

# TECHNICAL DATASHEET



## ELECTROMAGNETIC FLOWMETER

The ABFlowgenix **Electromagnetic Flowmeter (EMFM)** delivers accurate and reliable measurement for conductive liquids using Faraday's Law of Electromagnetic Induction.

As the fluid passes through the magnetic field inside the flow tube, a voltage proportional to flow velocity is induced and detected by electrodes. This voltage is converted into a flow signal, providing real-time, highly accurate readings.

Built with robust stainless-steel construction, advanced electronics, and multiple communication options, this flowmeter ensures dependable performance in industrial and municipal applications alike.



*Image is not real..Just for reference*

### KEY FEATURES

- **High Accuracy:**  $\pm 0.5\%$  of reading with repeatability up to  $\pm 0.2\%$ .
- **No Moving Parts:** Ensures zero wear and maintenance-free operation.
- **Low Pressure Drop:** Obstruction-free design for smooth flow.
- **Multiple Liners & Electrodes:** Chemical compatibility for diverse process fluids.
- **Compact or Remote Design:** Flexible installation across all site conditions.
- **Smart Electronics:** Multiple outputs – 4-20 mA, Pulse, RS-485 (Modbus RTU), HART.
- **Rugged Build:** IP67 enclosure available for outdoor and harsh environments.

### USER BENEFIT

- **Maintenance-Free Operation:** No moving parts ensure zero mechanical wear, reducing downtime and maintenance costs.
- **Wide Measurement Range:** Performs accurately across varying flow conditions with stable and consistent readings.
- **High Chemical Compatibility:** Suitable for corrosive and abrasive media such as acids, slurries, and wastewater.
- **Flexible Installation:** Can be mounted in both vertical and horizontal pipelines for versatile applications.
- **Smart Digital Outputs:** Offers seamless connectivity with PLC, SCADA, or DCS systems for modern process automation.

# TECHNICAL SPECIFICATIONS

Parameter	Specification
Line Size	DN4 to DN100 mm (larger sizes available on request)
Range Ratio (Turn Down)	1 : 20
Accuracy	±0.5% of reading
Medium temperature	-100 °C to +150 °C
Ambient Temperature	-30 °C to +60 °C
Pressure Rating	Up to 16 bar (higher pressure models available)
Power Supply	12-24 V DC / 230 V AC
Signal Outputs	4-20 mA / Pulse / RS-485 (Modbus-RTU)
Protection Class	IP65 / IP67
Explosion Protection	Flameproof / Ex-Proof model available
Mounting Type	Compact or Remote
Repeatability	±0.2% of reading
Liner Materials	PTFE / PFA / Rubber / Ceramic
Communication Protocol	RS-485 / Modbus RTU

# MATERIAL OPTIONS

Component	Material Options
Flow Tube	SS304 / SS316
Liner	PTFE / PFA / Rubber / Ceramic
Electrodes	SS316 / Hastelloy-C / Titanium
Housing	Aluminium Anodized / SS304
Display Cover	Polycarbonate (IP67 rated)

## TYPICAL APPLICATIONS

- Water & Wastewater Treatment
- Chemical Industry
- Food & Beverage
- Agricultural water distribution networks.
- Power & Steel Plants
- Cooling water and slurry flow control.

## DISPLAY & INTERFACE

- 4-line LCD / TFT display for instantaneous flow, totalized volume, velocity
- Backlit screen for dark environments.
- Configuration via front keys or remote keypad.
- Password protection for secure parameter settings

## ELECTRICAL CONNECTIONS

- 3-wire 4–20 mA analog output (isolated)
- RS-485 digital output (Modbus RTU or HART)
- Pulse output for totalized flow
- Relay output (optional for alarm/batch functions)
- Power: 24 V DC or 230 V AC

## INSTALLATION GUIDELINES

- Ensure 5D upstream and 3D downstream straight pipe lengths.
- Maintain full-pipe condition for accurate measurement.
- Grounding rings recommended for plastic or lined pipes.
- Verify arrow direction on body matches flow direction.

## COMMUNICATION PROTOCOL

- Modbus RTU – for PLC and SCADA integration
- HART – for diagnostics and configuration
- Pulse Output – for batch control or totalizing

## MAINTENANCE & WARRANTY

- Non-contact technology ensures virtually zero maintenance.
- Routine inspection for electrode scaling recommended in slurry applications.
- 12-month manufacturer warranty against manufacturing defects.

## ACCESSORIES OPTIONS

Accessory	Description
Remote Display Unit	Up to 50 m cable length
Flow Totalizer Panel	6-digit LED with relay output
Data Logger	RS485 / USB data recording
Mounting Kit	Includes flanges and fasteners
Cable Gland Set	IP68-rated, waterproof sealing

## ORDERING INFORMATION

Code / Option	Description
Model	ABFLOW – EMFM
Line Size	Specify (DN4 to DN100 mm or as required)
Material of Construction (MOC)	1 – SS304 / 2 – SS316 / 3 – Aluminium Anodized
Protection Class	1 – IP65 / 2 – IP67
Pressure Rating	1 – Up to 16 bar / 2 – Other (specify)
Explosion Proof	1 – Yes / 2 – No
Connection Type	1 – Flanged / 2 – Threaded
Output Signal	1 – 4–20 mA / 2 – RS-485 / 3 – 4–20 mA + HART / 4 – 4–20 mA + RS-485 / 5 – NPN/PNP
Operating Temperature	1 – 80 °C / 2 – 120 °C / 3 – 150 °C / 4 – Above 150 °C
Power Supply	1 – 24 V DC / 2 – 230 V AC / 3 – Other
Test Certificate	1 – Factory Calibration / 2 – NABL Lab Calibration
Display Type	1 – Without Display / 2 – Integral / 3 – Remote Type
Additional Details	Mention any special process or installation requirements



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