

# Threshold relay for three-phase network RCL105



- **3 current inputs up to 100A**  
Three-phase or three single phase networks
- **Split core current sensors**  
Calibrated 333mV output (sensor type Tio)
- **3 relay outputs**  
Monitoring of each phases
- **Front face LCD 2 lines of 16 characters**  
Display of three currents  
Thresholds settings
- **Can be used like 3 single phase relays**



The RCL105 is a three-phase current relay, for monitoring and protection of unbalanced load by controlling the current in each phase.

The LCD display allows a fine setting of thresholds and a quick view of current values.

#### Applications:

- Monitoring and protection of electric networks.

#### Measures :

- Alternating current 45...65Hz : (3I)
- Current imbalance :  $\Delta \Sigma I$  in %

#### Current measure inputs:

- three 333mV input for split-core current transformer (Tio)  
(measure up to 100Arms. current sensor distance > 30 meters)
- current ratio configurable

#### Relay output :

- 3 alarm relays (250V 1A)
- Free potential change over contact
- Threshold, sens, hysteresis and delay  
are setting with front push buttons

#### Features :

- Symmetrical DIN rail mounting (EN50022)
- modular housing ( 6 modules : 105mm long)
- wiring on screw or spring terminal blocks (2.5mm<sup>2</sup> section max)
- protection rating (case / terminal blocks) : IP20
- conformal coating for electronic.

#### Front face :

- LCD display. 2 lines of 16 characters (back lighting)  
Display of measures (« display » button)
- Three push buttons allows the configuration of device :  
Current ration, threshold, ...
- A serial link under the hinged front face can be use for firmware update  
(USB / jack 3.5mm cable available separately)

#### Current transformer mV output

[http://www.loreme.fr/.../Tio\\_eng.pdf](http://www.loreme.fr/.../Tio_eng.pdf)

Remote split core current transformer  
Very low profile, non intrusive  
remote distance up to 30 meters  
Measure up to 500 Aac



Version and order code:

Request a quote

**RCL105** : supplied with 3 current transformers Tio (333mV output)

**MEASURE INPUT**

TYPE	RANGE
Current	0..1..5..100A (according to Tio model)
Input impedance	Not applicable
Power consumption	negligible
Overload	500A > 10 seconds
Measurement rate	continuous
Frequency	45 to 65 Hz

**METROLOGY**

TYPE	ACCURACY	CONDITIONS
Current	+/- 0.5 %	from 20 to 105% of current range

(The accuracy are given in % of full range)  
 Measure conditions:  
 frequency : 45.....65 Hz, cos phi > 0.75 ; peak factor <1.5, harmonic rank 10 maxi ,  
 ambient temperature from 15 to 30°C

Remarque : the no respect with the above conditions ( under-use of input, harmonic distortion rate, climatic conditions, saturation, ... ) leads to a downgrading of the metrological performances.

**RELAY**

Switching power 250Vac / 1A

**POWER SUPPLY**

80...265Vac-dc ; 2.5VA standard  
 20...80Vac-dc ; 2.5VA on request

**ENVIRONMENT**

Operating temperature -20 to 60 °C  
 Storage temperature -20 to 85 °C  
 Humidity 85 % not condensed  
 Weight 300 g  
 Protection rating IP 20  
 Dielectric strength 2500 Vrms continuous  
 Supply/measure/relays

MTBF (MIL HDBK 217F) > 2 000 000 Hrs @ 25°C  
 Life time > 200 000 Hrs @ 30°C

**Electromagnetic compatibility 2004/108/CE / Low Voltage Directive 2006/95/EC**

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:**

