BENDER Protective Line Monitoring **SLU140**

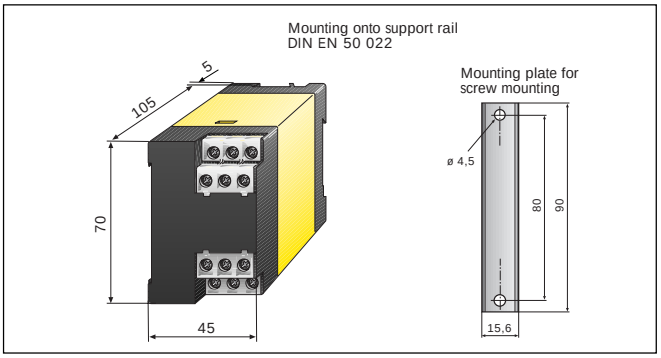
for protective conductor monitoring in AC networks

- **electronic measuring relay**
- **impulse voltage proof and HF-noise resistant according to VDE and IEC**
- **output relay with two free change over contacts**
- **built-in operation LED**
- **built-in indication LEDs**
- **built-in test or reset button**
- **steplessly adjustable response value and response delay**
- **larger measuring range**
- **N/O and N/C operation available**
- **compact 45 mm casing with information card**

Product description

The SLU140 monitors low ohmic circuits. An alarm is indicated when a measurement exceeds a certain set resistance value. This device for protective conductor monitoring in AC networks as well as in idle networks, measures the resistance between the measuring inputs. The input is protected against stray voltages up to 380 V. The large measuring range, the adjustable response delay and the selectability between N/O and N/C operation permits adaption to varied applications.

Dimension diagram



Function

The SLU140 monitors the ohmic resistance of the measuring loop between the terminals E and ⏚. The measuring loop can exist, for example, from the respective low ohmic connection of the metallic housing of an electrical consumer with the protective line. Thereby, the SLU140 is bound with a PE reference point and an earthing point.

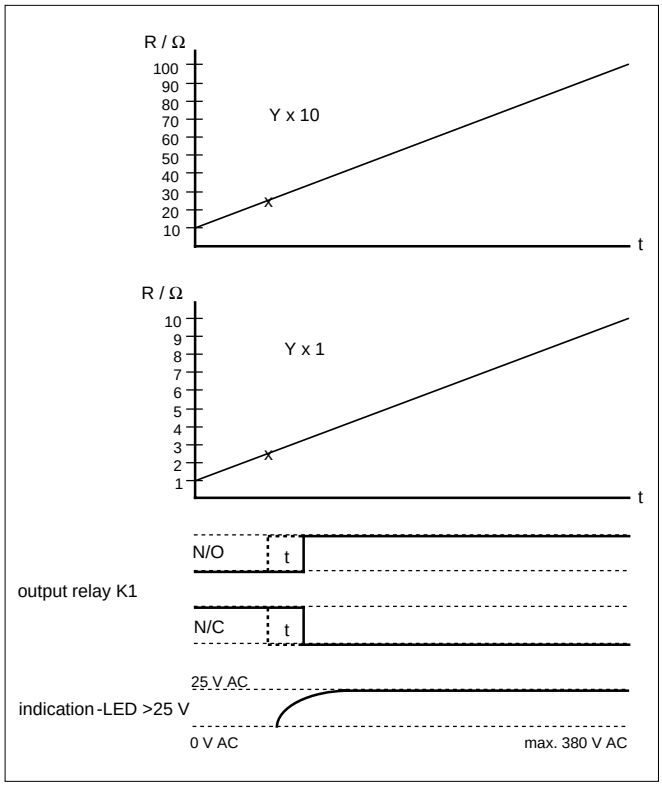
If the monitored ground loop resistance exceeds the preset value "Y", it will be indicated by the red LED-indicator "R>Y" and switching of the indication relays.

If a stray voltage >AC 25 V occurs on the measuring circuit, i.e. by open circuits (PE interrupted) and earth fault at electrical equipment, it will be indicated by the red LED " ϟ AC".

The device has a selector switch "Y x 1", Y x 10" to adjust response values of 1 ... 10 Ω or 10 ... 100 Ω. The adjustable time delay can be set from 1 ... 10 sec. according to network conditions.

Stray AC and DC voltages on the measuring circuit can lead to deviations of the response values.

Functional diagram



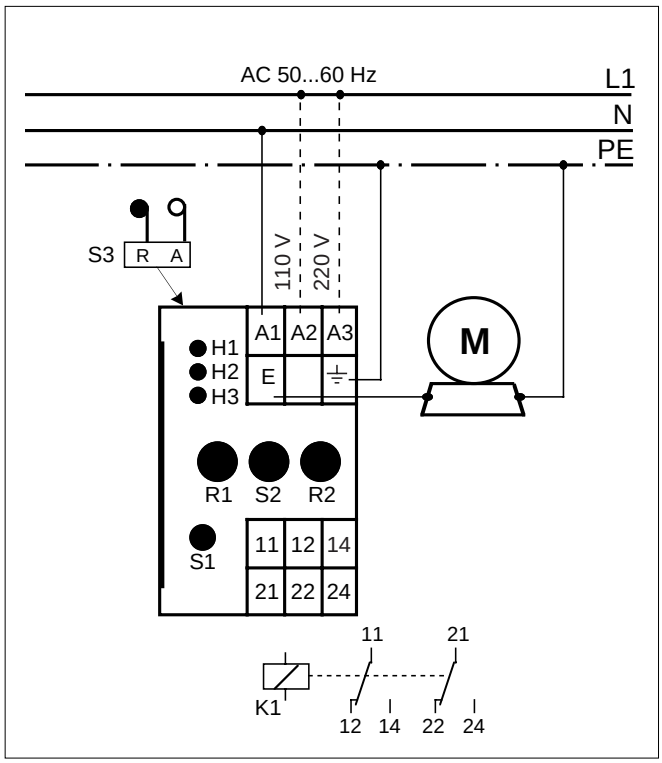
Technical Data SLU140

Nominal insulation voltage	AC 380
Insulation group according to VDE 0110/ contamination level	III
Test voltage	1500 V
Operating class	permanent operation
Rated mains voltage U_N	AC 50 ... 60 Hz 220/110 V
Operating range of U_N	0.8 ... 1.15 U_N
Max. self consumption	5 VA
Adjustable response value R_{AN}	1 ... 10 Ω or 10 ... 100 Ω
Response delay	1 ... 10 sec
Response value for stray voltage	>AC 25 V
Response delay for stray voltage	<60 sec
Max. admissible stray voltage	AC 380 V
Switch components	two free change over contacts
Switch capacity max.	33 W, 1100 VA
Rated contact voltage	220 V
Permanent current	5 A
Break capacity	
at AC 220 V and cos. phi = 0,4	3 A
at DC 110 V and L/R = 0	0.3 A
Operating principle	N/C or N/O operation
Adjustment by factory	N/C operation
Admissible ambient temperature	
when operating	-10°C ... +50°C, 263 K ... 323 K
when stored	-20°C ... +70°C, 253 K ... 343 K
Tests according to VDE 0435, part 303 and IEC 255-4	
Impulse voltage strenght	class III
HF-noise resistance	class III
Mounting	as desired
Type of connection	terminal screws with self-lifting clamp washers
Terminal screws	M 3.5
Wire cross section	
single wire	2x (1 ... 1.5 mm^2) 16 AWG
fine braid with end sleeve	2x (1 ... 1.5 mm^2) 16 AWG
Casing material	RABS 9000
Protection class according to DIN 40 050	
Internal components	IP 50
Terminals	IP 10
with terminal covers	IP 20
Wiring diagram	Z 120 404
Weight approx.	300 g

Ordering details

Type	Rated mains voltage U_N	Art. No.
SLU140	AC 220/110 V	925 158

Wiring diagram



Legend to wiring diagram

H1 operation LED, green

H2 indication LED, red "R>Y"

H3 indication LED, red, stray voltage >25 V " ϟ AC"

S1 test or reset button, pre-set to test button

S2 switch for response value 1 ...10 Ω or 10 ... 100 Ω

S3 switch for the operation of output relay K1, accessible through the casing opening, pre-set to N/C operation.

R1 adjustable response value (R >Y)

R2 adjustable response delay (t/sec)

K1 output relay with two free change over contacts

The supply voltage is AC 50 ... 60 Hz 110 V (Terminals A1-A2) or AC 50 ... 60 Hz 220 V (Terminals A1-A3).

Note

A function test is recommended before system start up to ensure proper connection and operation of the device (i.e. highering the resistance between the terminals E and ⏚).

Please observe correct mains voltage!

Each device is supplied with terminal covers for protection against electric shock. If these covers are not used, alternative protective measures must be observed.