SCHALTBAU

Connect · Contact · Control

3

Contactors

C110B/80, C110B/120
C110B/200, C110B/300

Single pole
DC NO contactors
for industrial trucks

Catalogue **B71**.*en*

more information here:
schaltbau-gmbh.com

C110B Series DC NO contactors for battery voltages

C110B Series contactors are the cost-effective and environmentally friendly solution to switching DC currents ranging from 60 A to 300 A and battery voltages up to 48 V.

The NO contactors are fitted with DC coils that have a coil tolerance as required by modern traction batteries of industrial trucks and other electric vehicles.

Due to economical material consumption (e.g. using as little silver and copper as possible), Schaltbau can offer these environmentally friendly switching devices at a reduced price - without compromising performance.

The single pole contactors are especially designed for use as main contactors or auxiliary contactors in all kinds of battery-powered vehicles in material handling.

A closed contact housing is standard with these contactors. It prevents plasma exit and, at the same time, protects the contactor from ingress of dust and dirt.

Features

- Compact, rugged design
- 4 sizes
- Closed contact housing, standard
- Double-break, cadmium free contacts
- Bidirectional version for DC applications
- Standards: Following EN 1175-1 and IEC 60947-4-1

Applications

Series C110B

- Main contactor for industrial trucks
- Main contactor for all kinds of battery-powered vehicles
- Auxiliary contactor for vehicle control and similar functions

C110B/300 and C110B/200 Series contactors

C110B/120 and C110B/80 Series contactors

Ordering code

Series C110B

Example: **C110B/300 24RX**

Series

C110B/	Single pole NO contactor

Operating current (70 % duty cycle)

300	300 A DC
200	200 A DC
120	120 A DC
80	80 A DC

Coil voltage

24 / 48 V DC

Coil tolerance

R	-20 % … +10 %

Coil suppression

X	None

Note:

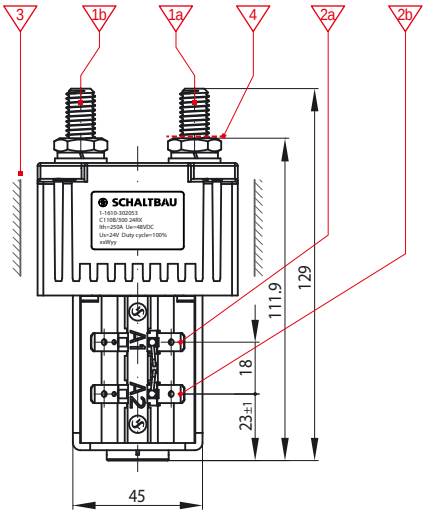
Presented in this catalogue are only stock items which can be supplied in short delivery time. For some variants minimum quantities apply. Please do not hesitate to ask for the conditions.

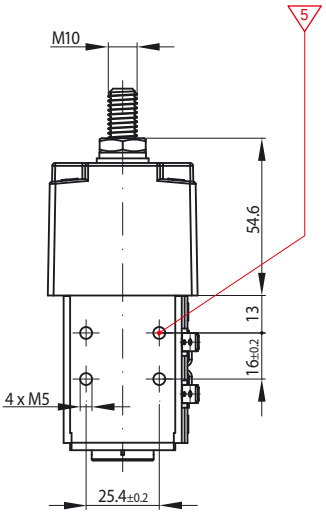
Special variants:

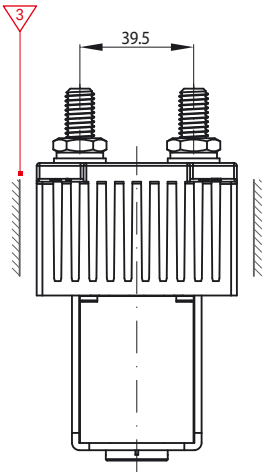
If you need a special variant of the contactor, please do not hesitate to contact us. Maybe the type of contactor you are looking for is among our many special designs. If not, we can also supply customized designs. In this case, however, minimum order quantities apply.

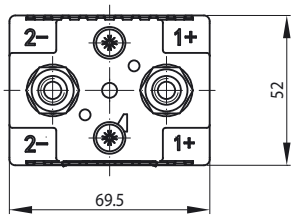
C110B/300 Single pole NO contactors I_{th} = 240 A DC — Series C110B

Dimension diagram

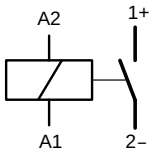








Circuit diagram



1a *Main terminal »1+«: Threaded stud M10, tightening torque 10 Nm max.*

1b *Main terminal »2–«: Threaded stud M10, tightening torque 10 Nm max.*

2a *Coil terminal »A1«: Flat tabs 6.3x0.8 according to DIN46244*

2b *Coil terminal »A2«: Flat tabs 6.3x0.8 according to DIN46244*

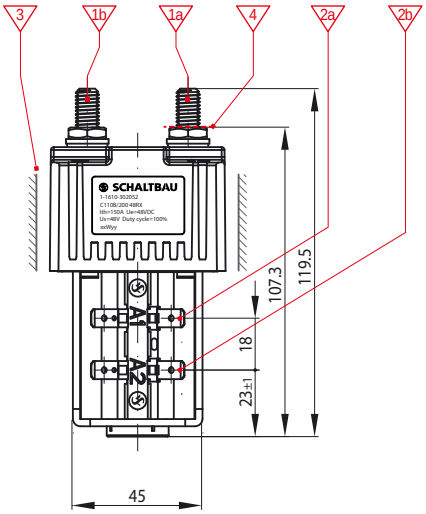
3 *Clearance 5 mm to all sides of earthed as well as live parts*

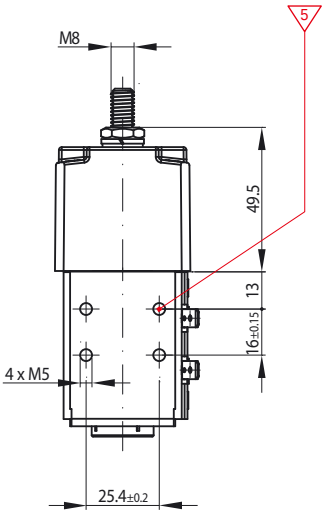
4 *Stud terminals: Do not use the nut for termination! Nuts and washers for termination not included in delivery*

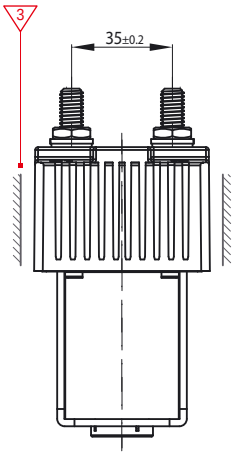
5 *Mounting with 4x M5 screws on each side, maximum length of thread engagement 3 mm, tightening torque 2 Nm*

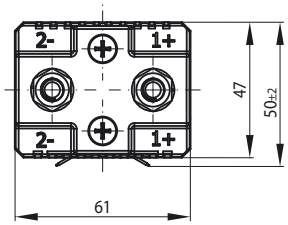
C110B/200 Single pole NO contactors I_{th} = 150 A DC — Series C110B

Dimension diagram

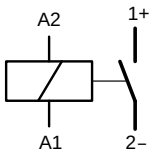








Circuit diagram



1a *Main terminal »1+«: Threaded stud M8, tightening torque 7 Nm max.*

1b *Main terminal »2–«: Threaded stud M8, tightening torque 7 Nm max.*

2a *Coil terminal »A1«: Flat tabs 6.3x0.8 according to DIN46244*

2b *Coil terminal »A2«: Flat tabs 6.3x0.8 according to DIN46244*

3 *Clearance 5 mm to all sides of earthed as well as live parts*

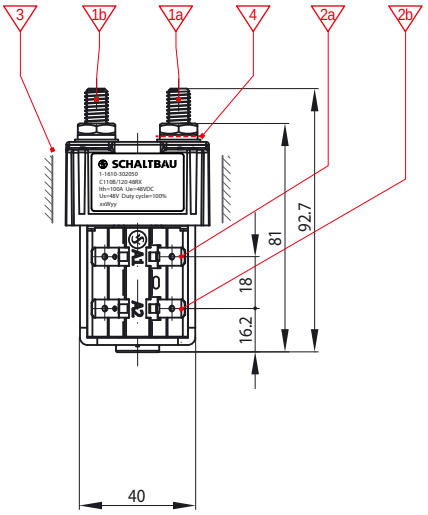
4 *Stud terminals: Do not use the nut for termination! Nuts and washers for termination not included in delivery*

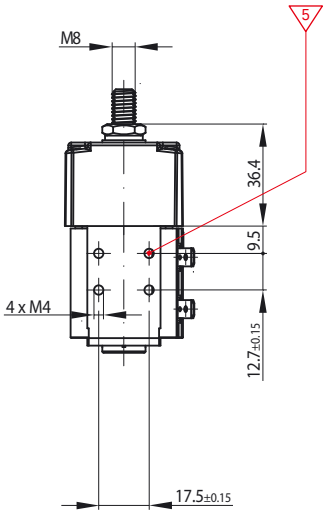
5 *Mounting with 4x M5 screws on each side, maximum length of thread engagement 3 mm, tightening torque 2 Nm*

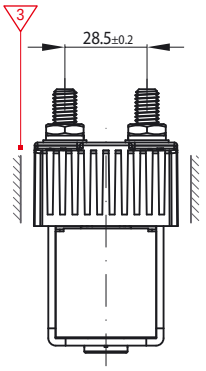
Dimensions in mm

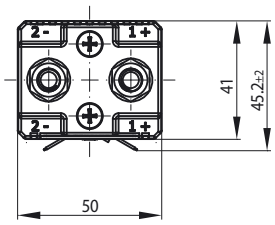
C110B/120 Single pole NO contactors I_{th} = 100 A DC — Series C110B

Dimension diagram

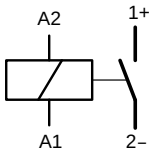








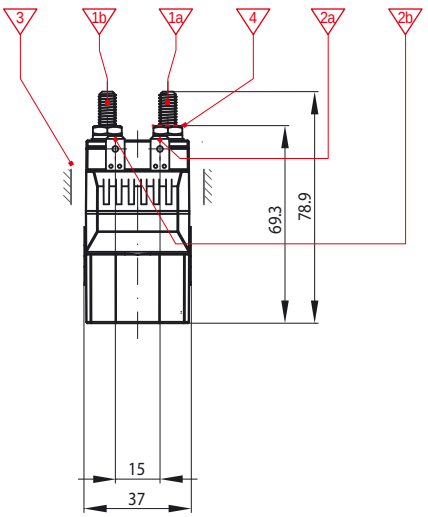
Circuit diagram

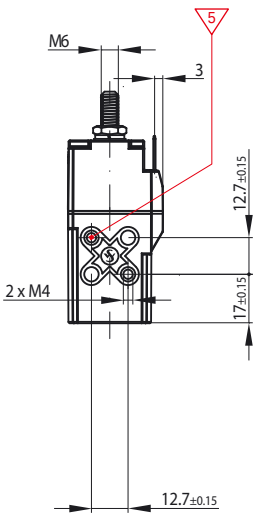


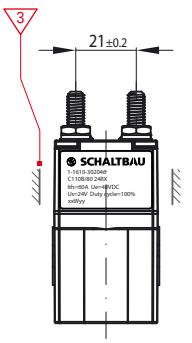
1a *Main terminal »1+«: Threaded stud M8, tightening torque 7 Nm max.*
1b *Main terminal »2–«: Threaded stud M8, tightening torque 7 Nm max.*
2a *Coil terminal »A1«: Flat tabs 6.3x0.8 according to DIN46244*
2b *Coil terminal »A2«: Flat tabs 6.3x0.8 according to DIN46244*
3 *Clearance 5 mm to all sides of earthed as well as live parts*
4 *Stud terminals: Do not use the nut for termination! Nuts and washers for termination not included in delivery*
5 *Mounting with 4x M5 screws on each side, maximum length of thread engagement 2.5 mm, tightening torque 1.5 Nm*

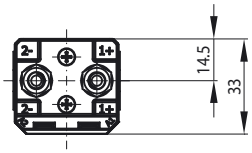
C110B/80 Single pole NO contactors I_{th} = 60 A DC — Series C110B

Dimension diagram

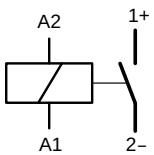








Circuit diagram



1a *Main terminal »1+«: Threaded stud M6, tightening torque 5 Nm max.*
1b *Main terminal »2–«: Threaded stud M6, tightening torque 5 Nm max.*
2a *Coil terminal »A1«: Flat tabs 6.3x0.8 according to DIN46244*
2b *Coil terminal »A2«: Flat tabs 6.3x0.8 according to DIN46244*
3 *Clearance 5 mm to all sides of earthed as well as live parts*
4 *Stud terminals: Do not use the nut for termination! Nuts and washers for termination not included in delivery*
5 *Mounting with 4x M5 screws on each side, maximum length of thread engagement 2.5 mm, tightening torque 1.5 Nm*

Dimensions in mm

Specifications

Series C110B

Series	Standard	C110B/300	C110B/200	C110B/120	C110B/80
Type of voltage		DC (bidirectional)			
Main contacts, number of, configuration		1x NO			
Utilization category	EN 60947-4-1	DC-1			
Rated operating voltage U_e	EN 60947-4-1	48 V			
Rated insulation voltage U_i	EN 60947-4-1	80 V			
Rated impulse withstand voltage U_{imp}	EN 60947-4-1	1.5 kV			
Pollution degree Overvoltage category	EN 60947-4-1	PD3 OV3			
Rated operating current I_e (70 % duty cycle, duration 60 s)	EN 60947-1	300 A	200 A	120 A	80 A
Conventional thermal current I_{th}	EN 60947-1	240 A	150 A	100 A	60 A
Rated short-circuit making capacity I_{cm}	EN 60947-1	1,500 A	1,000 A	600 A	300 A
Rated short-circuit breaking capacity I_{cn}	EN 60947-1	1,200 A	500 A	300 A	300 A
Rated short time withstand current I_{cw}	EN 60947-1	1,800 A	1,500 A	800 A	400 A
Minimum wire gauge at I_{th}		AWG 4/0 (95 mm^2)	AWG 1/0 (50 mm^2)	AWG 3 (25 mm^2)	AWG 7 (10 mm^2)
Main contacts Contact material Terminals / torque		$AgSnO_2$ M10 / 10 Nm max.	$AgSnO_2$ M8 / 7 Nm max.	$AgSnO_2$ M8 / 7 Nm max.	$AgSnO_2$ M6 / 5 Nm max.
Magnetic drive Coil voltage U_s Coil tolerance Pull-in time at U_s Pull-in voltage, typical (cold coil, T_a = 20 °C) Drop-out time / Drop-out voltage, typical Power consumption at U_s (T_a = 20 °C) cold / warm coil Coil suppression Coil terminals (flat tabs)		24 / 48 V DC -20 % ... +10 % U_s 50 ms 0.65 x U_s 20 ms / 0.1 ... 0.4 x U_s < 20.5 W / < 15 W --- 6.3 x 0.8 mm	24 / 48 V DC -20 % ... +10 % U_s 50 ms 0.65 x U_s 15 ms / 0.1 ... 0.4 x U_s < 18 W / < 13 W --- 6.3 x 0.8 mm	24 / 48 V DC -20 % ... +10 % U_s 40 ms 0.65 x U_s 20 ms / 0.1 ... 0.4 x U_s < 15.5 W / < 11 W --- 6.3 x 0.8 mm	24 / 48 V DC -20 % ... +10 % U_s 25 ms 0.65 x U_s 10 ms / 0.1 ... 0.4 x U_s < 7.5 W / < 6 W --- 6.3 x 0.8 mm
IP rating	EN 60529	Terminals IP00 / Switching chamber IP40			
Endurance electrical mechanical		> 50,000 cycles (U_e, I_e, T < 1 ms) > 1 million cycles			
Vibration, Shock Vibration Shock Shock (Transport)	EN 60068-2-6 EN 60068-2-27	5 g (10 ... 500 Hz) *1 20 g (10 ms, half sinus) *1 70 g (6 ms, half sinus)			
Mounting orientation		Vertical (studs pointing upwards) or horizontal			
Temperature range Operating temperature T_a Storage temperature		-25 °C … +40 °C -40 °C … +85 °C			
Weight		< 850 g	< 630 g	< 380 g	< 180 g

*1 Contact opening times <2 ms

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

Issued 12-2015

B2021/1504/0.0 Printed in Germany