

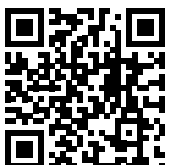
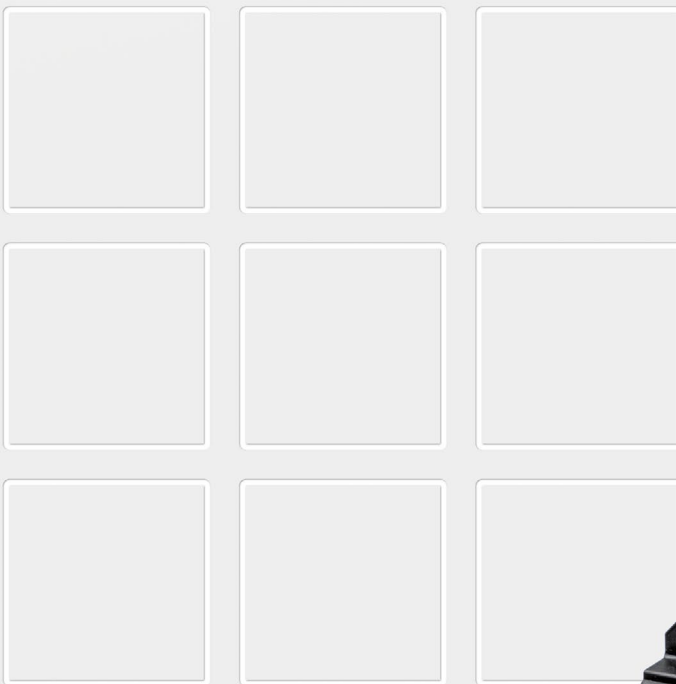
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Contactors

C801 series

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

Flyer C801.en



More information
schaltbau.com

C801 – 1-pole bidirectional 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.

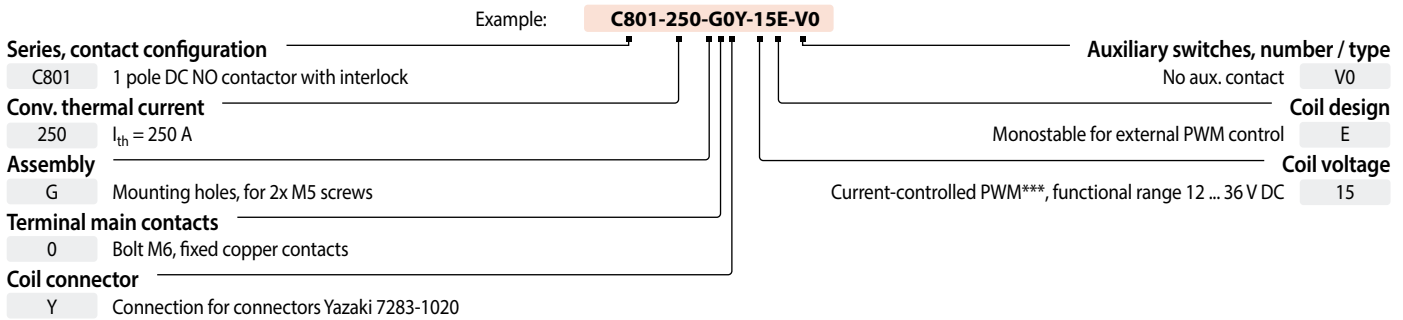
Interlock contactor in the NO position with a patented mechanical locking and extremely high shock resistance prevents uncontrolled closing of the main contact system during normal operation. This significantly increases safety.

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.

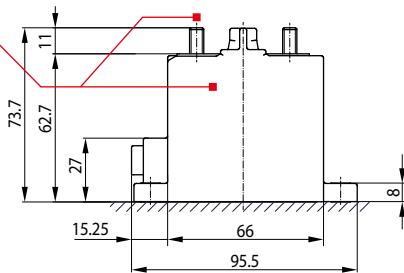
Ordering code



Dimension diagram, circuit diagram

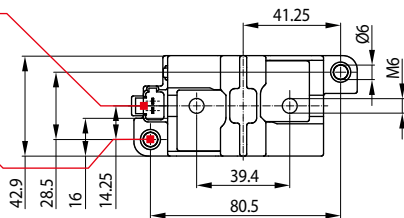
Main contact system, switching chamber

- 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

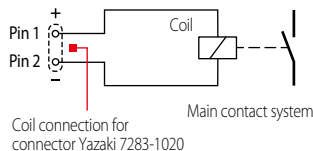


Mounting

- 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_i +
- Pin 2 Coil A2- U_i -



Dimensions in mm

Specifications

| Series | C801-250 | |
|---------------------------------------------------------|---------------------------------------|------------------------------------------------------|
| 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 withstand voltage | U_{imp} | 2.5 kV |
| Pollution degree | | PD3 |
| Conventional free air thermal current | I_{th} | 250 A @ 8 h |
| | @ Cross section | 80 mm ² |
| | @ Terminal / ambient temperature max. | 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 | | |
| | Actuation*** | PWM, current-controlled |
| | Operating range | 12 ... 36 V DC |
| Vibration | | |
| | VW 80000, M-04 | Profile D |
| Shock | | |
| Contactor On: No change of status during test (XYZ/±) | | 60g / 6 ms |
| Contactor Off: No change of status during test (XYZ/±) | | 120g / 20 ms |
| Contactor Off: No conductive particles detached (XYZ/±) | | 60g / 45 ms |
| Contactor Off: No conductive particles detached (XYZ/±) | | 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



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