

Operating and Installation Instructions

Expansion module

RM-LV 8 / RM-LV 16

EasyLine

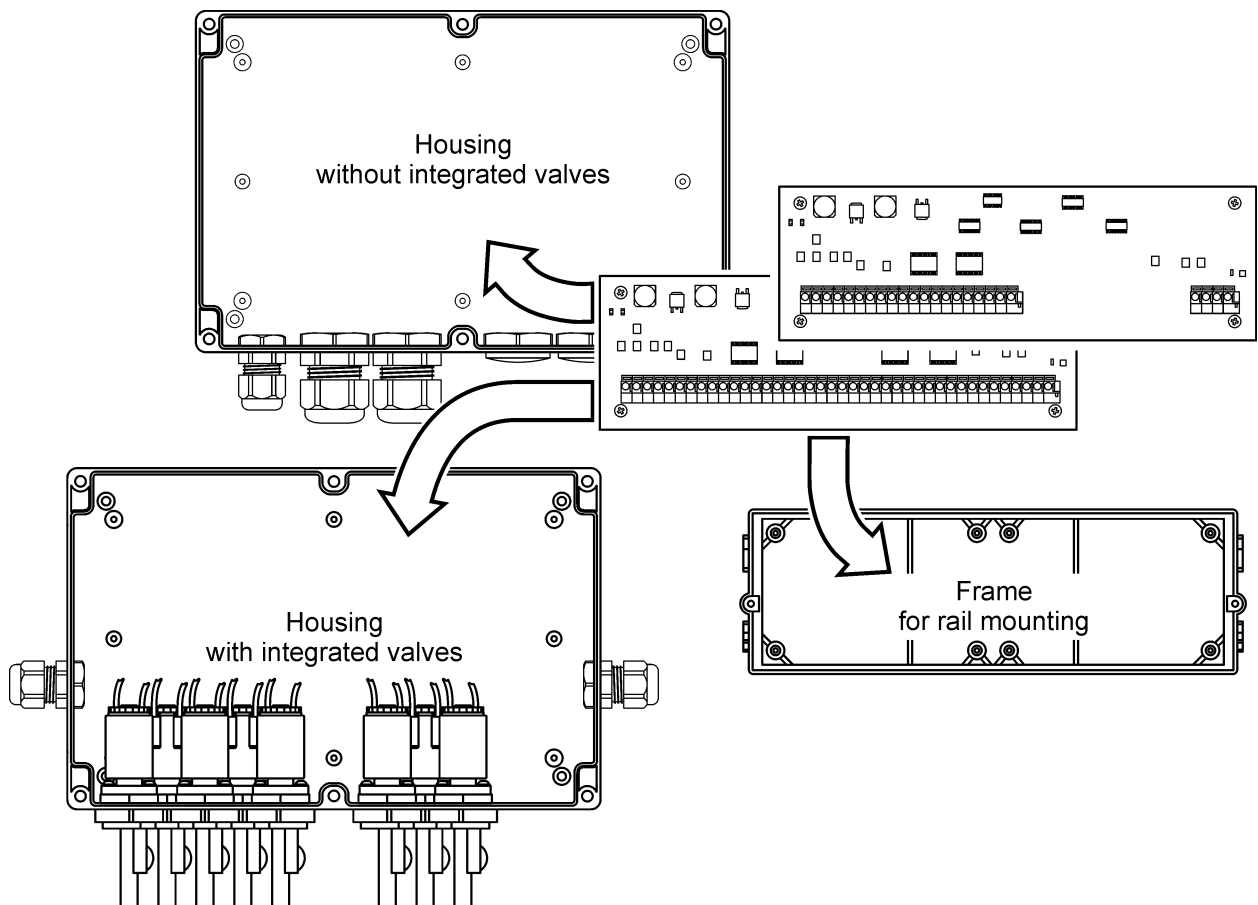


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Regulations

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-LV 8 / RM-LV 16 or connected equipment. Therefore, 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-LV 8 / RM-LV 16 may only be carried out by qualified experts, in accordance with the provisions of IEC 364, DIN VDE 0105 for electrical equipment.
- All applicable laws, conditions, provisions and regulations governing the setting up of electrical equipment must be observed in respect of the installation site.
- Settings for equipment with 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-LV 8 / RM-LV 16 may only be operated in the permitted operating area.

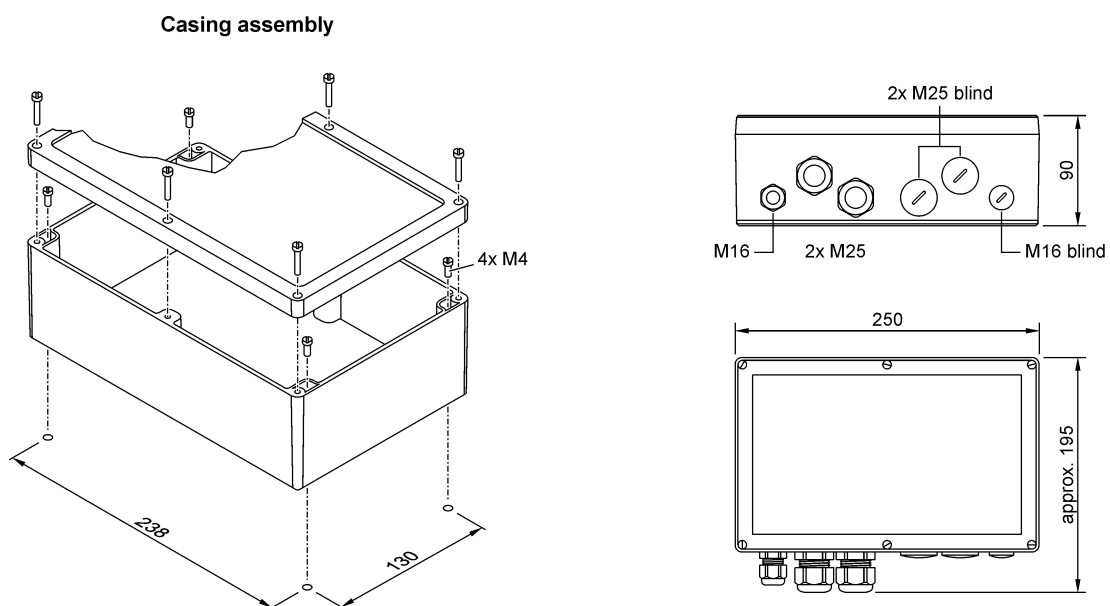


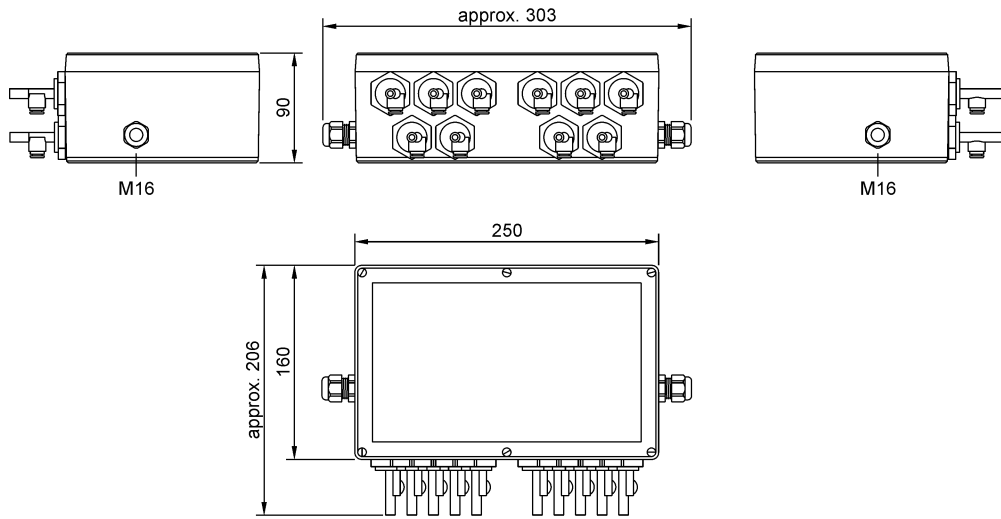
Switch off the mains supply before replacing the RM-LV 8 / RM-LV 16 or any components connected to it. Otherwise the equipment may be damaged.

2 Equipment specification

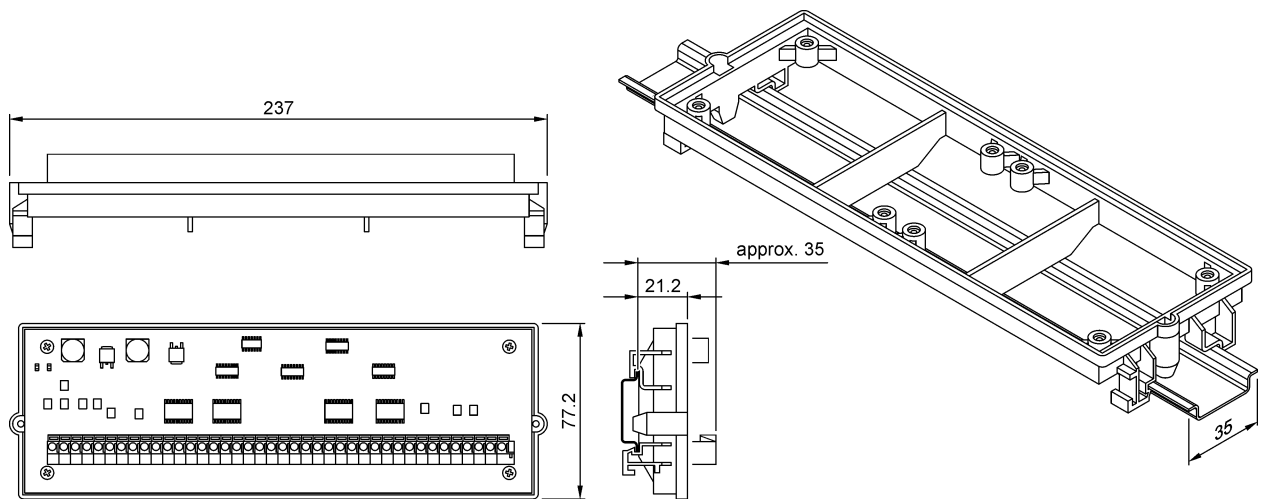
The RM-LV 8 / RM-LV 16 is used to expand the number of valve outputs on filter control RM-208 C / RM-216 C.

3 Assembly





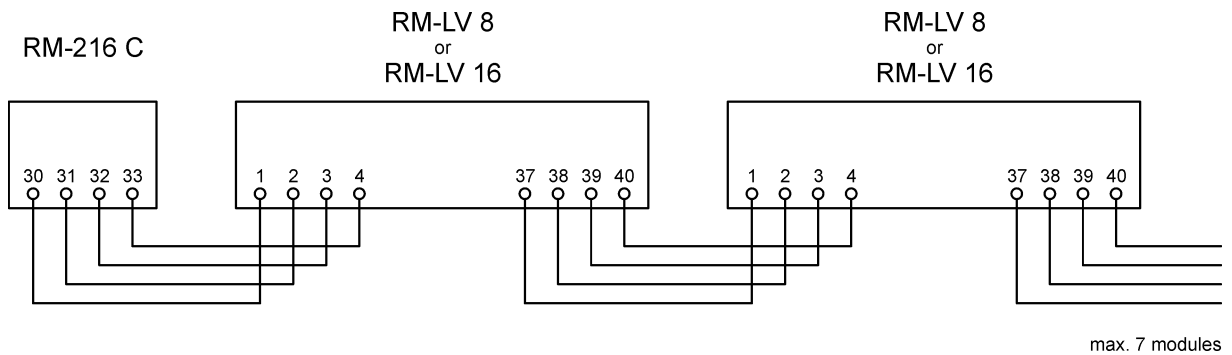
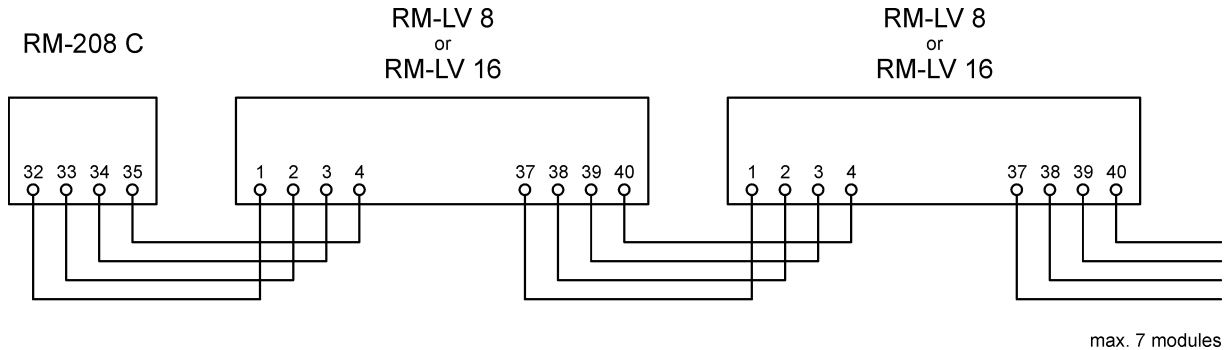
RM-LV 8 with up to 8 integrated valves
(shown with 8 valves)



Design version with carrier for rail mounting

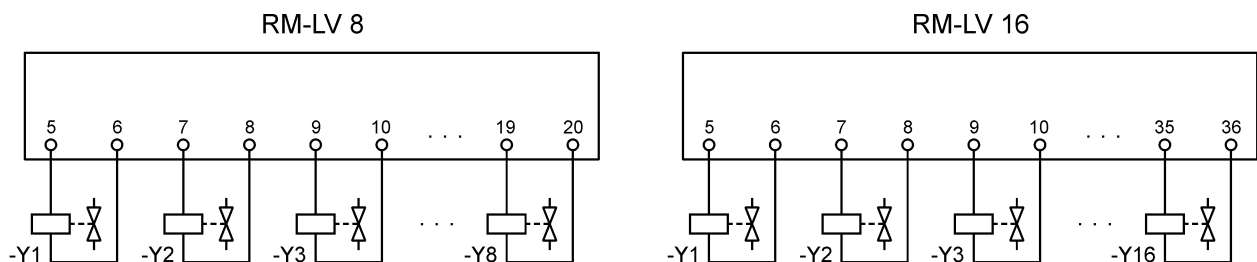
4 “Step by step” installation

1 Supply voltage / bus line connection



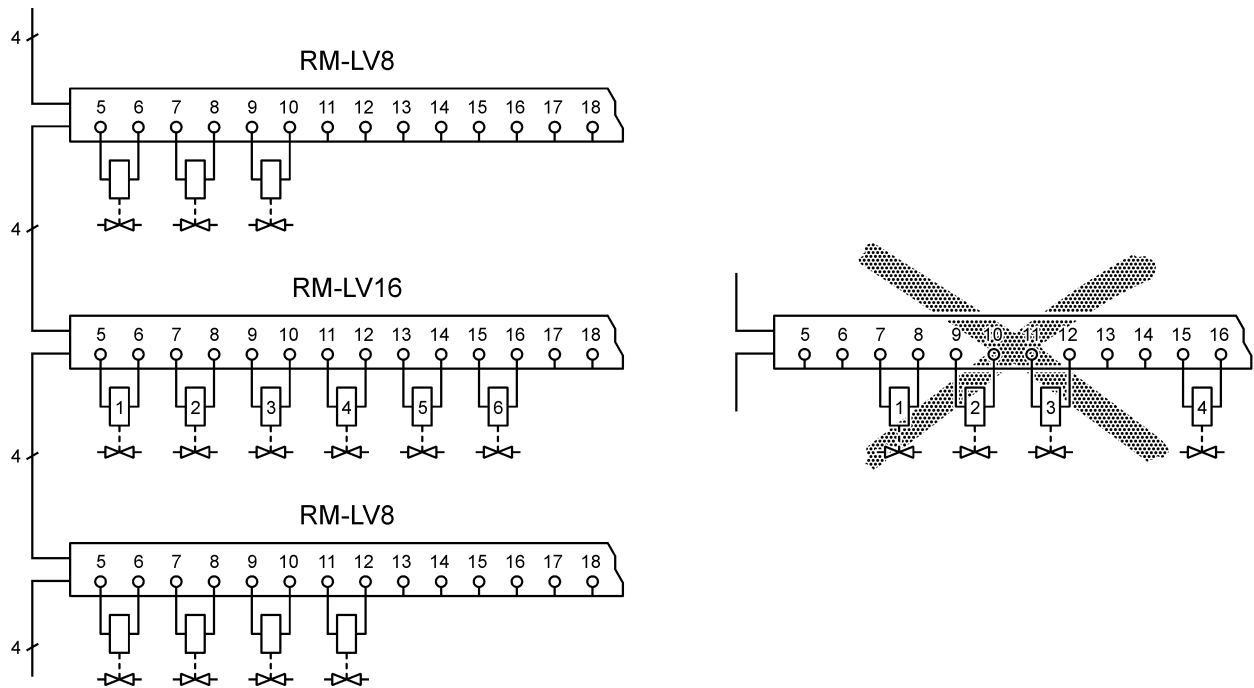
i Signal cables must not be laid parallel to power cables.

2 Solenoid valve connection

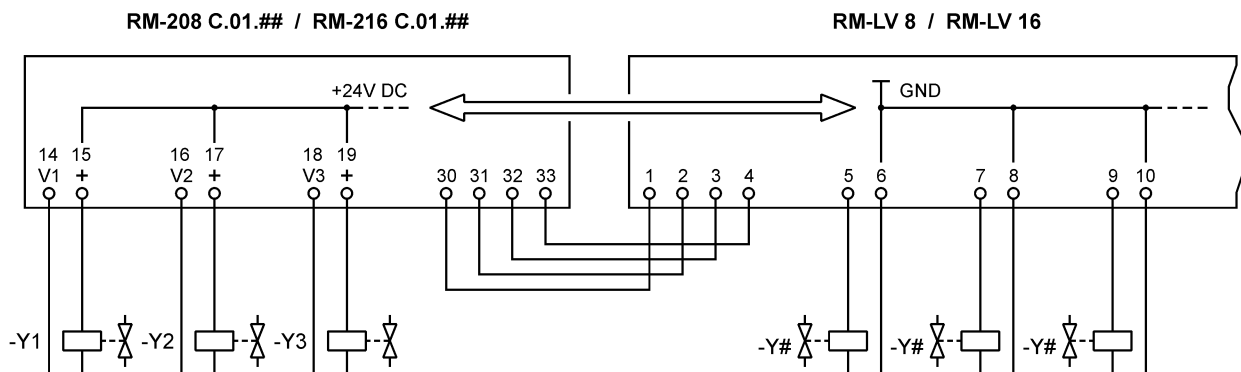


- i**
- RM-LV 8 modules can be combined with RM-LV 16 modules.
 - The valve outputs must be assigned in sequence (see example on the next page).
 - Not all the valve outputs on a module need to be assigned.

Example



On older filter controllers having the type designations 208 C.01.## and 216 C.01.##, the common valve terminal (COM) is the +24V potential. On the extension modules, the common valve terminal is the ground potential (GND). These potentials must not be electrically connected. This would cause damage to the units.



- Tighten all cable glands in use to ensure that all the cables are properly enclosed and water cannot penetrate.
- Cable glands that are not in use must be closed or replaced by blank plugs.

5 “Step by step” settings

5.1 Function when shipped

The complete filter control is not yet ready for operation even after successful installation of the expansion modules. Firstly, set parameter P06 “Total no. of valves” on the main RM-208 C or RM-216 C device. See also section 5.2.

5.2 Setting

Before commissioning, the parameter P06 “Total no. of valves” must be set to the number of all connected valves (on the main device and on the expansion modules) on the main RM-208 C or RM-216 C device. See also the Operating and Installation Instructions for RM-208 C or RM-216 C, section 5.2.

6 Troubleshooting

| Error | Possible causes | Recommended action |
|---|--|--|
| The message “RM-LVX Alarm” appears on the text display of the RM-208 C / RM-216 C filter control. | The valve outputs are not assigned in sequence | Connect the valves correctly (see example on the previous page). |
| | The total number of valves (parameter P06) is set incorrectly on the RM-208 C / RM-216 C filter control (parameter P06). | Set the correct total number of valves on the RM-208 C / RM-216 C filter control (see also section 5.2). |
| | A connected RM-LV 8 or RM-LV 16 expansion module is defective. | Replace expansion module |
| | The supply voltage is too high. The voltage must be lower than 34 V DC. | Change the matching transformer terminals. |

7 Details on the equipment function

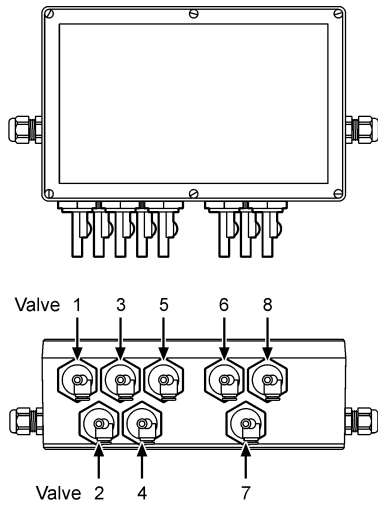
Connection to the filter control RM-208 C / RM-216 C

Up to seven expansion modules can be connected in series to the RM-208 C or RM-216 C filter control via the 4-pole bus line. RM-LV 16 and RM-LV 8 modules can be combined interchangeably. The bus line is used both to supply voltage and to exchange signals. The control times set on the filter control apply to all outputs on the expansion modules.

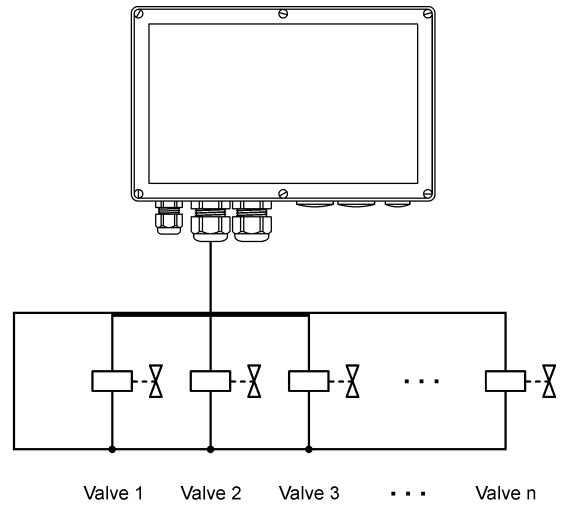
LEDs

- LED **green** lights up, if module RM-LV 8 / RM-LV 16 is ready for operation.
- LED **yellow** lights up, if module RM-LV 8 / RM-LV 16 is activated by filter control RM-208 C / RM-216 C.

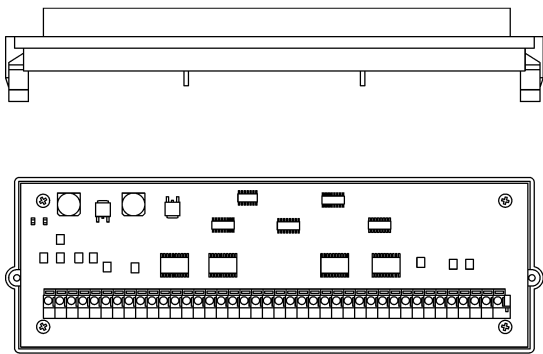
Versions



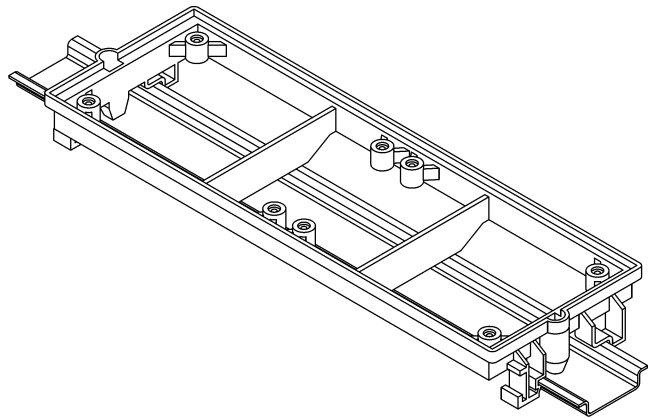
Solenoid valves integrated in the housing



Control of external solenoid valves



Design version with carrier for rail mounting



8 Glossary

| Term | Explanation |
|------------------------------------|---|
| Bus line | 4-pole line between the filter control and the expansion module or between two expansion modules. Used to supply voltage and to exchange signals. |
| Expansion module | Module connected to the RM-208 C or RM-216 C filter control, providing additional valve outputs. |
| Pulse time | Duration of a control pulse on the valve outputs |
| Solenoid valve | (also relay valve) electromagnetically operated valve for the pneumatic triggering of the filter membrane valves. The membrane valves in turn release the compressed air strokes for filter cleaning. |
| Pause time (also Interval time) | Time period between two consecutive control pulses from the valve outputs when the cleaning is running. |
| Control times | Pulse time and pause time |
| Valve output | Device output controlling a solenoid valve. |
| Total no. of valves | Number of all valves connected to the RM-208 C or RM-216 C and to the expansion modules. |
| -Y1, -Y2, -Y3; ... | Identification for solenoid valves 1, 2, 3, ... |

9 Technical specifications

| Application | Data |
|----------------------------|---|
| Supply voltage | 24 V DC via loop-bus line |
| Control outputs for valves | For valves with a rated voltage of 24 V DC, output power in pulse mode 42 Watt |
| Temperature range | -20°C to +60°C |
| Degree of protection | Casing IP-66 / NEMA 4 |
| Dimensions | see section 3 "Assembly" on page 3 |
| Weight | within housing no valves: approx. 750 g within housing with 8 integrated valves: approx. 1600 g on carrier: approx. 150 g |
| Installation height | max. 3000 m above M.S.L. |

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.