

Voltage presence relay for capacitive divider RPT23



• AC and DC voltage monitoring

TRMS measure

Voltage presence and absence detection thresholds
for single-phase, three-phase networks or DC voltage

• Direct measurement or via capacitive divider or transformer

High input impedance

compatible with neon indicators on capacitive voltage divider output

• Display voltages and status indicators for fast diagnostic

• Fully configurable with pushbutton under the front panel

• Auxiliary power supply universal 20...265Vac-dc

• option SIL2 in accordance to IEC 61508



The RPT23 relay associated for example with an capacitive voltage divider, control the presence or absence of AC voltage on medium or high voltage network.
It can be used for indicating any change in network status.

Description:

The effective voltage of the three phases are measured via a high impedance circuit, and compared with the internal thresholds to detect the voltage presence or absence.

The relays outputs evolve following this comparison (after application of a programmed delay). The algorithm is defined as follows:

voltage loss = absence of all three voltages
(value under the absence threshold)

voltage presence = presence of at least one voltage
(value above the presence threshold)

The 2 relays outputs are complemented:

Relay 1 is activated in voltage presence (presence of one voltage)

Relay 2 is activated on voltage absence (loss of the 3 voltages)

Making it possible to select the wanted safety operating on loss of the module supply voltage or on module dysfunction.

Validate on site by EDF for medium voltage stations.

(comply with all requirements)

General characteristics:

- Low detection (voltage absence)
- High detection (voltage presence)
- Configurable response time from 0.15 to 60 seconds
- Display of divider or transformer output voltage
- Led status indicators of each phase.
- Auxiliary power supply: 20...265 Vac/dc

Features:

- DIN rail mounting (symmetrical)
- Connection on screw terminal block (up to 2.5 mm2)
- Pluggable terminal blocks
- Conformal coating
- Protection rating (enclosure/terminal blocks) IP20

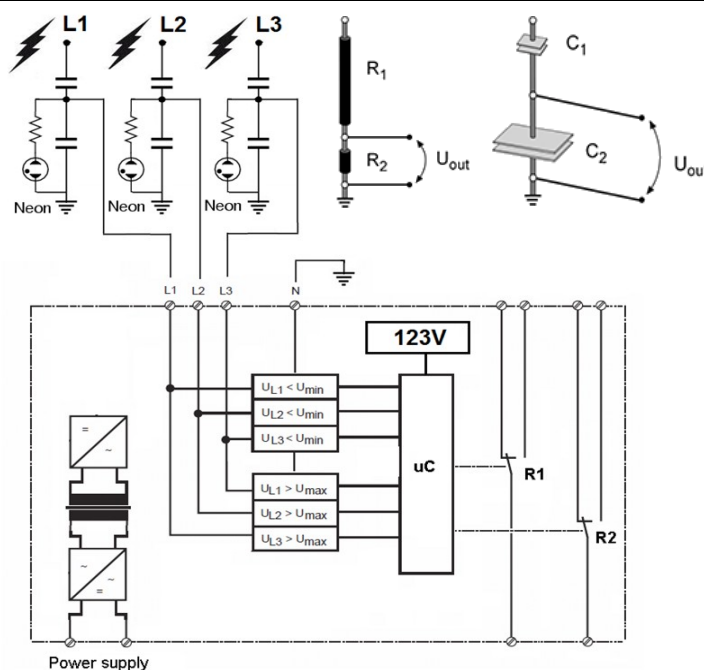
Functional security data:

component type B , HFT = 0

$\lambda f = 239 \text{ fit}$, DC = 87.8 % , PFH : 16 to 21 fit , SFF = 92 %



Synoptic: (example of use)



Versions and order code:

RPT23 : 2 complementary output relays (changeover contact)
auxiliary power supply 20 ... 265Vac-dc

option **/SIL2** SIL2 version in accordance to IEC61508

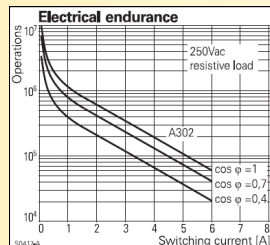
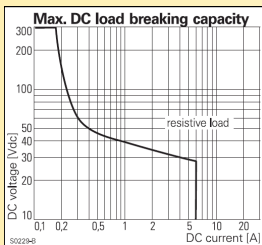
MEASURE INPUT

TYPE	RANGE	ACCURACY
Measurable input voltage:	10...600 Vac	+/-2%
Frequency range:	45...65 Hz	
Voltage input :	20...1200Vdc	+/-2%

Adjustable threshold range:
 Voltage presence: from 10 to 500 Vac-dc
 Voltage absence: from 10 to 500 Vac-dc
 Wiring : 3 wires (L1,L2,L3) + neutral
 Current draw: < 0.1 mA @ 100Vac
 Input impedance: > 1.4 Mohms

OUTPUT RELAY

Potential free changeover contact
 Isolation 2500 Vac
 Impulse withstand voltage 6000 V (1.2 / 50 μ s)
 switching power AC 440 Vac / 6Aac, 1500VA
 switching power DC 300 Vdc / 0.15 Adc
 Load type life time (number of operations)
 5 A, 250 Vac, resistive 1×10^5
 2 A, 250 Vac, cos phi 0.4 2×10^5
 1 A, 24 Vdc, L / R=48 ms 2×10^5
 6 A, 250 Vac, resistive 7×10^4
 3 A, 250 Vac, cos phi 0.4 2×10^5
 Programmable response time 0.15 ... 60 seconds



AUXILIARY POWER SUPPLY

Standard: 20 ... 265 Vac-dc, 2 VA

ENVIRONMENT

Operating temperature -25 to 65 °C
 Storage temperature -40 to 85 °C
 Humidity 95 % not condensed
 Climatic resistance: >500 hours at 95% RH in the air at 55 °C

Weight 150 g

Protection rating IP 20

Dielectric strength 2500 Vrms continuous
 Insulation resistance > 2 Gohms @ 1000 Vdc
 Measure input/Power supply/Contacts

MTBF (MIL HDBK 217F) > 4 200 000 Hrs @ 25 °C
 life time > 200 000 Hrs @ 30 °C

Electromagnetic compatibility 2014/30/UE / Low Voltage Directive 2014/35/UE

Immunity standard for industrial environments EN 61000-6-2		Emission standard for industrial environments EN 61000-6-4
EN 61000-4-2 ESD	EN 61000-4-8 AC MF	EN 55011 group 1 class A
EN 61000-4-3 RF	EN 61000-4-9 pulse MF	
EN 61000-4-4 EFT	EN 61000-4-11 AC dips	
EN 61000-4-5 CWG	EN 61000-4-12 ring wave	
EN 61000-4-6 RF	EN 61000-4-29 DC dips	



WIRING AND OUTLINE DIMENSIONS:

