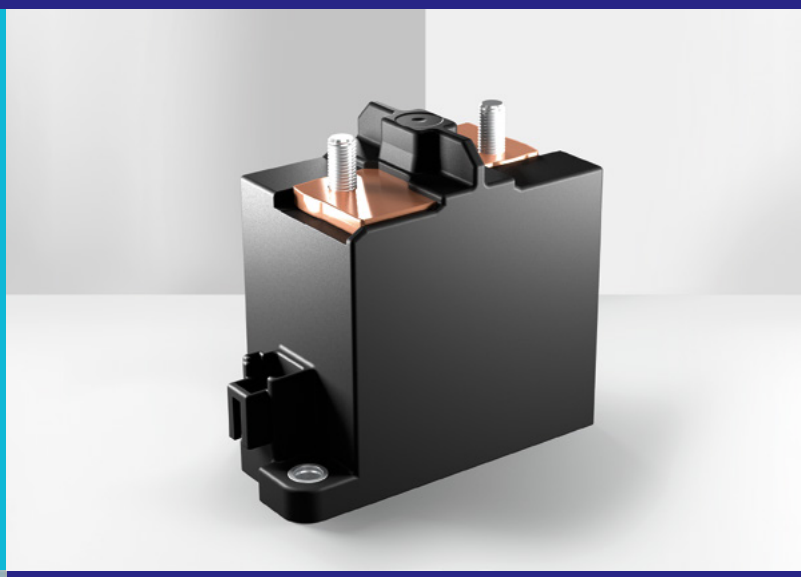
eddicy A Schaltbau Brand

C801

1 pole bi-directional DC high-voltage interlock contactors with high current carrying capacity and extreme shock resistance for electric vehicles

DC



C801 – 1 pole bi-directional DC high-voltage interlock contactors for electric vehicles

Powerful electric vehicles usually use two battery banks, each with 400 volts, interconnected to form an 800 volt system in the drive train.
This ensures high performance while driving. Only a few 800 volt high-performance charging stations are available. However, interlock contactors enable 800 volt electric vehicles to charge quickly and easily at 400 volt charging stations. For this purpose, interlock contactors of the C801 series configure both battery banks during the charging process so that they are charged in parallel. The robust, durable contactors do not require inert gas and have a high current-carrying capacity.
A patented mechanical interlock system ensures extreme shock resistance during normal operation. This prevents uncontrolled closing of the main contacts and the possibility of a short circuit of both battery units in the event of a collision.

- Interlock contactor in the NO position with a patented mechanical locking and extremely high shock resistance prevents uncontrolled closing of the main contact system during normal operation. This significantly increases safety.
- Compact dimensions and a high rated insulation voltage U_i up to 1,000 volts with generously dimensioned air gaps in the contact area. The design is based on standard mounting geometries.
- High thermal continuous current I_{th} up to 250 amps and a high short-time withstand current rating I_{cw} up to 16,000 amps thanks to high contact forces and optimised contact geometry.
- Universal, flexible and resource-efficient – Schaltbau interlock contactors enable powerful 800 volt e-vehicles to charge quickly even at 400 volt charging stations. Special charging cables are not required. In addition, lower cross-sections can be selected for the copper wiring in the vehicle.

Ordering code

C801-250-G0Y-15E-V0

Series, contact configuration
C801 1 pole DC NO contactor with interlock

Conv. thermal current
250 I_{th} = 250 A

Assembly
G Mounting holes, for 2x M5 screws

Terminal main contacts
0 Bolt M6, fixed copper contacts

Auxiliary switches, number / type
V0 No aux. contact

Coil design
E Monostable for external PWM control

Coil
15 15 volts

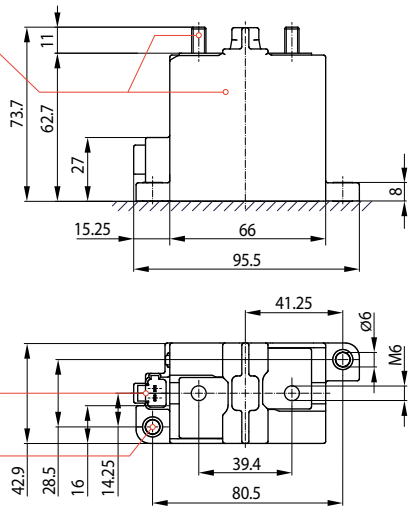
Coil connector
Y Connection for connectors Yazaki 7283-1020

Dimension diagram, circuit diagram

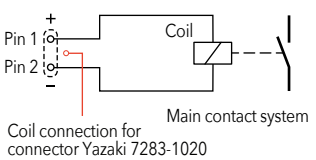
Main contact system, swiching chamber
- Massive designed 1-pole contact system
- Interlock in NO position: Patented mechanical interlock for extreme vibration and shock resistance
- Connections thread M6x1, tightening torque 8 ±1.2 Nm max.

Coil connector
- 2-pole connector with locking, connection for Yazaki 7283-1020

Mounting
- 2x holes for M5 screws, tightening torque 5 ±0.75 Nm max.



Circuit diagram
- Main contact
  Fixed contact 1
  Fixed contact 2
- Coil terminal
  Pin 1 Coil A1+ U_S+
  Pin 2 Coil A2- U_S-



Specifications

Series		C801-250
Type of voltage Main contacts, configuration		1 NO DC bi-directional
Main contacts		
Rated operational voltage	U_e	1,000 V
Rated insulation voltage	U_i	1,000 V
Rated impulse withstand voltage	U_{imp}	2.5 kV
Pollution degree		PD3
Conventional free air thermal current @ Cross section @ Terminal / ambient temperature max.	I_{th}	250 A @ 8 h 80 mm2 150 °C / 65 °C
Rated short-time withstand current	I_{cw}	2,100 A @ t < 1,000 ms* 16,000 A @ t < 5 ms**
Magnetic drive Pull in (1 sec max.)/Hold PWM control / coil suppression	Coil U_s	15 V 13.9 V DC/3.5 –4.8 V DC 2.6 A DC/0.72 – 1 A DC External / external***
Vibration	VW 80000, M-04	Profile D
Shock		
Contactor On: No change of status during test (XYZ/±) Contactor Off: No change of status during test (XYZ/±) Contactor Off: No conductive particles detached (XYZ/±) Contactor Off: No conductive particles detached (XYZ/±)		60g / 6 ms 120g / 20 ms 60g / 45 ms 120g / 20 ms
Mechanical endurance		25,000 operations
Mounting position		any
Temperatures		–40 °C … +85 °C
Weight		400 g

* No contact welding ** Contact welding, no explosion, no fire
*** External, PWM control and suppressor diode to be implemented by customer

Dimensions in mm
Technical data are subject to change without prior notice.
For updated product information visit www.schaltbau.com