

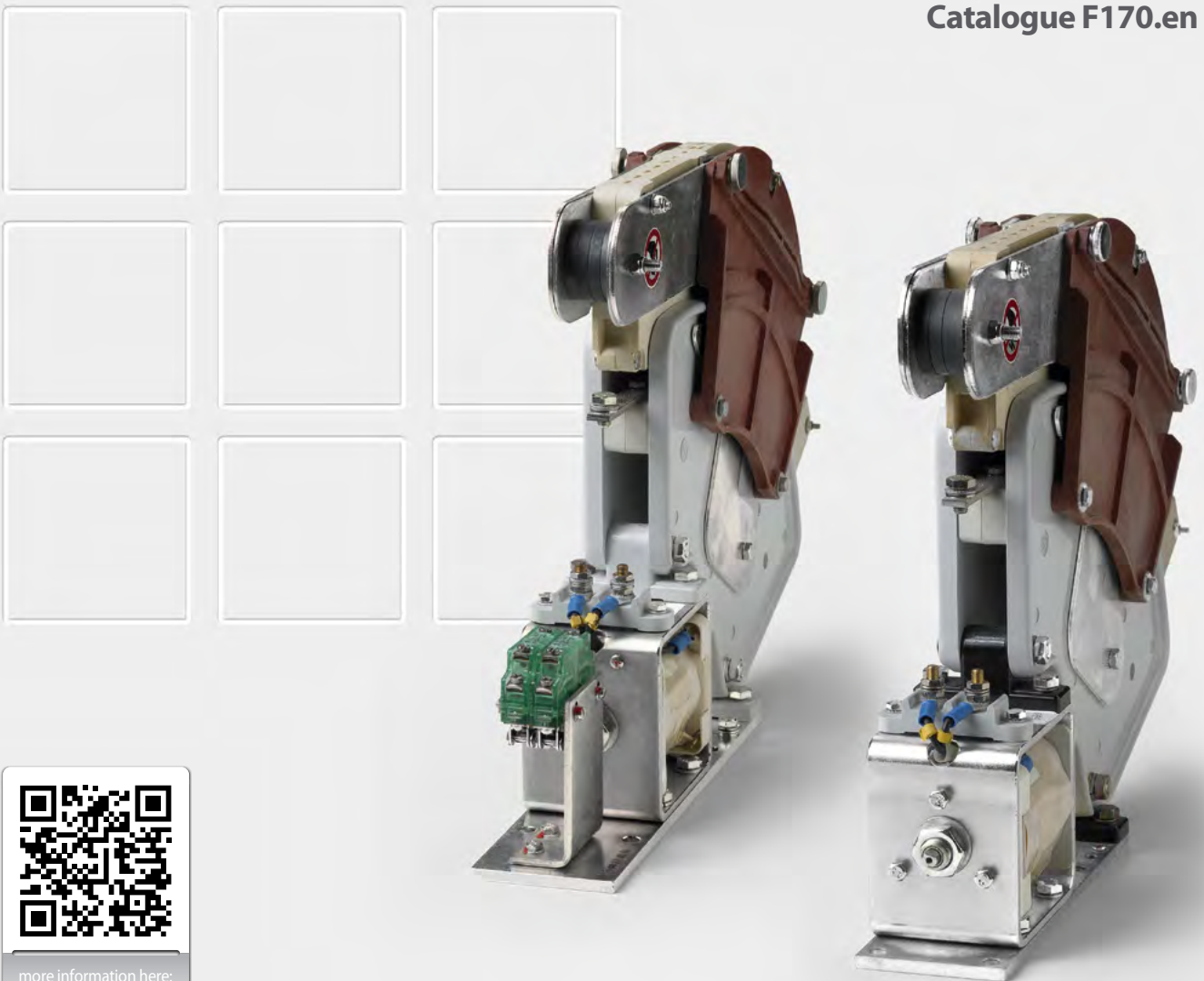
3

Contactors

CH715, CH815,
CH500, CH800, CH801,
CH1030

1 pole HV contactors
for voltages up to
3 kV DC / AC

Catalogue F170.en



more information here:
schaltbau-gmbh.com

CH715, CH815, CH500, CH800, CH801, CH1030 Single pole high-voltage contactors

High-voltage railway contactors

The CH series single pole high-voltage contactors from Schaltbau boast of a rated switching capacity from 16 to 70 kW AC and DC. They are especially designed for use as line contactors of power supply systems and also as main or controlling contactors for diffusers and registers of HVAC systems.

They come with double-break contacts that ensure safe and reliable shut-down of machinery and systems, and a mounted arc chute to confine the arc and prevent it from causing damage.

Features

- Compact design
- Double-break contacts
- Coil tolerance: -30% +25%
- Coil suppression: resistor/diode combination
- Switching capacity 16 up to 70 kW AC / DC max.

Applications

- Line contactor of power supply systems and utilities
- Main or controlling contactor for registers of HVAC systems

Specifications

Series		CH715 – CH815	CH500 – CH800 – CH801	CH1030
Main contacts				
Type of voltage		DC, unidirectional / AC (f < 60 Hz)	DC, unidirectional / AC (f < 60 Hz)	DC, unidirectional / AC (f < 60 Hz)
Configuration		1x SPST-NO	1x SPST-NO	1x SPST-NO
Nominal voltage U_n (UIC 550)		3 kV	3 kV	3 kV
Rated insulation voltage U_i (DIN EN 50124-1)		3 kV	4.3 kV	4.3 kV
Pollution degree		PD3	PD3	PD3
Overvoltage category		OV3	OV3	OV3
Conventional thermal current I_{th} at $T_a = 70^\circ\text{C}$, wire cross-section 25 mm ²		50 A	80 A	120 A
Breaking capacity		3 kV DC, L/R < 1 ms: 30 A 1.5 kV AC 50 Hz, $\cos\phi$ 1.0: 10 A	4 kV DC, L/R < 1 ms: 80 A 4 kV AC 50 Hz, $\cos\phi$ 1.0: 130 A	4 kV DC, L/R < 1 ms: 80 A 4 kV AC 50 Hz, $\cos\phi$ 1.0: 130 A
Operating cycles		120/h at 16 kW	30/h at 50 kW	30/h at 50 kW
Magnetic blowout		•	•	•
Critical current range		< 1 A (3 kV)	< 1 A (4 kV)	< 1 A (4 kV)
Design:	Material	AgNi	AgNi	AgNi
	Terminals	M5 screw, torque 2 Nm max.	M6 screw, torque 3 Nm max.	M8 screw, torque 6 Nm max.
Aux. switches				
None		CH715	CH500	---
1x snap-action switch S800		CH815	CH800	---
2x snap-action switch S800		---	CH801	CH1030
Utilization category		AC-15: 230 V / 3.0 A; DC-13: 110 V / 1.0 A	AC-15: 230 V / 3.0 A; DC-13: 110 V / 1.0 A	AC-15: 230 V / 3.0 A; DC-13: 110 V / 1.0 A
Terminals		M3 screw, torque 0.9 Nm max.	M3 screw, torque 0.9 Nm max.	M3 screw, torque 0.9 Nm max.
Magnetic drive				
Coil voltage U_s		24 / 36 / 110 / 120 V DC	24 / 36 / 72 / 110 / 120 V DC	24 / 110 / 120 V DC
Coil tolerance		-30 % ... +25 % at $T_a = 70^\circ\text{C}$ max.	-30 % ... +25 % at $T_a = 70^\circ\text{C}$ max.	-30 % ... +25 % at $T_a = 70^\circ\text{C}$ max.
Power dissipation	cold coil warm coil	approx. 10 W at U_s and $T_a = 20^\circ\text{C}$ approx. 8 W at U_s and $T_a = 20^\circ\text{C}$	approx. 18 W at U_s and $T_a = 20^\circ\text{C}$ approx. 15 W at U_s and $T_a = 20^\circ\text{C}$	approx. 18 W at U_s and $T_a = 20^\circ\text{C}$ approx. 15 W at U_s and $T_a = 20^\circ\text{C}$
Coil suppression		Resistor/diode combination	Resistor/diode combination	Resistor/diode combination
Terminals		M5 screw, torque 2 Nm max.	M5 screw, torque 2 Nm max.	M5 screw, torque 2 Nm max.
IP rating (IEC 60529, IP code)		IP00		
Mechanical endurance		1 million cycles		
Shock / vibration (IEC 61373)		Category 1, class B		
Duty cycles		100 %		
Mounting orientation		Upside down, coil pointing downwards		
Temperature				
Operating temperature T_a		-50° C ... +70° C		
Storage temperature T_L		-50° C ... +80° C		
Weight		CH715: 3.3 kg CH815: 3.4 kg	CH500: 4.2 kg CH800: 4.3 kg CH801: 4.4 kg	CH1030: 5 kg

CH715 Dimension and circuit diagram

• Dimension diagram

Clearance between plasma exit and earthed parts

Main contact M5

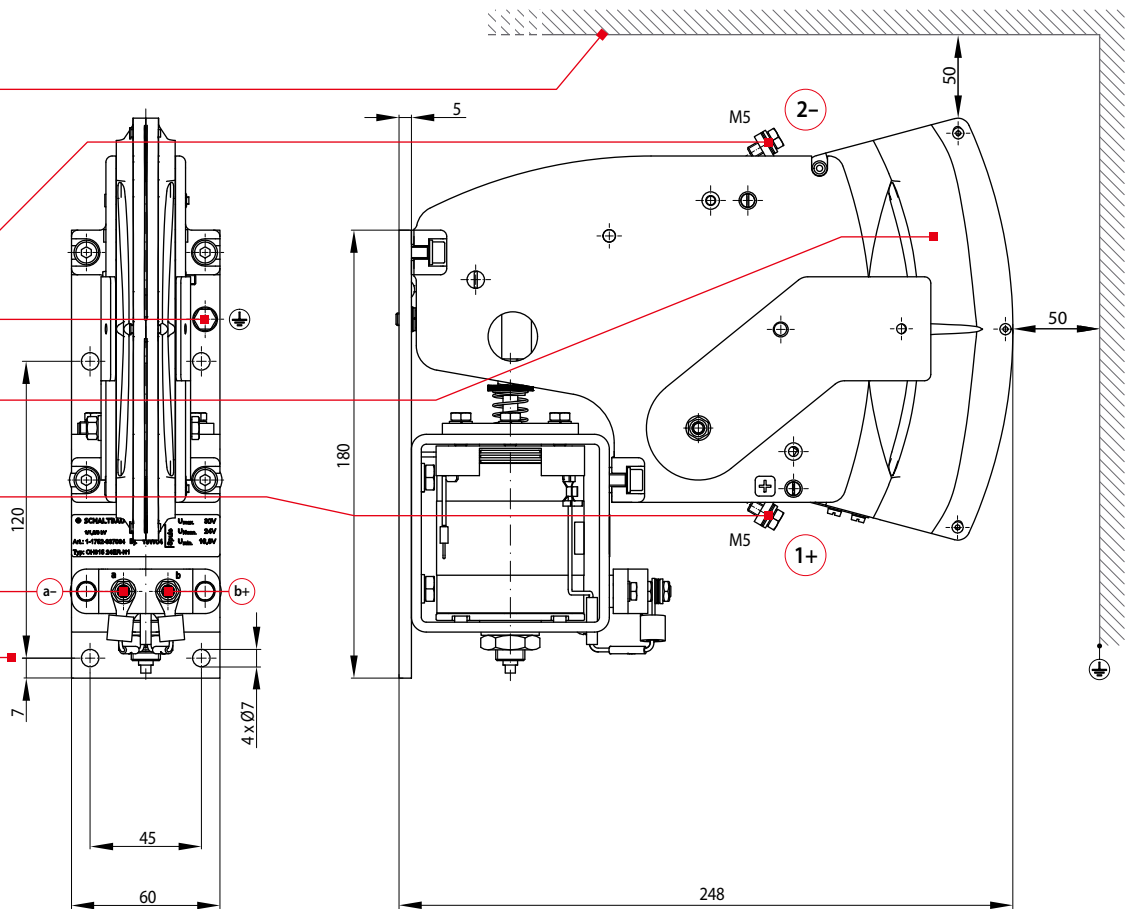
Earth connection M5

Arc chamber

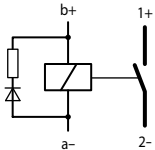
Main contact M5

Coil terminal M5

Mounting
4x Borings Ø7 mm



• Circuit diagram



Stock items

Series	Coil	Aux. switch
CH715 24ER	24 V / -30...+25 % / resistor/diode combination	---
CH715 36ER	36 V / -30...+25 % / resistor/diode combination	---
CH715 110ER	110 V / -30...+25 % / resistor/diode combination	---
CH715 120ER	120 V / -30...+25 % / resistor/diode combination	---



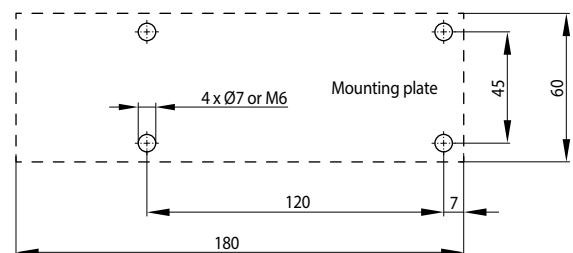
Note:

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.

Mounting holes



CH815 Dimension and circuit diagram

• **Dimension diagram**

Clearance between plasma exit and earthed parts

Main contact M5

Earth connection M5

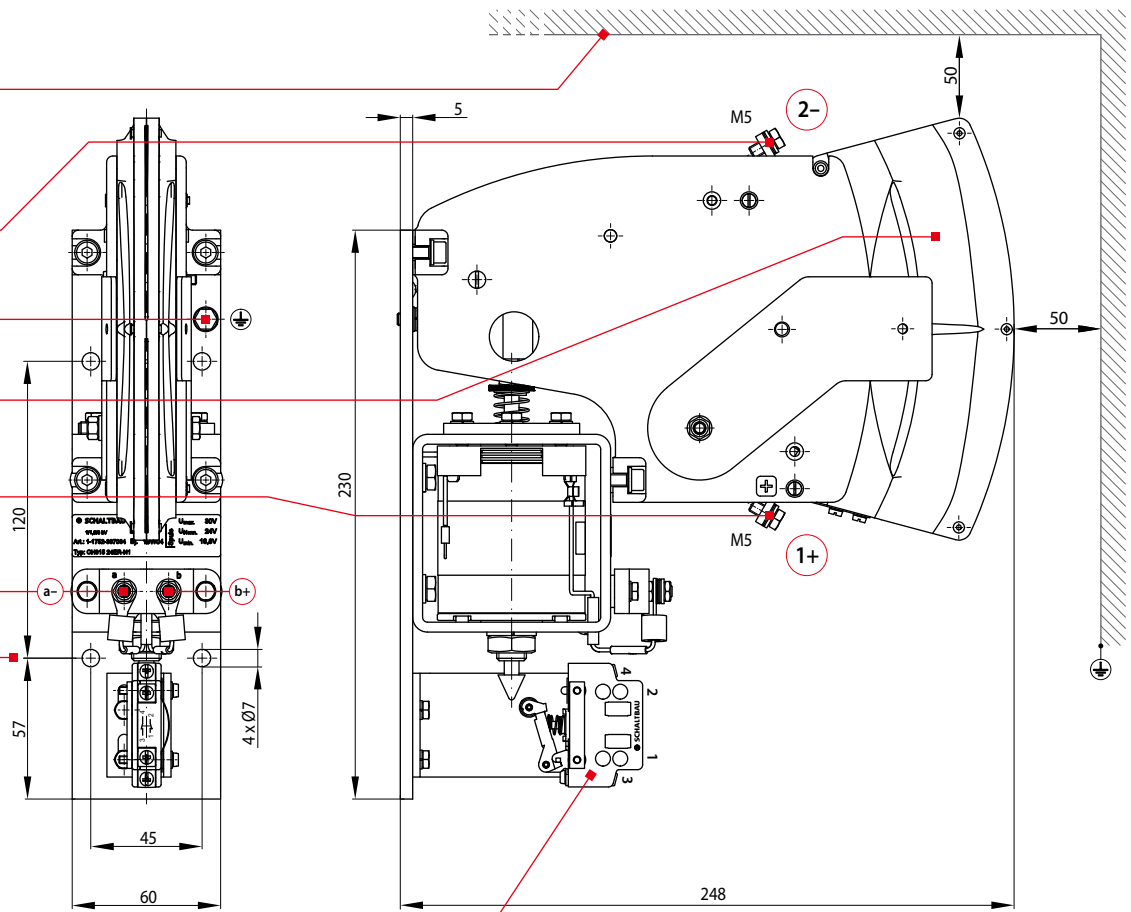
Arc chamber

Main contact M5

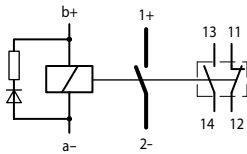
Coil terminal M5

Mounting
4x Borings Ø7 mm

Aux. switch
2x S800



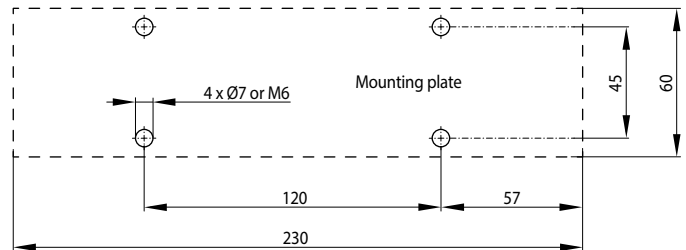
• **Circuit diagram**



Stock items

Series	Coil	Aux. switch
CH815 24ER-N1	24 V / -30...+25 % / resistor/diode combination	1x S800
CH815 110ER-N1	110 V / -30...+25 % / resistor/diode combination	1x S800
CH815 120ER-N1	120 V / -30...+25 % / resistor/diode combination	1x S800

Mounting holes



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CH500 Dimension and circuit diagram

• Dimension diagram

Clearance between plasma exit and earthed parts

Main contact M6

Arc chamber

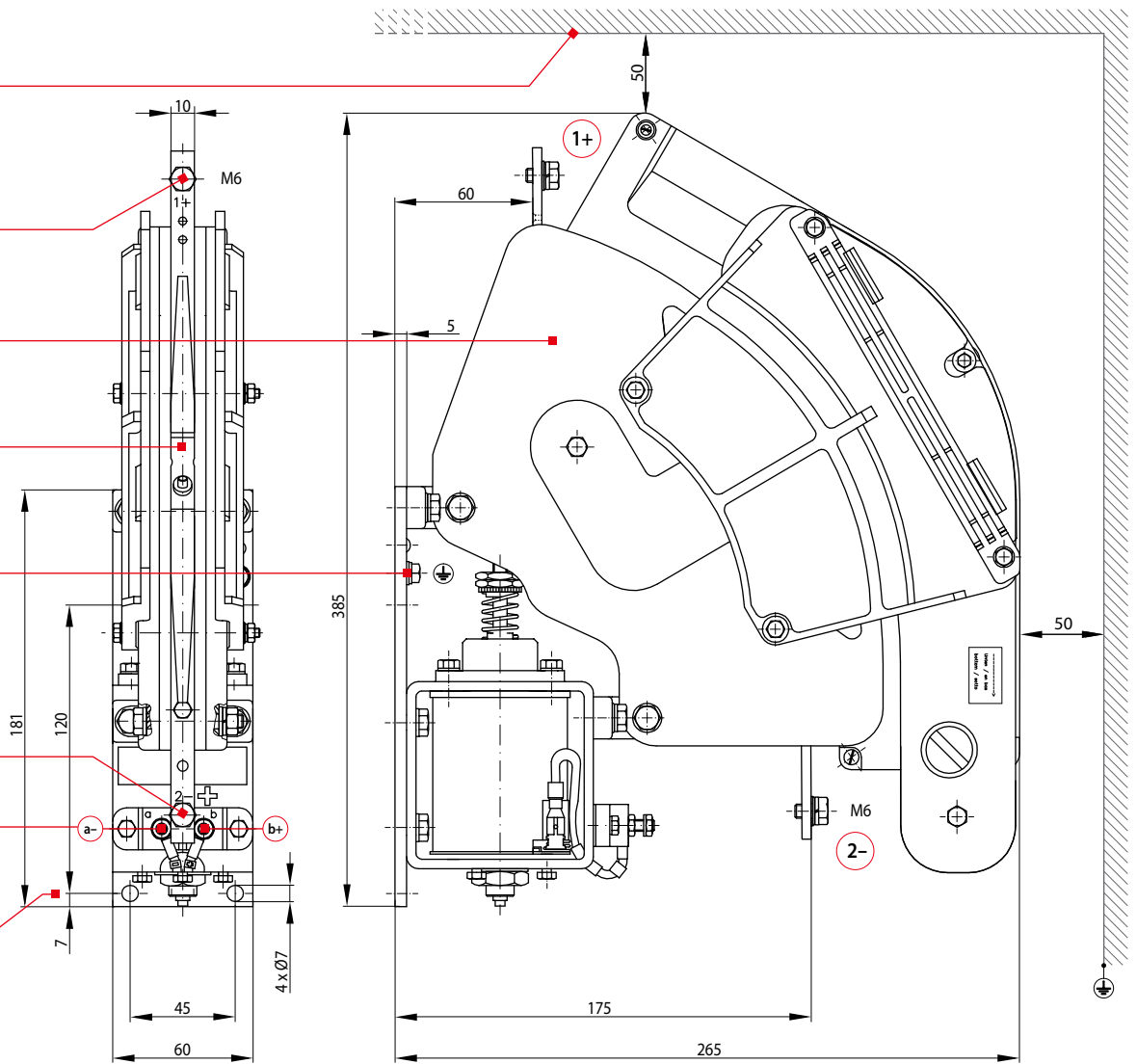
Illustration without arc chamber

Earth connection M5

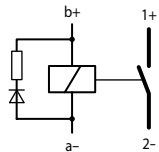
Main contact M6

Coil terminal M5

Mounting
4x Borings Ø7 mm



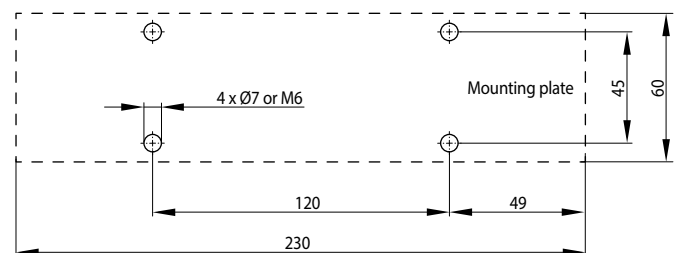
• Circuit diagram



Stock items

Series	Coil	Aux. switch
CH500 24ER	24 V / -30...+25 % / resistor/diode combination	---
CH500 120ER	120 V / -30...+25 % / resistor/diode combination	---

Mounting holes



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CH800 Dimension and circuit diagram

• Dimension diagram

Clearance between plasma exit and earthed parts

Main contact M6

Arc chamber

Illustration without arc chamber

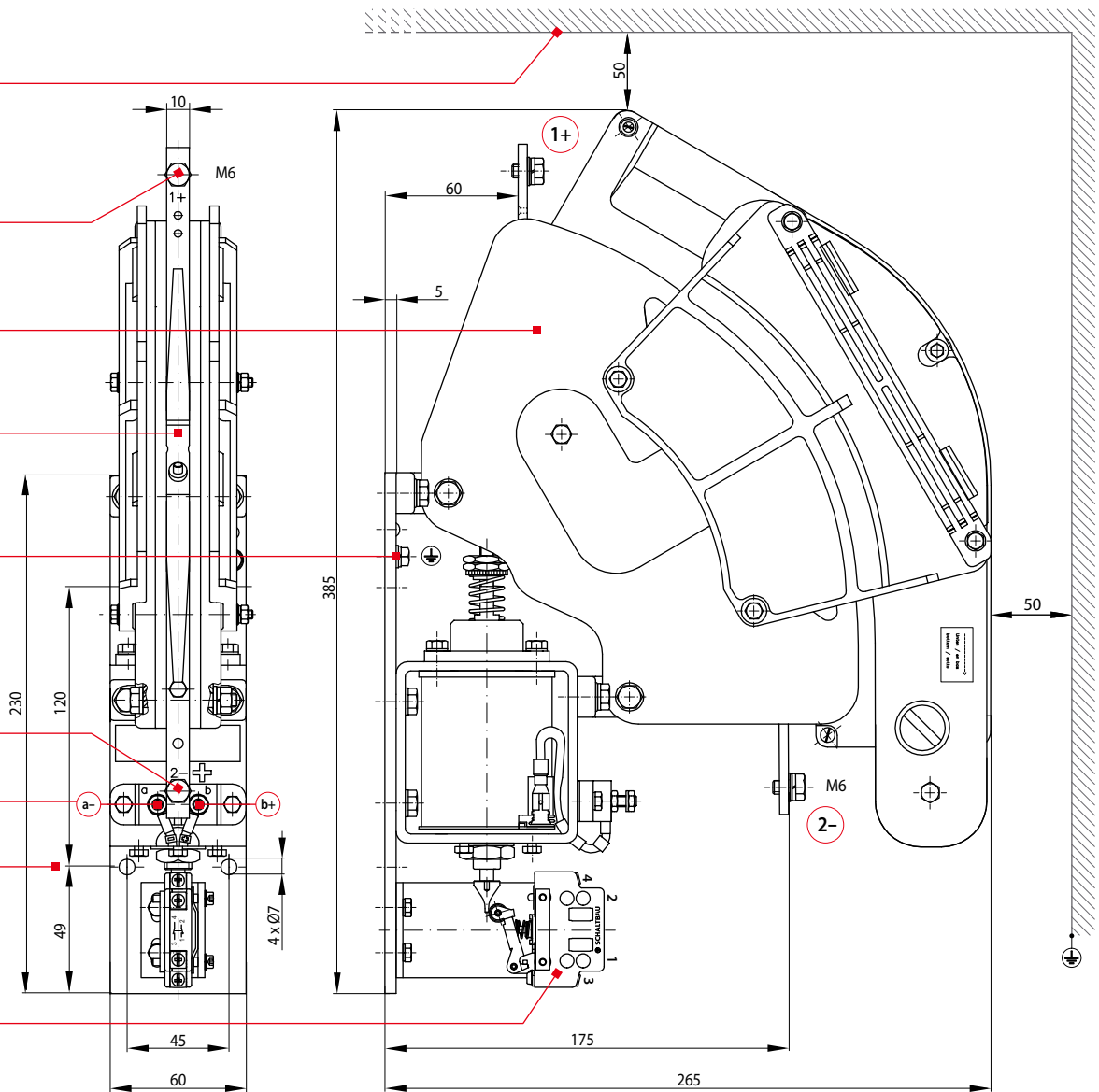
Earth connection M5

Main contact M6

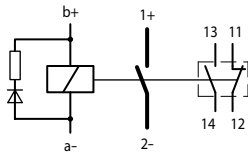
Coil terminal M5

Mounting
4x Borings Ø7 mm

Aux. switch
2x S800



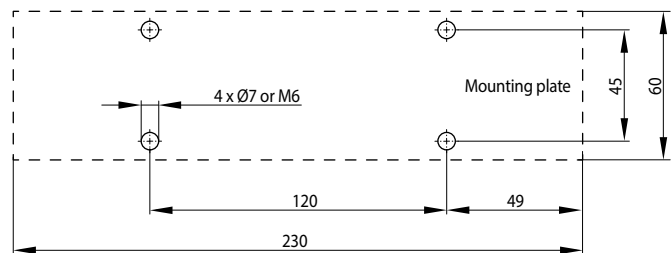
• Circuit diagram



Stock items

Series	Coil	Aux. switch
CH800 24ER-N1	24 V / -30...+25 % / resistor/diode combination	1x S800
CH800 110ER-N1	110 V / -30...+25 % / resistor/diode combination	1x S800
CH800 120ER-N1	120 V / -30...+25 % / resistor/diode combination	1x S800

Mounting holes



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CH801 Dimension and circuit diagram

• Dimension diagram

Clearance between plasma exit and earthed parts

Main contact M6

Arc chamber

Illustration without arc chamber

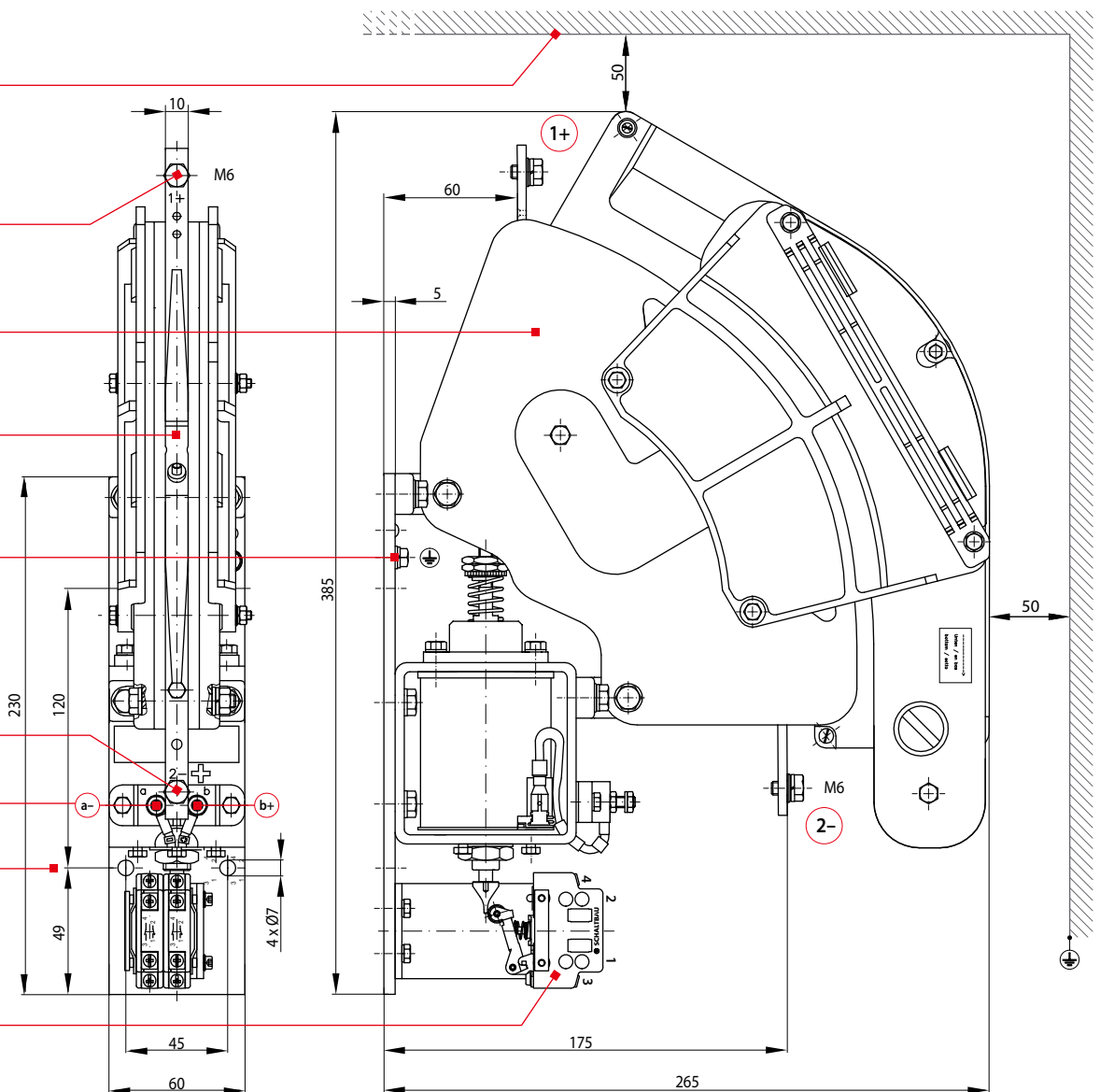
Earth connection M5

Main contact M6

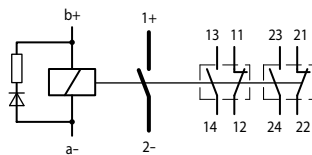
Coil terminal M5

Mounting
4x Borings Ø7 mm

Aux. switch
2x S800



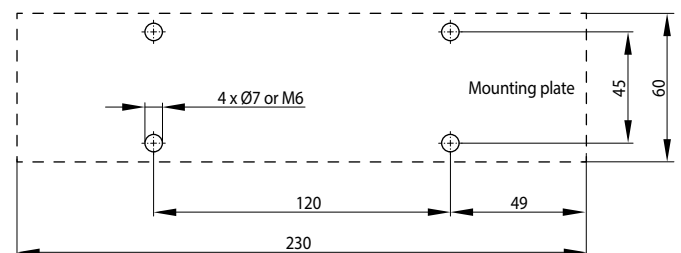
• Circuit diagram



Stock items

Series	Coil	Aux. switch
CH801 24ER-O2	24 V / -30...+25 % / resistor/diode combination	2x S800
CH801 36ER-O2	36 V / -30...+25 % / resistor/diode combination	2x S800
CH801 72ER-O2	72 V / -30...+25 % / resistor/diode combination	2x S800
CH801 110ER-O2	110 V / -30...+25 % / resistor/diode combination	2x S800
CH801 120ER-O2	120 V / -30...+25 % / resistor/diode combination	2x S800

Mounting holes



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Subject to technical alterations / Dimensions in mm

CH1030 Dimension and circuit diagram

• **Dimension diagram**

Clearance between plasma exit and earthed parts

Main contact M8

Arc chamber

Illustration without arc chamber

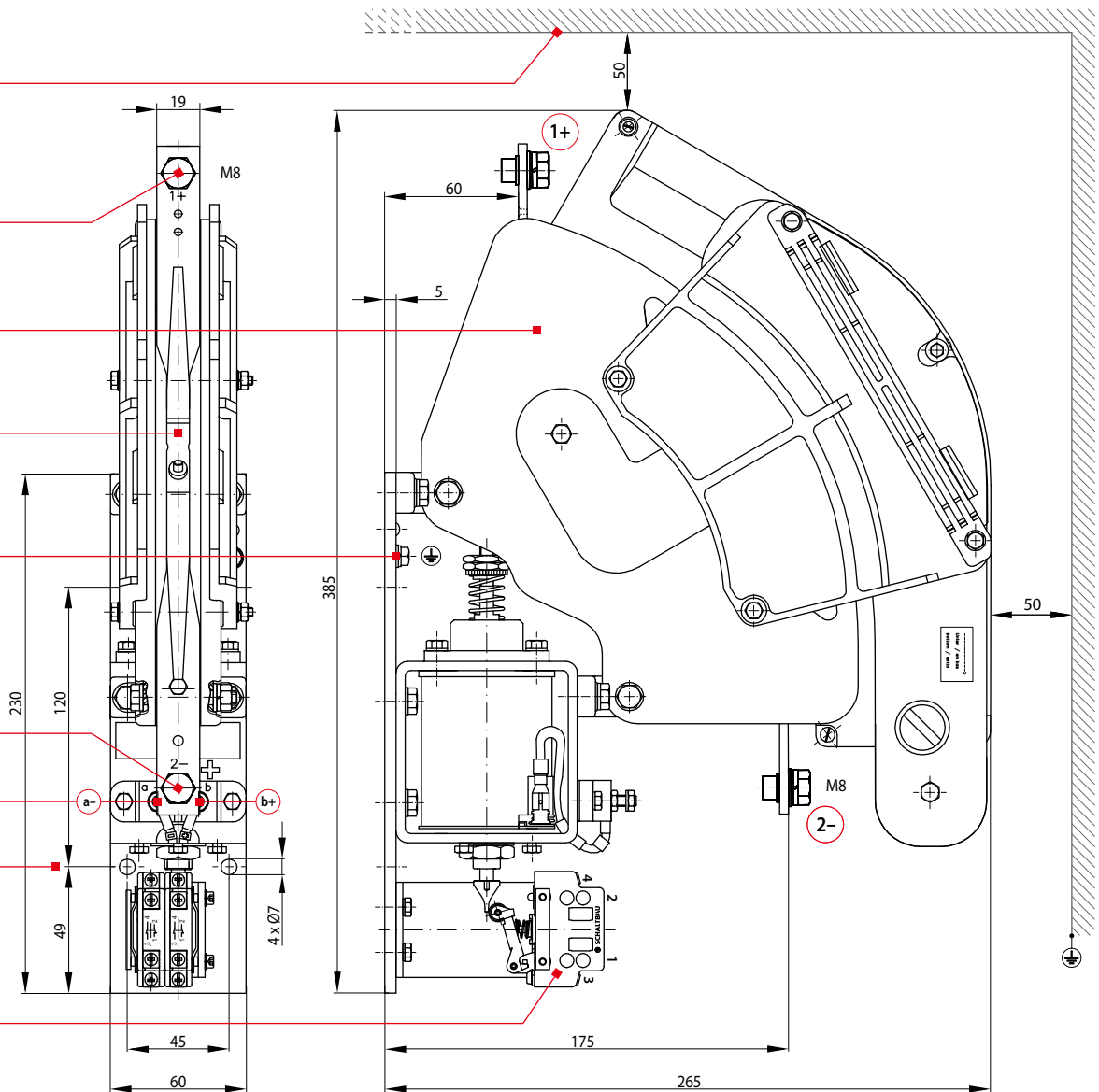
Earth connection M5

Main contact M8

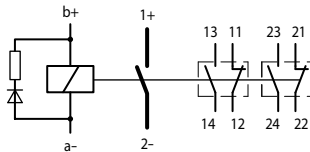
Coil terminal M5

Mounting
4x Borings Ø7 mm

Aux. switch
2x S800



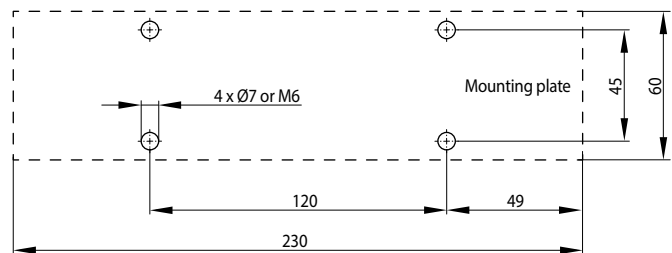
• **Circuit diagram**



Stock items

Series	Coil	Aux. switch
CH1030 24ER-O2	24V / -30...+25 % / resistor/diode combination	2x S800
CH1030 110ER-O2	110V / -30...+25 % / resistor/diode combination	2x S800
CH1030 120ER-O2	120V / -30...+25 % / resistor/diode combination	2x S800

Mounting holes



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Notes

Dotted lines for writing notes.

Schaltbau GmbH

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

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with compliments:



Schaltbau GmbH manufactures in compliance with RoHS.



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



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



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