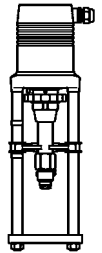


with microcontroller  
for two-way and three-way valves  
BR216 • BR316  
BR225 • BR325  
BR240S • BR340S  
BR240E • BR340E



MC163

## Features

- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Wear-free distance measuring system - no potentiometer
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 VDC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost safety)
- Pull-out manual adjustment with message signal
- Fault recognition in continuous operation (in case of blockage by foreign bodies)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable
- Shockproof at 230 VAC, no protective conductor (PE) necessary

## Technical data

| Type                         |      | MC163/24   | MC163/230  |
|------------------------------|------|--|--|
| Actuating time <sup>1)</sup> | s/mm | 6 · 4*   | 6 · 4*   |
| Actuating thrust             | kN   | 1.6  | 1.6  |
| Stroke                       | mm   | max. 30  | max. 30  |
| Power supply                 | VAC  | 24 ±10%  | 230 +6% -10%   |
| Power supply <sup>2)</sup>   | VDC  | 24 ±10%  | -  |
| Frequency                    | Hz   | 50/60 ±5%  | 50/60 ±5%  |
| Power consumption            | VA   | 6  | 12   |
| Input signal <sup>3)</sup>   |      | 3-point<br>0(2)...10 VDC 77 kOhm<br>0(4)...20 mA 0.51 kOhm | 3-point<br>0(2)...10 VDC 77 kOhm<br>0(4)...20 mA 0.51 kOhm |
| Output signal <sup>3)</sup>  |      | 0...10 VDC max. 8 mA<br>min. 1200 Ohm                      | 0...10 VDC max. 8 mA<br>min. 1200 Ohm                      |
| Hysteresis <sup>4)</sup>     | V    | 0.05 · 0.15 · 0.3 · 0.5                                    | 0.05 · 0.15 · 0.3 · 0.5                                    |

Enclosure protection: IP 54

Resolution: electric 0.04 VDC  
mechanical 0.05 mm

Operating mode: S3-50% ED c/h 1200 EN 60034-1

End position switch-off: load-dependent

Ambient temperature: 0...+60°C

Weight: 4.0 kg

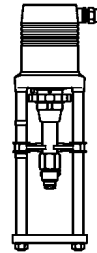
<sup>1)</sup> Actuating time freely adjustable, presetting is marked with \*

<sup>2)</sup> only rectified alternating voltage

<sup>3)</sup> Invertible input and output signal

<sup>4)</sup> Freely adjustable

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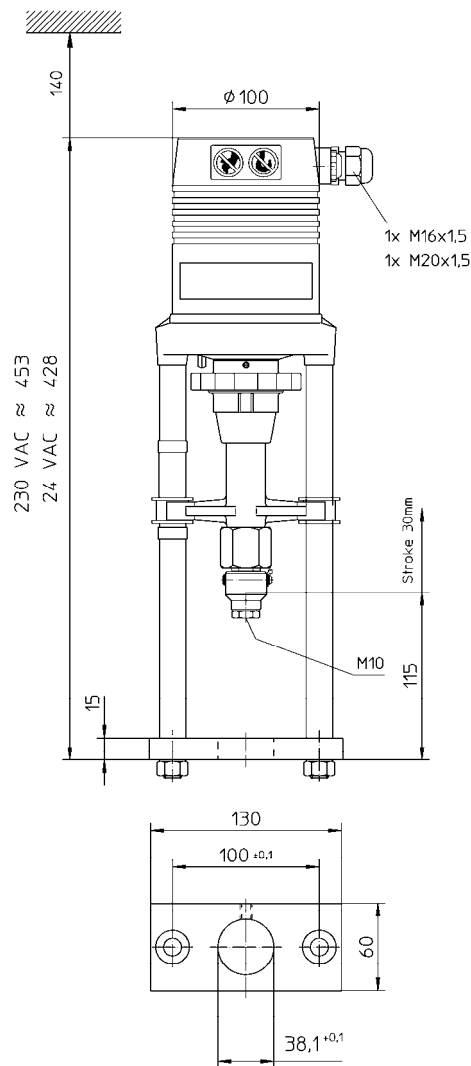


MC163

## Actuator variant and accessories

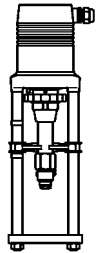
- Voltage: 115 VAC
- Position switch unit <sup>1)</sup>: 2 switches (WE1/WE2), potential free, infinitely adjustable
  - Rated load: 8 A / 250 VAC
  - 8 A / 30 VDC
  - Turn-on voltage: max. 400 VAC
  - max. 125 VDC
- Enclosure protection: IP 65
- Board for output signal X=0(4)...20 mA <sup>1)</sup>
- Adapter with coupling for external products

## Drawing



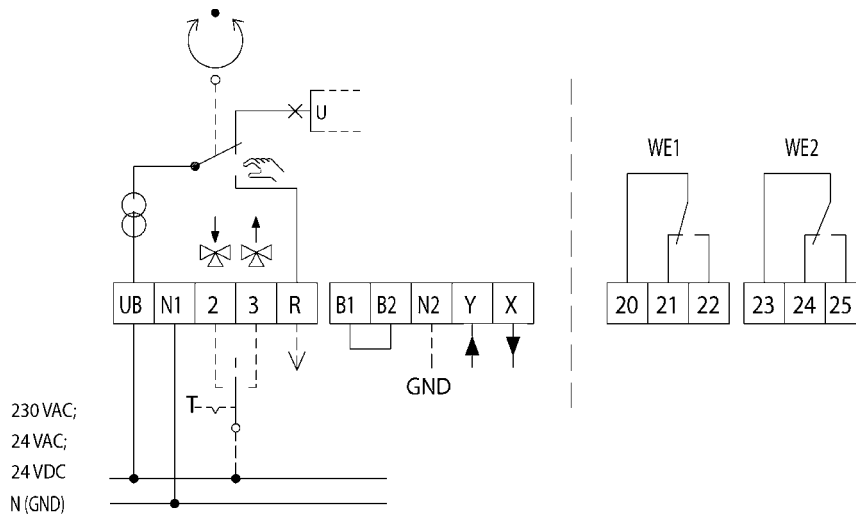
<sup>1)</sup> Position switch unit and output signal not in combination

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MC163

## Circuit diagram



R Feedback signal in „Manual“ mode of operation  
 R=24 VAC max.100 mA for actuators in 24 VAC design  
 R=24 VDC max.100 mA for actuators in 24 VDC design  
 R=24 VDC max. 100 mA for actuators in 230 VAC design

N2 Zero potential of the „X“, „Y“ and „R“ signals.  
 If the actuators in 230 VAC design are to be triggered on the „continuous“ mode of operation, i.e. by analogue signal „Y“, the connection of N2 (zero potential of the controller) is absolutely necessary. For actuators in 230 VAC design the connection N2 in the „3-position“ mode of operation is only necessary if „X“ and/or „R“ are to be use by the actuator. If the zero potentials of the signals X, Y and R are identical with the zero potential of the supply voltage, a bridge can be laid between N1 and N2 in order to save an additional lead to N2.

B1/B2 Connection of a binary signal (e.g. frost safety)