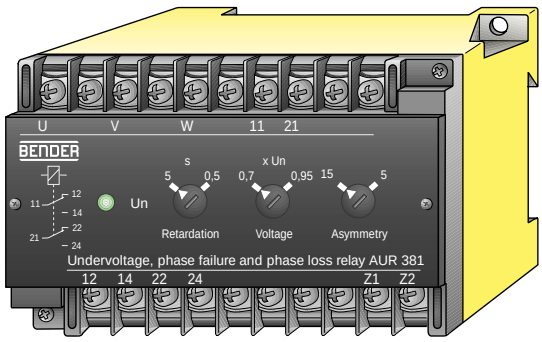
Under Voltage, phase failure and phase loss relay

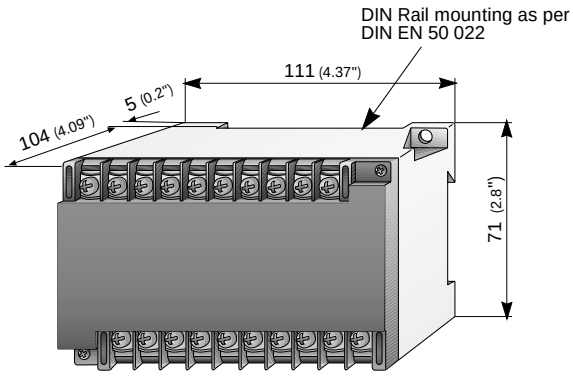
AUR381Z

- 3 AC power systems up to 690 V



- For use in 3-and 4-mains
- Undervoltage detection
- Asymmetry detection
- Adjustable time delay

Dimension diagram



Product description

The combined Asymmetry and Under voltage relay AUR381Z monitors 3 phase AC power systems. It indicates asymmetric voltage conditions and voltage drops. No star point connection is necessary, which makes it suitable for 3 and 4 wire power systems.

The device is supplied by the system to be monitored.

The response values for asymmetry, under voltage and time delay are adjustable. The measuring circuitry is galvanically separated from the power system. Special input transformers suppress the transmission of noise. The device incorporates filtering for use in power systems with heavy noise.

Two change over contacts can be used for alarm indication. The output relay is energized during normal operation. It becomes de-energized if the voltage asymmetry exceeds the adjusted setpoint or the voltage drops below the adjusted response value. The green indication LED turns off in case of malfunction.

Function

The line-to-line voltages are measured and evaluated by the AUR381Z. The AUR381Z compares the voltage levels in order to detect an asymmety. Simultaneously the voltages are compared with the adjusted response value to detect an undervoltage condition.

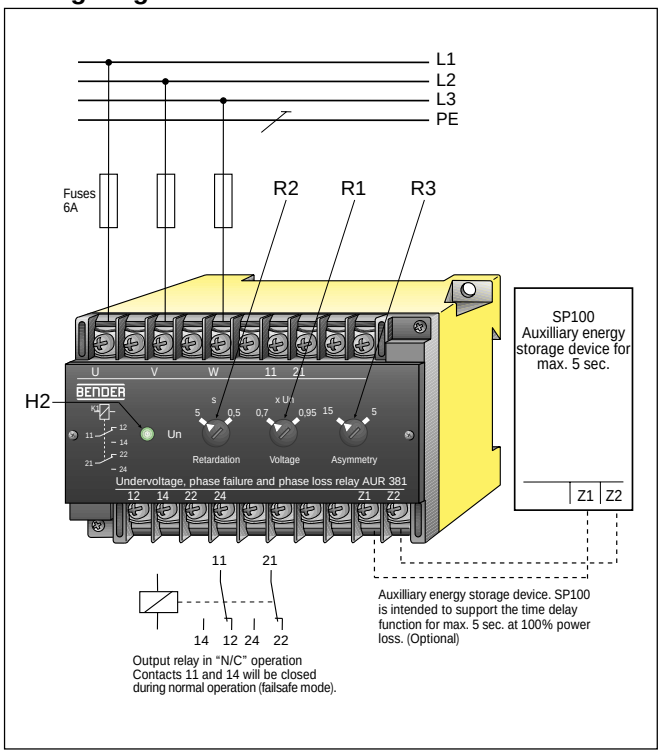
The response values for asymmetry and undervoltage are separately adjustable. If one of these values is reached, the output relay is de-energized after the adjusted time delay, causing the relay outputs to change state. The LED will turn off.

The output relay resets automatically and immediately if the actual values are back to normal condition. The integrated switching-hysteresis (ca. 2% of the response value) is to be noticed in this matter.

Technical Data

Nominal insulation voltage:	
Measuring circuit	AC 630 V
Auxiliary voltage circuits	250 V
Contact circuits	250 V
Insulation group	C
Test voltage	3000 V
Rated mains voltage:	
Nominal voltage (U_N)	see type label
Frequency range	50...60 Hz
Operating range	0.5...1.3 of nominal voltage
Max. self-consumption	2,5 VA
Response values:	
for under voltage	0.95 ... 0.7 of nominal voltage
for asymmetry	5% ... 15%
response time delay	0.5 ... 5 sec.
Switching hysteresis	ca. 2% of response value
Environmental conditions:	
Temperature range during operation	- 10 °C ... +50 °C
Temperature range, storage	- 20 °C ... +70 °C
Climate classification in acc. with IEC 68-2-6	10 ... 150 Hz/ 0.15mm-2g
Output relay:	
Switch components	two change-over contacts
Nominal contact voltage	AC 250 V/DC 300 V
Max. switch plays	12000
Switch capacity max.	1100 VA, 55W
at AC 230 V and cos. Phi = 0,4	2 A
at DC 220 V	0.2 A
Make current / Permanent current	AC/DC 5 A
Operating principle,	normally closed
Tests according to EN50082-2 and IEC 255:	
Impulse voltage strength **IEC 255-5**	class III
Emissions in accordance with EN50011/CISPR11:	class B
Mechanical test:	
Shock resistance in accordance to IEC86-2-27	15g/11ms
Continous shock in accordance with IEC86-2-29	40g/6ms
Vibration resistance in accordance with IEC68-2-6	10...150 Hz/ 0.15mm-2g
Climatic class according to DIN 40 040	F
Mounting	indifferent
Type of connection	terminal screws M 3.5 with self-lifting clamp-washers clip up terminal covers
Wire cross section	
single wire	0.002 ... 4 mm^2
fine braid with end sleeve	0.2 ... 2.5 mm^2 (EWG24-12)
Protection class according to EN6529	
Internal components	IP 30
Terminals	IP 10
with terminal covers	IP 20
Housing type	X200
DIN rail and screw mounting	
Flammability class	UL94V-0
Weight	approx. 700 g/1.5 lbs.

Wiring diagram



Legend to wiring diagram AUR381

H2	On LED
R1	Adjustable Under voltage alarm setting
R2	Adjustable time delay
R3	Adjustable Asymmetry alarm setting

Ordering details

Type	Time delay (sec.)	Rated system voltage	Art. No.
AUR381Z	0.5 ... 5	3 AC 690 V 3 AC 660 V 3 AC 440 V 3 AC 400 V 3 AC 230 V 3 AC 208 V	935 068 935 003 935 630 935 631 935 S* 935 S*
SP100			935 700

S* Special version on request

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