Undercurrent relay

CSE140

Single Phase AC Systems

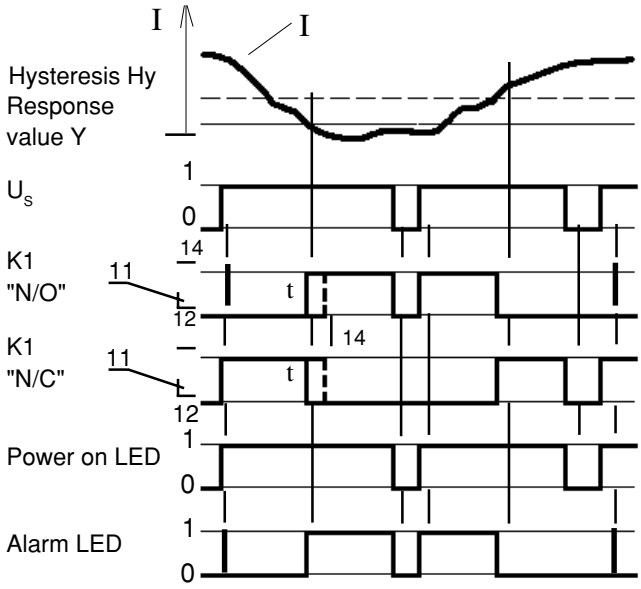
- **electronic measuring relay**
- **indicates decreasing current**
- **impulse voltage and electrical disturbance proof according to VDE and IEC**
- **alarm relay with two change-over contacts**
- **built-in power on LED and alarm LED**
- **adjustable:**
  response value, response time, hysteresis
- **compact 45 mm casing**

Function

If the monitored current decreases the adjusted response value "Y" the red alarm LED signals "I<Y" and (after the adjustable delay "t") the alarm relay K1 changes state.

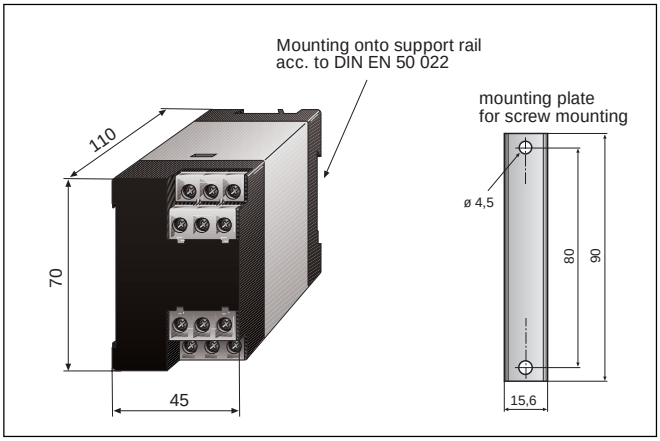
If current increases above the adjusted response value, the alarm relay changes state and the red alarm LED extinguishes after the delay on response of approx. 70 ms.

The function of the alarm relay is selectable between N/O operation and N/C operation (see wiring diagram).



t = adjusted delay on response
K1"N/O" = N/O operation
K1 "N/C" = N/C operation
U_S = Supply voltage

Dimension Diagram



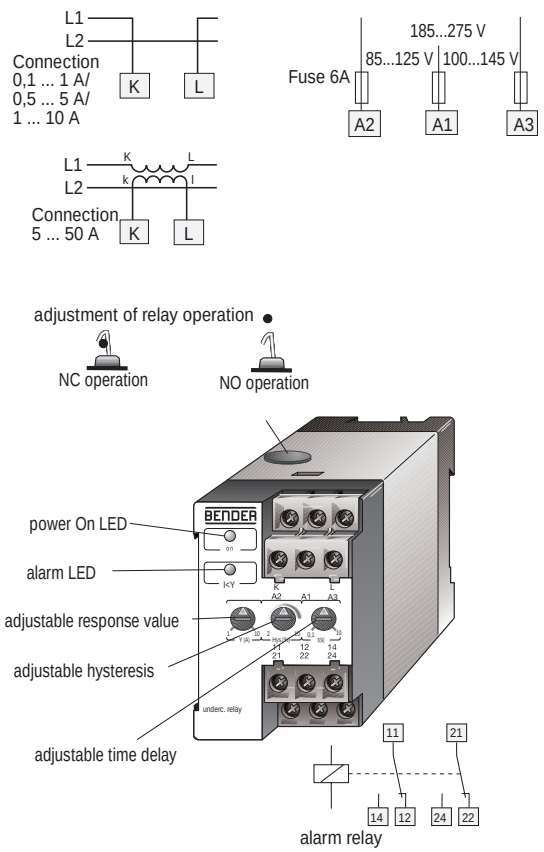
Dimensions in mm

Technical Data CSE140

Insulation coordination acc. to IEC 664-1	
Rated insulation voltage	AC 440 V
Rated impulse withstand voltage/contamination level	4 kV/3
Voltage test acc. to IEC 255-5	2,5 kV
Supply voltage	
Supply voltage U_S	AC 50...60 Hz 85...125V, 100...145V, 185...275V (other values on request)
Max. power approx.	3 VA
Response value	
Response value (adjustable)	0.1-1A, 0.5-5A, 1-10A,*5-50A
Overload capacity	40 A 1s / 12 A continuous operation * 5-50A (10 x I_N)
Influence of ambient temperature	<0.05% / °C
Load	< 1.5 VA
Switching hysteresis (adjustable)	2...10 %
Delay on response t (adjustable)	0.1 ... 10 sec
Recovery time max.	0.2 sec
Delay on release	approx. 70 ms
Repeat accuracy	< ± 1.5 %
Influence of ambient temperature	<0.2 % / °C
Contact circuits	
Switching components	two change-over contacts
Contact class acc. to DIN IEC 255 T. 0-20	IBB
Rated contact voltage	AC 250 V / DC 300 V
Admissible number of operations	12000 cycles
Limited making capacity	UC 5 A
Limited breaking capacity	
AC 230 V, cos phi = 0.4	AC 2 A
DC 220 V, L/R = 0.04 s	DC 0.2 A
Operating principle	N/C or N/O operation
Pre-set by factory	N/O operation
Type tests	
Test of the Electromagnetic Compatibility (EMC):	
Immunity against electromagnetic	
Interferences acc. EN 50082-2:	
Impulse voltage and electrical disturbance test acc. to IEC 255:	
Impulse voltage test acc. to IEC255-5	class III
Electrical disturbance test acc. to IEC 255-5	class III
Emission acc. to EN 50081-2:	
Emissions acc. to EN 55011/CISPR11	class B[1)]
Mechanical tests	
Shock resistance acc. to IEC 68-2-27	15 g/11 ms
Bumping acc. to IEC 68-2-29	40 g/6 ms
Vibration strength acc. to IEC 68-2-6	10 ...150 Hz/0.15 mm - 2 g
Environmental conditions	
Ambient temperature during operating	-15°C ... +50°C
Storage temperature range	-20°C ... +70°C
Climatic class according to IEC 721	3K5, except condensation and formation of ice
General Data	
Operation class	continuous operation
Mounting position	any position
Type of connection	terminal screws with self-lifting clamp-washers
Wire cross section	
single wire	2x (1 ... 1.5 mm²) 16 AWG
fine braid with end sleeve	2x (0.75 ... 1.5 mm²) 16 AWG
DIN rail	according to DIN EN 50 022 or screw mounting
Protection class according to EN 60 529	
Internal components	IP 50
Terminals/with terminal covers	IP 10/IP 20
Casing	X140
Flammability class	UL 94 V - 0
Weight	approx. 250 g

[1)] Class B devices are suitable for household and industrial use.

Wiring diagrams



Safety instructions

Please check for correct mains voltage !

Electrical equipment shall only be installed by qualified personnel in consideration of the current safety regulations.

For short-circuit protection, the connection to the supply voltage has to be equipped with a protective device according to IEC 364-4-473. (A fuse of 6 A is recommended).

Ordering details

Type	Response Value	Art. No.
CSE140	0,1...1 A 0,5...5 A 1...10 A	942 616 942 614 942 612
CSE140	5...50 A	942 617
*ext. current transformer		942 709

Ordering details for screw mounting

Type	Art.-No.
Mounting plate	300 102

Other values on request

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