SCHALTBAU
Connect Contact Control

# 3

## Contactors

C295 Series

Double pole
NO contactors

**Catalogue B295.en**

More information here:
schaltbau-gmbh.com

# Double pole NO contactor, C295 Series

**Compact double-pole high-voltage NO contactor for DC and AC**

With its compact size and efficient arc chute our C295 Series contactor allows the handling of voltages up to 1,500 V and currents of 120 A max. Switching high amperage even at significant inductance can be achieved by series connection of the main contacts, whereas parallel connection results in longer contact life..

## Features

- Compact in size
- Double-break contacts
- With magnetic blowout for DC arc quenching
- Switching of high inductive loads by means of main contacts connected in series
- Parallel connection: Longer life of main contacts

## Applications

C295 series

Typical applications are to be found in traffic engineering equipment, particularly in heating circuits, air conditioning equipment and conversion engineering of complex power supplies.

## Standards

Meet requirements for industrial applications to:

- **IEC 60947-1** Low-voltage switchgear and controlgear – Part 1: General rules
- **IEC 60947-4-1** Low-voltage switchgear and controlgear – Part 4-1: Contactors and motor starters – Electromechanical contactors and motor starters.

Meet requirements for railway applications to:

- **IEC 60077-1** Railway applications – Electric equipment for rolling stock - Part 1: General service conditions and general rules.
- **IEC 60077-2** Railway applications – Electric equipment for rolling stock – Part 2: Electrotechnical components; General rules

Double pole NO contactor **C295 A/G/ 72EV-U2**

## Ordering code

C295 series

Example: **C295 A/P/ 24EV-U2**

**Series**

**Version of main contacts**

| | |
|---|---|
| A | $U_n$ = 750 V DC |
| B | $U_n$ = 750 V AC* |
| K | $U_n$ = 1,200 V DC |
| L | $U_n$ = 1,200 V AC* |
| S | $U_n$ = 200 V DC } no splitters |
| T | $U_n$ = 200 V AC* } no splitters |

**Polarity of main contacts**

| | | |
|---|---|---|
| G | for series connection | [+ + −] |
| P | for parallel connection | [+ − −] |
| X | AC*, no polarization | [ − − ] |

**Coil voltage**

24 / 36 / 48 / 60 / 72 / 96 / 110 V DC

**Version of coil, Coil tolerance**

| | | |
|---|---|---|
| E | Standard | -30 % ... +25 % |

**Coil suppression**

| | |
|---|---|
| V | Varistor |

**Auxiliary contacts**

| | |
|---|---|
| U2 | 2x snap-action switch S870 W1D1 a 012, standard |
| I2 | 2x snap-action switch S870 W1D4 a 012, gold-plated contacts |

* *Types for AC operation are without permanent-magnetic blowout*

***Note:***
*Presented in this catalogue are only stock items which can be supplied in short delivery time. For some variants minimum quantities apply. Please do not hesitate to ask for the conditions.*

***Special variants:***
*If you need a special variant of the contactor, please do not hesitate to contact us. Maybe the type of contactor you are looking for is among our many special designs. If not, we can also supply customized designs. In this case, however, minimum order quantities apply.*

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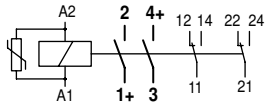
## Circuit and dimension diagram, Mounting

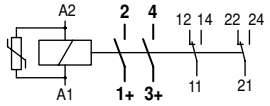
C295 series

**Circuit diagrams:**

- **Polarity G** for series connection

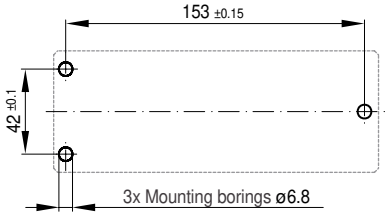



- **Polarity P** for parallel connection

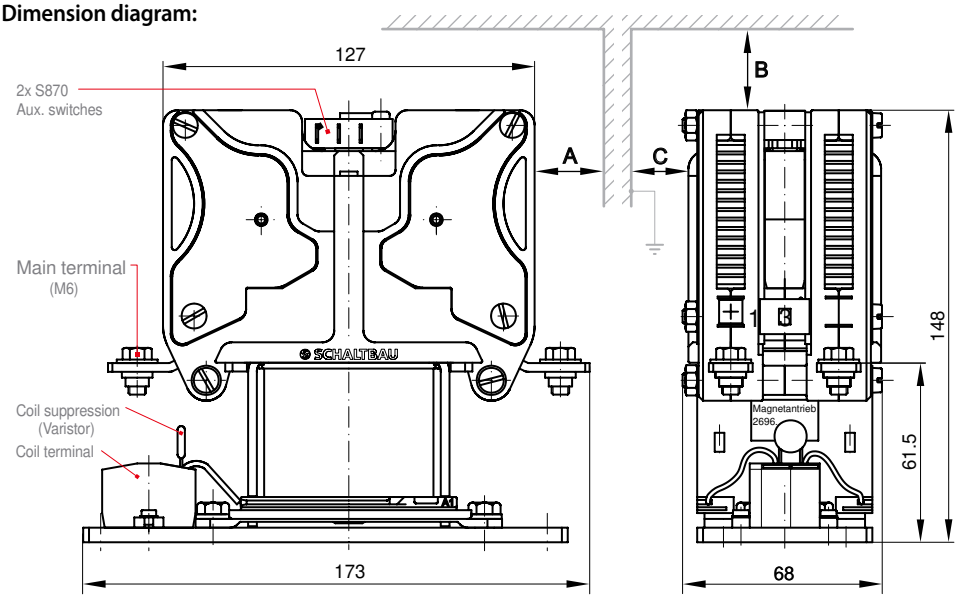



- **Polarity X** no polarization for AC operation (no diagram)

**Mounting holes:**




**Dimension diagram:**




*Note: Observe clearance of at least 10 mm towards live or earthed parts!*

*Dimensions in mm*

| Clearance towards plasma exit (see diagram) | A | B | C |
|---|---|---|---|
| P < rated power | 20 mm | 15 mm | 10 mm |
| P ≥ rated power | 30 mm | 20 mm | 15 mm |

## Specifications

C295 series

| C295 Series, Version | A | B | K | L | S | T |
|---|---|---|---|---|---|---|
| Type of voltage | DC | AC | DC | AC | DC | AC |
| Main contacts (number, configuration) | 2x SPST-NO | | | | | |
| Nominal voltage $U_n$ | 750 V DC | 750 V AC | 1,200 V DC | 1,200 V AC | 200 V DC | 200 V AC |
| Rated insulation voltage $U_i$ | 1,000 V | 1,000 V | 1,600 V | 1,600 V | 1,000 V | 1,000 V |
| Pollution degree<br>Overvoltage category | PD3<br>OV3 | PD3<br>OV3 | PD3<br>OV3 | PD3<br>OV3 | PD3<br>OV3 | PD3<br>OV3 |
| Conventional thermal current $I_{th}$ of individual contact, for wire cross-section 50 mm² at $T_a$ = 70°C, | 120 A | 120 A | 120 A | 120 A | 120 A | 120 A |
| Making capacity, resistive, T = 0 ms | 1,000 A | 1,000 A | 1,000 A | 1,000 A | 1,000 A | 1,000 A |
| Breaking capacity | 1,000 V DC,<br>L/R 1 ms: 90 A<br>L/R 15 ms: 25 A | 1,000 V AC,<br>cosφ 1.0: 140 A | 1,500 V DC,<br>L/R 1 ms: 60 A<br>L/R 15 ms: 25 A | 1,500 V AC,<br>cosφ 1.0: 40 A | 220 V DC,<br>L/R 1 ms: 1,200 A<br>L/R 15 ms: 800 A | --- |
| Main contacts | | | | | | |
| Contact material | $AgSnO_2$ | | | | | |
| Main terminals | M6, tightening torque 6 Nm max. | | | | | |
| Auxiliary contacts | | | | | | |
| Number, Configuration | 2x snap-action switch S870, SPDT, optional (see catalogue D70) | | | | | |
| Utilization category | AC-15: 1.5 A at 230 V AC; DC-13: 0.5 A at 60 V DC; DC-13: 2 A at 24 V DC | | | | | |
| Terminals, Flat quick connect | 6.3 x 0.8 mm | | | | | |
| Magnetic drive | | | | | | |
| Rated control supply voltage $U_s$ | 24 / 36 / 48 / 60 / 72 / 96 / 110 V DC | | | | | |
| Operating range of $U_s$ | -30 % ... +25 % $U_s$ at $T_a$ = 70° C max. | | | | | |
| Coil power dissipation ($T_a$ = 20 °C / $U_s$) | cold coil approx. 27 W / warm coil approx. 13.5 W | | | | | |
| Coil suppression | Varistor | | | | | |
| Coil terminals | Cage clamp | | | | | |
| Degree of protection | IP20, terminals and lower baffel IP00 | | | | | |
| Mechanical endurance | > 3 million operating cycles | | | | | |
| Electrical endurance | > 400.000 cycles ($U_n$ = 700 V DC, $I_{th}$ = 70 A, L/R = 1 ms, parallel connection) | | | | | |
| Shock / Vibration (IEC 61373) | 5g (11 ms half sinus) / 1g (10 ... 100 Hz) | | | | | |
| Mounting position | Any, except: do not mount upside down | | | | | |
| Temperature | | | | | | |
| Operating temperature | -40 °C … +70 °C | | | | | |
| Storage temperature | -40 °C … +80 °C | | | | | |
| Weight | 2.8 kg | 2.8 kg | 2.8 kg | 2.8 kg | 2.6 kg | 2.6 kg |

# Schaltbau GmbH

For detailed information on our products and services visit our website – or give us a call!

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with compliments:

RoHS 2011/65/EC

Schaltbau GmbH manufactures in compliance with RoHS.

IRIS Certification

The production facilities of Schaltbau GmbH have been IRIS certified since 2008.

Schaltbau GmbH ISO 14001 certified since 2002

Certified to DIN EN ISO 14001 since 2002. For the most recent certificate visit our website.

Schaltbau GmbH ISO 9001 certified since 1994

Certified to DIN EN ISO 9001 since 1994. For the most recent certificate visit our website.

## Electrical Components and Systems for Railway Engineering and Industrial Applications

### Connectors

- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements

### Snap-action switches

- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements

### Contactors

- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency disconnect switches
- Special contactors to suit customer requirements

### Electrics for rolling stock

- Equipment for driver's cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements


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