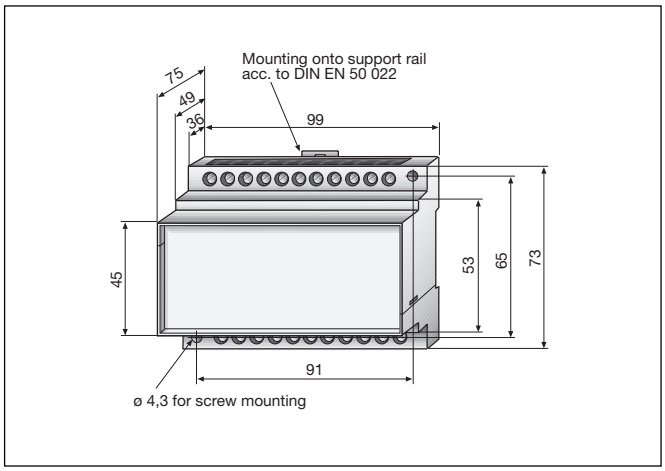
BENDER Under or overvoltage relay SUD472

for 3 AC systems

- electronic measuring relay
- under and overvoltage relay, selectable by a switch at the front plate
- no additional auxiliary voltage required
- alarm relay with two change-over contacts
- built-in Power On LED
- built-in alarm LED
- continuously adjustable alarm point
- continuously adjustable response delay
- built-in energy store (5 sec.)
- internal test button
- transparent dust cover for ingress protection
- casing suited for standard distribution panels

Dimension diagram

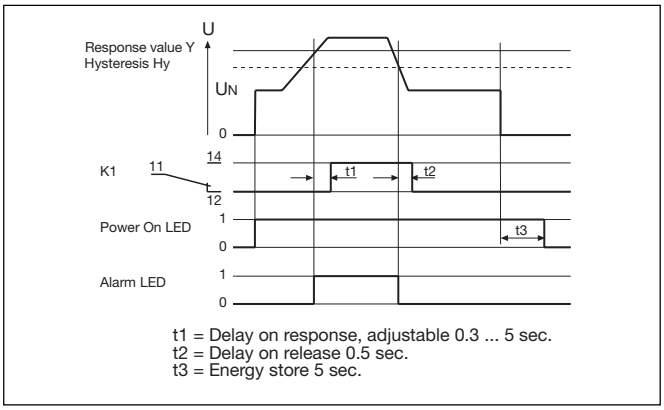


Function

Setting: U > Y (overvoltage relay)

If one, two or all phase to phase voltages exceed the preset response value, the red alarm LED signals "L1, L2, L3 >Y" and the alarm relay energizes after the expiry of the pre-set delay time.

If the value falls below the preset response value plus hysteresis "Hy", the alarm relay de-energizes and the red alarm LED extinguishes.

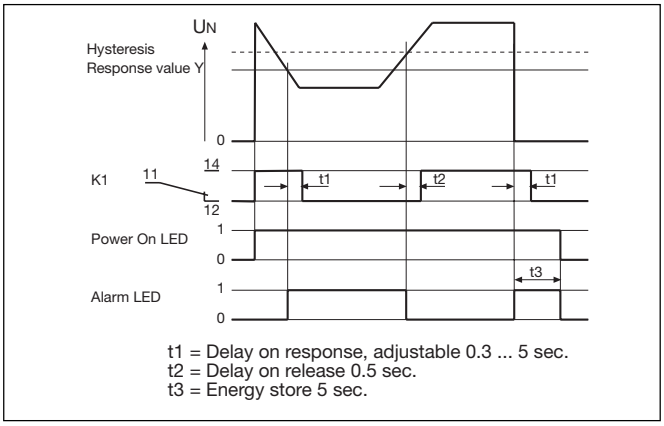


t1 = Delay on response, adjustable 0.3 ... 5 sec.
t2 = Delay on release 0.5 sec.
t3 = Energy store 5 sec.

Setting: U < Y (undervoltage relay)

If one, two or all phase to phase voltages fall below the pre-set response value "Y", the red alarm LED signals "L1, L2, L3 <Y" and the alarm relay deenergizes after the expiry of the set delay time.

If the value exceeds the preset response value plus the adjusted hysteresis "Hy", the alarm relay energizes and the red alarm LED extinguishes.



t1 = Delay on response, adjustable 0.3 ... 5 sec.
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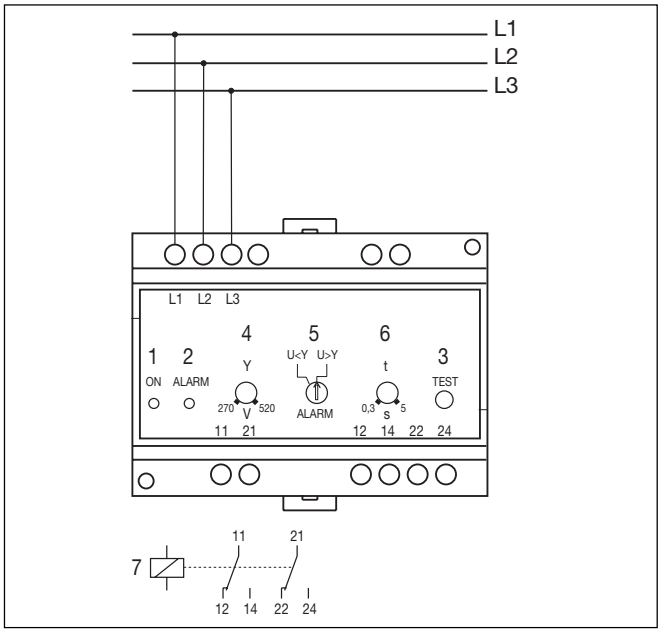
Technical data SUD472

Insulation coordination acc. to IEC 664-1	
Rated insulation voltage	AC 400 V
Rated impulse withstand voltage/contamination level	4 kV / 3
Dielectric tests acc. to IEC 255	2500 V
System being monitored	
Rated mains voltage U_N	3 AC 110, 230 oder 400 V
Response values	
Response value, adjustable	0.7 ... 1.3 U_N
Influence of ambient temperature	< 0.05% / °C
Switching hysteresis	approx. 3 ... 4 % of U_N
Response delay, adjustable	0.3...5 sec.
Influence of ambient temperature	< 0.2% / °C
Max. power consumption	≤3 VA
Contact circuits	
Switching components	
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
Making capacity	UC 5 A
Breaking capacity	
AC 230 V, cos phi = 0.4	AC 2 A
DC 220 V, L/R = 0.04s	DC 0.2 A
Operating principle	
used as overvoltage relay	N/O operation
used as undervoltage relay	N/C operation
Type tests	
Test of the Electromagnetic Compatibility (EMC):	
Immunity against electromagnetic interferences acc. to 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)]
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	-5°C...+50°C
Storage temperature range	-25°C...+60°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	terminal screws with self-lifting clamp-washers M 3.5
Cross-sectional area of connecting cable	
single wire	2 x 1...1.5 mm²
flexible	2 x 0.75...1.5 mm² (AWG 24 - 12)
DIN rail mounting acc. to	DIN EN 50 022
Protection class acc. to. EN 60 529	
Internal components	IP 50
Terminals/with terminal covers	IP 20
Type of casing	X470
Flammability class	UL94V-0
Weight approx.	360 g

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

Wiring diagram



Legend to wiring diagram

1 Power On LED

2 alarm LED

3 test button

4 adjustable response value

5 change-over switch to select under or overvoltage

6 adjustable response delay

7 alarm relay with two change-over contacts

Ordering details

Type	Nominal system voltage	Response values	Art. No.
SUD472	3 AC 110 V 3 AC 230 V 3 AC 400 V	70 ... 140 V 150 ... 300 V 270 ... 520 V	933 219 933 170 933 702