Voltage presence relay for capacitive divider, transformer, resistive bridge AC + DC — RPT23

LOREME

- ***AC and DC voltage monitoring***
  - ***TRMS measure : 10 …...600Vac, 1000Vdc***
  - *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, 100...400Vac-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)

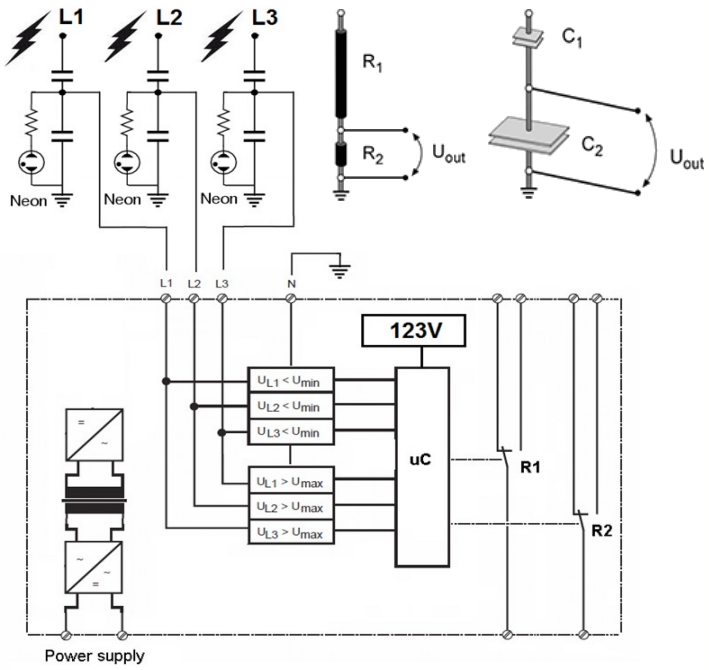
General characteristics:
- Low detection (voltage absence)
- High detection (voltage presence)
- Configurable response time from 0.15 to 60 seconds
- Display of divider or transformer output voltage
- Led status indicators of each phase.
- Auxiliary power supply: 20...265 Vac/dc / 100...440 Vac/dc

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
λf = 239 fit , DC = 87.8 %, PFH : 16 to 21 fit , SFF = 92 %

SIL2

Synoptic: (example of use)



Versions and order code:

Request a quote

RPT23 :	2 complementary output relays (changeover contact) auxiliary power supply 20 … 265Vac-dc
RPT23-400:	400 Hz network signals version
option **-HV**	Auxiliary power supply 100 … 440Vac/dc
option **/SIL2**	SIL2 version in accordance to IEC61508

MEASURE INPUT

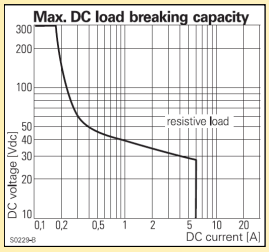
TYPE	RANGE	ACCURACY
Measurable input voltage:	10....600 Vac	+/-2%
Frequency range:	45....65 Hz or 400 Hz	
Voltage input :	10...1200Vdc	+/-2%
Maximum measurable voltage:	1100Vac , 1600Vdc	

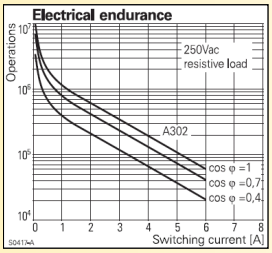
Adjustable threshold range:

Voltage presence:	from 10 to 600 Vac-dc
Voltage absence:	from 10 to 600 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 µs)
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	$1x10^5$
2 A, 250 Vac, cos phi 0.4	$2x10^5$
1 A, 24 Vdc, L / R=48 ms	$2x10^5$
6 A, 250 Vac, resistive	$7x10^4$
3 A, 250 Vac, cos phi 0.4	$2x10^5$
Programmable response time	0.15 … 60 seconds





AUXILIARY POWER SUPPLY

Standard:	20 ... 265 Vac-dc, 2 VA
High voltage:	100 ... 440 Vac-dc, 2.5VA

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*
EN 61000-4-3 RF	*EN 61000-4-9 pulse MF*	*group 1*
EN 61000-4-4 EFT	*EN 61000-4-11 AC dips*	*class A*
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: