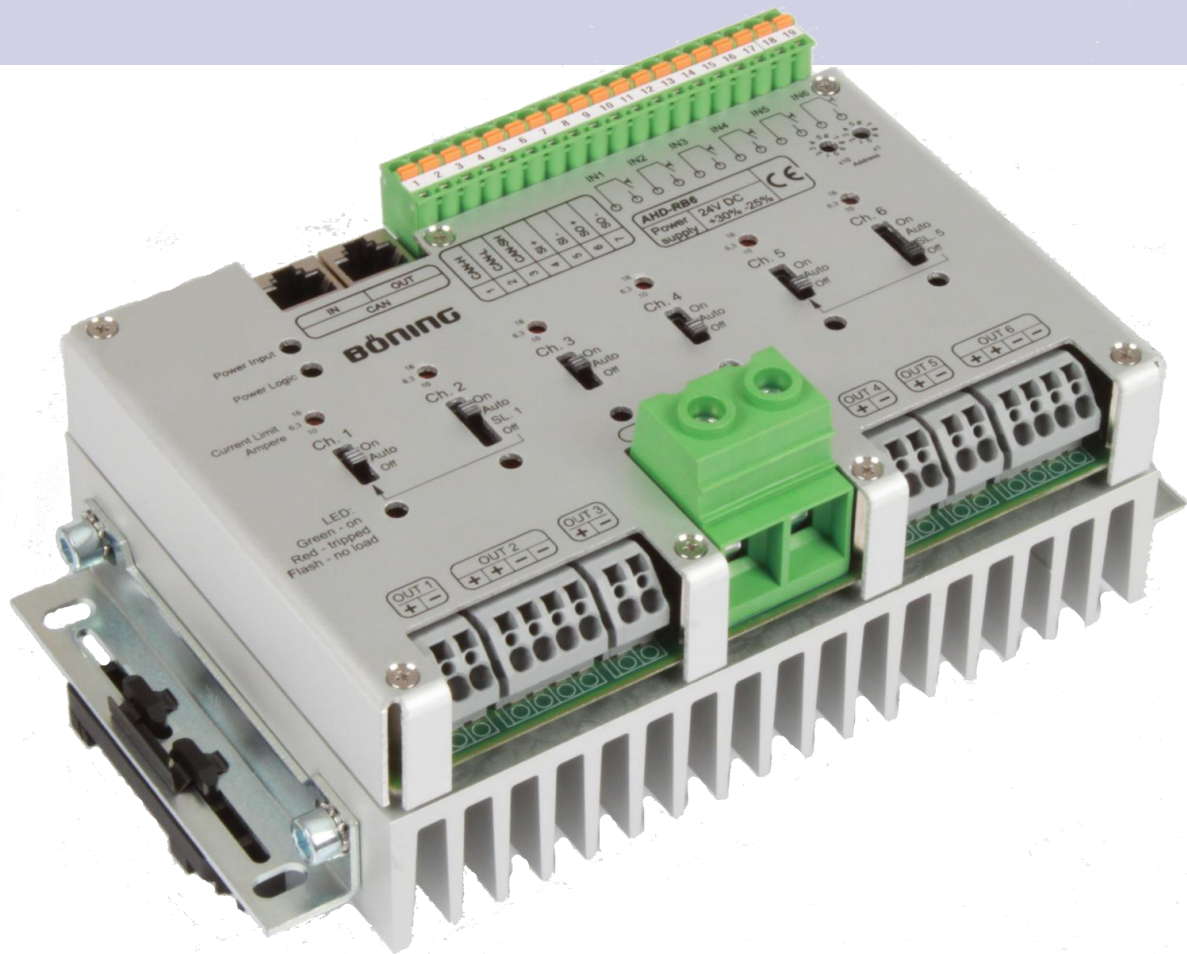


AHD-RB6

Electronic Circuit Breaker (ECB) Type B



- **Nominal current up to 16 A per channel / 28 A for connected channels (Slave channel)**
- **Bipolar switching of all channels**
- **Operating voltage 24 V DC (-30%/+25%)**
- **6 channels output; 6 channels input, e.g. for light switches, level switches or other contacts, independently configurable**
- **Free configuration with the Bönning DeviceConfig tool**
- **Separate current measurement for each channel (< 50mA resolution)**
- **Visualization of all relevant data e.g. on our displays possible**
- **Dimmer function for lighting control**
- **Status LEDs for each channel**
- **Watchdog supervision**
- **Wire break supervision, undercurrent and overcurrent detection**
- **3-step current limit setting with rotary switches**
- **Maximum security by redundant switch circuits**
- **Protection against overvoltage, short-circuit, overload and overheating**
- **Easy and cost-effective installation with patch cables for CAN bus**
- **Soft switching of lamps for longer durability (pulse width modulation)**
- **Grouping of channels, e.g. for lighting control**
- **Programmable lag time for outputs**
- **Operating temperature range allows installation in any location, including engine rooms**
- **Significant reduction of cabling and costs due to decentralized installation**
- **Stand-Alone device operation possible with pushbuttons / switches**
- **Connection to NMEA 2000 network (upon request)**
- **Tripping Characteristic Type B**

Protection – Switching - Dimming

The AHD-RB6 is an electronic circuit breaker (ECB) for six channels with CAN-Bus connection for connecting, controlling and monitoring of electrical loads up to 16 A / 24 V DC per channel. The device switches all load circuits bipolar. If required, four channels on each card can be connected to two channels increasing the nominal current to 28 A for each double channel.

The maximum current can be separately adjusted for each channel to 6.3 A, 10 A or 16 A, providing according protection for all cables with corresponding dimensioning. The terminals for the power input can handle a current of 125 A. The current of each channel is measured separately, enabling the AHD-RB6 to be used for example as a power management device. The recorded current values can be evaluated over CAN bus and visualized for example on our displays and monitors.

In case of a CAN system or processor failure each channel can be manually set with the built-in switches without affecting the safety function.

The switches can be set into the following positions (see also Device Overview):

Pos. 1: ON (Override function, the controller is switched to bypass; the output is switched on (hardware), even with failure of the electronic system).

Pos. 2: AUTO (the output is switched and supervised by the controller).

Pos. 3: OFF (Override function, the controller is switched to bypass, the output is switched off and secured from being switched on over the CAN bus).

The switches 2 and 6 incorporate an additional switching position (SL 1 / SL 5) for connecting channels 1 / 2 and 5 / 6 for increased output currents (Slave operation).

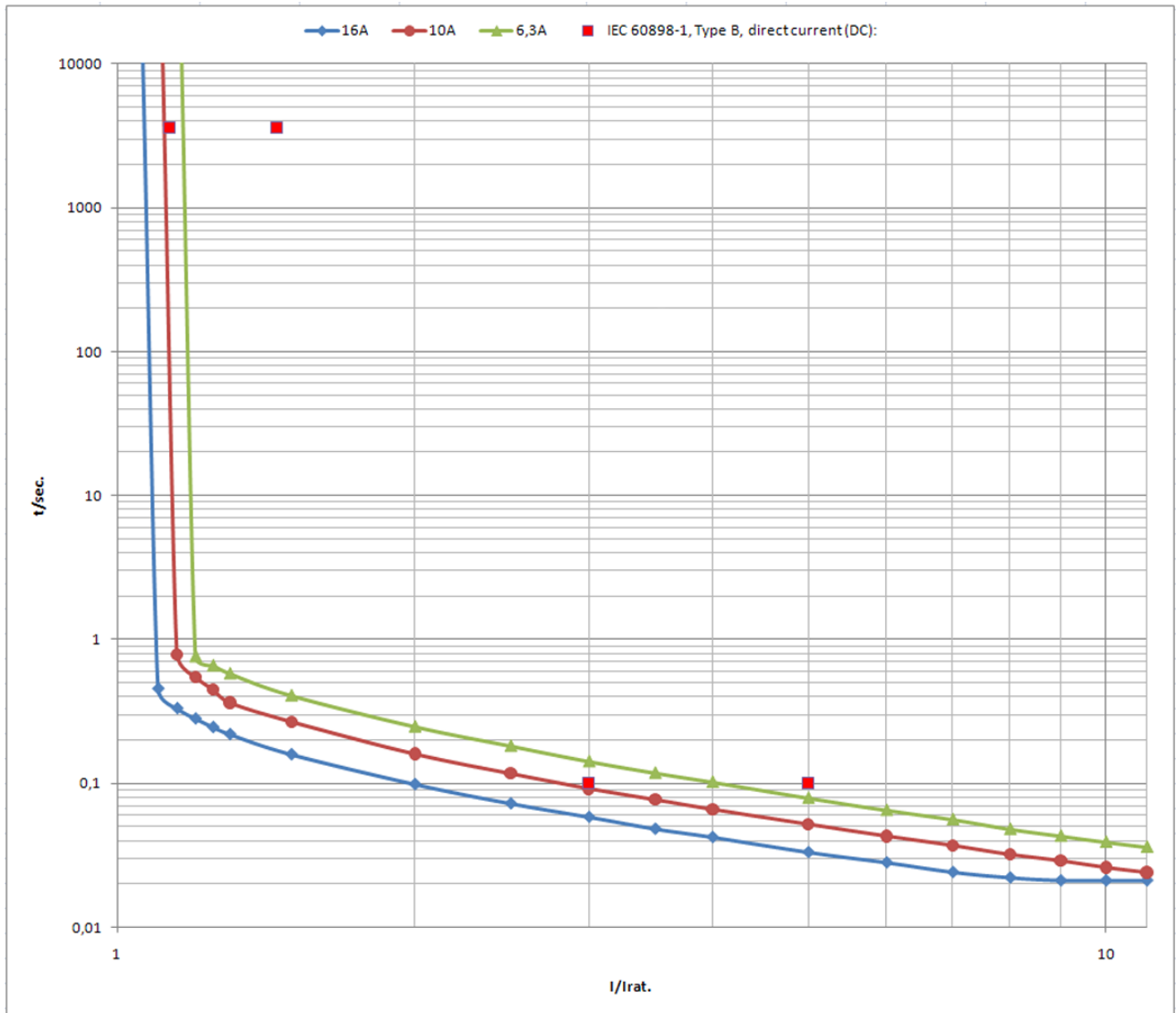
Each channel can separately be configured for dimming of lighting, where a different dimming value can be assigned to each channel over CAN bus (display) or by pushbutton.

If a pushbutton is used for dimming, a short pressing of the button switches the lighting on or off, while pressing and holding the button activates the dimming function (dimming from bright to dark or from dark to bright, respectively).

Two AHD-RB6 in a row can serve as security switches: This is best explained in a short example.

Channel 1 of the first AHD-RB6 controls a cooler fan. If this channel is switched off, channel 1 of the second circuit breaker, controlling the backup cooler fan, is automatically switched on, ensuring a constant cooling.

Tripping Characteristics of the AHD-RB6 – Type B



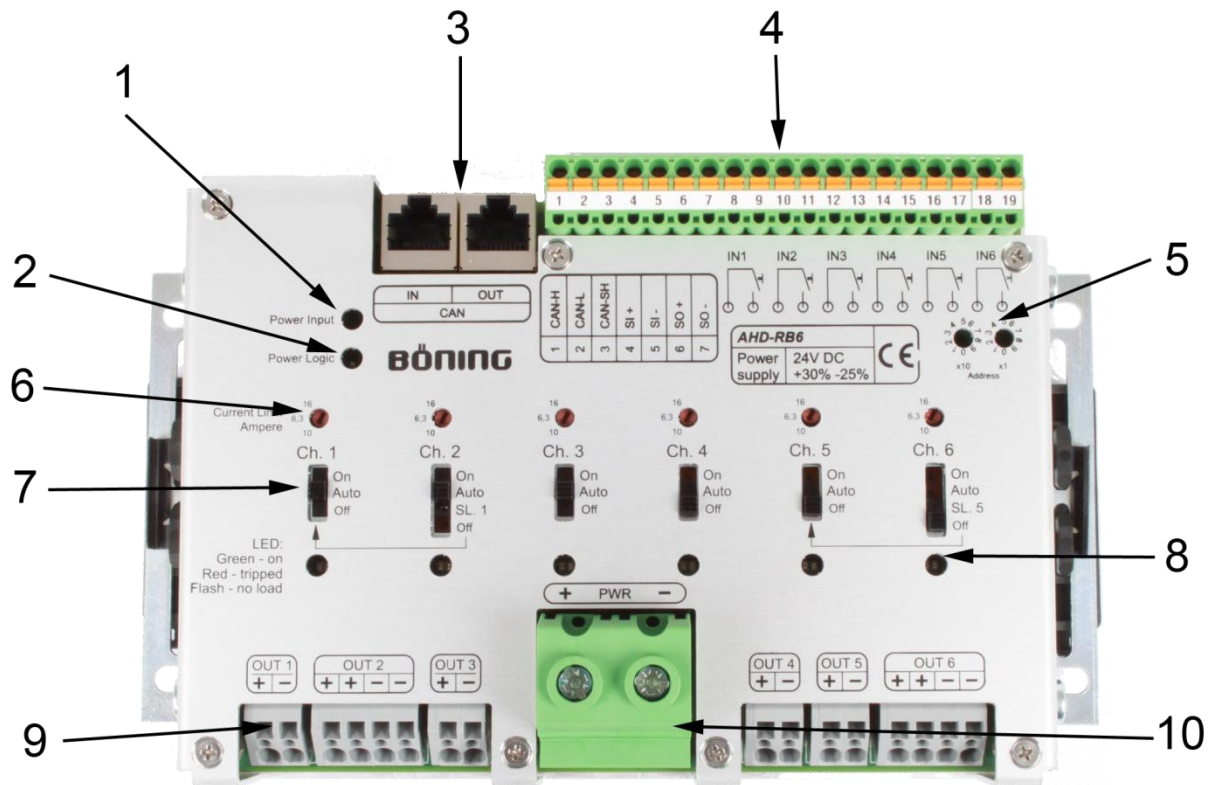
X axis: multiples of nominal current.

Y axis: Tripping time without prior charge, that is the current was 0.0 Ampere.

The limit values according to IEC 60898-1 for type B circuit breakers are marked with red spots.

According to IEC 60898-1 the AHD-RB6 shows the characteristics B for direct current voltage (DC).

Device Overview



Overview:

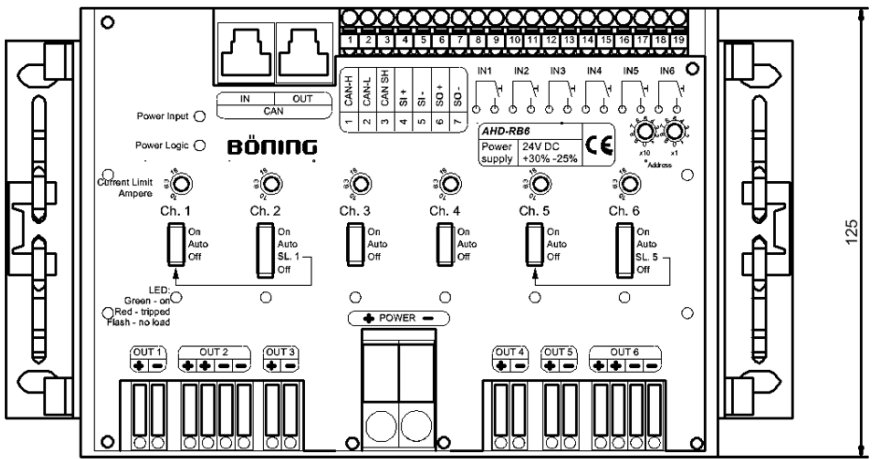
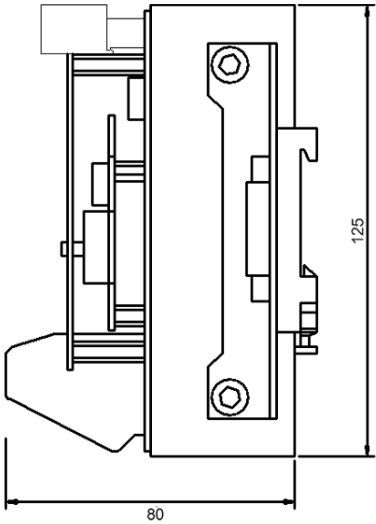
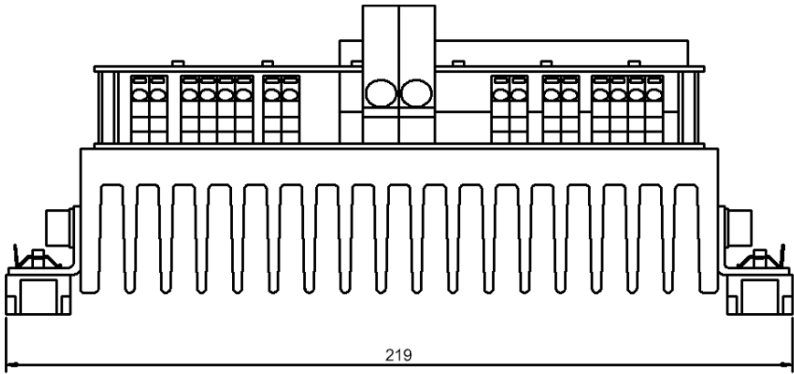
- | | |
|-----------|--|
| 1 | Power LED Mains |
| 2 | Power LED Logic |
| 3 | Rj45-Interface (CAN) |
| 4 | Terminal block (pluggable) |
| 5 | Rotary switch device address |
| 6 | Rotary switch current limit (see also table below) |
| 7 | Function Selector |
| 8 | Status LED (separately for each channel) |
| 9 | Terminal block output |
| 10 | Power supply input terminal block |

The rotary switch for the current limits has three positions:

Rotary Switch configuration:

- | | |
|---|-------|
| 1 | 10 A |
| 2 | 6,3 A |
| 3 | 16 A |

Dimensions



Technical Information

Art. No. 14205

Operation voltage	24VDC (+30% / -25%)	Installation:	Module housing, installation directly on mounting rail TS 35
Current consumption (Device electronics)	max. 220mA	Circuit breaker resolution	< 50mA
Dimensions W x H x D:	219 x 125 x 70mm	Switching voltage	= power supply
Weight:	1,6kg	Nominal current	16A per channel
Operating temperature:	-30°C ... +70°C	Maximum load	6 x 16A = 96A / 24VDC
Storage temperature:	-50°C ... +85°C	Cable cross section	
		Terminal block	4mm ²
Degree of protection:	IP 20	Cable cross section main power supply	35mm ²
Interfaces	- RJ45 - Terminal block		