

Documentation

RM-BV 4 Micro

Filter control system

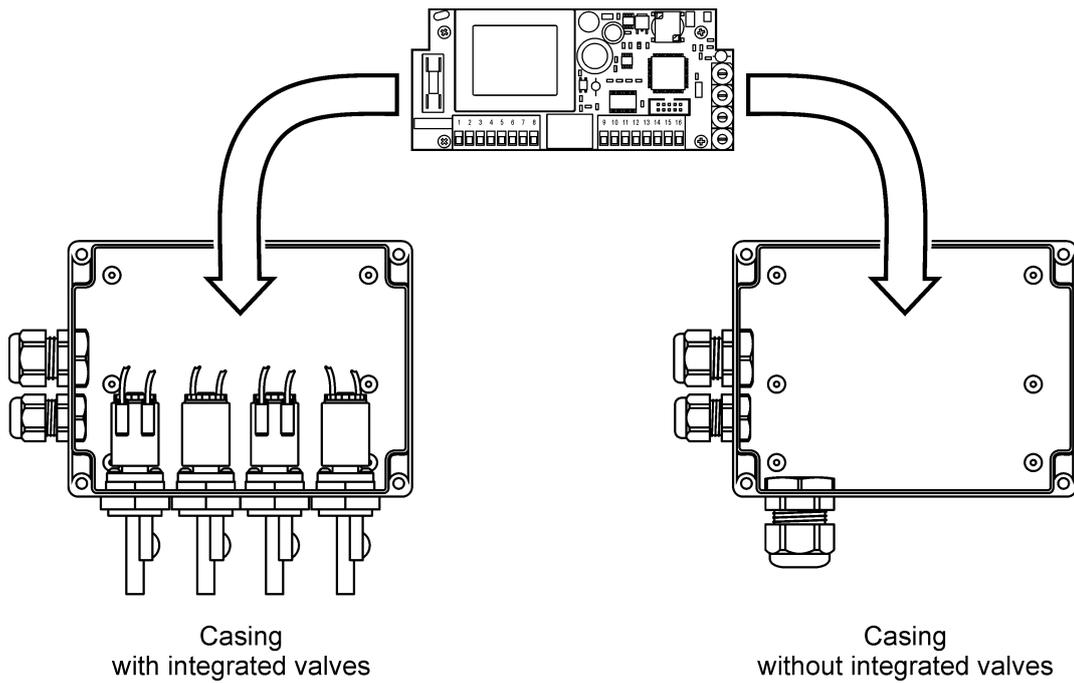


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Regulations

2014/30/EU

2014/35/EU

Legend



Important note



Important warning

1 Safety instructions

Device failure, serious or even fatal injuries may occur as a result of improper installation of the *RM-BV 4 Micro* or connected equipment. Consequently, follow in particular the points set out below in addition to the general safety regulations for equipment in industrial electrical installations:

- Installation of the *RM-BV 4 Micro* may be carried out only by qualified experts, in accordance with the provisions of IEC 364, DIN VDE 0105 for electrical equipment.
- All applicable laws, conditions, orders and regulations governing the setting up of electrical equipment must be observed in respect of the installation site.
- Setting of equipment with the degree of protection IP00 without covers may only be performed by authorised expert staff, when disconnected, and whilst observing the local safety and accident prevention regulations.
- The *RM-BV 4 Micro* may only be operated in the permitted operating area.



Switch off the mains supply before replacing the *RM-BV 4 Micro* or any components connected to it. Otherwise the equipment may be damaged.

2 Equipment specification

The filter control system *RM-BV 4 Micro* is used to control solenoid valves on filtering separators. An *RM-BV 4 Micro* can operate up to 4 solenoid valves with a rated voltage of 24 V DC.

Standard operation

Using the set control times for the pulse duration and the pause time, all connected solenoid valves are activated in sequence, starting with a cleaning pulse. After the last valve has been activated, the control cycle continues with the first valve. This process continues until the supply voltage is switched off. When the supply voltage is switched back on, a restart is performed, as described above.

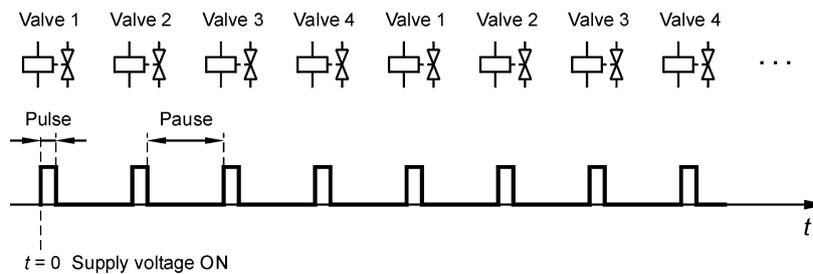
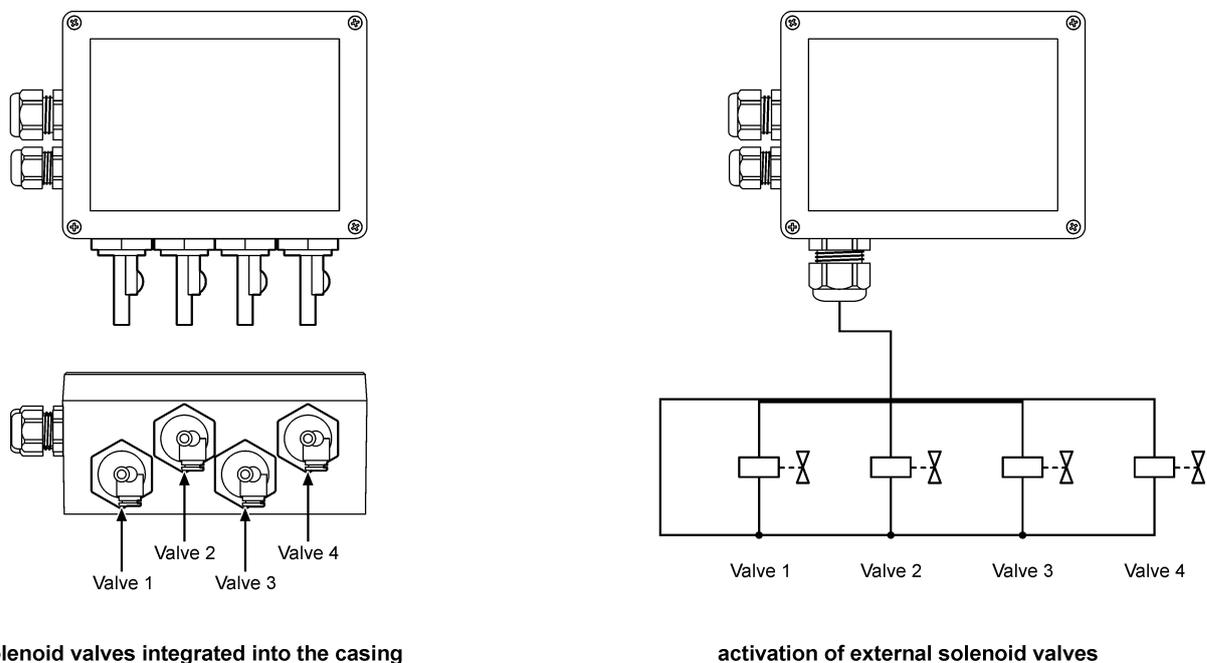


Figure 1: Standard operation of filter control system *RM-BV 4 Micro*

3 Unit versions

- in a casing with integrated solenoid valves (see Figure 2, left)
- in a casing without integrated solenoid valves (see Figure 2, right)



solenoid valves integrated into the casing

activation of external solenoid valves

Figure 2: Unit versions with and without integrated solenoid valves

4 Display and setting elements / electrical connections

Figure 3 shows the layout of the *RM-BV 4 Micro* circuit board with all display and setting elements, and the electrical connections. The following page includes exact descriptions of these.

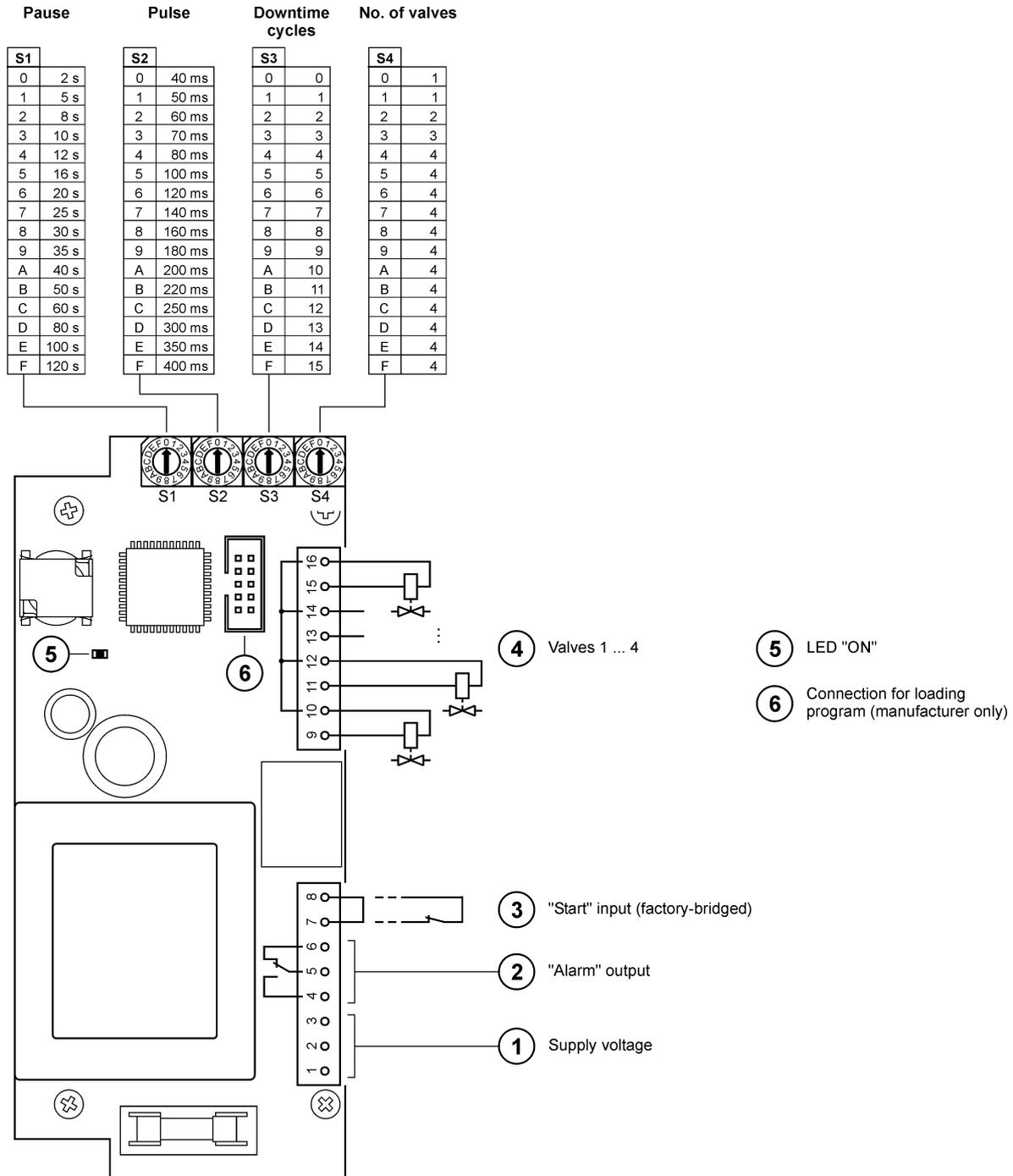


Figure 3: Layout of the *RM-BV 4 Micro* circuit board and connection plan

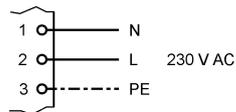
Description

① Supply voltage

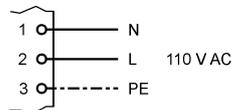


There are separate unit types for the supply voltages 230 V AC, 110 V AC and 24 V DC. Before connecting the supply voltage, check whether or not the supply voltage matches the rated unit voltage (see nameplate).

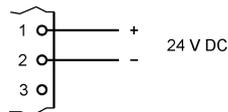
230 V AC version



110 V AC version



24 V DC version



② "Alarm" output

The potential-free "Alarm" relay output, terminals 4 (NO), 5 (COM) and 6 (NC) is used for self-monitoring of the *RM-BV 4 Micro*. The output is active during correct operation. The following events cause the relay contact to fall-back:

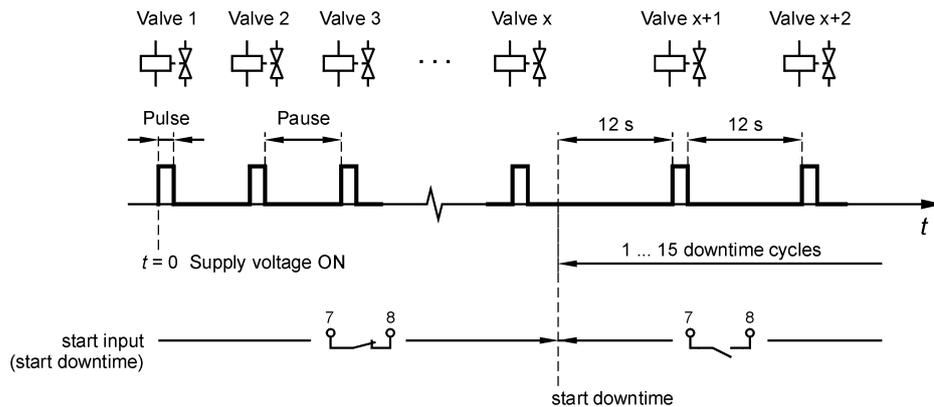
- A supply voltage failure
- A wire break on a connected valve
- The short-circuit of a valve output

Code in Figure 3

Description

3 "Start" input

The start input for the downtime, terminals 7 and 8, is bridged at the factory (factory setting is standard operation). If a contact (NC) connected to an input is opened, the set downtime cycles are started, beginning with the pause time. Downtime cleaning is continued at the valve following the last valve activated. During the downtime, the pause time is a constant 12 s. The downtime cannot be paused on the stop input.

**4 Valve outputs**

On terminals 9, 10, 11, ... 16 up to 4 solenoid valves can be connected with a rated voltage of 24 V DC.

5 LED "ON"

When the supply voltage is applied, the LED "ON" is on. The LED flashes during downtime cleaning.

5 Technical specifications

Application	Data	Terminals
Supply voltage	Unit version 230 V AC: 230 V AC +/-10% 50-60 Hz	1 (N) 2 (L) 3 (PE)
	Unit version 110 V AC: 110 V AC +/-10% 50-60 Hz	1 (N) 2 (L) 3 (PE)
	Unit version 24 V DC: 24 V ... 30 V DC	1 (+) 2 (-)
Outputs for solenoid valves	4 short circuit-proof outputs, 24 V DC, max. 1.9 A	9, 10 (valve 1) 11, 12 (valve 2) 13, 14 (valve 3) 15, 16 (valve 4)
Signal inputs	1 input, 24 V DC, potential-free operation required	7, 8
Signal outputs	1 relay output (change-over contact), potential-free max. contact load: 250 V AC, 10 A 50 V DC, 1.5 A / 30 V DC, 10 A (ohmic load)	4, 5, 6
Fuse	Unit version 230 V AC: T 0.4 A, 250 V, 5 x 20 mm	
	Unit version 110 V AC: T 0.8 A, 250 V, 5 x 20 mm	
	Unit version 24 V DC: T 2.5 A, 250 V, 5 x 20 mm	
Temperature range	-20°C ... +60°C	
Protection rating	Casing IP-66, NEMA 4	
Weight	with 4 integrated valves: approx. 1250 g no valves: approx. 850 g	
Installation height	max. 3000 m above M.S.L.	

6 Dimensioned drawings

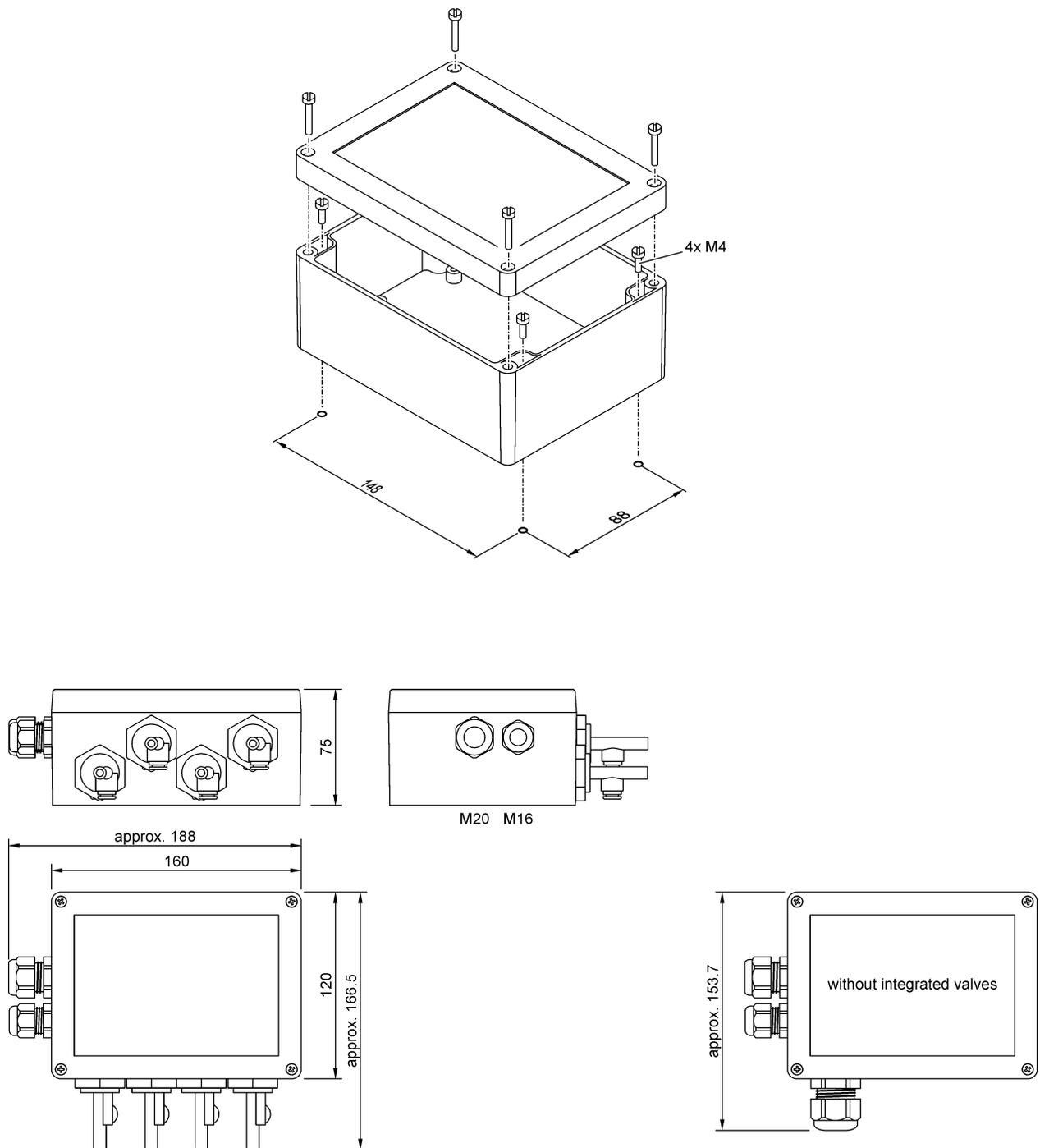


Figure 4: Casing assembly, dimensions

Disclaimer

The contents of this documentation has been verified for correctness and completeness. Nevertheless, errors can not be excluded so that we cannot guarantee the correctness of this information. Subject to alterations at any time.