STERKRAK

IR3P

3-POINT PULSE REGULATOR

DATASHEET

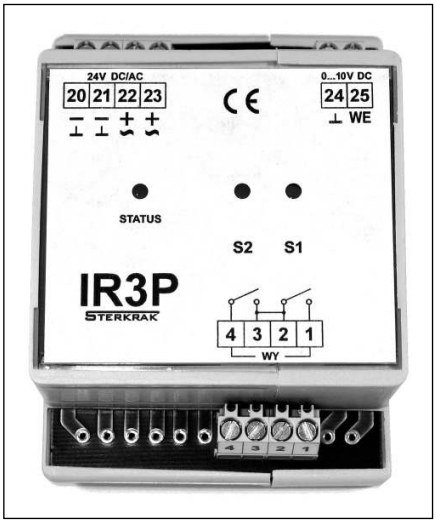

Fig.1The IR3P module.

APPLICATION

The relay module used to work as an executive element with controllers to activate threepoint controlled peripherals.

DESCRIPTION

The IR3P is two relay device changing the analog signal (0 - 10V) from the controller on threepoint, voltageless output pulses . Duration of the impulse is 1/17 transition time Tp (the time needed to complete enclosure of the valve). The module works:

in the startup mode - the **STATUS** LED lights contiguously.

After power on, an impulse length of Tp is set, closing the S2 contact. This has lead to total closure of a valve in order to synchronize the controller-valve system. Then the input voltage is measured, amount exceeded thresholds is calculated and, if necessary, the impulse being the sum of the individual thresholds, closing the S1 is generated. The module goes into the work mode.

in the work mode - the **STATUS** LED flashing.

For rising voltages from 1V - 9V, in 0,5V steps, the impulse length of 1/17 Tp is generated, closing the S1 contact. Above 9,6V the S1 contact is constatntly closed.
For decreasing voltages from 8,75V - 0,75V, in 0,5V steps, the impulse length of 1/17 Tp is generated, closing the S2 contact. Below 0,4V the S2 contact is constantly closed.
The hysteresis of 0,1V prevents contacts from "flickering" in switching points. LED diodes indicate output states.

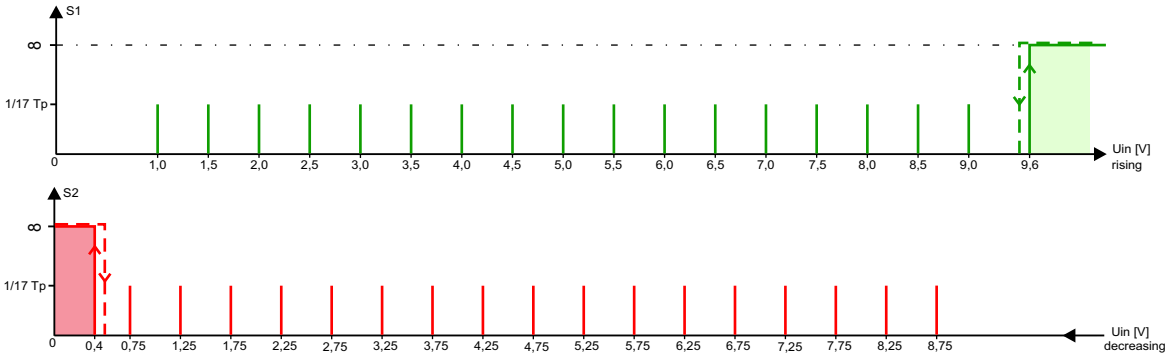

Fig.2 Switching diagram.

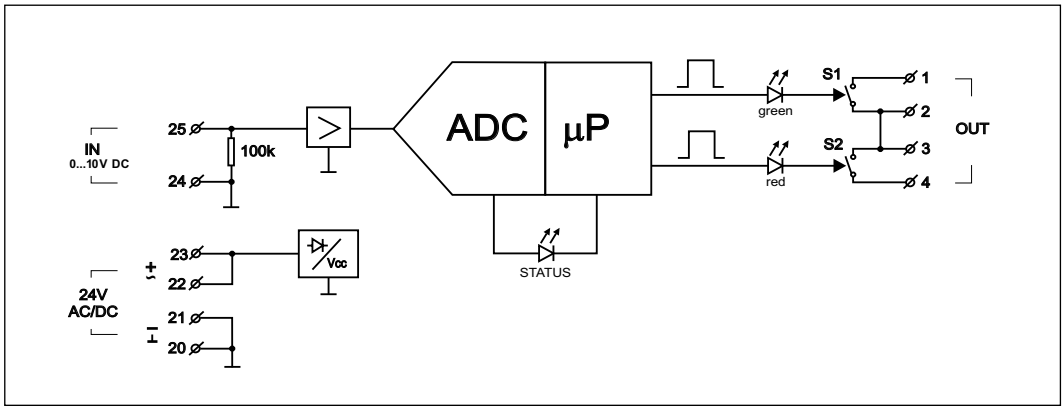

Fig.3 Connections of the IR3P.

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For rising voltages		
U_{IN}	S1	S2
0	○	● ∞
0,5	○	● ∞
1,0	● 1/17 Tp	○
1,5	● 1/17 Tp	○
2,0	● 1/17 Tp	○
2,5	● 1/17 Tp	○
3,0	● 1/17 Tp	○
3,5	● 1/17 Tp	○
4,0	● 1/17 Tp	○
4,5	● 1/17 Tp	○
5,0	● 1/17 Tp	○
5,5	● 1/17 Tp	○
6,0	● 1/17 Tp	○
6,5	● 1/17 Tp	○
7,0	● 1/17 Tp	○
7,5	● 1/17 Tp	○
8,0	● 1/17 Tp	○
8,5	● 1/17 Tp	○
9,0	● 1/17 Tp	○
9,6	● ∞	○
10,0	● ∞	○

For decereasing voltages		
U_{IN}	S1	S2
10,0	● ∞	○
9,5	● ∞	○
8,75	○	● 1/17 Tp
8,25	○	● 1/17 Tp
7,75	○	● 1/17 Tp
7,25	○	● 1/17 Tp
6,75	○	● 1/17 Tp
6,25	○	● 1/17 Tp
5,75	○	● 1/17 Tp
5,25	○	● 1/17 Tp
4,75	○	● 1/17 Tp
4,25	○	● 1/17 Tp
3,75	○	● 1/17 Tp
3,25	○	● 1/17 Tp
2,75	○	● 1/17 Tp
2,25	○	● 1/17 Tp
1,75	○	● 1/17 Tp
1,25	○	● 1/17 Tp
0,75	○	● 1/17 Tp
0,4	○	● ∞
0	○	● ∞

● - closed contacts, the LED lights ○ - opened contacts, the LED turned off

Fig.4 Table of states.

NOTE:

In placing order it is necessary to specify the transition time Tp.

TECHNICAL DATA

Power supply	24 V AC/DC ± 10%
Max. current consumption	60 mA for 24 V AC 30 mA for 24 V DC
Input resistance	100kΩ
Input voltage	0 - 10V (options: 1 - 10V, 2 - 10V)
Sensitivity	10mV
Input signal set-up time	400ms
Contacts switching capacity alternating current cosφ=1 direct current	 380V, 8A [2000VA] 32V, 8A
Mechanical endurance of contacts	$2x10^7$ operations
Protection class of the case	IP-40
Protection class of terminals	IP-20
Ambient temperature range	-10...+55°C
Diameter of terminals	2,5 mm^2
Protections	against reverse polarisation
Mounting	DIN-35 or DIN-32 rail
Dimensions (L x W x H)	96mm x 70,5mm x 42mm
Weight	140 g

March 2008

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