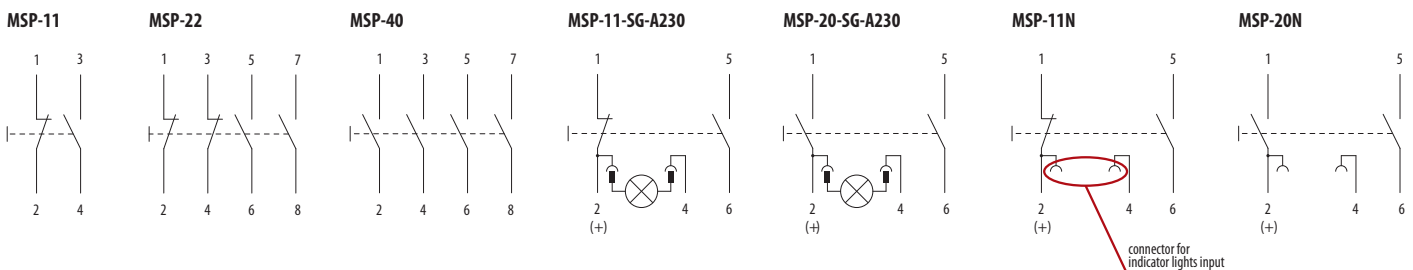


Connection examples

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



Diagram



SWITCHES AND PUSH-BUTTONS

Specifications MSK

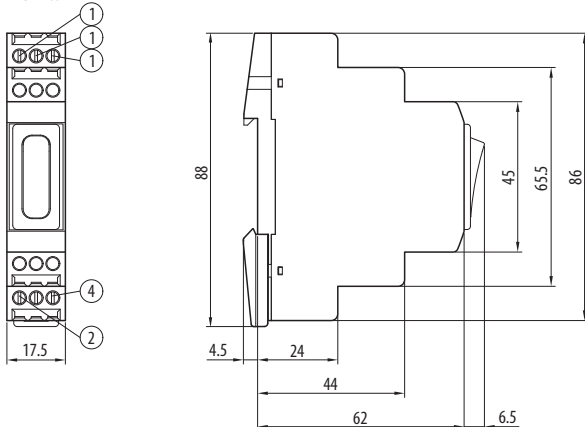
Type		MSK-10 MSK-10..	MSK-001-1X2	MSK-001-102 MSK-001-1T2
Standards		EN 60947-5-1 EN 60669-1 EN 60073 EN 61058-1	EN 60947-5-1 EN 60669-1 EN 60073 EN 61058-1	EN 60947-5-1 EN 60669-1 EN 60073 EN 61058-1
Approval marks				
Contacts				
Arrangement of contacts ¹⁾		10	001	001
Rated operating voltage	U_e	AC 250 V, DC 12 V ²⁾	AC 250 V, DC 12 V	AC 250 V, DC 12 V
Min. switched power		300 mW	300 mW	300 mW
Min. voltage	U_{min}	12 V	12 V	12 V
Rated thermal current	I_{th}	16 A	10 A	6 A
Rated operating current	I_e	AC-1	16 A	6 A
		AC-15	10 A	4 A
		AC-5a - $\cos\phi=0.5$	6 A	3 A
		AC-5a - $\cos\phi=0.9$	2 A	0.7 A
		AC-5b	4.4 A	1.7 A
	DC-1	10 A	10 A	
Electrical endurance		50 000 operating cycles	50 000 operating cycles	50 000 operating cycles
Mechanical endurance		100 000 operating cycles	100 000 operating cycles	50 000 operating cycles
Connection - conductor Cu		0.2 ÷ 2.5 mm ²	0.2 ÷ 2.5 mm ²	0.2 ÷ 2.5 mm ²
Torque		0.5 Nm	0.5 Nm	0.5 Nm
Other data				
Mounting on "U" rail according to EN 60715 - type		TH 35	TH 35	TH 35
Degree of protection		IP20	IP20	IP20
Ambient temperature		-20 ÷ +55 °C	-20 ÷ +55 °C	-20 ÷ +55 °C
Working position		arbitrary	arbitrary	arbitrary

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

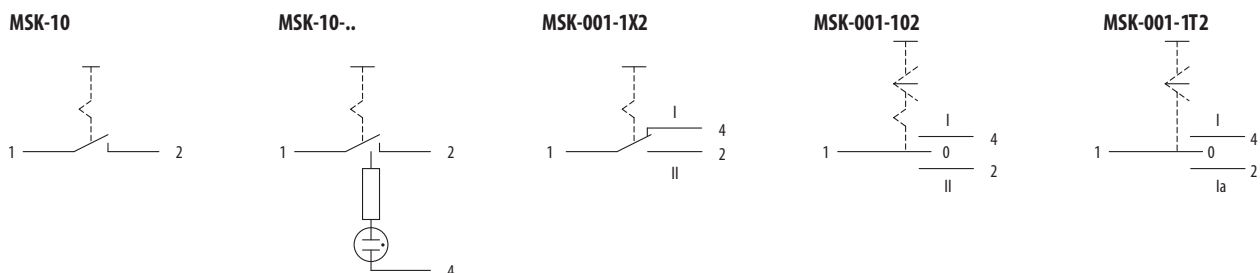
²⁾ Rated operating voltage of MSK-10-SC/SE design (with backlighting) AC 230 V

Dimensions

MSK..



Diagram



SWITCHES AND PUSH-BUTTONS

Specifications MST

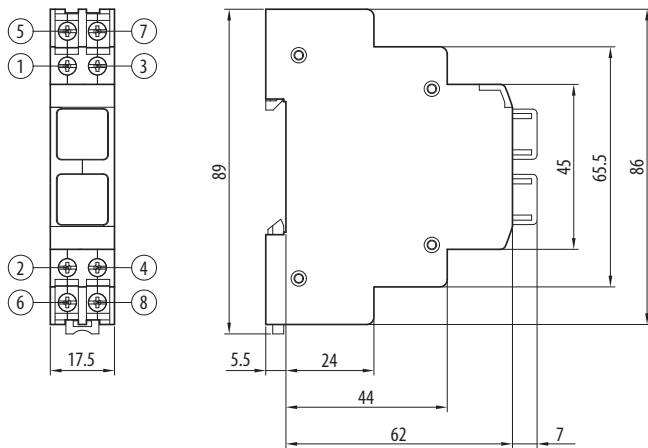
Type	MST-..		
Standards	EN 60947-5-1		
Approval marks	CE EAC		
Contacts			
Arrangement of contacts ¹⁾	11, 22, 40		
Rated operating voltage	U _e	AC 230/400 V, DC 220 V	
Rated thermal current	I _{th}	25 A	
Rated operating current	I _e	AC-12	25 A
		AC-15	6 A
		DC-12	1 A
Mechanical endurance	30 000 operating cycles		
Connection - conductor Cu	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²		
Torque	0.8 Nm		
Push-buttons			
Colour	red, green ²⁾		
Other data			
Mounting on "U" rail according to EN 60715 - type	TH 35		
Degree of protection	IP20		
Ambient temperature	-25 ÷ +55 °C		
Working position	arbitrary		

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

²⁾ Push-button switch contains red and green push-buttons. Other colours can be bought as accessories and replaced.

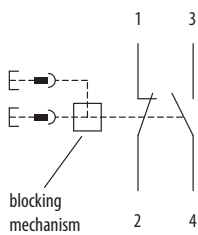
Dimensions

MST-...

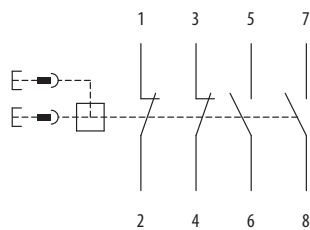


Diagram

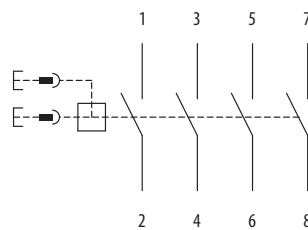
MST-11



MST-22



MST-40



SWITCHES AND PUSH-BUTTONS

Specifications MTX, MT2

Type		MTX-..	MTX-..-TB-SG-230	MT2-11-TB
Standards		EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
Approval marks		CE EAC	CE EAC	CE EAC
Contacts				
Arrangement of contacts ¹⁾		01, 10, 22	11, 20	2x 11
Rated operating voltage	U_e	AC 230/400 V, DC 220 V	AC 230/400 V, DC 220 V	AC 230/400 V, DC 220 V
Rated thermal current	I_{th}	25 A	25 A	25 A
Rated operating current	I_c	AC-12	25 A	25 A
		AC-15	6 A	6 A
		DC-12	1 A	1 A
Mechanical endurance		30 000 operating cycles	30 000 operating cycles	30 000 operating cycles
Connection - conductor Cu		0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²
Torque		0.8 Nm	0.8 Nm	0.8 Nm
Push-buttons				
Colour		black, red, green ²⁾	black ³⁾	black ⁴⁾
Light signalling				
Power output		-	0.8 W	-
Rated operating voltage	U_e	-	AC/DC 24 V, AC 230 V	-
Colour of cover		-	white ³⁾	-
Light		-	permanent	-
Source		-	LED	-
Dispersion		-	by raster in front of LED	-
Connection - conductor Cu		-	0.75 ÷ 6 mm ² , 2x (0.75 ÷ 2.5) mm ²	-
Torque		-	0.8 Nm	-
Other data				
Mounting on "U" rail according to EN 60715 - type		TH 35	TH 35	TH 35
Degree of protection		IP20	IP20	IP20
Ambient temperature		-25 ÷ +55 °C	-25 ÷ +55 °C	-25 ÷ +55 °C
Working position		arbitrary	arbitrary	arbitrary

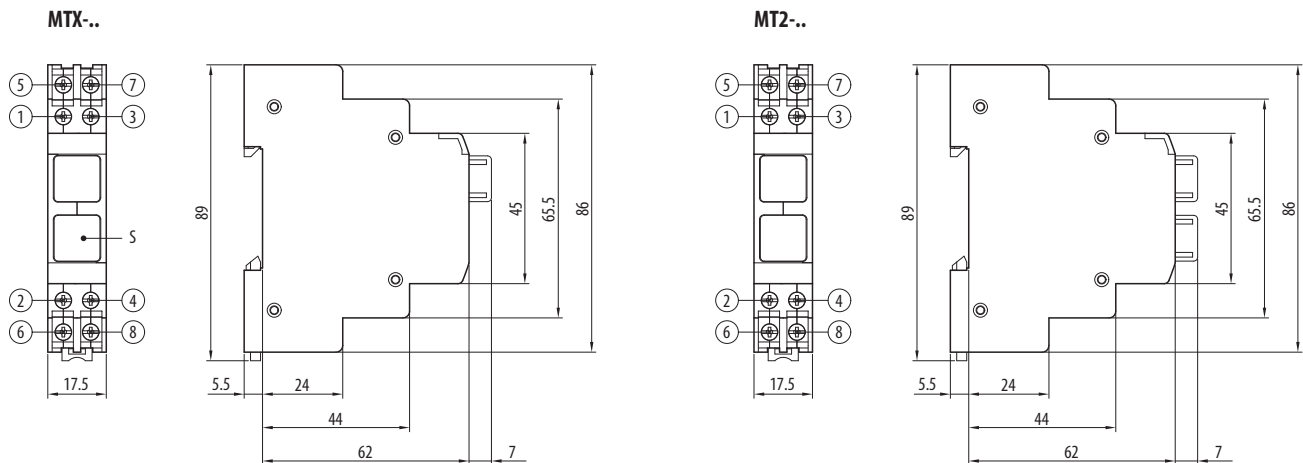
¹⁾ Each digit indicates successively the number of make and break contacts.

²⁾ Double control push-button contains black, red and green push-buttons. Other colours can be bought as accessories and replaced.

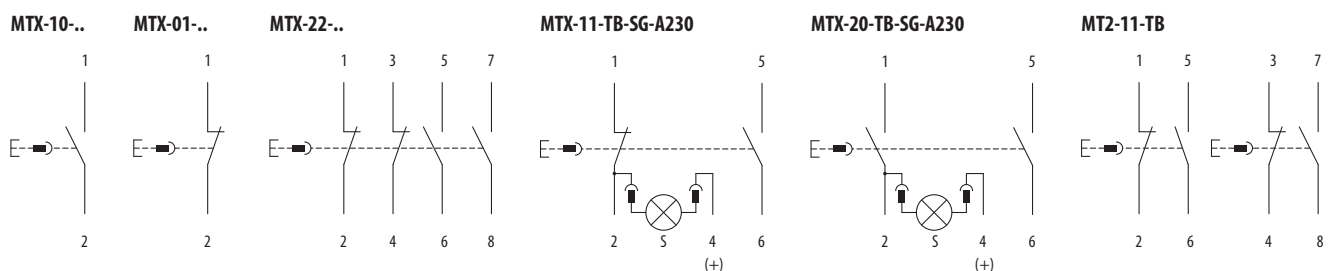
³⁾ Control push-button with signalling contains black push-buttons and white indicator light. Other colours of buttons and indicator lights can be bought as accessories and replaced.

⁴⁾ Control push-button contains black push-buttons. Other colours can be bought as accessories and replaced.

Dimensions



Diagram



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