

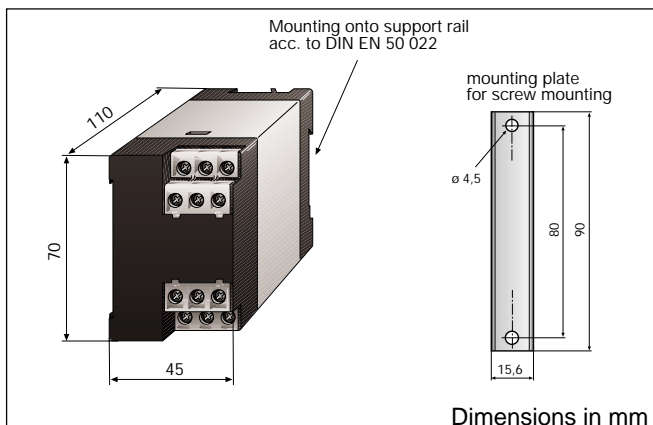


● 3 AC Systems



- electronic measuring relay
- indicates voltage asymmetry
- 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
- continuously adjustable alarm points
- compact 45 mm casing

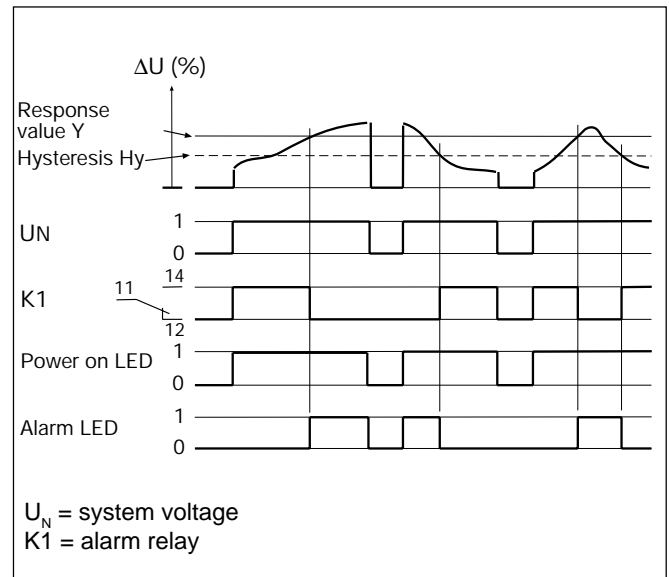
### Dimension diagram



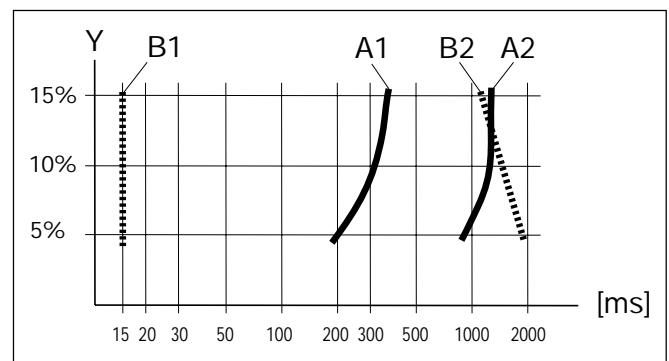
### Function

When the difference between the line conductor voltages (asymmetry) exceeds the adjusted response value "Y", the alarm relay K1 drops out and the red alarm LED signals "% UVW>Y".

Symmetrical change of all lines is not indicated as long as the change is within the operating range. Below the operating range the relay K1 releases.



### Delay on response and on release



### Delay on response

- A1 = Changing from  $U_N$  to 0V (1 or 2 lines)
- A2 = Changing from  $U_N$  to  $1,1 \times Y$  (1 or 2 lines)

### Off delay

- B1 = Changing from 0V to  $U_N$  (3 lines)
- B2 = Changing from 0V to  $U_N$  (1 line)

## Technical Data SAD 142

### Insulation coordination acc. to IEC 664-1:

Rated insulation voltage	AC 440 V
Rated impulse withstand voltage/ contamination level	4 kV/3
Dielectric test acc. to IEC 255	2,5 kV

### System being monitored

Nominal voltage of the system $U_N$	3/N/AC 50...60 Hz 440 V, 400 V, 230 V oder 110 V
Operating range of $U_N$	0.7 ... 1.15 x $U_N$

### Supply voltage

Supplied by the system being monitored	
Max. power consumption	2.5 VA

### Response values

Response value (adjustable)	5 ... 15 %
Repeat accuracy	2 %
Influence of ambient temperature	< 0.05 % / °C
Influence of frequency	< 0.1 % / Hz
Switching hysteresis	ca. 3 %

### 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:

<b>Impulse voltage and electrical disturbance test acc. to IEC 255:</b>	
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 <sup>1)</sup>
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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

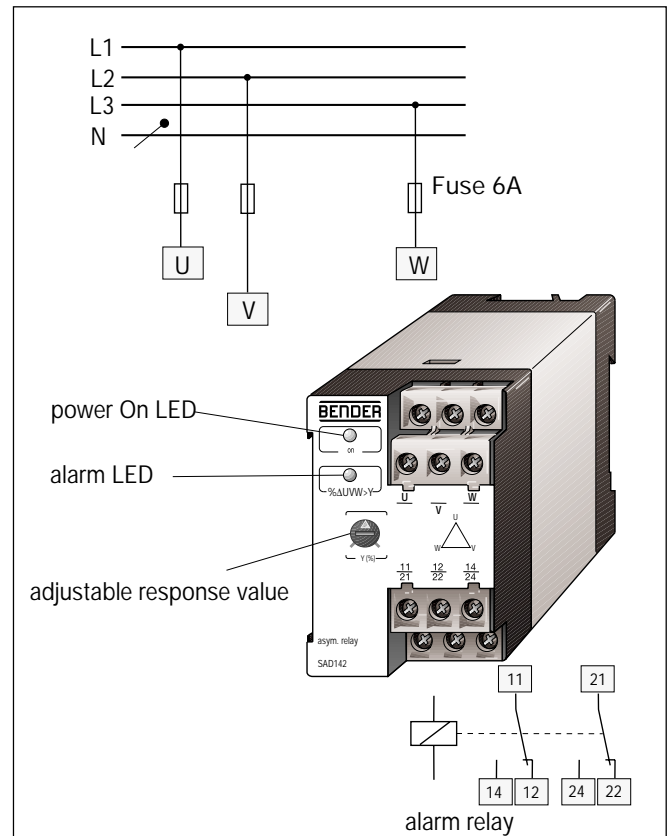
Operation class	continuous operation
Mounting position	any position
Type of connection	terminals with self-lifting clamp-washers
Wire cross section	
single wire	2 x (1...1.5 mm <sup>2</sup> )
fine braid	2 x (0.75...1,5 mm <sup>2</sup> )
DIN rail	acc. to DIN EN 50 022 or screw mounting

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

<sup>1)</sup> 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.
SAD142	3 AC 110 V	935 508
	3 AC 230 V	935 164
	3 AC 400 V	935 125
	3 AC 440 V	935 646

Other values on request

## Ordering details for screw mounting

Type	Art. No.
Mounting plate	300 102

## BENDER Industrial Products

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