

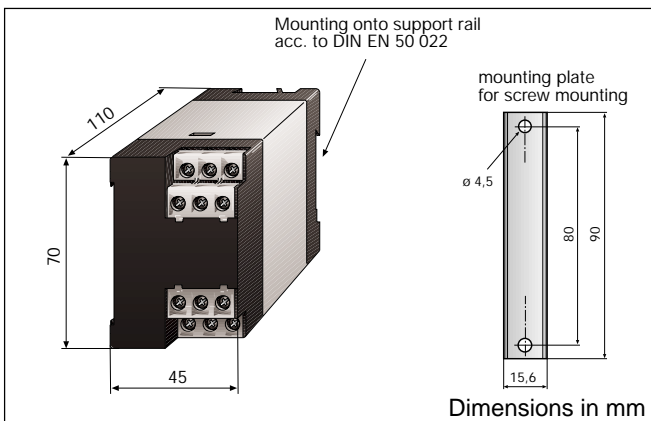


- 3 AC or 3/N AC systems up to 440 V



- electronic measuring relay
- for phase sequence, phase failure and undervoltage
- no additional supply voltage required
- impulse voltage and electrical disturbance
- alarm relay with two change over contacts
- built-in power on LED and alarm LED
- compact 45 mm casing

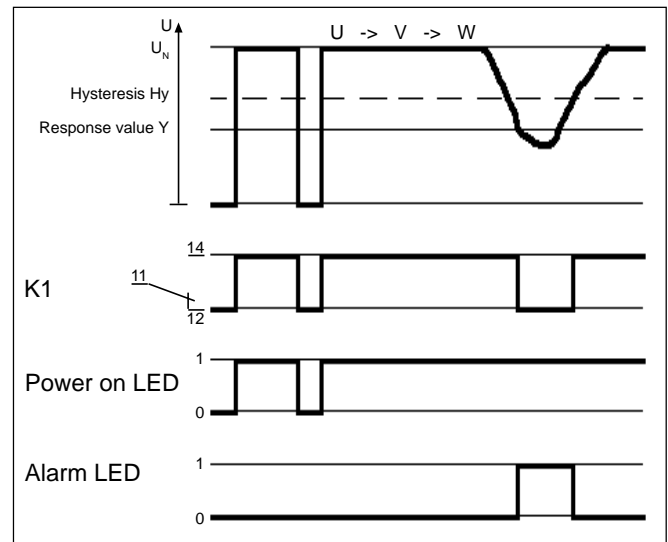
Dimension diagram



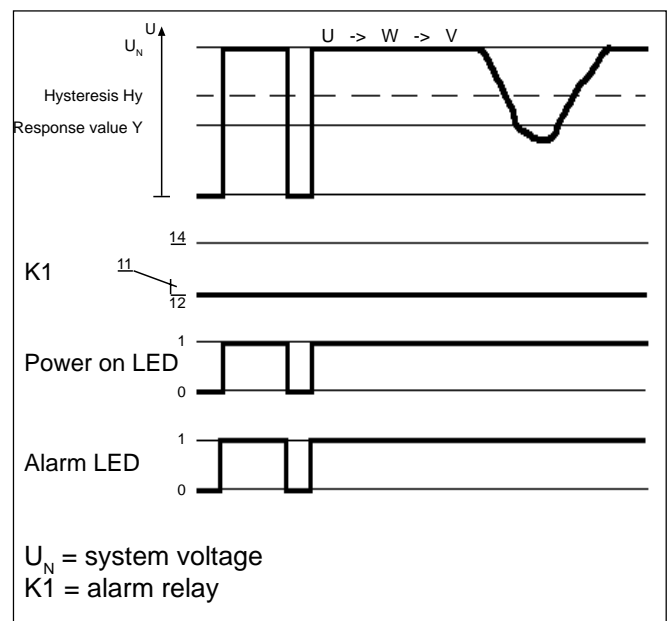
Function

When the phase sequence U -> V -> W changes or the system voltage falls below $0.65 \dots 0.75 \times U_N$, the alarm relay releases and the red alarm LED signals "U -> W -> V".

Under voltage performance



Performance in case of changing the phase sequence



Technical Data SED140

Insulation coordination acc. to IEC 664-1:

Rated insulation voltage	AC 440 V
Rated impulse withstand voltage/contamination level	6 kV/3
Dielectric test acc. to IEC 255	2,5 kV

System being monitored

Nominal voltage of the system U_N 3 AC 50...60 Hz 440V, 400V, 230 V

3/N/AC 50...60 Hz 440/254 V, 400/230 V, 230/133 V

Operating range of U_N	0.6 ... 1.3 x U_N
Operating range of the LEDs	0.2 x U_N ... U_N max.
Max. power consumption	3 VA

Response values

Response value for under voltage approx.	0.65 ... 0.75 x U_N
Repeat accuracy of delay	1.5%
Influence of ambient temperature	< 0.1%/°C
Effect of frequency variations	< 0.1%/Hz
Hysteresis approx.	8%

Contact circuit

Switching components	2 change over contacts
Contact class acc. to DIN IEC 255 Teil 0-20	IIB
Rated contact voltage	AC 250 V/DC 300 V
Admissible number of operations	12000 cycles
Limited making capacity	UC 5 A
Limited breaking capacity	
at AC 230 V and $\cos \phi = 0.4$	AC 2 A
at DC 220 V and $L/R = 0.04$ s	DC 0.2 A
Operating principle	N/C operation

Type tests

Test of the Electromagnetic Compatibility (EMC):

Immunity against electromagnetic

Interferences acc. prEN 50082-2:

Impulse voltage and electrical disturbance test acc. to IEC 255:

Impulse voltage test acc. to IEC 255-5	class III
Electrical disturbance test acc. to IEC 255-5	class III

Emissions acc. to EN 50081-2:

Emissions acc. to EN 55011/CISPR11	class B ¹⁾
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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

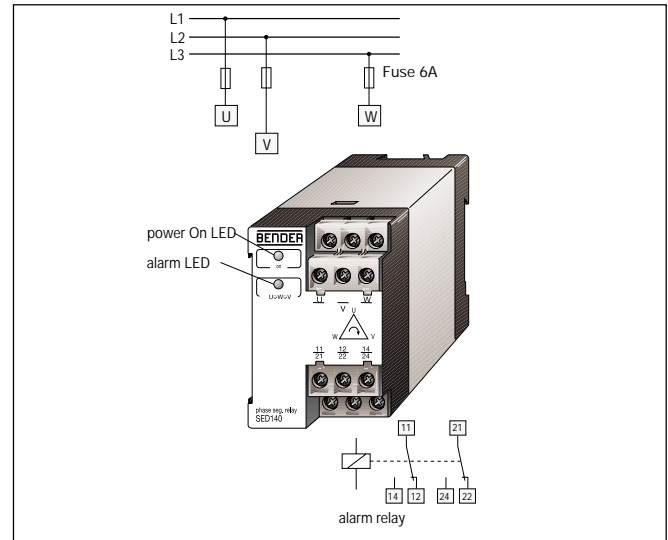
Ambient temperature, during operation	-15°C ... +50°C
Storage temperature range	-20°C ... +70°C
Climatic class acc. to IEC 721	3K5, except condensation and formation of ice

General data

Operation class	continuous operation
Mounting position	any position
Type of connection	terminals with self-lifting clamp-washers
Wire cross section	
single wire	2 x (1 ... 1.5 mm ²)
fine braid	2 x (0.75 ... 1.5 mm ²)
DIN rail	according to DIN EN 50 022 or screw mounting
Protection class acc. to EN 60529	
Internal components	IP 50
Terminals/with terminal covers	IP10/IP 20
Type of casing	X140
Flammability class	UL94V-0
Weight	approx. 300 g

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

Wiring diagram



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 network coupling has to be equipped with a protective device according to IEC 364-4-473 (A fuse of 6 A is recommended).

Supplementary to this data sheet you will find enclosed "important safety instructions on the proper use of BENDER products."

Ordering details

Type	Rated system voltage U_N	Art. No.
SED140	3/N AC 220/127 V	925 156
	3/N AC 380/220 V	925 104
	3/N AC 440/254 V	925 612

Other values on request.

Ordering details for screw mounting

Type	Art. No.
Mounting plate	300 102

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