



Operation manual

Electronic solenoid valve control

FIW 202





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1 Safety

The equipment may only be installed, connected, put into service and maintained by qualified and authorised skilled personnel in particular compliance with these operating instructions, the relevant standards and the legal regulations.

In addition, both the general and regional installation and safety regulations for work on power installations (e.g. VDE), and the regulations concerning proper use of tools and the use of personal protective equipment must also be complied with.

During the operation of electrical installations, certain parts of the installation are necessarily live with dangerous voltage.

Disregard of the warnings can cause serious physical injuries or material damage.

1.1 Standards

The solenoid valve controls comply with the following relevant provisions:


- 2014/30/EU
- 2014/35/EU
- 2014/34/EU

Applied standards:

- EN 55014-1:2012
- EN 60204-1:2012
- EN 60079-0:2014
- EN 60079-31:2014

The named standards and directives can be examined at HAINKE Filteranlagen GmbH.

1.2 Marking electrical equipment for potentially explosive atmospheres

Marking according to Directive 2014/34/EU:	
Marking	Meaning
II	Equipment group II
3	Category 3
D	For explosive mixtures of air and combustible dust
Standard-specific addition to EN 60079-0	Ex tc IIIB T80 °C Dc X IP65 Ta: -5 °C...+40 °C
Ex	Ex-protection to European standard
tc	Type of protection: Protection by enclosure, use in category 3D
IIIB	Dust group: non-conductive dust
T80 °C	Maximum surface temperature
Dc	Equipment protection level (EPL)
X	Note on particular use conditions
IP 65	Degree of protection IP 65
Ta: -5 °C ... +40 °C	Range of the allowable ambient temperature
Areas of use	
Category	Explosive dust-air mixtures (D)
Category 1	Zone 20, 21 or 22
Category 2	Zone 21 or 22



Areas of use	
Category 3	Zone 22 non-conductive dust
Equipment group II Category 3D	Equipment designed to be capable of functioning in conformity with the operating parameters established by the manufacturer and ensuring a normal level of protection.
Electrical equipment for use in areas with combustible dust	Equipment in this category is intended for use in areas in which explosive atmospheres caused by air/dust mixtures are unlikely to occur or, if they do occur, are likely to do so only infrequently and for a short period only.

1.3 Operation of the control in the mounting enclosure

The control may only be operated in normal operation with a closed cover.

For the commissioning and during maintenance work with applied supply voltage, before opening the cover, it must be ensured that there is no potentially explosive atmosphere caused by dust/air mixtures present and none will occur.

Otherwise, the cover may not be opened while the installation is live. Degree of protection IP54 must be maintained as a minimum.

1.4 Notes on particular conditions for safe use in hazardous area Zone 22

✓ Allowable ambient temperature range Ta: -5 °C to +40 °C.



1. Attach the control within the visible area and ensure that it is protected from any mechanical damage.
2. Ensure that the control is protected against ultraviolet light (daylight or UV light emitted by lights) or mount the control in a protected place.
3. Avoid dust deposits on the enclosure.
4. To prevent electrostatic discharges, clean the equipment with a damp cloth only. Avoid rubbing with non-conductive materials.

2 Intended use

The control can cause hazards if used improperly. The control has been developed for the cyclical cleaning of dust filter elements with compressed air pulses. Up to 2 solenoid valves can be actuated cyclically with settable pulse and pause time. Do not operate the control outside the electrical, thermal and mechanical characteristics.



3 Technical data

Supply voltage (see rating plate)	230 VAC 50/60 Hz	115 VAC 50/60 Hz	24 VDC
allowable tolerance	+/- 5%		24-32 VDC
	can be switched over by reconnecting wire bridges		
Fusing	160 mA medium lag	315 mA medium lag	1.6 A medium lag
Quiescent current input	typically 40 mA	typically 80 mA	typically 60 mA
Type	FIW 202 E in the polycarbonate mounting enclosure		
Output data	2 solenoid valve outputs 24 VDC, output power max. 24 W / 1 A		
Pulse time	approx. 50 – 500 ms settable		
Pause time	approx. 10 – 70 s settable		
Enclosure material	Polycarbonate		
Colour	RAL 7035 (light grey)		
Installation	Wall-mounted		
Degree of protection	IP65 to EN 60529		
Dimensions (L × W × H)	120 × 75 × 200 mm		
Weight	1.1 kg		
Cable entries	3 × M16		
Clamping areas of the cable entries	M16 for 4.0 – 8.0 mm		
Connection cross-section	0.2 – 2.5 mm ²		
Maximum surface temperature <i>T</i> of the enclosure (category 3D) at 40 °C ambient temperature	80 °C		
Allowable ambient temperature	Hazardous area Zone 22: Ta: -5 °C ... +40 °C Outside the hazardous area: -20 °C ... +40 °C		
Conformity	Low Voltage Directive 2014/35/EU (EN 60204-1) Directive 2014/30/EU Electromagnetic Compatibility (EN 61000-6-1, EN 61000-6-2, EN 55014-1)		
Equipment marking	II 3D Ex tc IIIB T80 °C Dc X IP65 Ta: - 5 °C ... + 40 °C		
	 		

4 Assembly and installation



NOTICE

Installation according to manufacturer's instructions

1. Install the control unit in accordance with the manufacturer's instructions and the respective national regulations and provisions as well as the relevant installer provisions.
2. The protective conductor must always be laid alongside and connected.

Target group

Unless assigned otherwise, the assembly and installation are carried out by skilled personnel of HAINKE Filteranlagen GmbH.

Work on the electrical installation is only carried out by electrically skilled personnel. Work on live parts is not planned.

Safety instructions

After assembly and connection of the control, it must be ensured that degree of protection IP65 to EN 60529 is achieved again for the enclosure.



WARNING

Control is not suitable for operation in this use case

According to its marking, the equipment must be suitable for the existing hazardous area, otherwise there is a risk of explosion.

- Compare the technical data and ambient conditions exactly

General

Mount the control in a vibration-free location.

Mounting enclosure

The control in the mounting enclosure is suitable for mounting in the installation.

The operation is permitted for:

- Hazardous area Zone 22
- non-conductive dust
- the potentially explosive medium does not occur or only rarely/for a short time due to air/dust mixtures
- outside potentially explosive atmospheres

Installation

1. Compare the equipment marking and case of application.
2. Remove the cover.
⇒ The fixing holes are accessible.
3. Mount the control in the visible area.
4. Protect from mechanical damage.
5. Close off cable entries properly.
6. After installation, screw on the cover with all the screws provided.
7. Explosion protection to EN 60079-14 must be established.
⇒ The control is mounted.

Outdoor installation

1. Take suitable measures to protect the enclosure from the weather, e.g. by a canopy or similar.

Installation in potentially explosive atmospheres

All cables must be routed properly through cable entries, which are approved for use in potentially explosive atmospheres.

The mounting must be done properly.

Cable entries that are not required must be fitted with plugs, which are approved for use in potentially explosive atmospheres.

The requirements of EN 60079-14 must be met.



4.1 Electrical connection



NOTICE

Property damage due to wrong supply voltage

The connection of 115 VAC or 230 VAC to a control for 24 VDC supply voltage leads to irreparable damage to the whole control.

- Connect the control only to the supply voltage given on the rating plate.

General

1. Connect the control according to the connection plan.
2. Comply with the values given in the technical data.

Power supply

1. Connect the supply voltage to terminals L and N or at terminals L+ and M.
2. Connect the protective conductor to the grounding screw.

Solenoid valves

1. If 2 solenoid valves are connected, connect both solenoid valves to terminals 1 and 2 and 3 and 4 respectively.
2. If, alternatively, only one solenoid valve is connected, bridge terminals 1 and 3 and connect the solenoid valve to terminals 1 and 2.
3. Connect the protective conductors to the grounding screw.

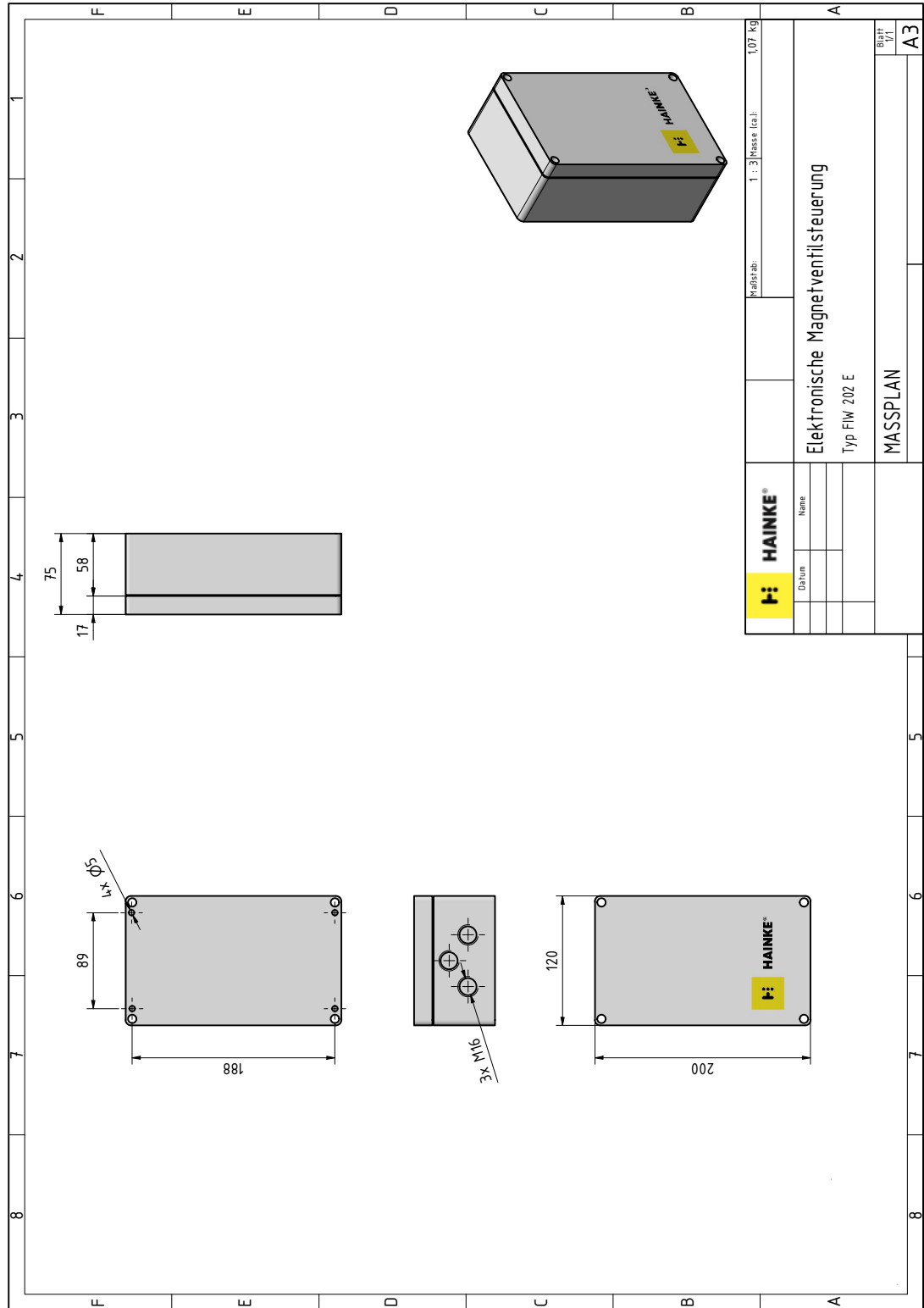
The output of the connective valves may not exceed the maximum output power of the connected valves.

Status message output Not present.

Remote control input Not present.

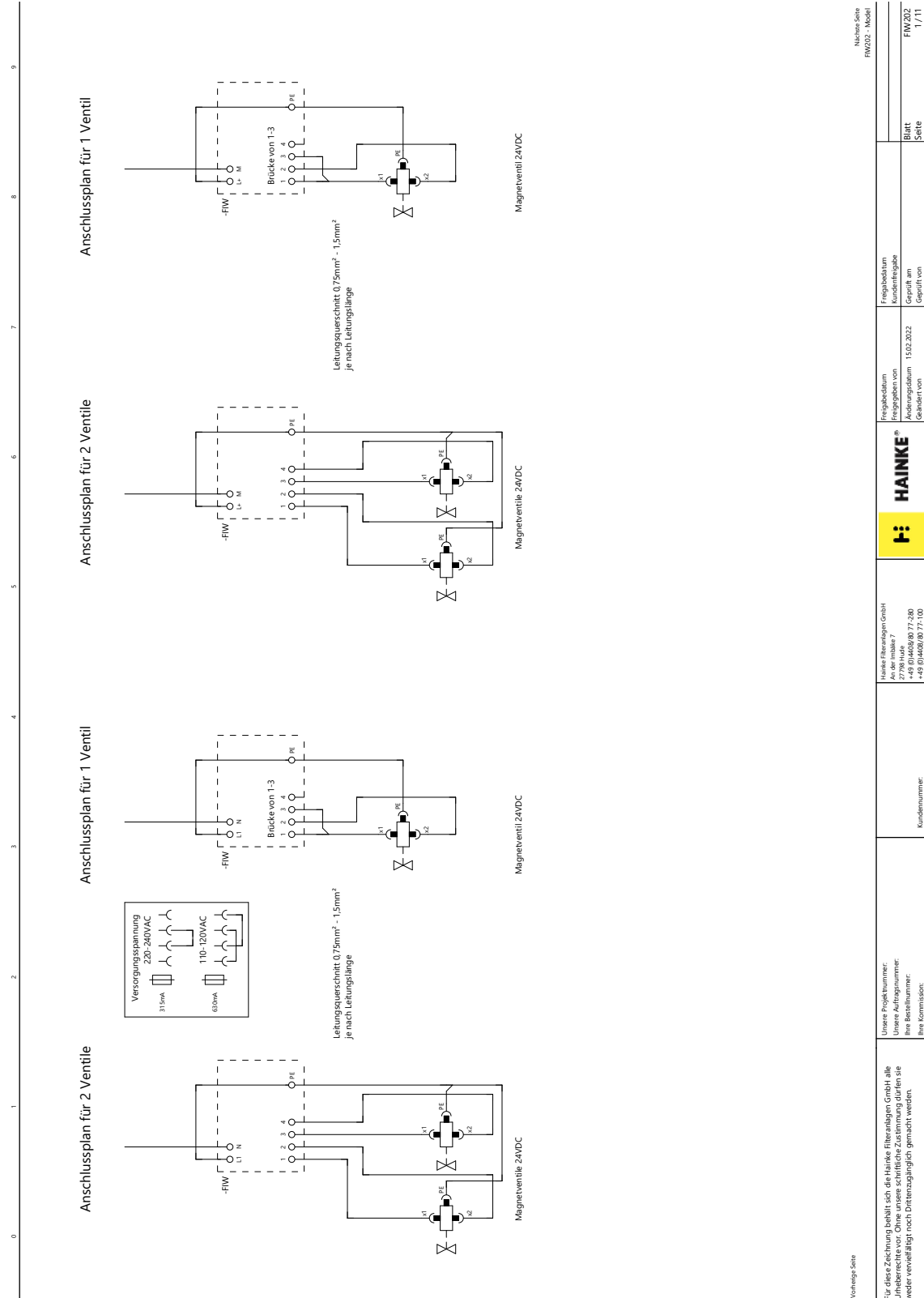
Pressure sensor input (P) Not present.

4.2 Dimension plan FIW 202





4.3 Connection plan FIW 202



Vorliegende Seite		Nächste Seite	
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Unsere Projektnummer: Unsere Auftragsnummer: Ihre Bestellnummer: Ihre Kommission:		Fragebuchart Kundenfertige Geprüft am Geprüft von	
Hainke Filteranlagen GmbH Am der Innlake 7 4904408/08 77-200 +49 50 4408/08 77-100		Fragebuchart Fragebogen von Änderungsdatum Geändert von	
Kundennummer:		HAINKE®	
		Blatt	
		Seite	
		FW202	
		1 / 11	

5 Start-up





⚠ WARNING

Risk of injury due to the escape of a potentially explosive atmosphere consisting of dust/air mixtures

✓ Operation with the cover open is prohibited.

1. Before opening the cover, ensure that no potentially explosive atmosphere exists.
2. Do not operate the control outside the electrical, thermal and mechanical characteristics.
 1. Use the rating plate to check the supply voltage for which this control is suitable: 115 VAC and 230 VAC or 24 VDC.
 2. Check that the control is connected correctly according to the connection plan.
 3. Check whether the correct microfuse is inserted.
 4. Apply the supply voltage according to the rating plate.
 5. Use the potentiometer to set the required pause and pulse time according to the filter manufacturer's data. The upper potentiometer sets the pause time, the lower potentiometer sets the pulse time.
 6. Check for correct actuation of the valves.
 7. Following completion of the commissioning, screw the cover back on and check the cable entries. Cable entries that are not required must be sealed with a plug.

Overview of the wire bridges

	Wire bridges for 230 VAC (as-delivered condition)
	Wire bridges for 115 VAC

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