

# Proline Promag P 500 electromagnetic flowmeter

High-temperature flowmeter for process applications as remote version with up to 4 I/Os



More information and current pricing:

[www.endress.com/5P5B](http://www.endress.com/5P5B)

## Benefits:

- Diverse applications – wide variety of wetted materials
- Energy-saving flow measurement – no pressure loss due to cross-section constriction
- Maintenance-free – no moving parts
- Full access to process and diagnostic information – numerous, freely combinable I/Os and Ethernet
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

## Specs at a glance

- **Max. measurement error** Volume flow (standard):  $\pm 0.5\%$  o.r.  $\pm 1$  mm/s (0.04 in/s) Volume flow (option):  $\pm 0.2\%$  o.r.  $\pm 2$  mm/s (0.08 in/s), Flat Spec
- **Measuring range** 4 dm<sup>3</sup>/min to 9600 m<sup>3</sup>/h (1 gal/min to 44 000 gal/min)
- **Medium temperature range** Liner material PFA:  $-20$  to  $+150$  °C ( $-4$  to  $+302$  °F) Liner material PFA high-temperature:  $-20$  to  $+180$  °C ( $-4$  to  $+356$  °F) Liner material PTFE:  $-40$  to  $+130$  °C ( $-40$  to  $+266$  °F)
- **Max. process pressure** PN 40, Class 300, 20K
- **Wetted materials** Liner: PFA; PTFE Electrodes: 1.4435 (316L); Alloy C22, 2.4602 (UNS N06022); Tantalum; Platinum; Titanium; Duplex 1.4462 (UNS S31803)

**Field of application:** Promag P is dedicated to chemical and process applications with corrosive liquids and highest medium temperatures. With its innovative remote transmitter Promag P 500 maximizes

installation flexibility and operational safety in demanding environments. Heartbeat Technology enables compliance and process safety at all times.

## Features and specifications

### Liquids

#### Measuring principle

Electromagnetic

#### Product headline

High-temperature flowmeter for process applications as remote version with up to 4 I/Os.

Dedicated to chemical and process applications with corrosive liquids and high medium temperatures.

#### Sensor features

Diverse applications – wide variety of wetted materials. Energy-saving flow measurement – no pressure loss due to cross section constriction.

Maintenance-free – no moving parts.

Nominal diameter: max. DN 600 (24"). All common Ex approvals. Liner made of PTFE or PFA.

#### Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

#### Nominal diameter range

DN 15 to 600 (½ to 24")

#### Wetted materials

Liner: PFA; PTFE

Electrodes: 1.4435 (316L); Alloy C22, 2.4602 (UNS N06022);

Tantalum; Platinum;

Titanium; Duplex 1.4462 (UNS S31803)

## Liquids

### Measured variables

Volume flow, conductivity, mass flow

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### Max. measurement error

Volume flow (standard):  $\pm 0.5\%$  o.r.  $\pm 1$  mm/s (0.04 in/s)

Volume flow (option):  $\pm 0.2\%$  o.r.  $\pm 2$  mm/s (0.08 in/s), Flat Spec

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### Measuring range

4 dm<sup>3</sup>/min to 9600 m<sup>3</sup>/h (1 gal/min to 44 000 gal/min)

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### Max. process pressure

PN 40, Class 300, 20K

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### Medium temperature range

Liner material PFA:  $-20$  to  $+150$  °C ( $-4$  to  $+302$  °F)

Liner material PFA high-temperature:  $-20$  to  $+180$  °C ( $-4$  to  $+356$  °F)

Liner material PTFE:  $-40$  to  $+130$  °C ( $-40$  to  $+266$  °F)

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### Ambient temperature range

Flange material carbon steel:  $-10$  to  $+60$  °C ( $+14$  to  $+140$  °F)

Flange material stainless steel:  $-40$  to  $+60$  °C ( $-40$  to  $+140$  °F)

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### Sensor housing material

DN 15 to 300 ( $\frac{1}{2}$  to 12"): AlSi10Mg, coated

DN 350 to 600 (14 to 24"): Carbon steel with protective varnish

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4409 (CF3M) similar to 316L

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### Transmitter housing material

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

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### Degree of protection

Sensor remote version (standard): IP66/67, type 4X enclosure

Transmitter remote version: IP66/67, Type 4X enclosure

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### Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

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## Liquids

### Outputs

4 outputs:

4-20 mA HART (active/passive)

4-20 mA WirelessHART

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Double pulse output (active/passive)

Relay output

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### Inputs

Status input

4-20 mA input

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### Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, PROFINET, PROFINET over Ethernet-APL, Ethernet/IP, OPC-UA

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### Power supply

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

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### Hazardous area approvals

ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC; JPN, UK Ex, KC

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### Product safety

CE, C-tick, EAC marking

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### Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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### Metrological approvals and certificates

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

Heartbeat Technology complies with the requirements for measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

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## Liquids

### **Marine approvals and certificates**

LR approval, DNV approval, ABS approval, BV approval

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### **Pressure approvals and certificates**

PED, CRN

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### **Material certificates**

3.1 material

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### **Hygienic approvals and certificates**

ACS, NSF 61, WRAS

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