

# RPL1 POWER CONTROLLER

## FEATURES:



- For power control of resistive and resistive-inductive load (transformer connected to resistive load or to rectifier circuit).
- Control mode: on/off (similar to solid state relay), pulse, phase.
- Amplification of input control signal (SPAN).
- Limitation of load current.
- Overload protection.
- Signalization of exceeding the maximum temperature of radiator.
- Control of 3-phase load (requires two RPL1 controller units).

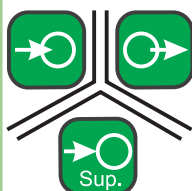
## INPUT:



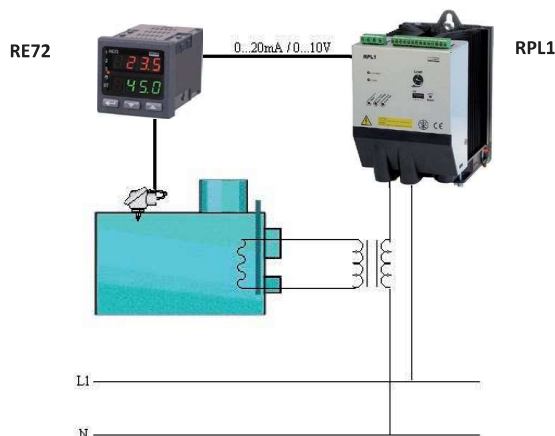
## OUTPUT:



## GALVANIC ISOLATION:



## EXAMPLE OF APPLICATION



## INPUTS

Input type	Quantity	Range	Remarks
Synchronization input	–	230 V a.c. – version RPL1-xx1xx, 400 V a.c. – version RPL1-xx2xx, 500 V a.c. – version RPL1-xx3xx	-
Control voltage input	1	0...5 V 0...10 V	R <sub>in</sub> = 20 k Ω R <sub>in</sub> = 40 k Ω
Control current input	1	0(4)...20 mA	R <sub>in</sub> = 125 Ω
Control pulse input	1	0/4...32 V	R <sub>in</sub> = 20 k Ω
STOP signal input	1	4...8 V	R <sub>in</sub> = 1 k Ω

## OUTPUTS

Output type	Quantity	Range	Remarks
Voltage (Master/Slave)	1	6 ...12 V	non stabilized
Relay	2	NO	60 mA/350 V, R <sub>on</sub> = 35 Ω, U <sub>izol</sub> =1500 V <sub>RMS</sub>

## ELECTRICAL PARAMETERS OF POWER CIRCUIT

No.	Max. output current	Load supply voltage	Max. load	Loss power in thyristor
1	25 A	230 V / 50 Hz 400 V / 50 Hz 500 V / 50 Hz	5.7 kW 10.0 kW 12.5 kW	< 40 W
2	40 A	230 V / 50 Hz 400 V / 50 Hz 500 V / 50 Hz	9.2 kW 16.0 kW 20.0 kW	< 65 W
3	70 A	230 V / 50 Hz 400 V / 50 Hz 500 V / 50 Hz	16.0 kW 28.0 kW 35.0 kW	< 120 W
4	125 A	230 V / 50 Hz 400 V / 50 Hz 500 V / 50 Hz	28.0 kW 50.0 kW 62.0 kW	< 215 W

- Leakage current in the thyristor circuit: < 20 mA
- Load type: resistive or resistive-inductive (0.2 < cosφ < 1), compatible with the category of operational use AC-51 acc. to EN 60947-4-3

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## EXTERNAL FEATURES

Overall dimensions	135 x 201 x 199 mm 135 x 231 x 199 mm - ver. RPL1-x4xx (version with a fan)
Weight	4.5 kg 5.0 kg - ver. RPL1-x4xx (version with a fan)

## RATED OPERATING CONDITIONS

Supply voltage <sup>a</sup> N-L1	195 ... 230 ... 253 V a.c.
Supply voltage frequency	50 Hz
Power consumption	≤ 4.5 VA
Temperature: ambient	0 ... 40°C
Temperature: storage	-25...55
Humidity	< 90 % , without condensation
Operating position	vertical

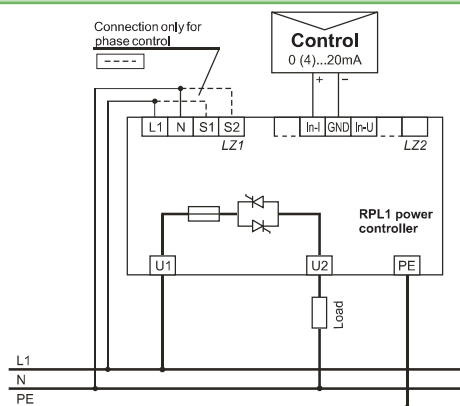
## SAFETY AND COMPATIBILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity	acc. to EN 60947-4-3
	noise emissions	
Pollution level	2	
Installation category	III	
Protection grade from terminal side	IP10 acc. to EN 60529	
Protection grade from casing side	IP20 acc. to EN 60529	
Noise immunity	EN 60947-4-3	
Maximal phase-to-earth voltage	320 V for power circuits and supply, 50 V for other circuits	

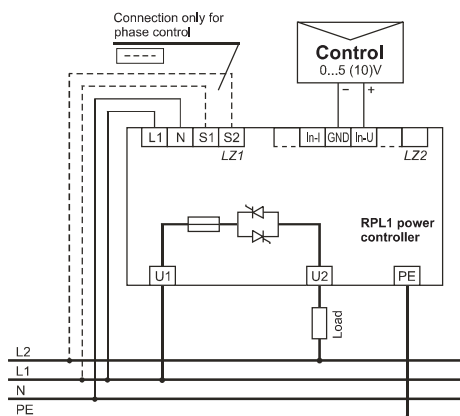
Power controller RPL1 meets the requirements of the norm EN 60947-4-3.

**Caution:** In the case of phase control, the controller meets the requirements of electromagnetic compatibility in terms of noise emissions, only when working near the transition of the supply voltage across zero.

## CONNECTION DIAGRAMS



a) load supply  $U_{LOAD} = 230\text{ V}$ ,  
supply  $U_{UWB} = 230\text{ V}$ .



b) load supply  $U_{LOAD} = 400\text{ V}$ ,  
supply  $U_{UWB} = 230\text{ V}$ .

## ORDERING

RPL1 -	X	X	X	XX	X	X
<b>Control:</b>						
phase	1					
pulse / on/off	2					
<b>Current range:</b>						
maximal output current 25 A	1					
maximal output current 40 A	2					
maximal output current 70 A	3					
maximal output current 125 A*	4					
<b>Load voltage:</b>						
supply voltage - 195...230...253 V a.c.	1					
supply voltage - 340...400...440 V a.c.	2					
supply voltage - 425...500...550 V a.c.	3					
<b>Version:</b>						
standard					00	
custom-made**					XX	
<b>Language:</b>						
Polish						P
English						E
other**						X
<b>Acceptance tests:</b>						
without additional quality inspection requirements						0
with an extra quality inspection certificate						1
other requirements**						X

\* the version RPL1- x4xx has a fixed fan

\*\* after agreeing with the manufacturer

### Ordering example:

The code: **RPL1 - 1 - 1 - 2 - 00 - E - 0** means:

**RP1** - power controller of RPL1 type

**1** - phase control

**1** - output current maximal 25 A

**2** - supply voltage - 340...400...440 V a.c.

**00** - standard version

**E** - English

**0** - without additional quality inspection requirements.

## SEE ALSO:



3-phase power controller - RP3.



Controllers of RE72 and RE82 type.



Temperature sensor.

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