

RPL1 POWER CONTROLLER

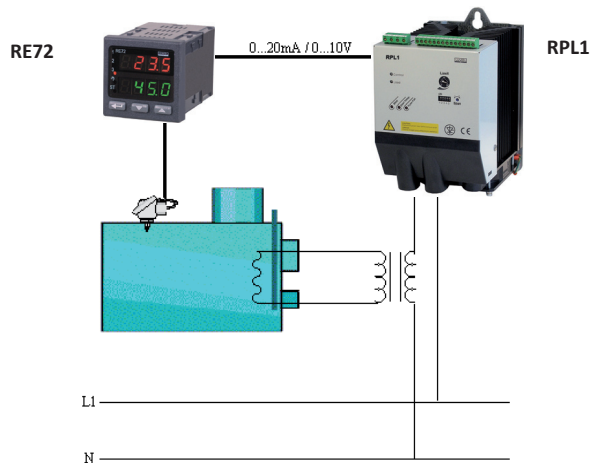
FEATURES:

- Phase control
- ON/OFF control
- Impulse control
- Soft Start
- I_{LIM}
- SPAN



- 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).

EXAMPLE OF APPLICATION



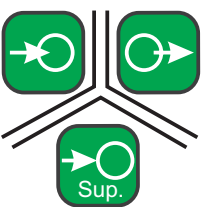
INPUT:

- 0..10 V
- 0..20 mA

OUTPUT:

- 125 A
- 2x

GALVANIC ISOLATION:



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 _{in} = 20 k Ω R _{in} = 40 k Ω
Control current input	1	0(4)...20 mA	R _{in} = 125 Ω
Control pulse input	1	0/4...32 V	R _{in} = 20 k Ω
STOP signal input	1	4...8 V	R _{in} = 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 _{on} = 35 Ω, U _{izol} = 1500 V _{RMS}

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 voltagea 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

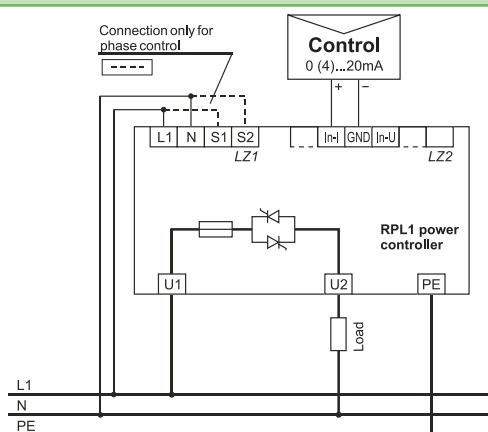
SAFETY AND COMPATIBILITY REQUIREMENTS

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	

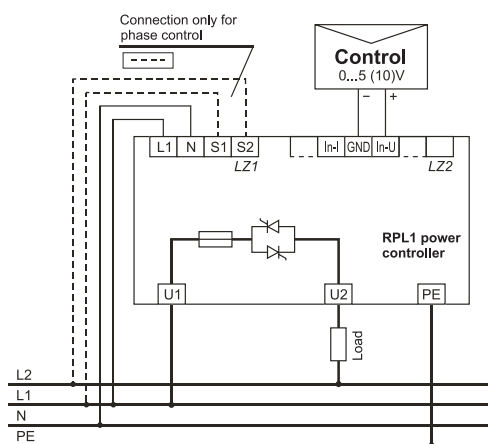
Power controller RPL1 meets the requirements of the norm EN 60947-4-3.

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
Control:						
phase	1					
pulse / on/off	2					
Current range:						
maximal output current 25 A		1				
maximal output current 40 A			2			
maximal output current 70 A				3		
maximal output current 125 A*					4	
Load voltage:						
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	
Version:						
standard						00
custom-made**						XX
Language:						
Polish						P
English						E
other**						X
Acceptance tests:						
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:



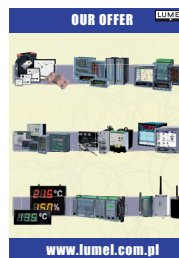
3-phase power controller - RP3.



Controllers of RE72 and RE82 type.



Temperature sensor.



For more information about LUMEL's products please visit our website:
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