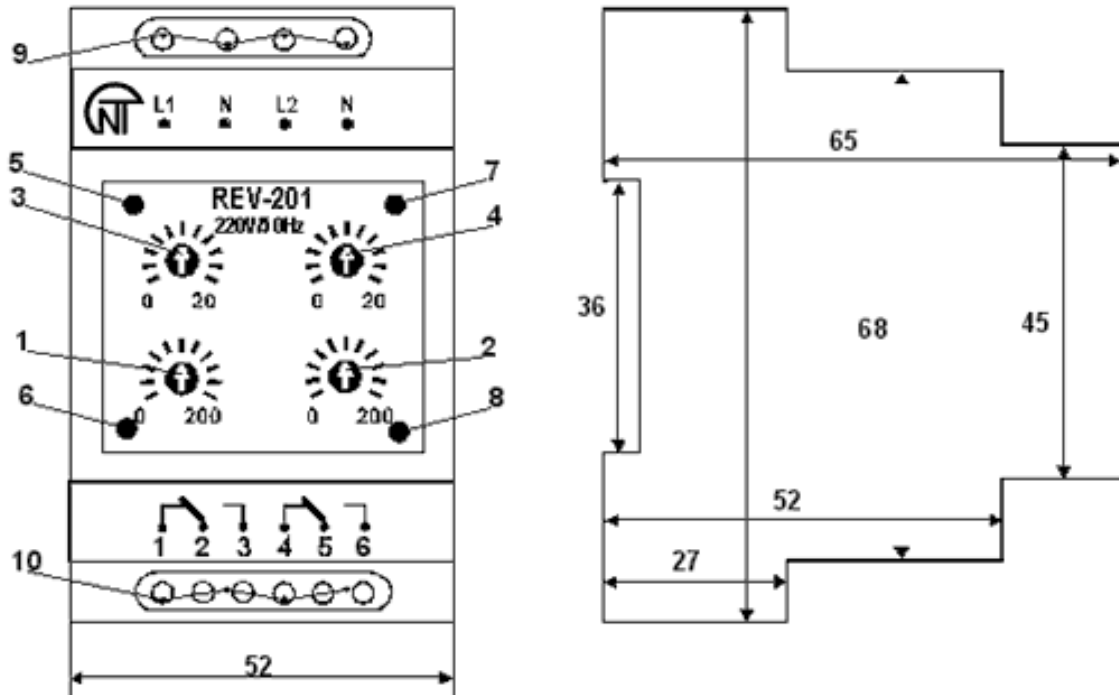


## REV-201

### *TWO-CHANNEL ELECTRONIC TIME RELAY*



## SERVICE MANUAL



- 1, 3 - first-channel trip settings;
- 2, 4 - second-channel trip settings;
- 5, 7 - green LEDs indicating that a voltage is present on the corresponding channel;
- 6, 8 - red LEDs indicating that a corresponding channel trips;
- 9,10 - contacts available for connection.

## 1 APPLICATIONS

The REV-201 two-channel electronic time delay-on-make relay is designed to switch alternate 220V/50Hz current electric circuits and direct 24 - 100V current electric circuits with adjustable time delay from 0 to 220 sec. The relay has two channels. Each channel represents the independent time delay relay. Time delay for each channel begins when voltage is applied to the channel.

The REV-201 provides three modes of operation:

**Mode 1** or the operation mode of two relays. Channels operate independently. The independent voltage is applied to each channel at different times. Time delay begins when each channel is energized.

**ATTENTION!** In the «operating mode 1» power supply of both channels must use a common neutral.

**Mode 2** or the operation mode of one relay with two different delays-on-make. Channels operate in parallel. One and the same power is applied to each channel simultaneously. Time delay-on-make for both channels begins simultaneously. Trip delay corresponds to delays for each channel set by controls.

**Mode 3, or the summing channel operation.** Power is applied from one channel output to another channel input and thus the summation of the first channel delay and the second channel delay is made.

## 2 DESCRIPTION

A time delay for each channel begins when a voltage is applied to "L1-N" contacts (channel 1); "L2-N" contacts (channel 2). The time delay is set by contact arms of potentiometers. Two adjustments - in the range from 0 to 20 s and in the range from 0 to 200 s – correspond to each channel. A trip delay of one channel is equal to the sum of the delays set by two potentiometers. If the trip delay is less than

20 s, the 0 - 200 s potentiometer is set in zero position and the delay is set by the 0-20 s potentiometer. If the trip delay is more than 20 s, it is set by both potentiometers as the sum of trip delay settings.

When a voltage is applied to the 1 (2) channel, the green LED of the 1 (2) channel glows. It signals that the time delay begins. Tripping of the relay after the time delay has expired is indicated by glowing of red LED.

Each channel has a N. C. (normally closed) output contact and a N. O. (normally open) output contact: the 1-2 and the 4-5 are N. C. contacts, the 2-3 and the 5-6 are N. O. contacts. The «1-2-3» are the contacts of the 1-st channel, the «4-5-6» are the contacts of the 2-nd channel; both groups are two-way break-before-make contacts.

### 3 TECHNICAL BRIEF

Nominal supply voltage, V	220
Lower supply voltage threshold, energizing the relay, V	170
Maximum operating supply voltage, V	300
Initial fixed time delay, when supply voltage is 220V, s, not more than	~ 0.5
Accuracy of trip delay hold-in, %, not more than	1.5
Operate value setting accuracy (scale accuracy), %, not more than	3
Adjustable time delay range, seconds	0-220
Time delay adjustment	gradual
Potentiometer graduation marks number	10
Number/type of contacts for each channel (N.O., N.C.; two-way break-before-make contacts)	1 N.O. & 1 N. C
Protection degree:	
• of the relay	IP40
• of the terminal block	IP20
Output contact life:	
• under 5A load, operations, not more than	100 000
• under 1 A load, operations, not more than	1 mln.
Power consumption (under load), VA , not more than	1.0
Weight, kg , not more than	0.150
Case dimensions, mm	50*88*65
Operating temperature range, °C	from -35 to +55
Storage temperature, °C	from -45 to +70

#### Output contacts specification

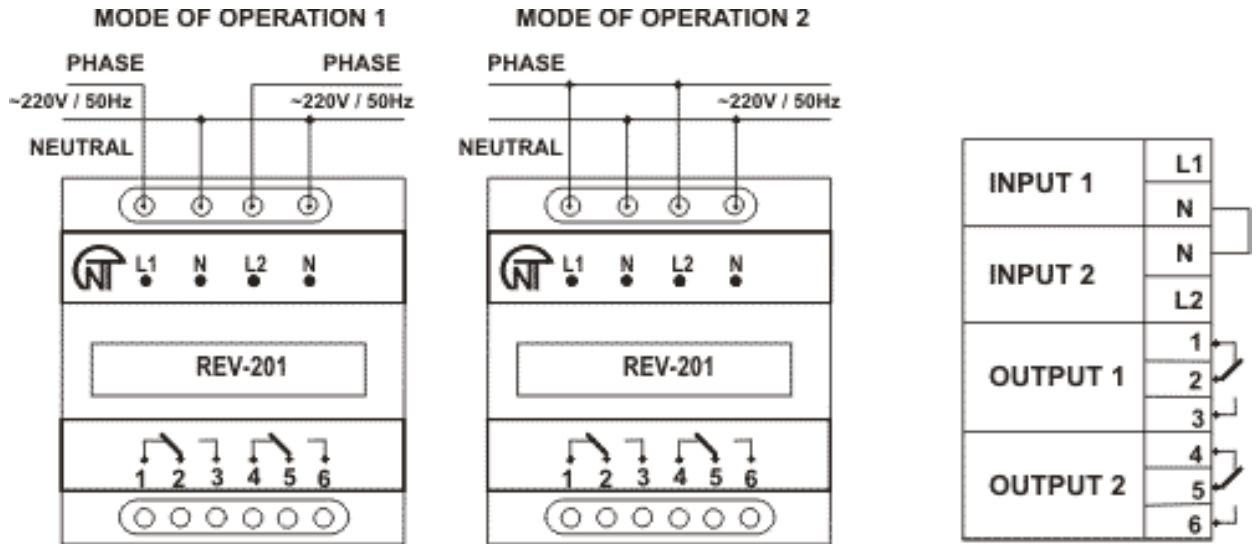
	Max. current for ~ 250 V A. C.	Max. power	Max sustained safe voltage ~	Max. current for U = 30V D.C.
Cosφ = 0.4 - 1.0	2A	2000VA	440V	3A

The relay with another time delay adjustment range can be supplied at the customer's request.

The relay can be converted to a periodic «energization-de-energization» mode of operation where «energization-de-energization» cycles are adjusted by user.

Parameters are specified by user additionally.

## WIRING DIAGRAM



### 4 STORAGE AND SHIPPING CONDITIONS

The relays in manufacturer package should be stored in enclosed rooms at from -45 to +70 °C and exposed to no more than 80 % of relative humidity when there are no fumes in the air that exert a deleterious effect on package and the relay material.

The Buyer must provide the protection of the relay against mechanical damages in transit.

### 5 WARRANTY

Novatek-Electro company warrants a trouble-free operation of the REV-201 relay manufactured by it within 36 months from the date of sale, provided:

- the proper connection;
- the safety of the inspection quality control department seal;
- the integrity of the case, no traces of an opening, cracks, spalls etc.