

Serie MR 250



Applications:

- Coupling of a step automatic controller with a control inlet of a governor
- No-break transformation of binary signals into analog signals

Function

The MR250 produces a separate potential, similar signal from binary messages, e.g. contacts floating or digital SPS-output. The control of the "up" function causes an increase of the output signal, those "down" function a decrease of the output signal. During the activation of the "Reset" function, and/or after switching on of the operating voltage on the output signal is set on 0V + offset. Reaching the maximum output signal is indicated to the respective LED "up" or "down" by flashing.

Potentiometer Functions

P1 Output signal:

With P1 the output stroke is adjusted between 0 and 100%. 100% mean thereby depending upon configuration (internal Jumper) 10V or 20mA. If P1 on 100% and P2 stand on central position (offset = 0), the output signal -10V can go through... +10V and/or -20mA... +20mA. This happens in the ramp time stopped with P3.

P2 Offset:

The offset can be shifted with P2 in the switching position between -5V... 0... +5V (and/or -10mA... 0... +10mA) independently of P1 and P3.

P3 Ramp function:

The ramp upward gradient is stopped with P3 between 2s and 250s. The date refers to a complete run of the ramp during continuous control from the largest negative to the largest positive output signal. The ramp time is independent of offset and amplitude.

Limit values

Borders of the output signal:

The maximum level of the output signal amounts to +/- 10V and/or. +/- 20mA (stroke = 100%). The output signal can be limited with the potentiometer P1 ("stroke") between 0% and 100%.

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Overview

LED1: LED "AUTO" left over the HAND/AUTO-Key

LED2: LED "HAND" right over the HAND/AUTO-Key

LED3: LED over the Up-Key

LED4: LED over the Down-Key

TA1 = HAND/AUTO-Key

TA2 = Up-Key

TA3 = Down-Key

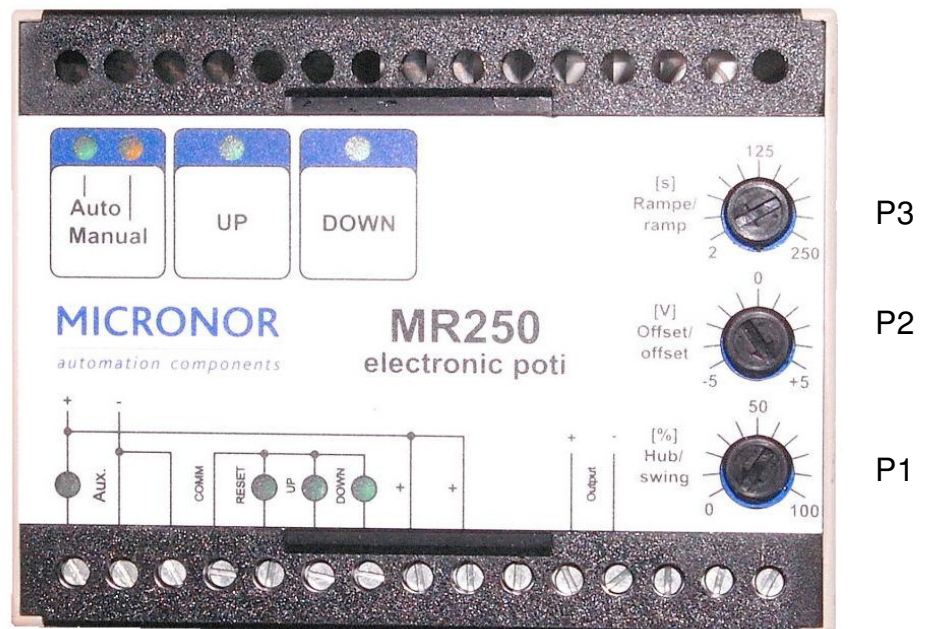
E1 = Strips – entry 1 "RESET"

E2 = Strips – entry 2 "Up"

E3 = strips – entry 3 „Down"

P1 = Poti1 Span 0...100%
(of 10V and/or 20mA)

P2 = Poti2 Offset -5V ... 0 ... +5V
(-10mA ... 0 ... +10mA)



P3 = Poti3 Ramp time 2s...250s

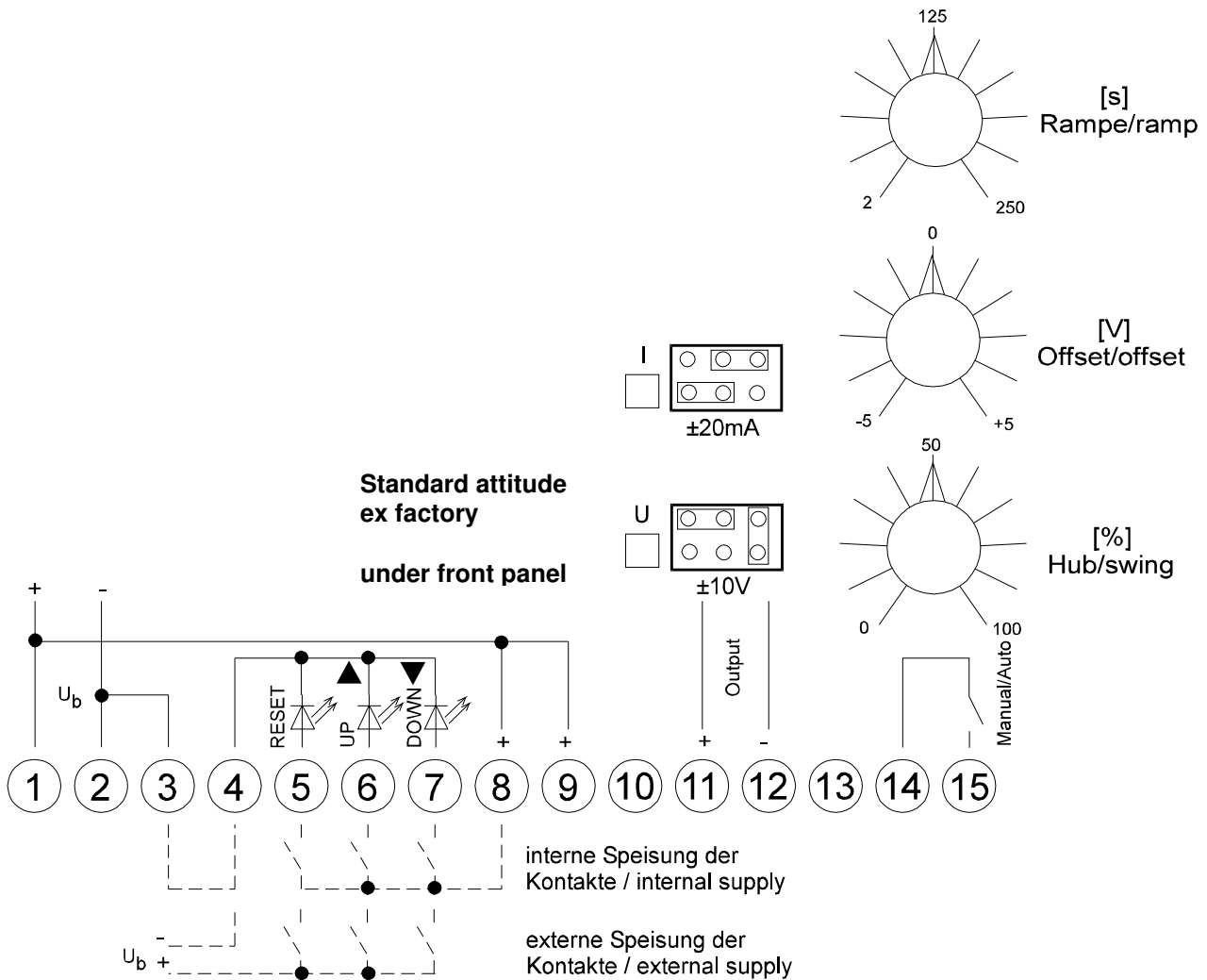
Time for the run of the maximum switching position

The autofunction means with this equipment:

Control from the outside/over the strip.

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Potentiometer and connecting terminals



Operation (manuell)

Press TA1 until LED2 (HAND) goes on. The relay will be de-energised (contact opens).

By TA2 (higher) and TA3 (lower) the RAMP may be passed through.

By a short key push (<0.3s) only a minimally possible swing (approx. 2.5mV or 5 µA) takes place. By this the output signal can be modified very sensitive (fine keying position). As soon as the key remains pressed longer than 0.3s, the output signal starts running on the ramp. The corresponding LEDs going on in case the ramp is passed through. LED3 and LED4 start blinking on attained ramp limits.

Simultaneous pressing of TA2 and TA3 initiates RESET i.e. the output signal goes to the pre-set offset value.

Operation (automatic)

Press TA1 until LED1 (AUTO) goes on. The relay is energised (contact closed). By E2 (higher) and E3 (lower) the RAMP may be passed through. On the front plate the LED3 (for higher) or LED4 (for lower) is on in order to indicate the function. LED3 and LED4 start blinking on attained ramp limits.

The ramp limits, pre-set by P1 and P2 will not exceeded.

E1 initiates RESET, i.e. the output signal goes to the pre-set offset value. As long as E1 is triggered, LED3 and LED4 are on.

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Technical data

Auxiliary tension	24VDC (18VDC ... 30VDC) optional 12VDC		
Capacity	Max. 2W		
Ambient temperature	0 ... 55°C		
Control inlets	SPS- Level Signal 1 - Recognition input current	24VDC 15 ... 36VDC > 13VDC 8mA with 24VDC	12VDC 9 ... 28VDC > 8VDC 5mA with 12VDC
Output signal	-10V... +10V (load resistance $R_L \geq 5k\Omega$) switchable over internal Jumper on -20mA... +20mA max. 500 Ω		
Signal generation	Pulse width modulation (PWM), basic frequency: 100Hz internal dissolution: 13 bits response time: approx. 1s		
Attitude of	Signalhub 0... 100%, offset -5V... +5V (-10mA... +10mA) and ramp time (2s... 250s) over potentiometers on the back. Read the potentiometers over encoder (ADUs), dissolution in: 8 bits.		
Enclosure	IP40 housing, IP20 clamps		
Dimensions	Installation into control panel size B/H/T: 100mm/75mm/110mm deeply		

Order code

Type

MR250

Electrical potentiometer