Proline Promass I 500 Przepływomierz masowy Coriolisa

Przepływomierz z przetwornikiem wyposażonym w 4 moduły We/Wy do jednoczesnego pomiaru lepkości, gęstości, temperatury i przepływu

Więcej informacji i aktualne ceny:
www.pl.endress.com/8I5B

Korzyści:

- Oszczędność energii – niska strata ciśnienia wynikająca z konstrukcji rury o pełnym przekroju
- Mniej procesowych punktów pomiarowych – jednoczesny pomiar wielu parametrów (przepływu, gęstości, lepkości, temperatury)
- Minimalna długość montażowa – nie są wymagane proste odcinki rurociągu przed i za przepływomierzem
- Pełny dostęp do informacji o procesie oraz diagnostyki - liczne, swobodnie konfigurowalne kombinacje wejść/wyjść oraz protokołów komunikacyjnych
- Uniwersalność i elastyczność – swoboda w konfiguracji i funkcjonalności modułów We/Wy
- Wbudowane funkcje weryfikacji i diagnostyki – Heartbeat Technology

Kluczowe parametry

- **Maksymalny błąd pomiaru** Mass flow (liquid): ±0.10 % Volume flow (liquid): ±0.10 % Mass flow (gas): ±0.50 % Density (liquid): ±0.0005 g/cm³
- **Zakres pomiarowy** 0 to 180 000 kg/h (0 to 6600 lb/min)
- **Zakres temperatury medium** −50 to +150 °C (−58 to +302 °F)
- **Maks. ciśnienie procesu** PN 100, Class 600, 63K
- **Materiały w kontakcie z medium** Measuring tube: Titanium grade 9 Connection: Titanium grade 2

Zastosowanie: Prosty, jednorurowy przepływomierz masowy Promass I 500 dostarcza wynik pomiaru lepkości wraz z pomiarem przepływu, gęstości i temperatury. Wraz z innowacyjnym, rozdzielnym

przetwornikiem pomiarowym, Promass I 500 zwiększa swobodę w zakresie montażu oraz podnosi bezpieczeństwo obsługi 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

Density/Concentration

Zasada pomiaru

Coriolis

Product headline

Combines in-line viscosity and flow measurement with a transmitter remote version with up to 4 I/Os. Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features

Energy-saving – full bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology.

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 8 to 80 (⅜ to 3")

Materiały w kontakcie z medium

Measuring tube: Titanium grade 9
Connection: Titanium grade 2

Density/Concentration

Wielkości mierzone
Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration, viscosity

Maksymalny błąd pomiaru
Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas): ±0.50 %
Density (liquid): ±0.0005 g/cm³

Zakres pomiarowy
0 to 180 000 kg/h (0 to 6600 lb/min)

Maks. ciśnienie procesu
PN 100, Class 600, 63K

Zakres temperatury medium
−50 to +150 °C (−58 to +302 °F)

Temperatura otoczenia
Standard: −40 to +60 °C (−40 to +140 °F)
Option: −50 to +60 °C (−58 to +140 °F)

Materiał obudowy czujnika
1.4301 (304), corrosion resistant
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 ochrony
Sensor remote version (standard): IP66/67, type 4X enclosure
Sensor remote version (option): IP69. Transmitter remote version: IP66/67, Type 4X enclosure

Density/Concentration

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
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

Density/Concentration

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)

Pressure approvals and certificates
PED, CRN

Material certificates
3.1 material

Hygienic approvals and certificates
3-A, EHEDG, cGMP

Gęstość

Zasada pomiaru
Coriolis

Product Headline
Combines in-line viscosity and flow measurement with a transmitter remote version with up to 4 I/Os. Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Gaz

Zasada pomiaru
Coriolis

Product headline
Combines in-line viscosity and flow measurement with a transmitter remote version with up to 4 I/Os. Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Gaz

Sensor features

Energy-saving – full bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology.

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 8 to 80 (⅜ to 3")

Materiały w kontakcie z medium

Measuring tube: Titanium grade 9
Connection: Titanium grade 2

Wielkości mierzone

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

Maksymalny błąd pomiaru

Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas): ±0.50 %
Density (liquid): ±0.0005 g/cm³

Zakres pomiarowy

0 to 180 000 kg/h (0 to 6600 lb/min)

Maks. ciśnienie procesu

PN 100, Class 600, 63K

Zakres temperatury medium

−50 to +150 °C (−58 to +302 °F)

Gaz

Temperatura otoczenia
Standard: –40 to +60 °C (–40 to +140 °F)
Option: –50 to +60 °C (–58 to +140 °F)

Materiał obudowy czujnika
1.4301 (304), corrosion resistant

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 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

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

Gaz

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

Pressure approvals and certificates
PED, CRN

Material certificates
3.1 material

Hygienic approvals and certificates
3-A, EHEDG, cGMP

Lepkość

Zasada pomiaru
Coriolis

Lepkość

Product headline

Combines in-line viscosity and flow measurement with a transmitter remote version with up to 4 I/Os. Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features

Energy-saving – full bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology.

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 8 to 80 (⅜ to 3")

Materiały w kontakcie z medium

Measuring tube: Titanium grade 9
Connection: Titanium grade 2

Wielkości mierzone

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

Maksymalny błąd pomiaru

Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas): ±0.50 %
Density (liquid): ±0.0005 g/cm³

Zakres pomiarowy

0 to 180 000 kg/h (0 to 6600 lb/min)

Lepkość

Maks. ciśnienie procesu
PN 100, Class 600, 63K

Zakres temperatury medium
−50 to +150 °C (−58 to +302 °F)

Temperatura otoczenia
Standard: −40 to +60 °C (−40 to +140 °F)
Option: −50 to +60 °C (−58 to +140 °F)

Materiał obudowy czujnika
1.4301 (304), corrosion resistant

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 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

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

Lepkość

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

Pressure approvals and certificates
PED, CRN

Material certificates
3.1 material

Hygienic approvals and certificates
3-A, EHEDG, cGMP

Ciecze

Zasada pomiaru
Coriolis

Product headline
Combines in-line viscosity and flow measurement with a transmitter remote version with up to 4 I/Os. Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features
Energy-saving – full bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology.

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 8 to 80 (⅜ to 3")

Materiały w kontakcie z medium
Measuring tube: Titanium grade 9
Connection: Titanium grade 2

Wielkości mierzone
Mass flow, density, temperature, volume flow, corrected volume flow, reference density, concentration, viscosity

Maksymalny błąd pomiaru
Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas): ±0.50 %
Density (liquid): ±0.0005 g/cm³

Ciecze

Zakres pomiarowy
0 to 180 000 kg/h (0 to 6600 lb/min)

Maks. ciśnienie procesu
PN 100, Class 600, 63K

Zakres temperatury medium
−50 to +150 °C (−58 to +302 °F)

Temperatura otoczenia
Standard: −40 to +60 °C (−40 to +140 °F)
Option: −50 to +60 °C (−58 to +140 °F)

Materiał obudowy czujnika
1.4301 (304), corrosion resistant

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 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

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)

Ciecze

Pressure approvals and certificates
PED, CRN

Material certificates
3.1 material

Hygienic approvals and certificates
3-A, EHEDG, cGMP

Więcej informacji **www.pl.endress.com/8I5B**

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