Proline 10

Flow measurement uncompromisingly simple

Ideally suited for basic applications in all industries

- **Clearly arranged** – Auto-rotatable, high-contrast LC display for reliable reading of measured values and status messages
- **Flexible** – SmartBlue app for wireless remote access to all device and parameter settings as well as wizards
- **Intuitive** – Touch screen for easy navigation using common gestures
- **Time-saving** – Reliable and error-free commissioning thanks to wizard-guided menu
- **Secure** – Automatic display of errors (NAMUR NE107) and remedy information
- **Economical** – Multifunctional flow measurement with simultaneously low total cost of ownership and minimal maintenance
- **Reliable** – Heartbeat Technology with diagnostics, monitoring and verification functions
- **Proven in use** – Over 3 million Promag and Promass sensors successfully installed since 1977

Endress+Hauser
People for Process Automation

Focus on simplicity

Your benefits at a glance

1 Simply intuitive

- High-contrast LC display with touch screen
- Reliable readouts in every mounting position thanks to auto-rotatable display
- Easy operation using common gestures (even while wearing gloves)
- Over 17 operating languages available

2 Simply reliable (Heartbeat Technology)

- High plant availability thanks to self-diagnostics, monitoring and verification functions
- Assured compliance with legal regulations through device verification without process interruption
- Clear and unmistakable timestamps thanks to real-time clock

3 Simple commissioning

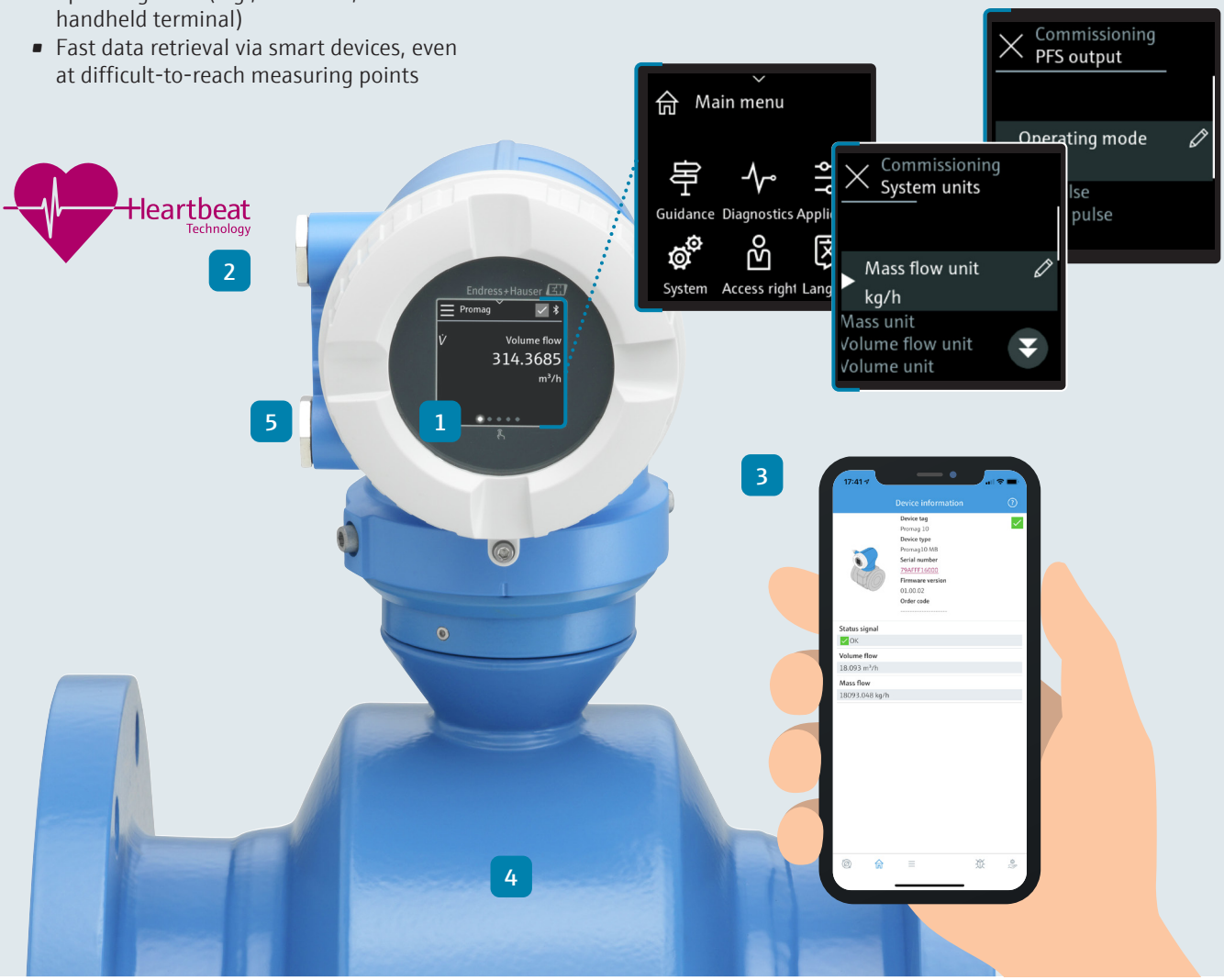
- Convenient configuration and parameterization using commissioning wizard via display, SmartBlue app or operating tools (e.g., FieldCare, DeviceCare or HART handheld terminal)
- Fast data retrieval via smart devices, even at difficult-to-reach measuring points

4 Simply clever

- Optimum product quality and process monitoring thanks to simultaneous measurement of additional process variables: conductivity, temperature, mass flow, density, etc. (depending on the measuring principle, sensor and selected order options)
- Automatic display of errors in case of malfunction (NAMUR NE107) and of remedy information for error-free operation

5 Simple to connect

- Seamless system integration via HART, Modbus RS485 or IO-Link
- Maximum flexibility: wide-range power supply unit for different rated voltages and for AC or DC



Various Proline 10 transmitter variants (left to right): with LED display, with LC display with/without touch screen, without display.

Profit from Proline 10

From commissioning to process control

For over 40 years, Endress+Hauser has been providing its customers with one of the most comprehensive flow measurement product portfolios for liquids, gases and steam. During this time, our customers have successfully installed over 3 million Promag and Promass flowmeters in a wide variety of industrial areas. Since process plants sometimes include hundreds or even thousands of measuring devices, recent years have seen considerably greater demand for these devices to offer simplicity in commissioning, measuring and maintenance.

Proline 10 meets precisely this requirement without compromise, because simplicity is the top priority for this new flowmeter line from Endress+Hauser – regardless of whether you want to commission the device, set device parameters, monitor the process or initiate targeted troubleshooting measures.

Your benefits: Saving time and money over the entire life cycle. And all this without any limitation on measuring performance, because every device is tested on accredited and traceable calibration rigs (ISO/IEC 17025). Proline 10 is simplicity, safety and reliability in one. Find out for yourself!

You can find more information about Proline 10 on our website – movie, e-book, articles, etc.
www.endress.com/proline-10

Download your e-book Proline 10 with all information at a glance.

Promag sensors

The perfect electromagnetic flowmeter for basic applications in your industry

	Proline 10	Features at a glance		Water & Wastewater
Promag W		▪ Ideal for all standard applications with water and wastewater ▪ Process connections: flange, lap-joint flange ▪ Available with drinking water approvals ▪ Available with conductivity measurement ▪ No inlet/outlet runs thanks to "0 × DN full bore" version without tube restriction ▪ Optionally with IP68 (Type 6P) and certified corrosion resistance (EN ISO 12944) for installation underground or under water ▪ Grounding-free measurement thanks to "floating measurement" concept ▪ DN 25 to 2400 (1 to 90")	The perfect flowmeter for your application	▪ Raw water, drinking water, process water, cooling water, wastewater, etc. ▪ Quantity measurement, consumption measurement, process control, etc. ▪ Pump control
Promag P		▪ For corrosive liquids and high process temperatures up to 150 °C (302 °F) ▪ Process connection: flange ▪ Approvals for hazardous areas (ATEX Zone 1, CSA Class I, Division 1) ▪ Available with conductivity measurement ▪ Grounding-free measurement thanks to "floating measurement" concept ▪ DN 15 to 600 (½ to 24")		
Promag H		▪ Ideally suited for hygienic applications (3-A, EHEDG), dosing of smallest substance quantities, and corrosive liquids such as acids, bases, etc. ▪ Flexible connection concept: flange, external thread, internal thread, weld nipple, clamp connection, coupling ▪ Available with conductivity and temperature measurement ▪ For high process temperatures up to 150 °C (302 °F) ▪ CIP and SIP cleanable ▪ DN 2 to 150 (1/12 to 6") ▪ Easy and efficient integration via IO-Link		▪ Dosing applications (e.g., of precipitants or disinfectants)
Promag D		▪ For cost-effective measurement of water ▪ Compact wafer design ▪ Also available with external threads ▪ Available with drinking water approvals ▪ Suitable for metal and plastic pipes ▪ DN 25 to 100 (1 to 4")		▪ Space-saving and cost-optimized installation in basic water applications

Food & Beverages	Mining, Minerals & Metals	Chemicals	Power & Energy	Life Sciences
				
	▪ Standard device for industrial water ▪ Control of process water ▪ Wastewater treatment ▪ Pump control ▪ Cooling water measurement		▪ Accurate measurement of raw and cooling water	
	▪ Measurement of corrosive liquids ▪ Precise dosing of chemically aggressive liquids	▪ Measurement of process water and corrosive liquids even at high temperatures ▪ Measurements in hazardous areas ▪ Process and pump control	▪ Measurement of feed water for large-scale steam boilers and liquid ammonia in catalytic gas cleaning systems	
▪ Hygienic basic applications ▪ Process water monitoring ▪ Control measurement of hot water (CIP cleaning)		▪ Flow measurement of smallest quantities	▪ Measurement of feed water for large-scale steam boilers and liquid ammonia in catalytic gas cleaning systems ▪ Dosage of chemical corrosion protection agents (e.g., in the steam boiler feed water)	▪ Measurement of liquids in a wide variety of basic applications
			▪ Measurement of raw water in confined spaces	

Promass sensor

The perfect Coriolis flowmeter for your utilities

Promass K

- Flowmeter for liquids and gases with minimal operating costs
- Reliable measurements even of inhomogeneous liquids with entrained gas thanks to one-of-a-kind Gas Fraction Handler (GFH) function
- Simultaneous measurement of mass flow, volume flow, temperature and density (optional)
- Process connections: flange, tri-clamp
- For process temperatures up to 150 °C (302 °F)
- No inlet/outlet runs
- Approvals for hazardous areas (ATEX Zone 1, CSA Class I, Division 1, GP)
- Approvals for the food industry (EC 1935, FDA, GB4806, 3-A, EHEDG, cGMP)
- DN 8 to 80 (3/8 to 3")
- Easy and efficient integration via IO-Link

Chemicals

Basic applications
Measurement of all conductive and non-conductive liquids:
- Acids and alkalis
- Cleaning agents and solvents
- Liquid hydrocarbons (e.g., benzene, toluene)

Replacement of maintenance-intensive devices (MRO)
- Of mechanical devices, e.g., variable area flowmeters
- Of volumetric devices

Process control
For filling tanks and batch reactors

Food & Beverages

Dosing measurements (examples)
- Measurement of carbon dioxide (CO_2) for carbonization of soft drinks
- Measurement of the required admixture quantity of animal fats (e.g., butter) or other substances

Process control
Measurement of admixed substances (oils, nutrients, aromatic substances) in silos or feed mills

Oil & Gas

Filling
Pump control
Measurement of the amount of fuel refueled or filled in tank trucks or rail tank cars

Consumption measurements
Fuel consumption, e.g., for operating combustion engines

Process control
- Flow measurement of liquid hydrocarbons in refineries
- Flow measurement in distribution networks (submetering)

Life Sciences

Evaporation
Measurement of purified water for injection purposes (WFI) in skids

Preparation of purified water
Quantity measurement when distributing buffer solutions in downstream processes

Technical data

Proline 10 transmitter

Transmitters

Display	▪ Option 1: Without display (blind version) ▪ Option 2: Display with two LEDs (device status, Bluetooth on/off) ▪ Option 3: LC display (auto-rotatable depending on mounting position) ▪ Option 4: LC display with touch screen (auto-rotatable depending on mounting position)
Operation	▪ Via fieldbus protocol (HART, Modbus RS485, IO-Link) ▪ Via local display (touch screen) ▪ Via SmartBlue app (smartphone, tablet, etc.) ▪ Via operating tools (FieldCare, HART handheld terminal, etc.)
Material	Aluminum, polycarbonate
Design	Compact version or remote version (for Promag only)
Power supply	▪ AC 100 to 230 V (50/60 Hz) ▪ DC 24 V (50/60 Hz) ▪ AC 100 to 230 V (50/60 Hz) / DC 24 V (50/60 Hz) ▪ IO-Link port class A
Ambient temperature	–40 to +60 °C (–40 to +140 °F)
Degree of protection	IP66/67 (Type 4X enclosure)
Inputs/outputs/ communication	▪ Option 1: 4–20 mA (HART) and pulse/frequency/switch output ▪ Option 2: Modbus RS485 and 4–20 mA ▪ Option 3: IO-Link
Approvals	Available depending on sensor version (e.g., for drinking water, hazardous areas or hygienic applications in the food industry)

Subject to modification

The Proline Promag 10/Promass 10 measuring system fulfills the EMC requirements according to IEC/EN 61326 and NAMUR NE21. It also conforms to the requirements of the EU and ACMA directives and thus carries the CE and the mark.

Proline
simply clever

Although requirements for process monitoring are becoming more complex, the need for simple device operation, commissioning and maintenance is steadily increasing. This is why Endress+Hauser provides industry-specific flow measurement solutions optimized for future technology requirements. The new generation of our Proline flowmeters is based on a uniform device and operating concept. This means time and cost savings, as well as maximum safety over the entire plant life cycle.

Heartbeat Technology
For permanent self-monitoring, diagnostics and device verification

HistoROM
Automatic data storage and data restoration

Simple operation (HMI)
Intuitive on-site operation via touch screen or SmartBlue app

Seamless system integration
Direct and transparent through digital communication

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Eco-friendly produced and printed on paper from sustainable forestry.

IN01163D/06/EN/04.24

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