

CONFIGURATION HANDBOOK

RPT23



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Download manual at : www.loreme.fr

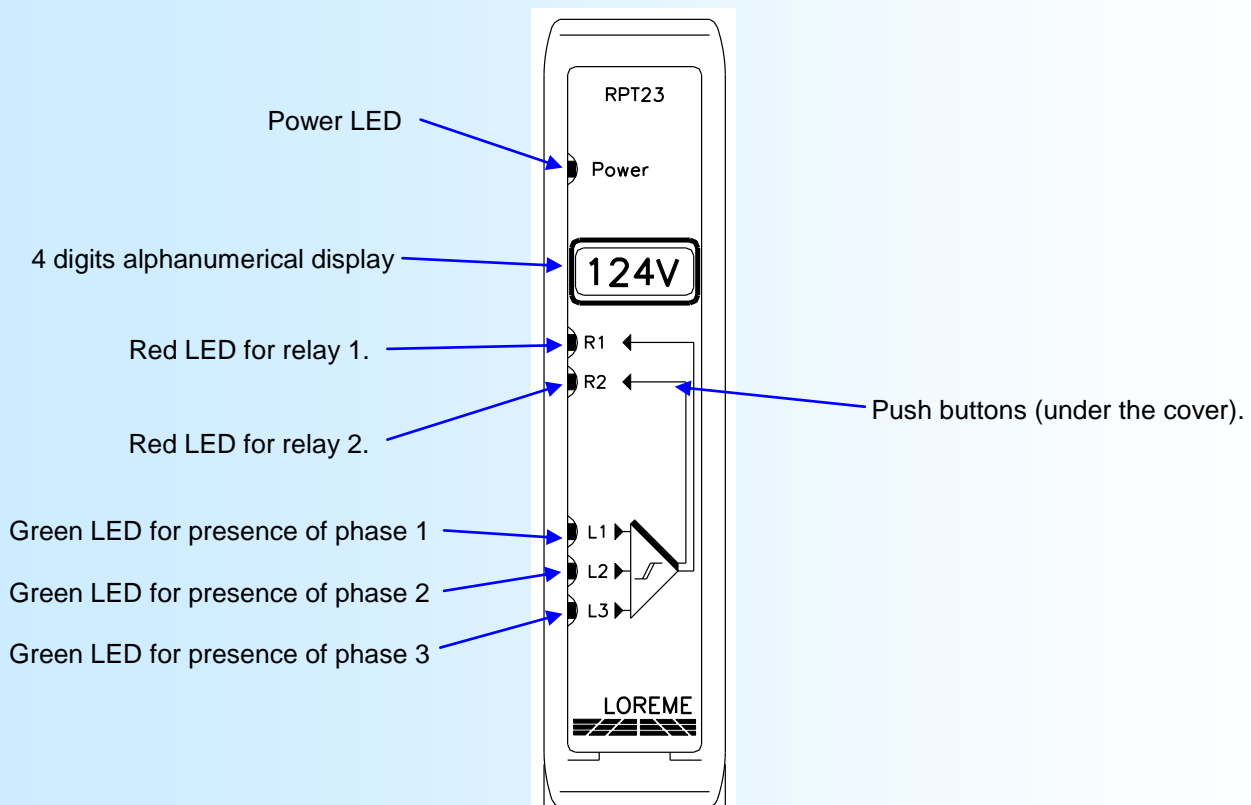
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Device Presentation

The RPT23 relay associated to a capacitive divisor monitor the presence or the absence of alternative voltage on a middle or high voltage network. The setup by the front face eases the integration of the device.

The datasheet may be downloaded at : http://www.loreme.fr/fichtech/RPT23_eng.pdf



Functionality

The RPT23 measure continuously the 3 phases voltage L1, L2, L3 and compare this measures with the internal thresholds for presence and absence detection. The output relays states are established with this comparison result (after a possible programmed delay).

The detection algorithm is define as:

Voltage absence (voltage loss): Lack of the three phases (voltage lower than threshold of absence).

Voltage presence: At least one phase is present (voltage higher than threshold of presence).

The two relays outputs are complemented:

The relay 1 is activated on presence of voltage (at least one phase).

The relay 2 is activated on voltage absence (all the three phases).

Allowing thereby to select the security operating on device power voltage loss or device dysfunction.

Visualization

At the power on, the device displays the voltage measure on L1 input (phase 1) and alternatively displays the 'UL1' tag. It is possible to change the phase index by pressing the push button (bottom button). In the case of a voltage presence detection, the R1 LED is on and the R2 LED is off. In the case of a voltage loss detection, the R1 LED is off and the R2 LED is on.

Configuration

The RPT23 may be entirely configured by the front face buttons. Press on the top button to access configuration. for each configuration rubric, a message scrolls on the display. It is necessary to unroll the configuration until the last parameter because it is only then that they are memorized (see note below).

The parameters are:

- Threshold of voltage presence (20 V by default, set from 10 to 600 V).
- The activating delay for the voltage presence detection (0 s by default, set from 0 to 60 s).
- Threshold of voltage absence (15 V by default, set from 10 to 600 V).
- The activating delay for the voltage absence detection (0 s by default, set from 0 to 60 s).

1) Configuration messages

VOLTAGE PRESENCE?	-> threshold parameter for the voltage presence detection.
DELAY?	-> delay between the presence detection and action on the relay.
VOLTAGE ABSENCE?	-> threshold parameter for the voltage loss detection.
DELAY?	-> delay between the loss detection and action on the relay.
OK!	-> End of configuration.

After each message, the displayed parameter value is blinking. The top button permits to increment the value, the bottom button to decrement it. The device leaves the setting mode if no actions are made on buttons after a 4 seconds delay.

Note:

At the end of configuration, the "OK !" message is displayed to indicate that all parameters have been stored in the non volatile memory of the device. The device returns then to the measurement mode, taking into account the new parameters.

EMC Consideration

1) Introduction

To meet its policy concerning EMC, based on the Community directives **2014/30/EU** & **2014/35/EU**, the LOREME company takes into account the standards relative to this directives from the very start of the conception of each product.

The set of tests performed on the devices, designed to work in an industrial environment, are made in accordance with **IEC 61000-6-4** and **IEC 61000-6-2** standards in order to establish the EU declaration of conformity. The devices being in certain typical configurations during the tests, it is impossible to guarantee the results in every possible configurations. To ensure optimum operation of each device, it would be judicious to comply with several recommendations of use.

2) Recommendations of use

2.1) General remarks

- Comply with the recommendations of assembly indicated in the technical sheet (direction of assembly, spacing between the devices, ...).
- Comply with the recommendations of use indicated in the technical sheet (temperature range, protection index).
- Avoid dust and excessive humidity, corrosive gas, considerable sources of heat.
- Avoid disturbed environments and disruptive phenomena or elements.
- If possible, group together the instrumentation devices in a zone separated from the power and relay circuits.
- Avoid the direct proximity with considerable power distance switches, contactors, relays, thyristor power groups, ...
- Do not get closer within fifty centimetres of a device with a transmitter (walkie-talkie) of a power of 5 W, because the latter can create a field with an intensity higher than 10 V/M for a distance fewer than 50 cm.

2.2) Power supply

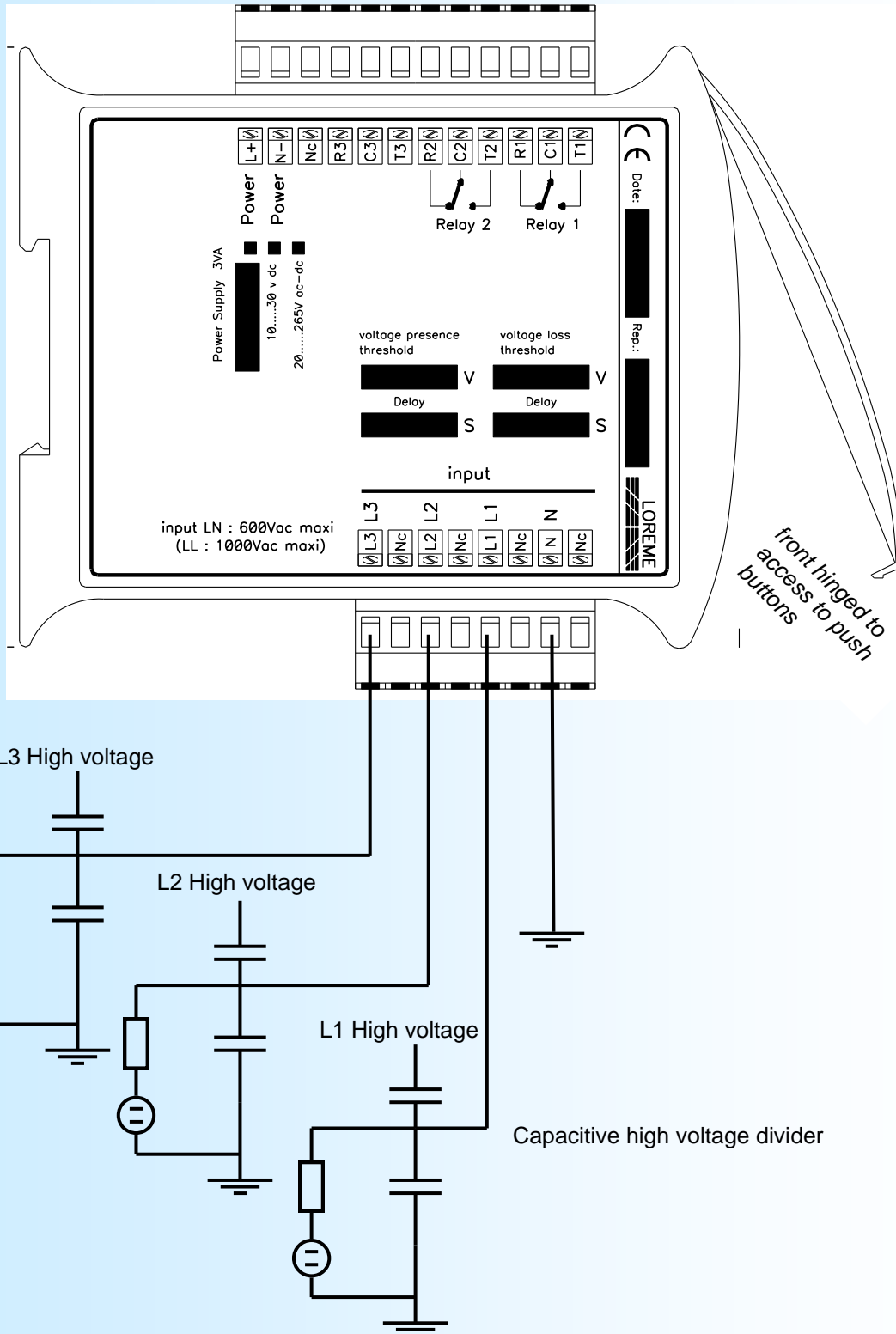
- Comply with the features indicated in the technical sheet (power supply voltage, frequency, allowance of the values, stability, variations ...).
- It is better that the power supply should come from a system with section switches equipped with fuses for the instrumentation element and that the power supply line be the most direct possible from the section switch.
- Avoid using this power supply for the control of relays, of contactors, of electrogates, ...
- If the switching of thyristor statical groups, of engines, of speed variator, ... causes strong interferences on the power supply circuit, it would be necessary to put an insulation transformer especially intended for instrumentation linking the screen to earth.
- It is also important that the installation should have a good earth system and it is better that the voltage in relation to the neutral should not exceed 1V, and the resistance be inferior to 6 ohms.
- If the installation is near high frequency generators or installations of arc welding, it is better to put suitable section filters.

2.3) Inputs / Outputs

- In harsh conditions, it is advisable to use sheathed and twisted cables whose ground braid will be linked to the earth at a single point.
- It is advisable to separate the input / output lines from the power supply lines in order to avoid the coupling phenomena.
- It is also advisable to limit the lengths of data cables as much as possible.

Wirings

WIRING DIAGRAM



- L+, N- terminals: power supply.
- R1, C1, T1 terminals: changeover contact of relay 1.
- R2, C2, T2 terminals: changeover contact of relay 2.
- R : Rest contact.
- C: Common contact.
- T: Work contact.