

C303

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

DC



up to
**25%
MORE**
energy cost
savings



C303 - 1 pole bi-directional DC NO contactors up to 1,500 volts and 500 amps

The C303 bi-directional DC contactors are compact high-performance switching devices with high making and short-time currents of up to 5,000 amperes or large capacities for applications such as battery storage, charging stations or test benches.

The switching devices are available with 3 coil controls:

- **Ecosave:** With energy-saving PWM module for optimum power consumption when switching and low heating when holding
- **High-efficiency drive (HED):** With economical drive without PWM module for maximum efficiency
- **Precharging contactor:** For limiting high making currents and to protect main contactors, special variant without economy circuit

- **Up to 25% energy cost savings:** A long-term low contact resistance and lower contact heating reduce energy losses and require less cooling
- **Full bidirectionality:** Safe disconnection of high power during charging and discharging thanks to specially designed extinguishing chamber; V2G ready
- **Safe breaking of high power:** High breaking capacity under full load up to 1.5 megawatts thanks to innovative main contact system
- **No risk of explosion:** Permanent magnetic arc extinguishing without gas encapsulation equalises overheating and overpressure at all times
- **High mounting compatibility:** Compact size specially designed for industrial applications
- **High safety level:** Mirror contact for safe feedback of the switching status according to IEC 60947-4-1, annex F

Ordering code

C303-500-G0P-24I-V1-P00		
Series, contact configuration	C303	1 pole bi-directional DC NO contactor
Conventional thermal current	350	I_{th} = 350 A, fixed contact copper
	500	I_{th} = 500 A, fixed contact copper, silver-plated**
Assembly	G	Mounting holes
Design fixed contacts	0	Standard, fixed copper contacts, M6 connection
		Special variant
		Ecosave, HED [w/o]
		Precharge P00
		Auxiliary switch
		w/o aux. switch (HED and precharge only) V0
		1x S880, integrated aux. switch CO (SPDT) V1
		Coil voltage/coil control (monostable)
		Ecosave: 12 ... 24 V DC, with PWM module (w/o -P00) 24I
		HED: 12 V DC, w/o PWM module (w/o -P00) 12H
		HED: 24 V DC, w/o PWM module (w/o -P00) 24H
		Precharge: 12 V DC, w/o PWM module (with -P00) 12I
		Precharge: 24 V DC, w/o PWM module (with -P00) 24I
		Coil/aux. connector
		5 pol Phoenix Contact MCV 1,5/ 5-G-3,5-RN P
		2x Flat tabs 4.8 x 0.5 mm, V0 only F

Note: Presented in this flyer are only stock items.
For some variants minimum quantities apply.

Dimension diagram, circuit diagram

Main contact system with arc chamber

- Solid 1 pole NO contact system
- High-efficiency arc chamber with permanent magnetic blow-out

PWM module*

- Permanently reliable switching behaviour regardless of the ambient temperature
- Reduced energy consumption, lower heat generation

Aux. contact

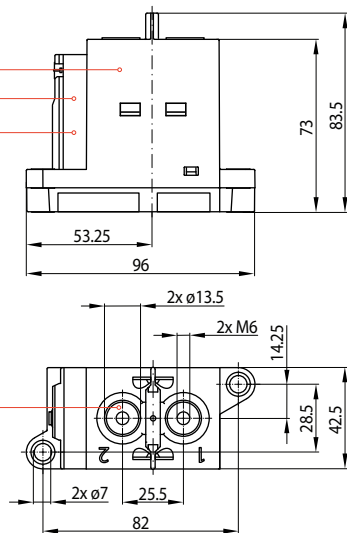
- Snap-action switch S880

Connections fixed contacts main contact system

- Material: Copper
- Terminal: M6, Screw-in depth 10 mm
- Diameter: 13.5 mm

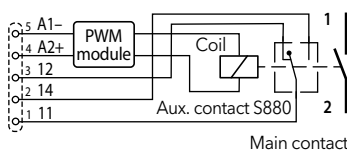
Circuit diagram Ecosave with PWM module and aux. switch

- Main contacts
- 1 Fixed contact 1
- 2 Fixed contact 2
- 5 pole connector
- 5 U_{S-} coil A1-
- 4 U_{S+} coil A2+
- 3 Aux. contact 12
- 2 Aux. contact 14
- 1 Aux. contact 11



Dimension diagram, circuit diagram:

Shown Ecosave with PWM module and auxiliary switch



Specifications

Series	C303-350	C303-500
Type of voltage	DC bi-directional/AC, f ≤ 60 Hz	
Main contacts, configuration	1 NO	
Max. switching voltage	U	1,500 V
Rated insulation voltage	U _i	1,000 V @ PD3 / 1,500 V @ PD2
Rated impulse withstand voltage	U _{imp}	10 kV
Pollution degree / overvoltage category	PD 2, PD3: see U _i / OV2	
Conventional free air thermal current	I _{th}	350 A 500 A**
Aux contact		
Number, configuration / Contact material	1x Snap-action switch S880 / Silver	
Mirror contact	IEC 60947-4-1, annex F	●
Minimum voltage / current	5 V / 10 mA	
Terminals	5 pole connector	
Magnetic drive (monostable)		
Rtd. control supply voltage U _s / Op. range		
	Ecosave 24I	12 ... 24 V DC / 10.5 ... 36 V DC
	HED 12H	12 V DC / 10.2 ... 13.8 V DC
	24H	24 V DC / 20.4 ... 27.6 V DC
	Precharge 12I	12 V DC / 8.4 ... 15 V DC
	24I	24 V DC / 16.8 ... 30 V DC
Terminals	5 pole connector / 2x flat tabs	
Vibration, shock	IEC 61373	upon request
Mechanical endurance	200,000 operations	
Mounting position	vertical / horizontal	
Approvals	  	
Temperatures	-40 °C ... +85 °C	
Weight	< 0.5 kg	

* Option HED and Precharge w/o PWM module

** Ecosave and HED only