



Every **MAG-VIEW™** is fabricated and shipped from factory under stringent quality control. In order to maintain its design performance throughout its life, this Quick Installation Guide offers the operator the minimal necessary installation, operation and maintenance information. *Always read the complete operating instructions in the manual carefully prior to installing the new product (download the PDF from the website www.massflow-online.com).* Always adhere to the instructions contained herein, especially the safety instructions, otherwise there is a potential risk of personal injury and damage to instruments and systems. Even though we provide assistance through the respective literature, it is the responsibility of the customer to verify the suitability of the product for the specific application. With this verification all hazards and risks are transferred to our customers; our warranty is not valid.



1 The MAG-VIEW™ is intended for continuously measuring of flow rates or for dosing electrically conductive liquids. The magnetic inductive flow meter functions according to the induction principle and works without any moving parts. The MAG-VIEW™ is used for measuring or metering water or electrically conductive liquids. The operational safety of the device supplied is only guaranteed by intended use. The specified limits on the datasheet may under no circumstances be exceeded.



2 Unpacking and inspecting the delivery

The MAG-VIEW™ is delivered in special protective packaging. Keep this protective packaging for sending the instrument for repairs to the manufacturer or disposing the packaging under the official rules of the public waste disposal system of your area. **Inspect the delivery first.**

Standard delivery of MAG-VIEW™:

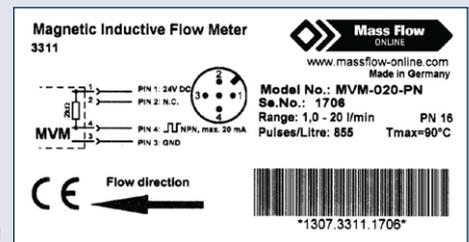
- 1 x Flow sensor with 3 yellow protection caps
- 1 x Quick Installation Guide (this guide)
- 2 x Flat gasket
- 1 x Packaging
- 1 x Manual



3 Confirm nameplate

Product code and ratings appear on the bottom side of the meter (see fig.1). Make sure that the ratings shown conform to your specifications.

Fig. 1



4 Qualified personnel

- a) The personnel entrusted with installing, operating and maintaining the MAG-VIEW™ have to be suitably qualified. The personnel have to be familiar with the contents of these instructions, which have to be available to them at all times.
- b) The electrical connection should only be carried out by a fully qualified electrician.



5 Special safety instructions

- a) All work has to be carried out in accordance with existing national regulations on accident prevention and safety at work and with any internal regulations of the operator, even if they are not specified in these instructions.
- b) Ensure that conditions at the place of use correspond to the IP65 degree of protection.
- c) Prior to installation, ensure whether the material of the flow sensor is suitable for the medium which is to be measured.
- d) Ensure that the max. specified operating pressure is not exceeded.
- e) Never remove a flow sensor from a pipe system under pressure.
- f) Ensure that the max. specified operating temperatures are not exceeded.
- g) Select suitable measures to prevent the medium from freezing in the flow sensor.
- h) Protect the flow meter against external magnetic fields in the immediate vicinity, since these can impair device functioning.
- i) **Caution: voltages!**
Always de-energize the system before connecting the connector cable.
- j) It is prohibited to remove or make type plates or any other information attached to the equipment indecipherable, otherwise all warranties and the responsibility of the manufacturer no longer apply.
- k) **Caution:** Ensure that the maximum electrical load specified on the type plate is never exceeded, otherwise the electronic unit will be damaged.
- l) **Attention:** Do not use MAG-VIEW™ in processes in which a disturbance possibly causes a risk for health and live of people.
- m) The customer is to verify the applicability of the product on the basis of our technical details. By this checking, hazards and risks are subrogated to the customer and our warranty expires.



6 Material specifications of components

Prior to installation, ensure whether the wetted components are suitable for the medium which is to be measured!

Components	Materials	Contact type
Process connections	Stainless Steel 1.4571	Permanently
Measuring pipe	PEEK™ VICTREX® 450GL30	Permanently
Gasket	EPDM	Permanently
Electrodes	Stainless Steel 1.4571	Permanently
Housing	Aluminium pressure diecasted	Indirect

7



Installation of the flow sensor

- a) The sensor can be installed at any position in the pipe system. Straight sections of piping are preferable, however (see Fig. 2).
- b) The unit can be installed in both horizontal as well as vertical pipelines. The flow sensor is only suitable for use in fully filled piping.
- c) Due to its operating principle, magnetic inductive flow sensors do not, for the most part, depend on the flow profile. A calming inlet section is not absolutely necessary. However, to ensure the greatest possible degree of measuring accuracy, straight inlet and outlet pipe of the appropriate nominal diameter (DN) should be used. The inlet pipe should be at least 10 x DN; the outlet pipe 5 x DN respectively.
- d) The degassing of the medium due to a temperature increase should be prevented by taking appropriate measures, e.g. increased system pressure.
- e) The inlet and outlet sections and the gaskets must have the same or a slightly larger diameter than the measuring pipe in order to achieve the specified accuracy.
- f) Observe the flow direction indicated on the type plate and the mounting dimensions in the manual.
- g) When tightening screw connections always grip the hexagon nut (see Fig. 3).

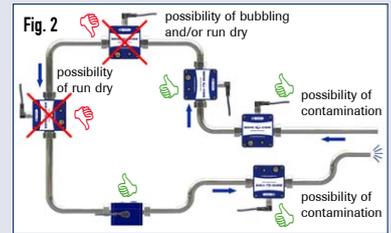


Fig. 3



8



Electrical connection

The electrical connection of the MAG-VIEW™ is a 4(5)-pin plug M12x1 on the top side. The corresponding connection cable with moulded coupling socket are available as an option.

Caution: voltages! Always de-energize the system before connecting the wires.

Warning: We recommend the use of shielded connecting cables only. The shield should not be connected to ground. We recommend to ground the pipes directly before and behind the MAG-VIEW™ (see Fig. 4).

Electrical connection with 4(5)-pin connector M12x1:

- a) Screw the 4-pin cable socket M12x1 onto the connector.
- b) Tighten it with a tightening torque of max. 1 Nm.
- c) Connect the connecting cables of the MAG-VIEW™ corresponding to Fig. 5.
- d) Please check the manual for detailed description about the electrical connection..
- e) You can find pin assignment in Fig. 6.
- f) The optional analog output PIN 2 provides a flow proportional signal current of 4...20 mA. Please note the max. load of 250 Ω to GND.

Fig. 4

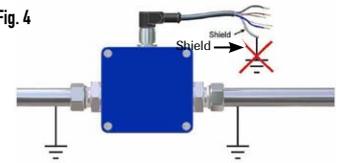


Fig.5

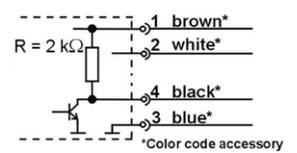
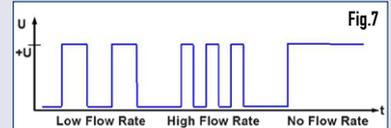


Fig.6

Pin assignment

- PIN 1: +U_B
- PIN 2: optional 4...20 mA
- PIN 3: GND
- PIN 4: frequency output NPN
- PIN 5: Do not connect!

Fig.7



9



The output signal PIN 4 is a flow proportional frequency signal (see Fig. 7). It represents a square-wave output signal whose amplitude roughly corresponds to the supply voltage. The supply voltage and the output signal are not galvanically isolated. After switch on, the operating status is shown by multiple flashing of the LED. Throughout the operating, the LED flash corresponding to the flow rate:

- No flow rate → no flashing.
- Low flow rate → slow flashing.
- High flow rate → fast flashing.

10



Connection to a Programmable Logic Controller (PLC)

Most digital PLC inputs are designed for connection to PNP signals. The MAG-VIEW™ has an NPN frequency signal with an integrated 2kΩ pull-up resistor. Its signal current of ~12 mA is recognised as a signal by the current PLC. Thus, operating a MAG-VIEW™ with a PLC should not present any problems. The frequency output of the MAG-VIEW™ should be attached to a digital input of the PLC. Important! Please ensure that your PLC is able to process the high frequencies of the MAG-VIEW™ output signal.

- Attach the connecting cable of the MAG-VIEW to the PLC as illustrated in fig. 8.

Fig.8

