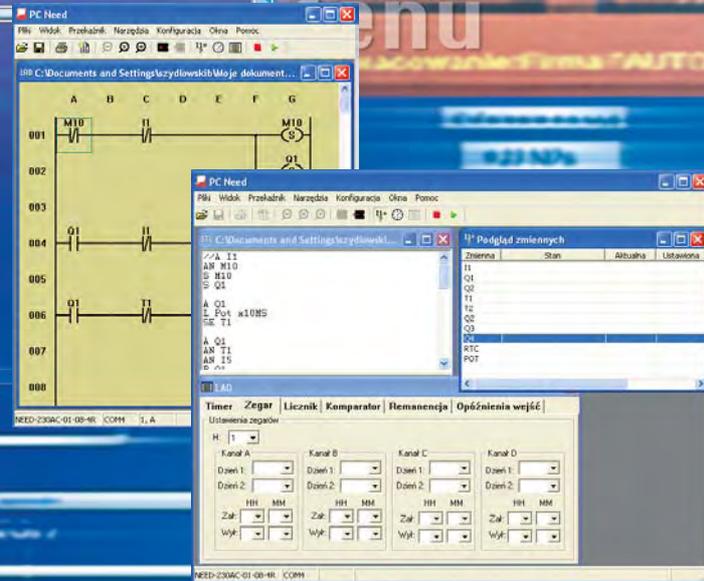




*Positiveness of tomorrow.*

# NEED programmable relay Tomorrow's needs satisfied



Polish programmable relays

Exceptional simplicity of programming

service and technical counseling  
provided by **Relpol S.A.**

## why is NEED outstanding:

- possibility to measure voltages: 0...255 V AC, 0...25 V DC,
- LED signalling the status of inputs / outputs,
- external potentiometer that provides for easy modification of settings,
- various types of outputs: relay-, triac- and transistor outputs,
- available supply voltage: 230 V AC, 24 V DC, 12 V DC,
- software in three language versions: Polish, English, Russian,
- LAD and STL programming possible,
- competitive price.



# 100% efficiency



You are welcome to see the film: [www.relpol.com.pl](http://www.relpol.com.pl)



## Caring for tomorrow

**Create your own NEED!**

Send your idea to:

**e-mail: [need@relpol.com.pl](mailto:need@relpol.com.pl)**

The most interesting

proposals will be awarded.

### The future of the NEED relay

- NEED - 16 inputs / 8 outputs,
- simulation of the relay operation in PC,
- additional modules of extensions of inputs / outputs,
- additional modul of LCD.

to be continued...

# Characteristics

## Physical resources available in the relay:

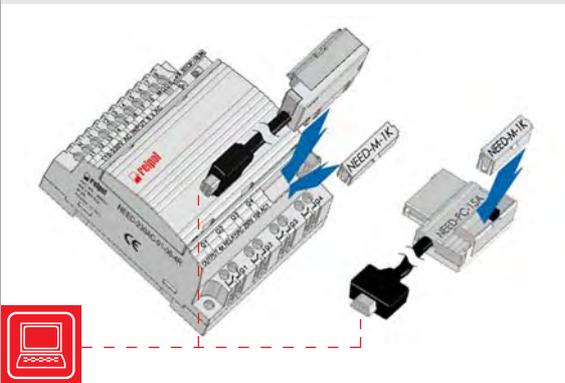
- inputs / outputs: 6 digital inputs (I1 - I6), 2 analog-digital inputs (I7 - I8), 4 relay-, triac- and transistor outputs (Q1 - Q4),
- LED indicator of the relay status,
- STOP/RUN mode switch,
- potentiometer for analog settings,
- LED indicators of input / output status.

## Program resources available in the relay:

- 16 markers (M1 - M16),
- 8 timers (T1 - T8),
- 8 counters (C1 - C8),
- 8 comparators of analog values (A1 - A8),
- 4 real time clocks (H1 - H4).

## NEED system structure:

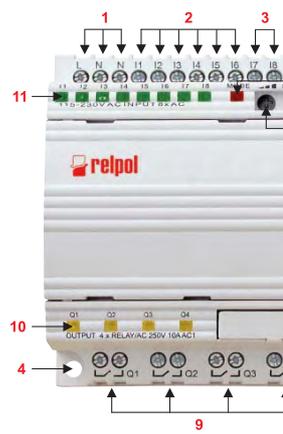
- **NEED** programmable relay,
- cable for programming and diagnostics (with RS232 serial port for connection to PC computer) **NEED-PC-15A**,
- external memory card **NEED-M-1K** ①,
- software for editing, compiling, programming of the relay and the external memory card **PC Need**, programming in graphic language LAD and text language STL,
- user's manual ([www.need.repol.com.pl](http://www.need.repol.com.pl)).



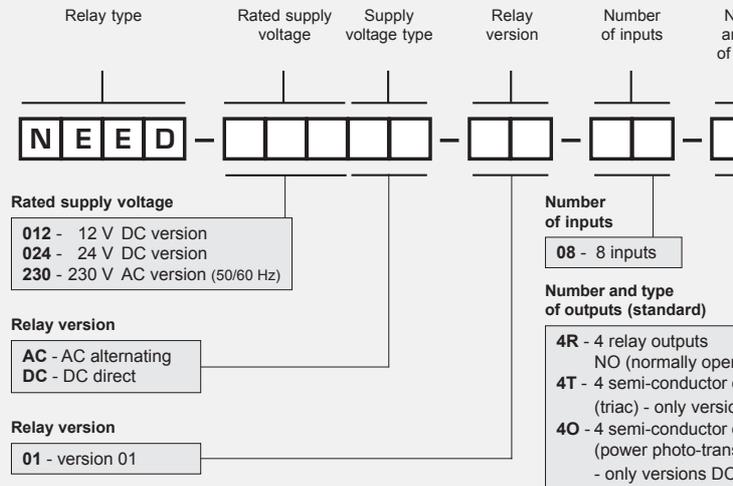
① The external memory card is not required and is an optional extension of the relay program memory.

## Front panel description

- 1 Supply terminals
- 2 Digital input terminals
- 3 Analog-digital input terminals
- 4 Ø 5,5 mm openings for panel mounting with two M4 screws
- 5 LED indicator (three-coloured) of the relay status
- 6 STOP/RUN switch of operation mode
- 7 Potentiometer for analog values setting
- 8 Programming connection of relay and external memory card, secured by stopper
- 9 Output terminals
- 10 LED indicators (yellow) of output status
- 11 LED indicators (green) of input status



## Ordering codes



Example of ordering code:

**NEED - 230AC - 01 - 08 - 4R** NEED programmable relay, voltage version 230 V, version 01, 8 inputs, 4 relay outputs NO (normally open)

② The NEED programmable relay in special version may have various types of outputs, some of the outputs may be based on an electromagnetic relay, and some - on SSR. In such case, "Number and type of outputs" in the code of the relay includes the information:  
**2R2T** - two relay outputs (Q1, Q2) + two triac outputs (Q3, Q4),  
**2RTO** - two relay outputs (Q1, Q2) + a triac output (Q3) + a transistor output (Q4).

# Examples of practical applications

## Screening of parts in production process

- screening of parts moving along stroke conveyor according to their height,
- two sensors of appropriate range to detect height.

NEED programmable relay performs the functions of height control and control of segregator.

## Automatic door control

- control of opening and closing of automatic doors in buildings (shops, offices, banks),
- two operation modes depending on the signal from the motion sensor: automatic and manual mode.

NEED programmable relay controls drives of automatic doors.

## Control of escalators

- control of motion direction (upwards, downwards),
- detection of passengers on the escalator on the basis of the signals of motion sensors.

NEED programmable relay controls the drives of escalators.

Rated supply voltage	230 V AC ④	24 V DC	12 V DC
Supply voltage (operating range)	95...260 V AC	19,6...28,8 V DC	10,2...14,4 V DC
Power consumption ⑥	< 5 VA	< 3 W	< 3 W
<b>Inputs</b>			
Number of digital inputs	6 (I1 - I6)		
Number of analog-digital inputs	2 (I7 - I8)		
Types of analog-digital inputs	AC voltage	DC voltage	DC voltage
Rated voltage	• for logic state "1" • for logic state "0"	DC voltage	DC voltage
Input current ⑥	• for logic state "1"	DC voltage	DC voltage
Range of analog input signals	0...255 V AC	0...25,5 V DC	0...25,5 V DC
<b>Outputs</b>			
Type of outputs	relays	triacs ⑥	transistors ⑥
Number of outputs	4 NO	4	4
Outputs protection	Unprotected digital outputs (Q1 - Q4)		
Rated load voltage	AC1: 250 V AC	240 V AC	24 V DC
Rated load current	AC1: 10 A AC	2 A	4 A
Min. switching current	10 mA	50 mA	1 mA
Operating / release time	7 ms / 3 ms	100 µs / 1/2 cycle + 1 ms	50 µs / 600 µs
Galvanic separation	Yes		
Marking	4R	4T	4O
<b>General data</b>			
Insulation rated voltage	300 V AC		
Electric strength of insulation	1 500 V AC 1 minute		
Overvoltage category	II PN-EN 60664-1		
Insulation pollution degree	2		
Dielectric strength	inputs - outputs: 2 000 V AC contact clearance: 1 000 V AC		
Dimensions (L x W x H) / weight	90 x 72 x 55 mm / 210 g		
Ambient temperature	storage: -40...+70 °C operating: -20...+55 °C		
Cover protection category	IP 20 PN-EN 60529		
Connection wires	1 x 2,5 mm <sup>2</sup> , 2 x 1,0 mm <sup>2</sup>		
Standards, recognitions, certifications ⑦	PN-EN 61131-2  		
<b>Mounting options</b>			
Application	in low voltage installations		
Operation place	in cubicle, in switchboards		
35 mm DIN rail mount, EN 50022	directly		
On panel mounting	directly with two M4 screws		
Operation position	any (mounting distances for walls with terminals ≥ 30 mm)		

④ At rated load voltage    ④ AC: 50/60 Hz    ⑤ AC: 50 Hz    ⑥ Available in the NEED versions with supply voltage 12, 24 V DC  
 ⑦ Pending UL, VDE

### Control of bells, alarms, heaters

- control of school bells (switching on and off) via real time clocks,
- three operation modes: manual, automatic and ON mode.

NEED programmable relay controls switching in accordance with the timing schedule.

### Control of lighting and ventilator drives

- central switching on and off (automatic or manual) of voltage in accordance with the timing schedule,
- possibility of flexible shaping of lighting for each room.

NEED programmable relay operates as a central control system for lighting and ventilation circuits.

### Control and protection of electrical load

- use of the analog-digital input for the control of the power consumed by the load,
- response to the exceeded the programmed limit of power value.

NEED programmable relay protects electrical circuits from uncontrolled power consumption.



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UNION FOR ENTERPRISING PEOPLE  
COMPETITIVENESS PROGRAMM



# *Insecurity*

# *of tomorrow has ended*

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