SCHALTBAU
Connect Contact Control

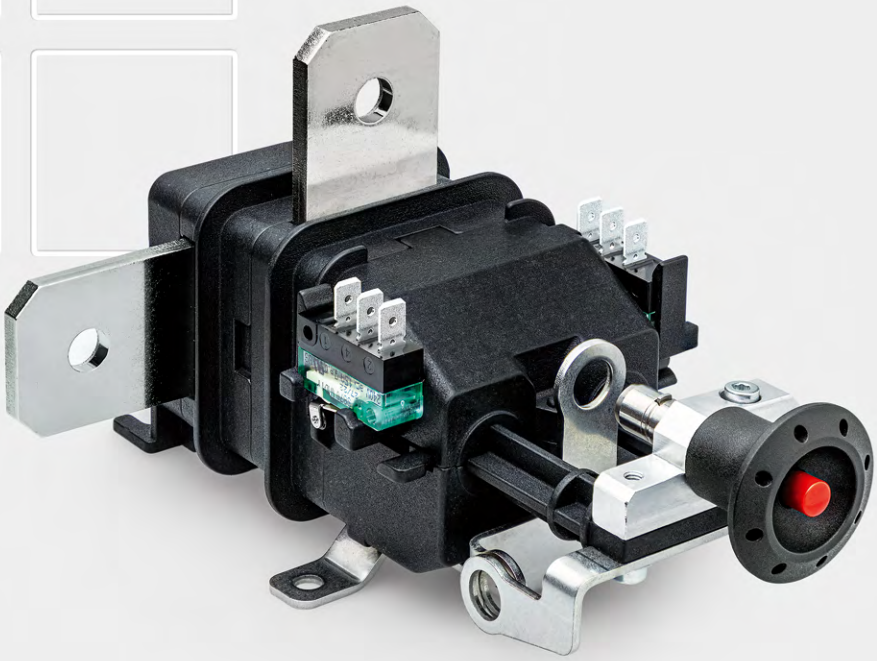
4

Electrics for Rolling Stock

MD500 series

1 and 2 pole
modular, manual disconnectors
up to 500 amps

Flyer F191.en



More information
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SCHALTBAU
Connect Contact Control

MD500 1-pole and 2-pole manual disconnectors for continuous currents up to 500 amps

With the MD500 series, Schaltbau supplies a new developed manually operated disconnector specifically for the use of high-performance high-voltage battery packs for traction applications in rail vehicles. This technology is increasingly being used in battery and hydrogen-powered vehicles, but also in rail vehicles with storage-hybrid drive systems. In the application, the disconnector can conduct currents of up to 500 amps – thanks to the new, patented contact system without noticeable power loss. In the event of a fault, the switch's robust contact system is dimensioned for carrying very high short-circuit currents of up to 30,000 amps for a short time. Thus, after the damage event or in case of maintenance, the battery can be disconnected from the circuit without load.

- **Ergonomic hand knob:** Manual actuator with integrated safety catch for secure locking of the operating position; Two positions: ON = operating position, OFF = disconnected position
- **Patented contact system:** An extremely low contact resistance in the contact system (< 100 µΩ) and a very high rated short-time withstand current (30,000 A @ 100 ms) for years of continuous operation. 1- and 2*-pole versions available.
- **Modularity:** The positions on the right, top, left of the main contacts can be freely configured in relation to each other in 90° steps.
- **Mechanical locking** in the disconnected position by means of an optional padlock against unintentional reconnection
- **2 auxiliary switches:** S870 snap-action switch with silver or gold contacts as well as positive opening for diagnosis and switching status monitoring.

Ordering code

Example: **MD521-500-15-U2**

Series, contact configuration

MD52	Manual disconnector, NC, U_n = 1,500 V AC and DC

Design

1	1 pole
2	2 pole*

Conv. thermal current I_{th}

250	250 A
500	500 A

Position connections main contacts

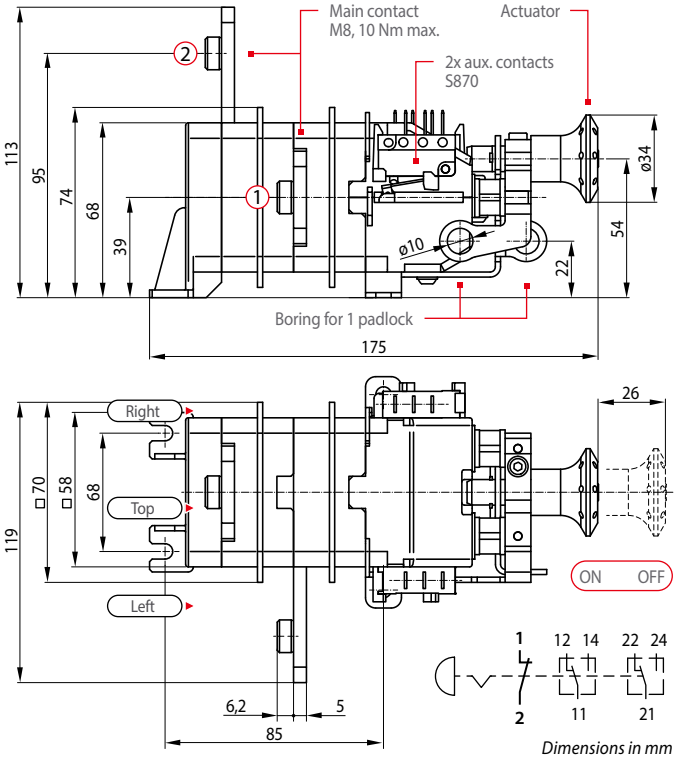
1	Contact 1: left } Other versions available,
5	Contact 2: top } Description: see dimension diagram

Aux. switches number, type

w/o	00
2x snap-action switches S870 W1D1a 012, silver contacts	U2
2x snap-action switches S870 W1D4a 012, gold contacts	I2

Note:
Only preferred types are shown in this flyer. Minimum order quantities apply for some variants. Please also ask for your customised version.

Dimension diagram, circuit diagram



Dimensions in mm

Specifications

Series		MD500
Type of voltage		DC, AC (f ≤ 60 Hz)
Main contacts		
Number / configuration		1 or 2* / NC
Nominal voltage U_n		1,500 V
Rated operating voltage U_e		1,800 V
Rated insulation voltage U_{Nm}		1,800 V
Rated imp. withst. voltage U_{Ni}/U_{imp}		8 kV
Pollution degree		PD2
Overvoltage category		OV2
Conventional thermal current I_{th}		250 A / 500 A
Component category		B-C1
Rated short-time withstand current I_{cw}		30 kA @ T < 100 ms
Aux. contacts	Number, configuration	2x max. snap-action switches S870
	Utilization category (EN 60947-5-1)	AC-15: 230 VAC/1.5 A; DC-13: 60 VDC/0.5 A
Actuator		Manually operated, integrated safety catch for locking in operating position; mechanical locking option in disconnected position
Vibration / Shock	IEC 61373	Category 1, class B
Mechanical endurance		5,000 operating cycles
Mounting position		horizontal, vertical
Temperatures		–40° C ... +70° C
Weight		approx. 1.1 kg

** in planning or on request*

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