Under Voltage relay

SUD140

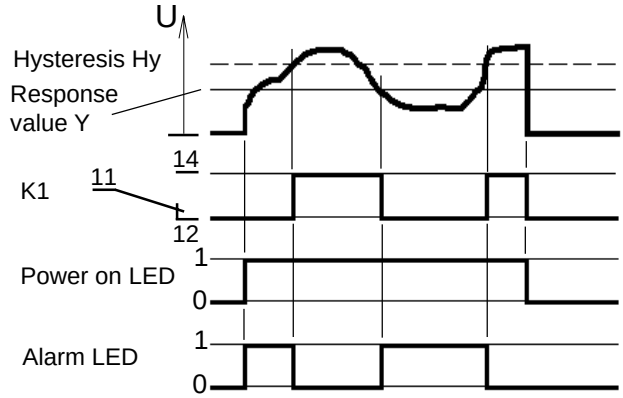
- 3Ph/N AC systems
- monitoring under voltages from

- electronic measuring relay
- no additional supply voltage required
- alarm relay with two change over contacts
- built-in power on LED and alarm LED
- continuously adjustable alarm points
- compact 45 mm casing
- monitors Line to Neutral voltages

Function

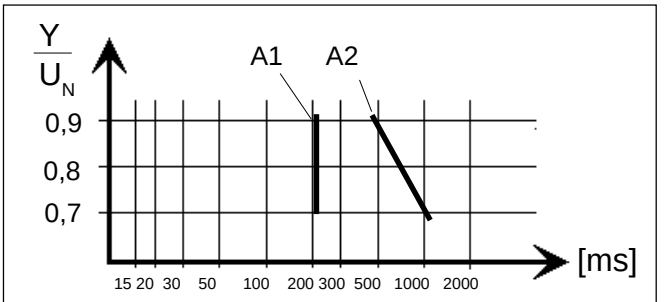
If one, two or all line-to-neutral voltages fall below the adjusted response value "Y", the alarm relay releases out and the red alarm LED signals "UVW - N<Y".

If the adjusted response value and additionally the fixed hysteresis "Hy" is exeeded the alarm relay reacts and the red alarm LED extinguishes.



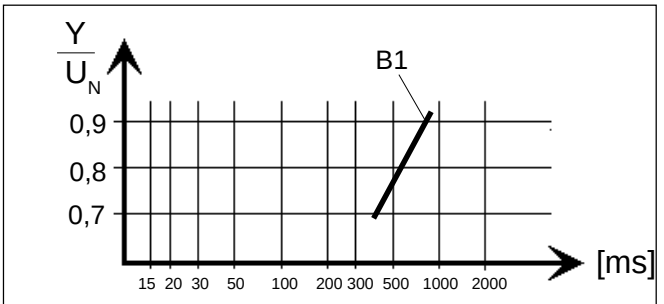
K1 = alarm relay

Delay on response



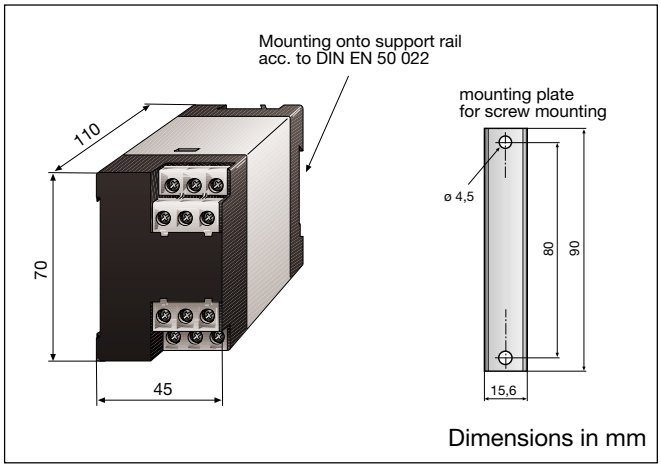
A1 = Changing from U_N to 0 V
A2 = Changing from U_N to 0,5 x U_N

Delay on release



B1 = Changing from 0V to U_N

Dimension diagram



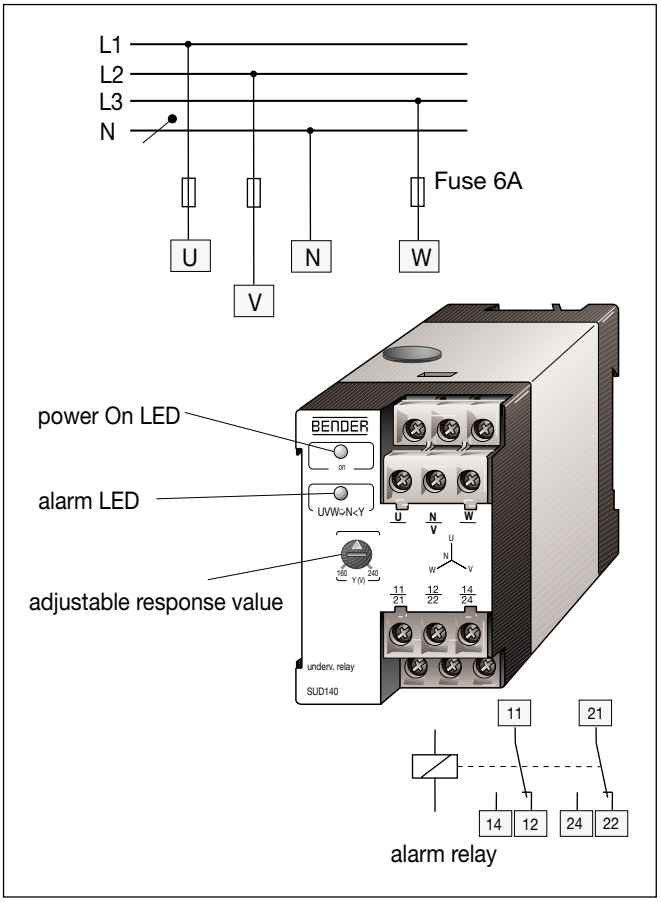
Dimensions in mm

Technical data SUD140

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 100/58 ... 115/66 V 200/115 ... 220/127 V 380/220 ... 440/254 V
Operating range	0 ... 1.15 x U_N
Supply voltage	
Supplied by the system being monitored	
Self-consumption	2.5 VA
Response values	
Response value adjustable	40 ... 60 V, 80 ... 120 V or 160 ... 240 V
Repeat accuracy	1.5 %
Temperature influence	< 0.05 % / °C
Frequency influence	< 0.1 % / Hz
Switching hysteresis approx.	5 %
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)]
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	terminal screws with self-lifting clamp-washers
Wire cross section	
single wire	2 x (1...1,5 mm²) 16 AWG
fine braid	2 x (0,75...1,5 mm²) 16 AWG
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	Response value	Art.-No.
SUD140	3/N AC 100...115 V 3/N AC 200...220 V 3/N AC 380...440 V	40...60 V 80...120 V 160...240 V	933 556 933 504 933 505

Other values on request

Ordering details for screw mounting

Type	Art. No.
Mounting plate	300 102

BENDER Industrial Products
700 Fox Chase, Coatesville PA 19320
Tel. (800) 356-4266 Fax. (610) 383-7100
www.benderrelay.com