

AHD-RB6 Light Electronic Circuit Breaker (ECB) Type C



- **Nominal current up to 6.3 A per channel / 11 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 Böning DeviceConfig tool**
- **Visualization of all relevant data e.g. on our displays possible**
- **Dimmer function for lighting control**
- **Status LEDs for each channel**
- **Watchdog supervision**
- **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**
- **Tripping Characteristic Type C**

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 6.3 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 11 A for each double channel.

The terminals for the power input can handle a current of 125 A.

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).

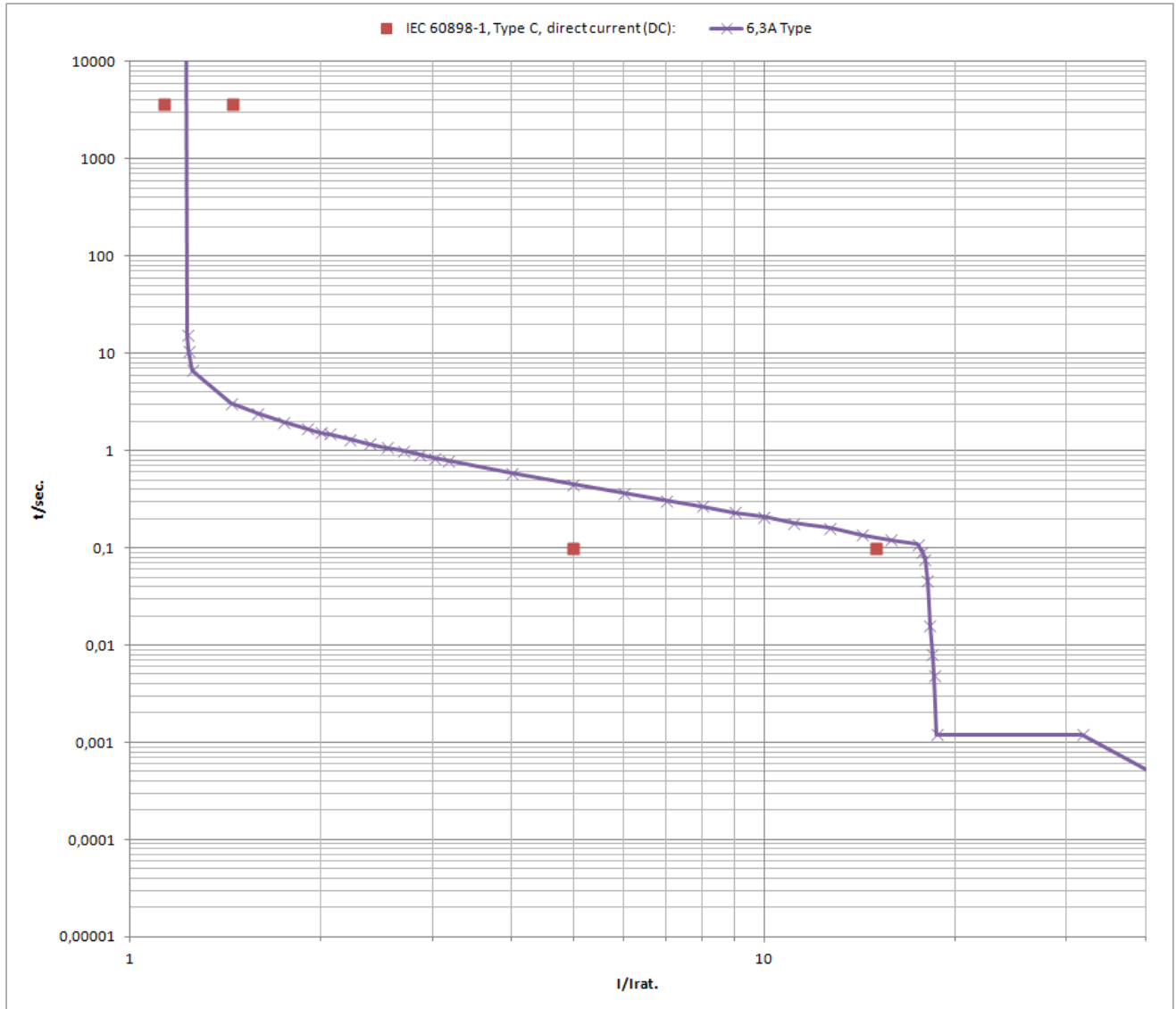
Each channel can separately be configured for dimming of lighting, where a different dimming value can be assigned to each channel over CAN bus (display) or by pushbutton.

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 lamp. If this channel is switched off, channel 1 of the second circuit breaker, controlling the backup lamp, is automatically switched on, ensuring a illumination.

Tripping Characteristics of the AHD-RB6 – Type C



X axis: multiples of nominal current.

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

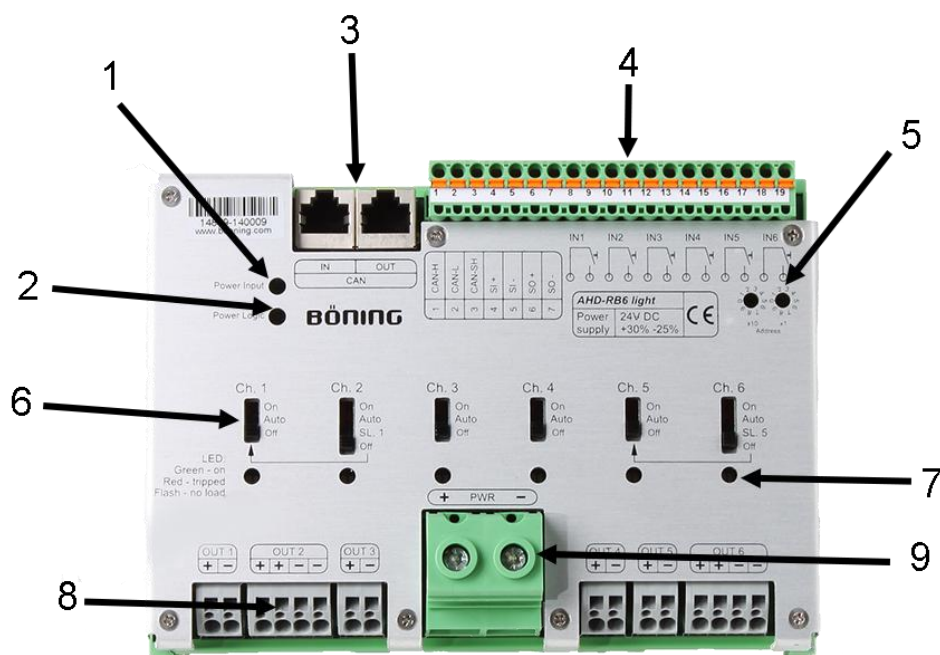
The limit values according to IEC 60898-1 for type C circuit breakers are marked with red spots.

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

The AHD-RB6 limits the short-circuit current to a maximum value of 180A for each channel (typically 120A) with a release time of 1.4 milliseconds.

Fuses in the incoming circuit therefore will never have to handle a load of more than 180A.

Device Overview / Technical Information



Overview:

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

Operation voltage	24VDC (+30% / -25%)	Interfaces	- RJ45 - Terminal block
Current consumption (Device electronics)	max. 220mA	Installation:	Module housing, installation directly on mounting rail TS 35
Dimensions W x H x D:	219 x 125 x 70mm	Switching voltage	= power supply
Weight:	1,6kg	Nominal current	6.3A per channel
Operating temperature:	-30°C ... +70°C	Maximum load	6 x 6.3A = 37.8A / 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