

Basic Range



BI1- Time overcurrent Relay

Application

- Selective over and undercurrent protection relay for electrical machines, lines and networks.
- Load dependent connection and disconnection of consumers and electric power generators in load shedding schemes.

Function

The unit **BI1** is equipped with an independent over ($I >$) and undercurrent supervision ($I <$) with separate adjustable pickup values and trip delays. The measured current is continuously compared with the set reference values.

If the current exceeds or drops below the set value the relay trips after the time delay has elapsed. Undercurrent supervision can be deactivated by turning potentiometer $I </I_n$ to 0%.

Technical data

Rated voltage U_n	: 24 V DC or 230 V AC $\pm 20\%$
Accuracy	: $\pm 5\%$ of set value
Power consumption	: 3.3 W
Dropout to pickup ratio	: $> 97\%$
Thermal load carrying capacity	: continuously 4 x In
Returning time	: 400 ms
Minimum operating time	: 400 ms

Output relay

Maximum breaking capacity ohmic	: 1250 VA AC/120 W DC
Inductive	: 500 VA AC/75 W DC
Rated current	: 5 A
Making current (16ms)	: 20 A

System data

Regulations	: VDE 0435, part 303
Temperature range at storage and operation	: -25°C to $+70^\circ\text{C}$

Mechanical stress

Shock	: class 1 acc. to DIN IEC 255-21-2
Vibration	: class 1 acc. to DIN IEC 255-21-1
Degree of protection unit front	: IP 40 at closed front cover
Weight	: approx. 0.5 kg
Mounting position	: any

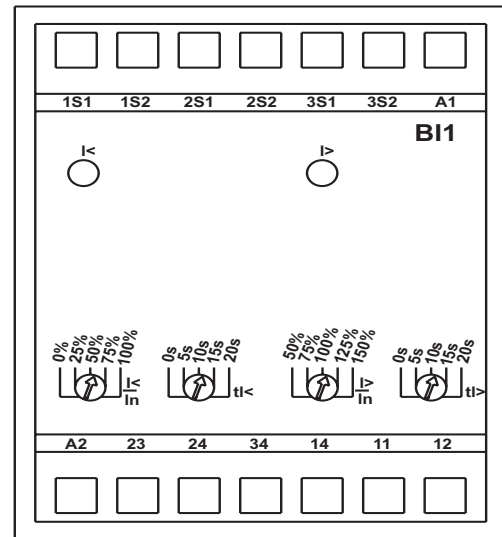


Fig. 1 : Front plate

The unit **BI1** is designed to be fastened onto a DIN rail acc. to DIN EN 50022 same as all units of the BASIC RANGE.

The front plate of the unit is protected with a sealable transparent cover (IP40).

Please remove the transparent cover with a screw drive to adjust the relay.

LEDs

LED $I <$ is used to indicate operation without fault with steady light. LEDs $I >$ and $I <$ indicates pickup of the relay by flashing. At undercurrent tripping LED $I <$ extinguishes. LED $I >$ indicates tripping at overcurrent (steady light).

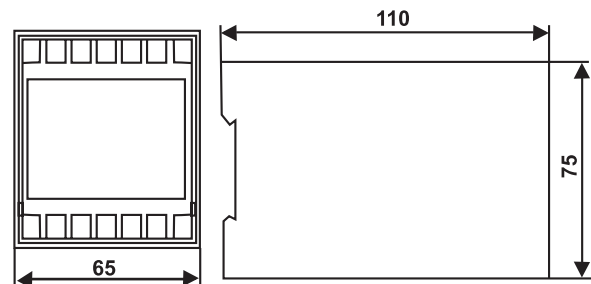


Fig. 2 : Dimensional drawing BI1



Auxiliary voltage supply

The auxiliary voltage should be 24 V DC or 230 V AC (refer to order key I).

Hint!

The correct polarity of connection terminals has to be observed :

A1 = L+

A2 = L-

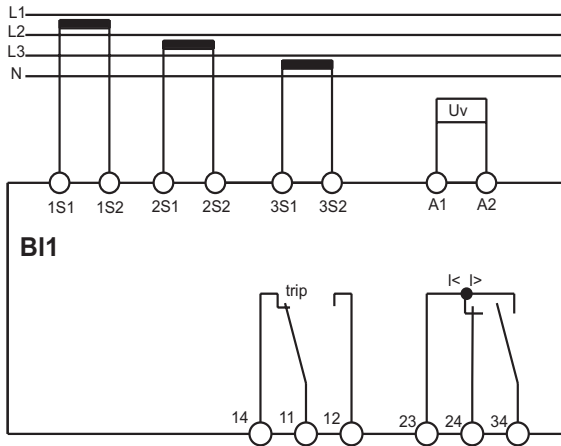
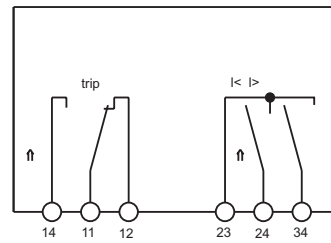
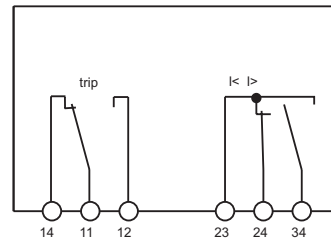


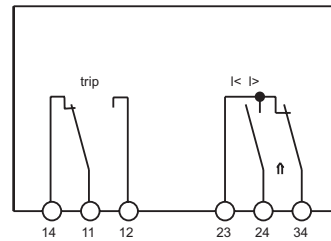
Fig. 3. Connection diagram



Operation without fault



Unit dead or undercurrent



Overcurrent

Fig. 4: Contact positions

Connecting terminals

The connection up to a maximum of $2 \times 2.5 \text{ mm}^2$ cross-section conductors is possible. For this procedure the transparent cover of the unit has to be removed.

Setting ranges

$I<$: 0-100% I_n

$tI<$: 0-20 s

$I>$: 50-150% I_n

$tI>$: 0-20 s

Model Selection

quantity	B1-		
Auxiliary voltage	24 V DC	24	
	230 V AC	230	
Rated current	1 A		1
	5 A		5

For further information, please contact :



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