New technology

Electromagnetic relays

R2N, R3N, R4N

www.relpol.com.pl

2013 - 2014

relpol® S.A.

R2N, R3N, R4N
design and technological changes

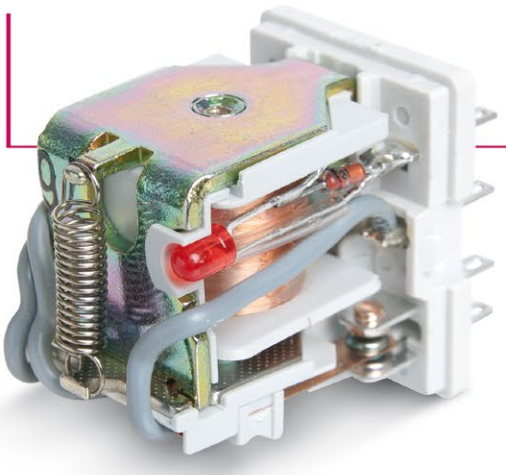
Modernization of the design and manufacturing process

- **The offer of Relpol S.A. has been extended by new** electromagnetic relays **R2N**, **R3N**, **R4N** which are modernized versions of the relays **R2**, **R3**, **R4** still available in the offer.

- The new relays are extinguished by a **modern design, higher quality and high functionality.** They are manufactured in a modernized technology.

- **Major changes in the design of the relays:**
  - improvement of the functionality of the mechanical indicator,
  - application of electronics in the SMD technology for the additional features L and D,
  - improvement of the efficiency of the electromagnet,
  - strengthening of the insulation in the area of the contact plate.

- The **R2N**, **R3N**, **R4N** relays **maintain the conformity** of dimensions, raster of the terminals of contacts and coils and technical data with the respective R2, R3, R4 relays. They are available with similar additional features.



R3

R4

Improvement of the functionality of the mechanical indicator

R4N

The mechanical indicator (W) and lockable front test button (T) inform about the status of the relay, and the transparency of their functions is very important for the control of the operations of the relay which performs various functions in electrical applications.

The shape and suspension of the indicator (W) have been changed – in the new solution it is mounted on an insulation base of the unit of the movable contacts. The changes arising from the different place and manner of the indicator operation provide the appropriate position in the window in the upper side of the housing irrespectively of the number of operations performed by the relay.

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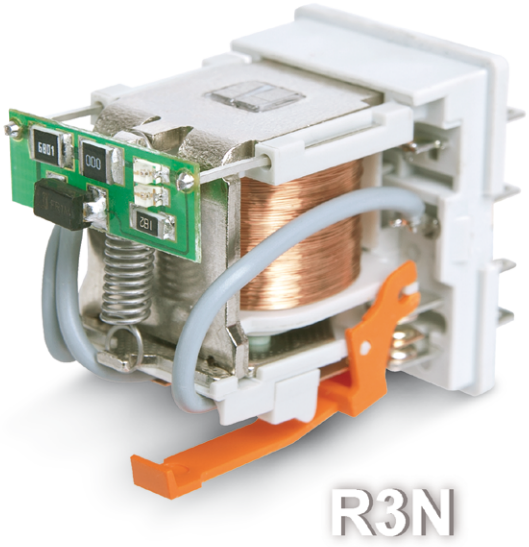
NEW

Application of electronics made in the SMD technology

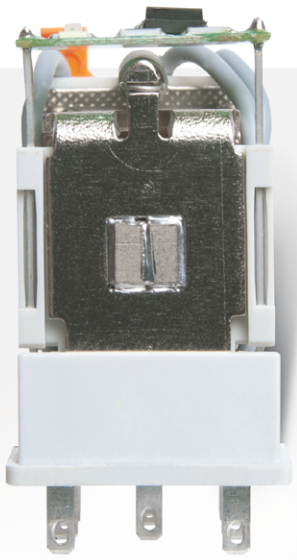


Additional features – light indicator (LED diode) and the surge suppression element (diode) are located on the printed circuit board.

The SMD technology (**surface mounting of electronics**) eliminates manual assembly of the elements and „moves away" the place of the board soldering as far as from the contacts as possible. The change of the **position of the LED diode** and **optimization of the quality and intensity of its light** provide certainty that the relay is in operation status when the LED is on.

Improvement of the efficiency of the electromagnet

An innovational technology of connecting elements has been introduced in the electromagnet, which guarantees more reliable operation of the relay.



Strengthening of the insulation in the area of the contact plate

An insulation material of the latest generation has been applied for the manufacture of the contact plate and the insulation barrier, i.e. **polyamide PA66** which differs from other thermoplastic materials by very good mechanical and electrical parameters and best thermal properties.

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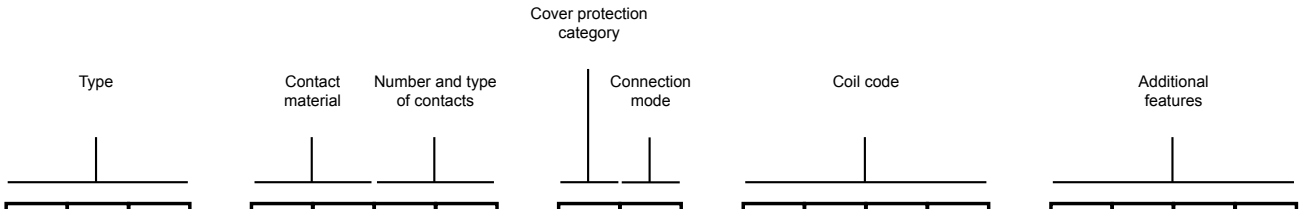
Dimensions, connection diagrams, characteristics

The R2N, R3N, R4N and R2, R3, R4 relays – **both versions are identical** as for sizes and dimensions, electrical terminals (contacts, coils), available additional features, technical data (contacts, coils, insulation, etc.) and the certificates and recognitions – see website **www.relpol.com.pl**

Ordering codes



Contact material

20 - **AgNi**
21 - AgNi/Au 0,2 µm
23 - AgNi/Au 5 µm, only R4N

Number and type of contacts

12 - 2 CO (changeover), only R2N
13 - 3 CO (changeover), only R3N
14 - 4 CO (changeover), only R4N

Connection mode

3 - for plug-in sockets

Cover protection category

2 - in cover, IP 40 version

Coil code

1005 - 5 V DC	**5006** - 6 V AC 50/60 Hz
1006 - 6 V DC	**5012** - 12 V AC 50/60 Hz
1012 - 12 V DC	**5024** - 24 V AC 50/60 Hz
1024 - 24 V DC	**5042** - 42 V AC 50/60 Hz
1048 - 48 V DC	**5048** - 48 V AC 50/60 Hz
1060 - 60 V DC	**5060** - 60 V AC 50/60 Hz
1080 - 80 V DC	**5080** - 80 V AC 50/60 Hz
1110 - 110 V DC	**5110** - 110 V AC 50/60 Hz
1125 - 125 V DC	**5115** - 115 V AC 50/60 Hz
1220 - 220 V DC	**5120** - 120 V AC 50/60 Hz
	5127 - 127 V AC 50/60 Hz
	5220 - 220 V AC 50/60 Hz
	5230 - 230 V AC 50/60 Hz
	5240 - 240 V AC 50/60 Hz

Additional features

without marks - without additional features
WT - mechanical indicator + lockable front test button ❶
WTL - mechanical indicator + lockable front test button + light indicator (LED diode)
WTD - mechanical indicator + lockable front test button + surge suppression element (diode) ❷
WTLD - mechanical indicator + lockable front test button + light indicator (LED diode) + surge suppression element (diode) ❷

❶ **WT** - standard features of relays
❷ **WTD, WTLD** - available only in relays with DC coils

Example of ordering codes:

R4N-2014-23-5230-WTL relay **R4N**, for plug-in sockets, four changeover contacts, contact material AgNi, coil voltage 230 V AC 50/60 Hz, with mechanical indicator and lockable front test button and light indicator (LED diode), in cover IP 40

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