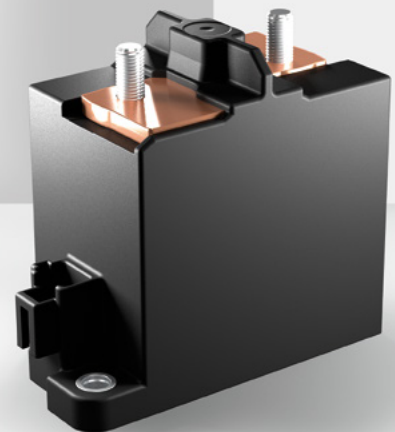


# C801

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

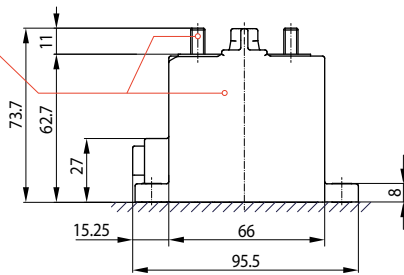
### C801-250-G0Y-15E-V0

Series, contact configuration	C801 1 pole DC NO contactor with interlock	Auxiliary switches, number / type	V0 No aux. contact
Conv. thermal current	250 $I_{th} = 250$ A	Coil design	E Monostable for external PWM control
Assembly	G Mounting holes, for 2x M5 screws	Coil voltage	15 Current-controlled PWM***, functional range 12 ... 36 V DC
Terminal main contacts	0 Bolt M6, fixed copper contacts	Coil connector	Y Connection for connectors Yazaki 7283-1020

## Dimension diagram, circuit diagram

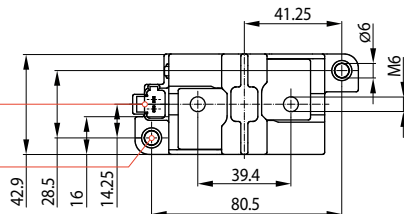
### Main contact system, switching chamber

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



### Coil connector

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

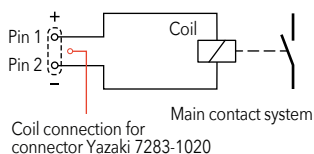


### Mounting

- 2x holes for M5 screws, tightening torque  $5 \pm 0.75$  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	1 NO
Main contacts, configuration	DC bi-directional
<b>Main contacts</b>	
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 <sup>2</sup>
	@ 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**
<b>Magnetic drive (monostable)</b>	
Actuation***	PWM, stromgeregelt
Operating range	12 ... 36 V DC
Vibration	VW 80000, M-04 Profile D
<b>Shock</b>	
Contact On: No change of status during test (XYZ/±)	60g / 6 ms
Contact Off: No change of status during test (XYZ/±)	120g / 20 ms
Contact Off: No conductive particles detached (XYZ/±)	60g / 45 ms
Contact 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