

# Zelio Control - measurement and control relays

Phase asymmetry control relays,  
self-powered, model RM 84 873

■ **Control:**

- phase imbalance (asymmetry),
- phase sequence,
- phase failure,
- voltage drop on one or more phases.
- Asymmetry rate can be adjusted on the front panel, from - 5 % to - 15 % of  $U_n$ .
- Power supply:  $3 \times \sim 230 \text{ V}$  and  $3 \times \sim 400 \text{ V}$ .
- Dual frequency: 50 and 60 Hz.
- Indication of phase presence and relay state by yellow LED.
- Relay output: 2 C/O contacts, 8A.

## Operating principle

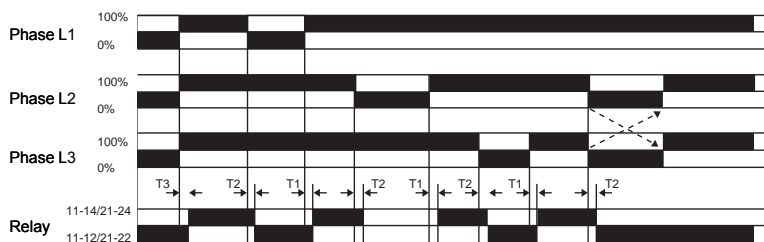
These relays monitor the correct sequencing of phases L1, L2 and L3, as well as a regeneration rate of - 5 % to - 15 % of  $U_n$ .

When the phase sequence is correct, the output relay is energised; this is indicated by a yellow LED.

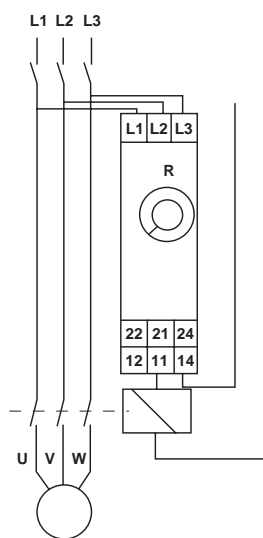
The relay de-energises (LED off) if one of the following faults occurs:

- incorrect sequence of phases at terminals L1, L2 and L3,
- voltage drop on one or more phases.

## Timing diagrams



## Connection scheme



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## References



RM 84 873 501

### Phase asymmetry control relays

Voltage	Reference	Weight kg
~ 230 V	RM 84 873 501	0.120
~ 400 V	RM 84 873 502	0.120

## Input characteristics

Supply voltage	V	3 x ~ 230 and 3 x ~ 400 self-powered
Operating range		- 20...+ 15 % Un
Frequency		50-60 Hz +/- 1 Hz
Maximum consumption	VA	17 at Un/ 50 Hz (20 at 60 Hz)
	VA	23 at Un + 15 %/50 Hz (27 at 60 Hz)

## Output characteristics

Output type		2 cadmium-free C/O contacts
Rated current	A	8
Maximum switching voltage		~ 250 V/~ 440 V
Rated breaking capacity	VA	2000
Minimum breaking current	mA	100/12 V
Electrical life		AC-12 : 10 <sup>5</sup> operating cycles at 8 A/~ 250 V
Mechanical life		2 x 10 <sup>7</sup> operating cycles
Time to onset of fault t2	ms	< 200
Time to disappearance of fault t1	ms	< 200
Clamping capacity	Without cable end	mm <sup>2</sup> 1 x 4 or 2 x 2.5
	With cable end	mm <sup>2</sup> 2 x 1.5

## Other characteristics

Tightening torque		Nm	1 (M3 screw/IEC 947-1)
Temperature limits	Operation	°C	- 20...+ 50
	Storage	°C	- 40...+ 70
Relative humidity			95 % max without condensation
Enclosure material			Self-extinguishing PC
Protection class	Terminal block		IP 20
	Enclosure		IP 40
Dielectric strength	Conforming to IEC 60255-5	kV	2.5/1 min/1 mA/50 Hz
Creepage distance and clearance	Conforming to IEC 60664-1	kV	4kV/3
Vibration	Amplitude	mm	0.35 peak
	Conforming to IEC 60068-2-6	Frequency	Hz
Product certifications			c UL us, CSA

## Dimensions

