

C800

1 pole bi-directional DC NO contactors up to 500 amps for automotive applications

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# C800 - 1 pole bi-directional DC NO contactors for automotive applications

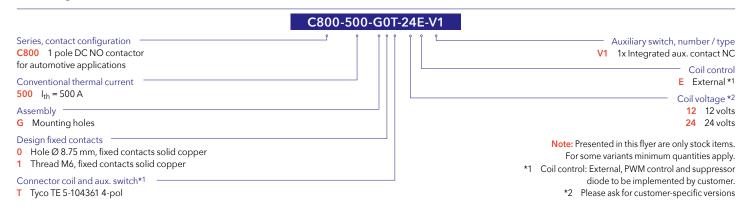
Schaltbau's new compact bi-directional DC contactors C800 series for automotive applications in the modern mobility industry. They switch high power in a small space and have a making capacity of up to 4,500 amps.

The contactors permanently carry up to 500 amps; in the event of a short circuit, even 6,000 amps may flow for 20 milliseconds without the contacts welding. Thus, the contactor retains its full function to switch large powers when required, for example up to 1,200 amps and 450 volts - regardless of the direction of the current.

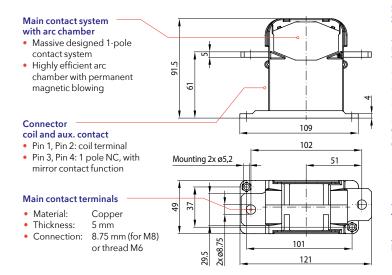
This makes C800 series contactors ideal for use in the Battery Disconnect Unit (BDU) of modern e-vehicles. The BDU connects the high-performance battery with the electrical components of the drive train. And it performs an important safety function: in the event of danger, it disconnects the high-voltage battery from the high-voltage grid. In the event of thermal overload or a short circuit, the electrical drive train is thus reliably galvanically isolated from the battery.

- ullet Compact dimensions high rated insulation voltage  $U_i$  up to 1,000 volts
- High thermal continuous current  $I_{th}$  of up to 500 amps and high short-time withstand current rating  $I_{cw}$  of up to 6,000 amps
- High making capacity I<sub>cm</sub> of up to 4,500 amps, due to high contact forces and burn-off resistant silver contacts
- Full bi-directionality reliable switching of high performances, regardless of the current direction
- Auxiliary switch with mirror contact function according to IEC 60947-4-1, annex F

## Ordering code

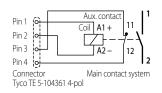


### Dimension diagram, circuit diagram



### Circuit diagram

Main contact	1 2	Fixed contact 1 Fixed contact 2
• Coil terminal		Coil A1+ U <sub>s</sub> + Coil A2- U <sub>s</sub> -
• Aux. contact		Contact 11 Contact 12



### **Specifications**

Series			C800-500		
Type of voltage		DC bi-directional			
Main contacts, configuration			1 NO		
Main contacts					
Rated operational voltage $U_e$		1,000 V			
Rated insulation voltage $U_i$		1,000 V			
Rated impulse with stand voltage $U_{imp}$		2.5 kV			
Pollution degree			PD3		
Overvoltage category			OV3		
Conventional free air thermal current I <sub>th</sub> 8 h / 10 min / 10 sec @ Connection cross section		500 A / 600 A / 2,500 A 185 mm <sup>2</sup>			
Rated short-time with stand current $I_{cm}$		4,500 A @ L < 50 μH			
Rated short-time withstand current I <sub>cw</sub>		6,000 A @ t = 20 ms			
Aux contact Number, configuration Rated insulation voltage U <sub>i</sub> Conv. free air thermal current I <sub>th</sub>		1 NC 24 V 2 A			
Magnetic drive Coil U <sub>s</sub> Pull in (1 sec max.)/Hold  PWM control / coil suppression		12 V 11.6 V DC/3.8 V DC 3.2 A DC/1.1 A DC External / external*1	24 V 15.8 V DC/5.2 V DC 2.4 A DC/0.8 A DC		
Vibration Shock	LV 124, M04 / ISO 16750-3 LV 124, M05 / ISO 16750-3		Profile D / profile IV 50g / 6 ms (Temporary contact closing @>20g/6ms)		
Mechanical endurance		200,000 operations			
Mounting position		horizontal, vertical			
Temperatures		-40 °C +85 °C			
Weight		< 0.75 kg			