



Electromagnetic Flowmeter M2000 Series

Description

The amplifier type M2000 is best suited for bidirectional flow measurement of fluids with a conductivity $> 5 \mu\text{S}/\text{cm}$ ($> 20 \mu\text{S}/\text{cm}$ for demineralized water). M2000 shows a high accuracy, is easy to use and can be chosen for a large and flexible applications spectrum. The backlit, four-line display shows all actual flow measuring data, daily and complete information, including alarm messages. The standard amplifier has 4 programmable digital outputs, one digital input, power output and USB interface. Integrated test tools make the putting into operation and the service easier.

Measuring principle

The operating principle of the electromagnetic flow meter is based on Faraday's law of magnetic induction: The voltage induced across any conductor, as it moves at right angles through a magnetic field, is proportional to the velocity of that conductor. The voltage induced within the fluid is measured by two diametrically opposed internally mounted electrodes. The induced signal voltage is proportional to the product of the magnetic flux density, the distance between the electrodes and the average flow velocity of the fluid.



Technical data

Power supply	85 – 265 VAC, 45 – 65 Hz, < 20 VA or optional, 24VDC or 9-32 VDC
Analog output	0/4 - 20 mA, ≤ 800 ohms, flow direction is displayed upon a separate status output
Pulse /Frequency output	24 V active, 20 mA, 30 V passive, 100 mA (open collector) max. 10 kHz
Status output	min./max. alarm, preselection meter, flow direction, error message
Medium control	separate electrode
Programming	3 keys
Interface	USB
Flow range	0,03 – 12 m/s
Accuracy	$\geq 0,5$ m/s better $\pm 0,25\%$ of actual flow $< 0,5$ m/s $\pm 1,25$ mm/s of actual flow
Repeatability	0,1%
Flow direction	bi-directional
Pulse length	Programmable up to 10 s
Outputs	Short circuit safe and galvanically isolated
Low flow cut off	0 - 10%
Display	LCD, 4 lines / 20 characters, backlit, actual flow, 2 totalizers, status display
Housing	Powder coated aluminium die cast
Protection class	IP67
Cable insertion	Power and signal cable (outputs) 3 x M20
Signal cable	From detector M20
Ambient temperature	-20°C up to + 60°C

