

Proline Promass Q 500 Przepływomierz masowy Coriolisa

Innowacyjny przepływomierz do wymagających zastosowań z przetwornikiem w wersji rozdzielnej.



Więcej informacji i aktualne ceny:

www.pl.endress.com/8Q5B

Korzyści:

- Najlepsza jakość pomiaru – wyjątkowa dokładność pomiaru masowego natężenia przepływu, objętościowego natężenia przepływu i gęstości
- Wyjątkowa parametry pracy dla cieczy zagazowanych – technologia wzbudzenia wieloczęstotliwościowego (MFT)
- Mniej punktów pomiarowych w instalacji – pomiar wieloparametrowy (przepływ, gęstość, temperatura)
- Niewielka przestrzeń montażowa – nie wymaga prostych odcinków dolotowych i wylotowych
- Pełny dostęp do informacji o procesie i diagnostycznych – liczne wejścia/wyjścia i elementy komunikacyjne dające możliwość tworzenia dowolnych kombinacji
- Mniejsza złożoność – możliwość tworzenia dowolnych kombinacji wejść/wyjść
- Zintegrowana diagnostyka i weryfikacja – Technologia Heartbeat - skutecznie ogranicza ilość kalibracji na stanowiskach kalibracyjnych

Kluczowe parametry

- **Maksymalny błąd pomiaru** Mass flow (liquid): $\pm 0.10\%$ (standard), 0.05% (option) Volume flow (liquid): $\pm 0.10\%$ Mass flow (gas): $\pm 0.35\%$ Density (liquid): $\pm 0.2\text{ kg/m}^3$
- **Zakres pomiarowy** 0 to 550 000 kg/h (0 to 20 210 lb/min)
- **Zakres temperatury medium** Standard: $-50\text{ to }+205^\circ\text{C}$ ($-58\text{ to }+401^\circ\text{F}$) Option: $-196\text{ to }+150^\circ\text{C}$ ($-321\text{ to }+302^\circ\text{F}$)
- **Maks. ciśnienie procesu** PN 100, Class 600, 63K
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Materiały w kontakcie z medium Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications Connection: 1.4404 (316/316L)

Zastosowanie: Promass Q 500 zapewnia najwyższą dokładność pomiaru przepływu masowego i objętościowego a także gęstości. Został zoptymalizowany dla cieczy wielofazowych oraz zagazowanych. Jest idealnym wyborem do pomiarów rozliczeniowych zgodnych z MID. Dzięki innowacyjnemu przetwornikowi w wersji rozdzielnej Promass Q 500 zwiększa elastyczność instalacji i bezpieczeństwo eksploatacji nawet w trudnych warunkach. Wbudowana technologia Heartbeat pozwala przeprowadzić diagnostykę i weryfikację bez przerywania pomiaru. Zapewnia bezpieczeństwo i zgodność z obowiązującymi przepisami.

Funkcje i specyfikacja

Gęstość

Zasada pomiaru

Coriolis

Product Headline

Product Headline

Product headline

Innovative specialist for challenging applications with a compact, easily accessible transmitter. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

Sensor features

Optimized performance for liquids with entrained gas – MFT (Multi-Frequency Technology). Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error ± 0.05 % (PremiumCal). Density: measurement error ± 0.2 kg/m³.

Gęstość

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. Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access.

Nominal diameter range

Nominal diameter range

Wetted materials

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

Measured variables

Measured variables

Max. measurement error

Mass flow (liquid): ± 0.10 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.2 kg/m³

Measuring range

0 to 550 000 kg/h (0 to 20 210 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

Medium temperature range

Ambient temperature range

Standard: - 20 to +60 °C (-40 to +140 °F)

Option: -40 to +60 °C (-40 to +140 °F)

Sensor housing material

Sensor housing material

Gęstość

Transmitter housing material

Transmitter housing material

Degree of protection

Degree of protection

Display/Operation

Display/Operation

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

Inputs

Status input

4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, Profinet, Ethernet/IP, OPC-UA

Power supply

Power supply

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

Other approvals and certificates

Other approvals and certificates

Ciecze

Zasada pomiaru

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Product headline

Innovative specialist for challenging applications, as remote version with up to 4 I/Os. Secured measuring quality – unmatched accuracy of mass flow, volume flow and density. Highest measurement performance for custody transfer, density and tough process conditions.

Sensor features

Optimized performance for liquids with entrained gas – MFT (Multi-Frequency Technology). Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error $\pm 0.05\%$ (PremiumCal). Density: measurement error $\pm 0.2 \text{ kg/m}^3$.

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.

Średnica nominalna

DN 25 to 100 (1 to 4")

Materiały w kontakcie z medium

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

Wielkości mierzone

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Ciecze**Maksymalny błąd pomiaru**

Mass flow (liquid): ± 0.10 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.2 kg/m³

Zakres pomiarowy

0 to 550 000 kg/h (0 to 20 210 lb/min)

Maks. ciśnienie procesu

PN 100, Class 600, 63K

Zakres temperatury medium

Standard: -50 to $+205$ °C (-58 to $+401$ °F)

Option: -196 to $+150$ °C (-321 to $+302$ °F)

Temperatura otoczenia

Standard: -4 to $+60$ °C (-4 to $+140$ °F)

Option: -60 to $+60$ °C (-76 to $+140$ °F)

Materiał obudowy czujnika

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): AISi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);
1.4409 (CF3M) similar to 316L

Materiał obudowy przetwornika

AISi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

Stopień ochrony

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

Sensor remote version (option): IP69. Transmitter remote version:
IP66/67, Type 4X enclosure

Wyświetlacz

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

Configuration via local display and operating tools possible

Ciecze

Wyjścia

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

Wejścia

Status input

4-20 mA input

Komunikacja cyfrowa

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, Profinet, Ethernet/IP, OPC-UA

Zasilacz

DC 24 V

AC 100 to 230 V

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

Dopuszczenia do stosowania w strefach zagrożonych wybuchem

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

Product safety

CE, C-tick, EAC marking

Functional safety

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

Ciecze**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)

MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

MC (Liquids other than water, Cryogenic liquids)

Marine approvals and certificates

LR approval, DNV GL approval, ABS approval, BV approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Gaz**Zasada pomiaru**

Coriolis

Product headline

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Gaz

Sensor features

Optimized performance for liquids with entrained gas – MFT (Multi-Frequency Technology). Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Mass flow: measurement error $\pm 0.05\%$ (PremiumCal). Density: measurement error $\pm 0.2 \text{ kg/m}^3$.

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.

Średnica nominalna

DN 25 to 100 (1 to 4")

Materiały w kontakcie z medium

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

Wielkości mierzone

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Maksymalny błąd pomiaru

Mass flow (liquid): $\pm 0.10\%$ (standard), 0.05% (option)

Volume flow (liquid): $\pm 0.10\%$

Mass flow (gas): $\pm 0.35\%$

Density (liquid): $\pm 0.2 \text{ kg/m}^3$

Zakres pomiarowy

0 to 400 000 kg/h (0 to 14 697 lb/min)

Maks. ciśnienie procesu

PN 100, Class 600, 63K

Gaz

Zakres temperatury medium

Standard: -50 to +205°C (-58 to +401 °F)

Option: -196 to +150 °C (-321 to +302 °F)

Temperatura otoczenia

Standard: - 40 to +60 °C (-40 to +140 °F)

Option: -60 to +60 °C (-76 to +140 °F)

Materiał obudowy czujnika

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);
1.4409 (CF3M) similar to 316L**Materiał obudowy przetwornika**

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

Stopień ochronyIP66/67, type 4X enclosure. Transmitter remote version: IP66/67, Type
4X enclosure**Wyświetlacz**

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

Configuration via local display and operating tools possible

Wyjścia

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

Gaz

Wejścia

Status input

4-20 mA input

Komunikacja cyfrowa

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, Profinet, Ethernet/IP, OPC-UA

Zasilacz

DC 24 V

AC 100 to 230 V

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

Dopuszczenia do stosowania w strefach zagrożonych wybuchem

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

Product safety

CE, C-tick, EAC marking

Functional safety

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

Metrological approvals and certificates

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

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MI-005 Liquids other than water (Hydrocarbons, Liquified gases, Cryogenic liquids)

OIML R117 (Liquids other than water, Liquified gases, Cryogenic liquids)

NTEP (Liquids other than water, Cryogenic liquids)

Marine approvals and certificates

LR approval, DNV GL approval, ABS approval, BV approval

Pressure approvals and certificates

PED, CRN, AD 2000

Gaz

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Density/Concentration

Zasada pomiaru

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Średnica nominalna

DN 25 to 100 (1 to 4")

Density/Concentration**Materiały w kontakcie z medium**

Measuring tube: 1.4404 (316/316L); stainless steel for cryogenic applications

Connection: 1.4404 (316/316L)

Wielkości mierzone

Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration

Maksymalny błąd pomiaru

Mass flow (liquid): ± 0.10 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.10 %

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Density (liquid): ± 0.2 kg/m³

Zakres pomiarowy

0 to 400 000 kg/h (0 to 14 697 lb/min)

Maks. ciśnienie procesu

PN 100, Class 600, 63K

Zakres temperatury medium

Standard: -50 to $+205$ °C (-58 to $+401$ °F)

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1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);

1.4409 (CF3M) similar to 316L

Materiał obudowy przetwornika

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

Density/Concentration**Stopień ochrony**

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

Wyświetlacz

4-line backlit display with touch control (operation from outside)
Configuration via local display and operating tools possible

Wyjścia

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

Wejścia

Status input
4-20 mA input

Komunikacja cyfrowa

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, Profinet, Ethernet/IP, OPC-UA

Zasilacz

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

Dopuszczenia do stosowania w strefach zagrożonych wybuchem

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Product safety

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Functional safety

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Density/Concentration

Metrological approvals and certificates

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NTEP (Liquids other than water, Cryogenic liquids)

Marine approvals and certificates

LR approval, DNV GL approval, ABS approval, BV approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

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Hygienic approvals and certificates

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Para

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