Transmitters for pressure, absolute pressure, differential pressure, flow and level

DS III PA series (PROFIBUS)

Overview



SITRANS P pressure transmitters of the DS III PA series are digital pressure transmitters featuring extensive user-friendliness and high accuracy. Parameterization is performed using input keys or through the PROFIBUS interface.

Extensive functionality enables the pressure transmitter to be precisely adapted to the plant's requirements. Operation is very simple in spite of the numerous setting options.

Transmitters with type of protection "Intrinsic safety" and "Explosion-proof" may be installed within potentially explosive atmospheres (zone 1) or in zone 0. The transmitters are provided with an EC type examination certificate and comply with the corresponding harmonized European standards (ATEX).

The transmitters can be equipped with various designs of remote seals for special applications such as the measurement of highly viscous substances.

Various versions of the DS III PA pressure transmitters are available for measuring:

- Pressure
- Absolute pressure
- Differential pressure
- Level
- Volume
- · Volume flow
- · Mass flow

Benefits

- · High quality and long life
- High reliability even under extreme chemical and mechanical loads
- For aggressive and non-aggressive gases, vapors and liquids
- · Extensive diagnosis and simulation functions
- Separate replacement of measuring cell and electronics without recalibration
- Minimum conformity error
- Small long-term drift
- Wetted parts made of high-grade materials (stainless steel, Hastelloy, gold, Monel, tantalum)
- Choice of several nominal measuring ranges

- High measuring accuracy
- Parameterization using input keys and PROFIBUS PA, profile 3.0

Application

SITRANS P pressure transmitters, DS III PA series, can be used in industrial areas with extreme chemical and mechanical loads. Electromagnetic compatibility in the range 10 kHz to 1 GHz makes the DS III PA pressure transmitters suitable for locations with high electromagnetic emissions.

Pressure transmitters with type of protection "Intrinsic safety" and "Explosion-proof" may be installed within potentially explosive atmospheres (zone 1) or in zone 0. The pressure transmitters are provided with an EC type examination certificate and comply with the corresponding harmonized European standards of the

Pressure transmitters with the type of protection "Intrinsic safety" for use in zone 0 may be operated with power supply units of category "ia" and "ib".

The transmitters can be equipped with various designs of remote seals for special applications such as the measurement of highly viscous substances.

Pressure transmitters for pressure

Measured variable: Pressure of aggressive and non-aggressive gases, vapors and liquids.

Measured spans: 0.01 ... 400 bar (0.145 ... 5802 psi)

Pressure transmitters for absolute pressure

Measured variable: Absolute pressure of aggressive and non-aggressive gases, vapors and liquids.

Measured spans: 8.3 mbar ... 100 bar (0.12 ... 1450 psi)

There are two series:

- Pressure series
- Differential pressure series

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Pressure transmitters for differential pressure and flow

Measured variables:

- Differential pressure
- Small positive or negative pressure
- Flow q ~ √∆p (together with a primary differential pressure device)

Nominal measuring ranges: 1 mbar... 30 bar (0.0145 ... 435 psi)

Pressure transmitters for level

Measured variable: Level of aggressive and non-aggressive liquids in open and closed vessels.

Nominal measuring ranges: 25 mbar ... 5 bar (0.363 ... 72.5 psi)

Nominal diameter of the mounting flange:

- DN 80 or DN 100
- 3 inch or 4 inch

In the case of level measurements in open containers, the low-pressure connection of the measuring cell remains open (measurement "compared to atmospheric").

In the case of measurements in closed containers, the lowerpressure connection has to be connected to the container in order to compensate the static pressure.

The wetted parts are constructed from a variety of materials depending on the degree of corrosion resistance required.

Design



Front view

The transmitter consists of various components depending on the order. The possible versions are listed in the ordering information. The components described below are the same for all transmitters.

The rating plate (3, Figure "Front view") with the Order No. is located on the side of the housing. The specified number together with the ordering information provide details on the optional design details and on the possible measuring range (physical properties of built-in sensor element).

The approval label is located on the opposite side.

The housing is made of die-cast aluminium or stainless steel precision casting. A round cover is screwed on at the front and rear of the housing. The front cover (6) can be fitted with a viewing

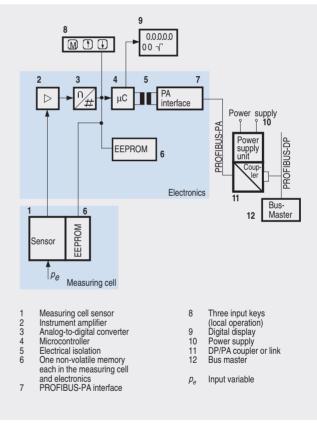
pane so that the measured values can be read directly on the digital display. The inlet (4) for the electrical connection is located either on the left or right side. The unused opening on the opposite side is sealed by a blanking plug. The protective earth connection is located on the rear of the housing.

The electrical connections for the power supply and screen are accessible by unscrewing the rear cover. The bottom part of the housing contains the measuring cell with process connection (1). The measuring cell is protected from rotating by a locking screw (8). As the result of this modular design, the measuring cell and the electronics can be replaced separately from each other. The set parameter data are retained.

At the top of the housing is a plastic cover (5), under which the input keys can be found.

Function

Mode of operation of the electronics



Function diagram of the electronics

The bridge output voltage created by the sensor (1, Figure "Function diagram of the electronics") is amplified by the instrument amplifier (2) and digitized in the analog-to-digital converter (3). The digital information is evaluated in the microcontroller, its linearity and temperature response corrected, and provided on the PROFIBUS PA through an electrically isolated PA interface (7).

The data specific to the measuring cell, the electronics data, and the parameter data are stored in the two non-volatile memories (6). The one memory is coupled to the measuring cell, the other to the electronics. As the result of this modular design, the electronics and the measuring cell can be replaced separately from each other.

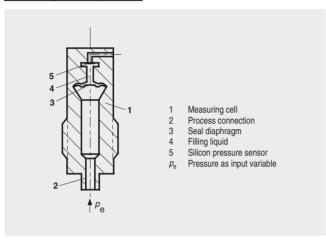
Using the three input keys (8) you can parameterize the pressure transmitter directly at the point of measurement. The input keys can also be used to control the view of the results, the error messages and the operating modes on the digital display (9).

Transmitters for pressure, absolute pressure, differential pressure, flow and level

The results with status values and diagnostic values are transferred by cyclic data transmission on the PROFIBUS PA. Parameterization data and error messages are transferred by acyclic data transmission. Special software such as SIMATIC PDM is required for this.

Mode of operation of the measuring cells

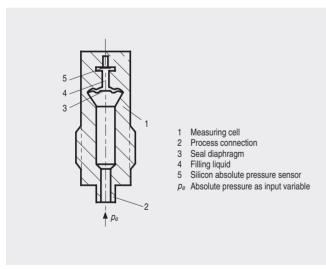
Measuring cell for pressure



Measuring cell for pressure, functional diagram

Measuring cell for absolute pressure from pressure series

The pressure $p_{\rm e}$ is applied through the process connection (2, Figure "Measuring cell for pressure, functional diagram) to the measuring cell (1). This pressure is subsequently transmitted further through the seal diaphragm (3) and the filling liquid (4) to the silicon pressure sensor (5) whose measuring diaphragm is then flexed. The resistance of the four piezo-resistors fitted in the diaphragm in a bridge circuit thus changes. This change in resistance results in a bridge output voltage proportional to the absolute pressure.

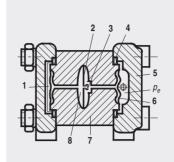


Measuring cell for absolute pressure from the pressure series, functional diagram

The absolute pressure $p_{\rm e}$ is transmitted through the seal diaphragm (3, Figure "Measuring cell for absolute pressure from pressure series, functional diagram") and the filling liquid (4) to the silicon absolute pressure sensor (5) whose measuring diaphragm is then flexed. The resistance of the four piezo-resistors fitted in the diaphragm in a bridge circuit thus changes. This change in resistance results in a bridge output voltage proportional to the input pressure.

DS III PA series (PROFIBUS)

Measuring cell for absolute pressure from differential pressure series



- 1 Reference vacuum
- 2 Overload diaphragm
- Silicon pressure sensor
- 4 O-ring
- 5 Process flange
- 6 Seal diaphragm
- 7 Body of measuring cell
- Filling liquid
- p_e Absolute pressure as input variable

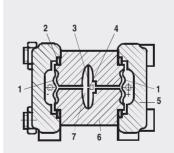
Measuring cell for absolute pressure from differential pressure series, functional diagram

The input pressure $p_{\rm e}$ is transmitted through the seal diaphragm (6, Figure "Measuring cell for absolute pressure from differential pressure series, functional diagram") and the filling liquid (8) to the silicon pressure sensor (3).

The difference in pressure between the input pressure $p_{\rm e}$ and the reference vacuum (1) on the low-pressure side of the measuring cell flexes the measuring diaphragm. The resistance of the four piezo-resistors fitted in the diaphragm in a bridge circuit thus changes. This change in resistance results in a bridge output voltage proportional to the absolute pressure.

An overload diaphragm is installed to provide protection from overloads. If the measuring limits are exceeded, the overload diaphragm (2) is flexed until the seal diaphragm rests on the body of the measuring cell (7), thus protecting the silicon pressure sensor from overloads.

Measuring cell for differential pressure and flow



- Seal diaphragm
- O-ring
- Overload diaphragm
- 4 Silicon pressure sensor
- 5 Process flange
- 6 Body of measuring cell
- Filling liquid

Measuring cell for differential pressure and flow, functional diagram

The differential pressure is transmitted through the seal diaphragms (1, Figure "Measuring cell for differential pressure and flow, functional diagram") and the filling liquid (7) to the silicon pressure sensor (4).

The measuring diaphragm is flexed by the applied differential pressure. The resistance of the four piezo-resistors fitted in the diaphragm in a bridge circuit thus changes. This change in resistance results in a bridge output voltage proportional to the absolute pressure.

An overload diaphragm is installed to provide protection from overloads. If the measuring limits are exceeded, the overload diaphragm (2) is flexed until the seal diaphragm rests on the body of the measuring cell (7), thus protecting the silicon pressure sensor from overloads.

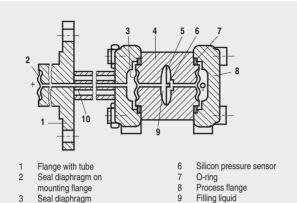
Capillary with filling liquid

of mounting flange

Transmitters for pressure, absolute pressure, differential pressure, flow and level

DS III PA series (PROFIBUS)

Measuring cell for level



Measuring cell for level, functional diagram

Body of measuring cell

Overload diaphragm

The input pressure (hydrostatic pressure) acts hydraulically on the measuring cell through the seal diaphragm on the mounting flange (2, Figure "Measuring cell for level, functional diagram"). This differential pressure is subsequently transmitted further through the measuring cell (3) and the filling liquid (9) to the silicon pressure sensor (6) whose measuring diaphragm is then flexed.

The resistance of the four piezo-resistors fitted in the diaphragm in a bridge circuit thus changes.

This change in resistance results in a bridge output voltage proportional to the differential pressure.

An overload diaphragm is installed to provide protection from overloads. If the measuring limits are exceeded, the overload diaphragm (2) is flexed until the seal diaphragm rests on the body of the measuring cell (7), thus protecting the silicon pressure sensor from overloads.

Parameterization

Depending on the version, there are different possibilities for parameterizing the pressure transmitter and for setting or scanning the parameters.

Parameterization using the input keys (local operation)

With the input keys you can easily set the most important parameters without any additional equipment.

Parameterization through PROFIBUS PA interface

Fully digital communication through PROFIBUS PA, profile 3.0, is particularly user-friendly. The PROFIBUS puts the DS III PA is in connection with a process control system, e.g. SIMATIC PSC 7. Communication is possible even in a potentially explosive environment.

For parameterization through PROFIBUS you need suitable software, e.g. SIMATIC PDM (Process Device Manager).

Adjustable parameters

| Parameters | Input keys | PROFIBUS interface |
|--|------------|--------------------|
| Electrical damping | X | X |
| Zero adjustment (correction of position) | Х | Х |
| Keys and/or function disabling | Х | Х |
| Source of measured-value display | Х | Х |
| Physical dimension of display | Х | Х |
| Position of decimal point | Х | Х |
| Bus address | Х | Х |
| Adjustment of characteristic | Х | Х |
| Input of characteristic | | Х |
| Freely-programmable LCD | | Х |
| Diagnostics functions | | Х |

Diagnostic functions

- Event counter
- Slave pointer
- Maintenance timer
- Simulation functions
- Display of zero correction
- Limit transmitter
- Saturation alarm

Physical dimensions available for the display

| Physical variable | Physical dimensions |
|--|---|
| Pressure (setting can also be made in the factory) | MPa, hPa, kPa, Pa, bar, mbar, torr, atm, psi, g/cm 2 , kg/cm 2 , mmH $_2$ 0, mmH $_2$ 0 (4 °C), inH $_2$ 0, inH $_2$ 0 (4 °C), ftH $_2$ 0, mmHg, inHg |
| Level (height data) | m, cm, mm, ft, in, yd |
| Volume | m ³ , dm ³ , hl, yd ³ , ft ³ , in ³ , US gallon, Imp, gallon, bushel, barrel, barrel liquid |
| Volume flow | m³/s, m³/min, m³/h, m³/d, l/s, l/min, l/h, l/ d, Ml/d, ft³/s, ft³/min, ft³/h, ft³/d, US gallon/s, US gallon/min, US gallon/h, US gallon/d, bbl/s, bbl/min, bbl/h, bbl/d |
| Mass flow | g/s, g/min, g/h, g/d, kg/s, kg/min, kg/h, kg/d, t/s, t/min, t/h, /t/d, lb/s, lb/min, lb/h, lb/d, STon/s, STon/min, STon/h, STon/d, LTon/s, LTon/min, LTon/h, LTon/d |
| Total mass flow | t, kg, g, lb, oz, LTon, STon |
| Temperature | K, °C, °F, °R |
| Miscellaneous | % |
| | |

| | | DS | III PA series for pressure |
|--|---|---|---|
| Technical specifications | | Power supply U _H | Supplied through bus |
| | DO III DAi f | Separate 24 V power supply neces- | No |
| SITRANS P pressure transmitters, | DS III PA series for pressure | sary | |
| Input | | Bus voltage | |
| Measured variable | Pressure | • Not Ex | 9 32 V |
| Nominal measuring range | Max. working pressure | With intrinsically-safe operation | 9 24 V |
| • 1 bar (14.5 psi) | 6 bar (87 psi) | Current consumption | |
| • 4 bar (58 psi) | 10 bar (145 psi) | Basic current (max.) | 12.5 mA |
| • 16 bar (232 psi) | 32 bar (464 psi) | Max. current in event of fault | 15.5 mA |
| • 63 bar (913 psi) | 100 bar (1450 psi) | Certificate and approvals | |
| • 160 bar (2320 psi) | 250 bar (3626 psi) | Classification according to pressure | For gases of fluid group 1 and |
| • 400 bar (5802 psi) | 500 bar (7252 psi) | equipment directive | liquids of fluid group 1; complies |
| Lower measuring limit | | (DRGL 97/23/EC) | with requirements of article 3, paragraph 3 (sound engineering |
| Measuring cell with silicone oil fil- ling | 30 mark (0.435 psi) absolute | Explosion protection | practice) |
| Upper measuring limit | 100% of nominal measuring | Intrinsic safety "i" | PTB 99 ATEX 2122 |
| | range (max. 160 bar (2320 psi) | - Identification | Ex II 1/2 G EEx ia/ib IIB/IIC T6 |
| | with oxygen measurement and inert filling liquid) | - Permissible ambient temperatu- | -40 +85 °C (-40 +185 °F) |
| Output | Digital PROFIBUS PA signal | re | temperature class T4; |
| Physical bus | IEC 61158-2 | | -40 +70 °C (-40 +158 °F) temperature class T5; |
| Measuring accuracy | 120 01 100 2 | | -40 +60 °C (-40 +140 °F) |
| Reference conditions | Increasing characteristic start of | | temperature class T6 |
| | Increasing characteristic, start-of- scale value 0 bar, stainless steel seal diaphragm, silicone oil filling, room temperature (25 °C (77 °F)) | - Connection | To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: U _o = 17.5 V, I _o = 380 mA, |
| Error in measurement (including hysteresis and repeatability) | | | P _o = 5.32 W • Linear barrier: |
| - Linear characteristic | ≤ 0.075% | | $U_{\rm o} = 24 \text{ V}, I_{\rm o} = 250 \text{ mA},$ $P_{\rm o} = 1.2 \text{ W}$ |
| Rated conditions | | | |
| Degree of protection (to EN 60529) | IP65 | Effective internal inductance/ca- pacitance | $L_{\rm i} = 7 \ \mu {\rm H}, \ C_{\rm i} = 1.1 \ {\rm nF}$ |
| Process temperature | | • Explosion-proof "d" | PTB 99 ATEX 1160 |
| Measuring cell with silicone oil fil- | -40 +100 °C (-40 +212 °F) | - Identification | Ex II 1/2 G EEx d IIC T4/T6 |
| ling | | - Permissible ambient temperatu- | -40 +85 °C (-40 +185 °F) |
| Measuring cell with inert filling liquid In conjunction with dust explosion | -20 +100 °C (-4 +212 °F) -20 +60 °C (-4 +140 °F) | re | temperature class T4; -40 +60 °C (-40 +140 °F) temperature class T6 |
| protection | 20 100 0 (1 11.0 1) | - Connection | To circuits with values: |
| Influence of ambient temperature | | - Connection | $U_{H} = 9 \dots 32 \text{ V DC}$ |
| • With -10 +60 °C (14 140 °F) | ≤ 0.3% | Dust explosion protection for | PTB 01 ATEX 2055 |
| • With -4010 °C and | ≤ 0.25% / 10 K (≤ 0.25% / 18 °F) | zone 20 | |
| +60 °C +85 °C (-40 +14 and 140 185 °F) | | - Identification | Ex II 1 D IP65 T 120 °C Ex II 1/2 D IP65 T 120 °C |
| Design | | - Permissible ambient temperatu- | -40 +85 °C (-40 +185 °F) |
| Weight (without options) | ≈ 1.5 kg (≈ 3.3 lb) | re | 100.00 (040.05) |
| Wetted parts materials | | - Max.surface temperature | 120 °C (248 °F) |
| Connection shank | Stainless steel, mat. No. 1.4404/316L or Hastelloy C4, mat. No. 2.4610 | - Connection | To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: |
| Seal diaphragm | Stainless steel, mat. No. 1.4404/316L or Hastelloy C276, mat. No. 2.4819 | | $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, P_0 = 5.32 \text{ W}$ • Linear barrier: |
| Measuring cell filling | Silicone oil or inert filling liquid (max. 160 bar (2320 psi) with oxy- | Effective internal industries / | $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA},$ $P_0 = 1.2 \text{ W}$ |
| Process connection | gen measurement) Connection shank G½A to DIN | - Effective internal inductance/ca- pacitance | $L_{\rm i} = 7 \mu\text{H}, C_{\rm i} = 1.1 \text{nF}$ |
| | EN 837, female thread ½ -14 NPT or oval flange (PN 160 | | PTB 01 ATEX 2055 |
| | (MWP 2320)) to DIN 19213 with mounting thread M10 or | - Identification | Ex II 2 D IP65 T 120 °C |
| | 7/ ₁₆ -20 UNF to EN 61518 | - Connection | To circuits with values: $U_{H} = 9 \dots 32 \text{ V DC}$; $P_{\text{max}} = 1.2 \text{ W}$ |
| | | Type of protection "n" (zone 2) | Planned |

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DS III PA series for pressure

• Explosion protection to FM

- Identification (XP/DIP) or (IS);

Certificate of Compliance 3008490

CL I, DIV 1, GP ABCD T4...T6; CL II, DIV 1, GP EFG; CL III; CL I, ZN 0/1 AEx ia IIC T4...T6; CL I, DIV 2, GP ABCD T4...T6; CL II, DIV 2, GP FG; CL III

• Explosion protection to CSA

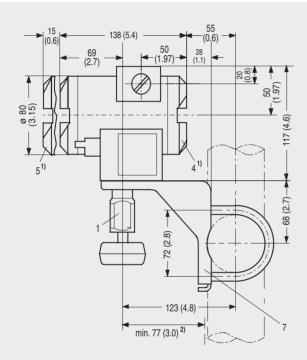
Certificate of Compliance

1153651

- Identification

CL I, GP ABCD; CL II, GP EFG; CL III; Enclosure Type 4X, CL I, DIV 2, GP ABCD; CL II, DIV 2, GP FG; CL III; Enclosure Type 4X

Dimensional drawings



- Process connection:
 - ½-14 NPT,
 - connection shank G1/2A or
 - oval flange
- Blanking plug
- Electrical connection:
 - screwed gland M20x1,5 4),
 - screwed gland 1/2-14 NPT or
 - PROFIBUS plug M12 3) 4)
- Terminal side
- Electronics side, digital display (longer overall
 - length for cover with window)
- Protective cover over keys Mounting bracket (option)
- Screw cover safety bracket (only for explosion-proof enclosure, not shown in the drawing)

(6.7)17 237 120 (4.7)-105 (4.1)

100 (3.94)

6

ca. 30 (1.2)

- Allow approx. 20 mm (0.79 inch) thread length in addition
- Minimum distance for rotating
- Not with type of protection "Explosion-proof enclosure".
- Not with type of protection "FM + CSA".

SITRANS P pressure transmitters, DS III PA series for pressure, dimensional drawing, dimensions in mm (inch)

DS III PA series for pressure

| | g data | Orde | INO | | |
|--|--|------|-----------------|----------------------------|-------------|
| SITRANS P pressure | ANS P pressure transmitter for pressure 7 M | | 7 M F 4 0 3 4 - | | |
| S III PA series | | 100 | | | í |
| leasuring cell filling | Measuring cell cleaning | | | | Ī |
| Silicone oil | Standard | 1 | | | |
| nert liquid | Grease-free | 3 | | | |
| Rated measuring rang | 1e | | | | |
| bar | (14.5 psi) | В | | | |
| bar | (58 psi) | C | | | |
| 6 bar | (232 psi) | D | | | |
| 3 bar | (914 psi) | E | | | |
| 60 bar | (2320 psi) | F | | | |
| | | G | | | |
| 00 bar | (5802 psi) | G | | | |
| Vetted parts material | | | | | |
| Seal diaphragm | Process connection | | | | |
| Stainless steel | Stainless steel | Α | | | |
| lastelloy | Stainless steel | В | | | |
| Hastelloy | Hastelloy | C | | | |
| ersion as diaphragm s | seal | Υ | 0 | | |
| Process connection | | | | | |
| Connection shank G1/2 | ½B to EN 837-1 | | 0 | | |
| Female thread ½-14 N | NPT | | 1 | | |
| Oval flange made of | stainless steel, | | | | |
| max. span 160 bar (2 | 320 psi) | | | | |
| - Mounting thread 7/1 | ₆ -20 UNF to EN 61518 | | 2 | | |
| - Mounting thread M1 | | | 3 | | |
| lon-wetted parts mat | erials | | | | |
| | | | | | |
| Housing made of die- | cast aluminium | | 0 | | |
| Housing made of die- Housing stainless ste | | | 0 | | |
| Housing stainless ste | | _ | 3 | | |
| Housing stainless ste | | _ | 0 | 1 | |
| Housing stainless ste Design Standard design | el precision casting | _ | 0 | 1 2 | |
| Housing stainless ste Design Standard design | el precision casting English label inscriptions, | _ | 0 | 1 2 | |
| Housing stainless ste Design Standard design International version, documentation in 5 la | el precision casting English label inscriptions, | - | 0 | | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection | el precision casting English label inscriptions, | _ | 0 3 | 2 | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without | el precision casting English label inscriptions, inguages on CD | - | 0 3 | | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type | el precision casting English label inscriptions, inguages on CD of protection: | - | 0 3 | 2 | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) | el precision casting English label inscriptions, inguages on CD of protection: | | 0 3 | 2 A | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and | el precision casting English label inscriptions, inguages on CD of protection: (ia)" (Ex d)" 1) | - | 0 3 | 2 A B | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE) | el precision casting English label inscriptions, inguages on CD of protection: | - | 0 3 | A B D | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and | el precision casting English label inscriptions, inguages on CD of protection: (a)" (Ex d)" 1) explosion-proof enclosure | | 0 3 | A B D | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne | el precision casting English label inscriptions, inguages on CD of protection: (a)" (Ex d)" 1) explosion-proof enclosure | | 0 3 | A B D P | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote | el precision casting English label inscriptions, inguages on CD of protection: (ia)" (Ex d)" 1) explosion-proof enclosure d) | - | 0 3 | A B D P | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp | el precision casting English label inscriptions, inguages on CD of protection: (ia)" (ix)" (ix) | - | 0 3 | A B D P | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote | English label inscriptions, inguages on CD of protection: (ia)" (ix)" | - | 0 3 | A B D P | |
| Housing stainless ste Pesign Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" ²⁾ - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" ²⁾ with FM + CSA, Type | English label inscriptions, inguages on CD of protection: (ia)" (ix)" | - | 0 3 | A B D P | C |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EEx - "Explosion-proof (EEx ia + EEx d)" 2") - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2") with FM + CSA, Type | el precision casting English label inscriptions, inguages on CD of protection: (ia)" Ex d)" 1) explosion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) | _ | 0 3 | A B D P E R | C |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2) with FM + CSA, Type - "Intrinsic safety and | el precision casting English label inscriptions, inguages on CD of protection: (ia)" (Ex d)" 1) explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) / cable inlet | _ | 0 3 | A B D P E R | СВ |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EEx - "Explosion-proof (EEx ia + EEx d)" 2") - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2" with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x | el precision casting English label inscriptions, inguages on CD of protection: (a)" Ex d)" explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" / cable inlet 1.5 | - | 0 3 | A B D P E R | |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EEx - "Explosion-proof (EEx ia + EEx d)" 2)" - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2) with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x Screwed gland ½-14 | el precision casting English label inscriptions, inguages on CD of protection: (a)" Ex d)" 1) explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) / cable inlet 1.5 NPT | - | 0 3 | A B D P E R | В |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EEx - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2") - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2") with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x Screwed gland ½-14 PROFIBUS plug M12 | el precision casting English label inscriptions, inguages on CD of protection: (a)" Ex d)" explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" / cable inlet 1.5 | - | 0 3 | A B D P E R | ВС |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2) with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x Screwed gland M20x Screwed gland ½-14 PROFIBUS plug M12 | el precision casting English label inscriptions, inguages on CD of protection: (a)" (Ex d)" 1) explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) / cable inlet 1.5 NPT incl. mating connector 3) | - | 0 3 | A B D P E R | B C F |
| Housing stainless ste Design Standard design International version, documentation in 5 la Explosion protection without with CENELEC, Type - "Intrinsic safety (EE) - "Explosion-proof (EE - "Intrinsic safety and (EEx ia + EEx d)" 2) - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2) with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x Screwed gland M20x Screwed gland ½-14 PROFIBUS plug M12 Display without (digital displa | el precision casting English label inscriptions, inguages on CD of protection: (a)" (Ex d)" 1) explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) / cable inlet 1.5 NPT incl. mating connector 3) y hidden) | - | 0 3 | A B D P E R | B C F |
| Housing stainless stepsign Standard design International version, documentation in 5 lad stepsign Explosion protection without with CENELEC, Type - "Intrinsic safety (EEX - "Explosion-proof (EEX ia + EEX d)" 2") - "n (zone 2)" (planne - "Intrinsic safety, exp dust explosion prote zone 1D/2D)" 2") with FM + CSA, Type - "Intrinsic safety and Electrical connection Screwed gland M20x | el precision casting English label inscriptions, inguages on CD of protection: (a)" (Ex d)" 1) explosion-proof enclosure d) losion-proof enclosure and ection (EEx ia + EEx d + of protection: explosion-proof (is + xp)" 1) / cable inlet 1.5 NPT incl. mating connector 3) y hidden) | - | 0 3 | A B D P E R | B C F |

The device is delivered together with brief instructions (Leporello) and a CD-ROM containing detailed documentation.

- 1) Without cable gland, with blanking plug
- 2) With enclosed cable gland EEx ia and blanking plug
- Not together with types of protection "Explosion-proof" or "Intrinsic safety und explosion-proof"

| Further decians | Order code |
|--|------------|
| Further designs Please add "-Z" to Order No. and specify Order code. | Order code |
| Pressure transmitter with mounting bracket made of: | |
| Steel | A01 |
| • Stainless steel | A02 |
| Rating plate inscription | |
| (instead of German) | |
| • English | B11 |
| • French | B12 |
| • Spanish | B13 |
| • Italian | B14 |
| English rating plate Pressure units in inH ₂ O or psi | B21 |
| Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 | C11 |
| Acceptance test certificate B to EN 10 204-3.1B | C12 |
| Factory certificate to EN 10,204-2,2 | C14 |
| Acid gas version to NACE | D07 |
| (only together with seal diaphragm made of Hastelloy) | • |
| Type of protection IP68 | D12 |
| (not together with PROFIBUS plug M12 and nominal measuring range ≤ 63 bar (≤ 914 psi)) | |
| Digital indicator along side the input keys | D27 |
| (only together with the devices 7MF40340A-6 orA.7-Z, Y21) | |
| Use on zone 1D / 2D | E01 |
| (only together with type of protection "Intrinsic safety (EEx ia)" | |
| Use at zone 0 | E02 |
| (only together with type of protection "Intrinsic safety (EEx ia)" | |
| Oxygen application | E10 |
| (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) | |
| Additional data | |
| Measuring point number/identification | Y15 |
| max. 16 characters, specify in plain text: Y15: | |
| | Y16 |
| Measuring point text max. 27 characters, specify in plain text: Y16: | 110 |
| Setting of pressure indicator in pressure units | Y21 |
| specify in plain text (standard setting: mA): Y21: mbar, bar, kPa, MPa, psi, | .=. |
| Note: The following pressure units can be selected: | |
| bar, mbar, mm H ₂ O ^{*)} , inH ₂ O ^{*)} , ftH ₂ O ^{*)} , mmHG, inHG. | |
| psi, Pa, kPa, MPa, g/cm², kg/cm², mA, Torr, ATM or % *) Reference temperature 20 °C | |
| Preset bus address | Y25 |
| specify in plain text (standard setting: 126) | |
| Y25: | |

Only the settings for "Y21" and "Y25" can be made in the factory

Ordering example

Item line: 7MF4034-1EA00-1AA7-Z

B line: A01 + Y21 C line: Y21: ... m

DS III PA series for pressure

| Do iii i A series for pressu | | | |
|---|---|--|--|
| Technical specifications | | • Not Ex | 9 32 V |
| SITRANS P pressure transmitters, pressure, from the pressure series | | With intrinsically-safe operation Current consumption | 9 24 V |
| Input | | Basic current (max.) | 12.5 mA |
| Measured variable | Absolute pressure | Max. current in event of fault | 15.5 mA |
| Nominal measuring range | Max. working pressure | Certificates and approvals | |
| • 250 mbar (3.6 psi) | 6 bar (87 psi) | Classification according to pressure | For gases of fluid group 1 and |
| • 1300 mbar (18.9 psi) | 10 bar (145 psi) | equipment directive (DRGL 97/23/EC) | liquids of fluid group 1; complies with requirements of article 3, |
| • 5 bar (72.5 psi) | 30 bar (435 psi) | (Bride 37/23/20) | paragraph 3 (sound engineering |
| • 30 bar (435 psi) | 100 bar (1450 psi) | | practice) |
| Lower measuring limit | , , | Explosion protection | |
| Measuring cell with silicone oil fil- | 0 mbar absolute | Intrinsic safety "i" | PTB 99 ATEX 2122 |
| ling | | - Identification | Ex II 1/2 G EEx ia/ib IIB/IIC T6 |
| Upper measuring limit | 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) | Permissible ambient temperature | -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) |
| Output | Digital PROFIBUS PA signal | | temperature class T6 |
| Physical bus | IEC 61158-2 | - Connection | To a certified intrinsically-safe cir- |
| Measuring accuracy | | | cuit with maximum values: |
| Reference conditions | Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm | | • FISCO supply unit: $U_0 = 17.5 \text{ V, } I_0 = 380 \text{ mA}, P_0 = 5.32 \text{ W}$ |
| 5 | Silicone oil filling Room temperature (25 °C (77 °F)) | | Linear barrier: U_o = 24 V, I_o = 250 mA, P_o = 1.2 W |
| Error in measurement (including hysteresis and repeatability) | 0.0774 | Effective internal inductance/ capacitance | $L_{\rm i} = 7 \ \mu {\rm H}, \ C_{\rm i} = 1.1 \ {\rm nF}$ |
| - Linear characteristic | ≤ 0.075% | • Explosion-proof "d" | PTB 99 ATEX 1160 |
| Influence of ambient temperature | | - Identification | Ex II 1/2 G EEx d IIC T4/T6 |
| With -10 +60 °C (14 140 °F) With -4010 °C and +60 +85 °C | ≤ 0.3% ≤ 0.25% / 10 K (≤ 0.25% / 18 °F) | - Permissible ambient temperature | -40 +85 °C (-40 +185 °F) temperature class T4; -40 +60 °C (-40 +140 °F) |
| (-40 +14 and 140 185 °F) | | | temperature class T6 |
| Rated conditions | | - Connection | To circuits with values: |
| Degree of protection (to EN 60529) | IP65 | - Donat complexion materials for | $U_{H} = 9 32 \text{ V DC}$ |
| Process temperature | | Dust explosion protection for zone 20 | PTB 01 ATEX 2055 |
| Measuring cell with silicone oil fil- ling | -40 +100 °C (-40 +212 °F) | - Identification | Ex II 1 D IP65 T 120 °C Ex II 1/2 D IP65 T 120 °C |
| In conjunction with dust explosion protection | -20 +60 °C (-4 +140 °F) | - Permissible ambient temperature | -40 +85 °C (-40 +185 °F) |
| Design | | - Max.surface temperature | 120 °C (248 °F) |
| Weight (without options) | ≈ 1.5 kg (≈ 3.3 lb) | - Connection | To a certified intrinsically-safe cir- |
| Wetted parts materials | | | cuit with maximum values: |
| Connection shank | Stainless steel, mat. No. 1.4404/316L or Hastelloy C4, mat. No. 2.4610 | | • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, P_0 = 5.32 \text{ W}$ |
| Seal diaphragm | Stainless steel, mat. No. 1.4404/316L or Hastelloy C276, mat. No. 2.4819 | | • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA},$ $P_0 = 1.2 \text{ W}$ |
| Measuring cell filling | Silicone oil or inert filling liquid (max. 160 bar (2320 psi) with oxy- | Effective internal inductance/ capacitance | $L_{\rm i} = 7~\mu{\rm H},~C_{\rm i} = 1.1~{\rm nF}$ |
| Process connection | gen measurement) Connection shank G½A to DIN | Dust explosion protection for zone 21/22 | PTB 01 ATEX 2055 |
| | EN 837, female thread ½ -14 NPT or oval flange (PN 160 | - Identification | Ex II 2 D IP65 T 120 °C |
| | (MWP 2320)) to DIN 19 213 with mounting thread M10 or | - Connection | To circuits with values: $U_{\rm H}$ = 9 32 V DC; $P_{\rm max}$ = 1.2 W |
| | ¹ / ₁₆ -20 UNF to EN 61518 | • Type of protection "n" (zone 2) | Planned |
| Power supply U _H | Supplied through bus | | |
| Separate 24 V power supply necessary | No | | |

Bus voltage

DS III PA series for absolute pressure (from pressure series)

• Explosion protection to FM

Certificate of Compliance

3008490

- Identification (XP/DIP) or (IS);

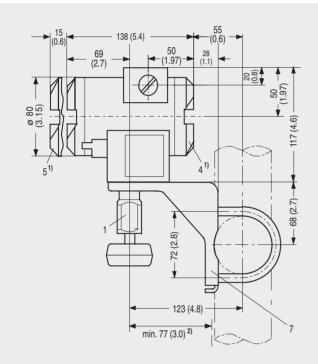
CL I, DIV 1, GP ABCD T4...T6; CL II, DIV 1, GP EFG; CL III; CL I, ZN 0/1 AEx ia IIC T4...T6; CL I, DIV 2, GP ABCD T4...T6; CL II, DIV 2, GP FG; CL III

• Explosion protection to CSA Certificate of Complianc1153651

- Identification

CL I, GP ABCD; CL II, GP EFG; CL III; Enclosure Type 4X, CL I, DIV 2, GP ABCD; CL II, DIV 2, GP FG; CL III; Enclosure Type 4X

Dimensional drawings



- Process connection:
 - ½-14 NPT,
 - connection shank G1/2A or
- oval flange
- Blanking plug
- Electrical connection:
 - screwed gland M20x1,5 4),
 - screwed gland 1/2-14 NPT or
 - PROFIBUS plug M12 3) 4)
- Terminal side
- Electronics side, digital display (longer overall length for cover with window)
- Protective cover over keys
- Mounting bracket (option)
- Screw cover safety bracket (only for explosion-proof enclosure, not shown in the drawing)

ca. 30 (1.2) 100 (3.94) (6.7)17 237 120 (4.7)- \oplus 105 (4.1)

- Allow approx. 20 mm (0.79 inch) thread length in addition
- 2) Minimum distance for rotating
- 3) Not with type of protection "Explosion-proof enclosure".
- Not with type of protection "FM + CSA".

SITRANS P pressure transmitters, DS III PA series for absolute pressure from the pressure series, dimensional drawing, dimensions in mm (inch)

DS III PA series for absolute pressure (from pressure series)

| Selection and Orderin | g data | | Orde | er No | <u>. </u> |
|--|----------------------------------|----|-------|-------|--|
| SITRANS P pressure t | | | 7 M F | 4 2 3 | 34- |
| for absolute pressure | from the pressure series | | | | |
| DS III PA series | | | • | | |
| Measuring cell filling | Measuring cell | | | | |
| | cleaning | | | | |
| Silicone oil | Standard | | 1 | | |
| Inert liquid | Grease-free | | 3 | | |
| Rated measuring rang | е | | | | |
| 250 mbar | (3.63 psi) | | D | | |
| 1300 mbar | (18.9 psi) | | F | | |
| 5 bar | (72.5 psi) | | G | | |
| 30 bar | (435 psi) | | Н | | |
| Wetted parts materials | 3 | _ | | | |
| Seal diaphragm | Process connection | | | | |
| Stainless steel | Stainless steel | - | 4 | | |
| Hastelloy | | E) | É | | |
| Hastelloy | | E) | | | |
| lastelloy Version as diaphragm s | | -) | | , | |
| | ,oui | _ | | ٦ | |
| Process connection | D to EN 007 1 | | | | |
| Connection shank G1/ | | | | 0 | |
| • Female thread ½-14 N | | | | 1 | |
| Oval flange made of s | | | | | |
| max. span 160 bar (2 | ₃ -20 UNF to EN 61518 | | | 2 | |
| Mounting thread M1 | | | | 3 | |
| | | _ | | 3 | |
| Non-wetted parts mate | | | | | |
| Housing made of die- | | | | 0 | |
| Housing stainless stee | el precision casting | | | 3 | |
| Design | | | | | |
| Standard design | | | | | 1 |
| | English label inscriptions, | | | | 2 |
| documentation in 5 la | nguages on CD | | | | |
| Explosion protection | | | | | |
| without | | | | | Α |
| with CENELEC, Type | | | | | |
| - "Intrinsic safety (EEx | | | | | В |
| - "Explosion-proof (EE | | | | | D |
| - "Intrinsic safety and | explosion-proof enclosure | | | | Р |
| (EEx ia + EEx d)" 3) | 1) | | | | _ |
| - "n (zone 2)" (planne | * | | | | E |
| | osion-proof enclosure and | | | | R |
| | ection (EEx ia + EEx d + | | | | |
| zone 1D/2D)" 3) | | | | | |
| • with FM + CSA, Type | of protection: | | | | |
| - "Intrinsic safety and | explosion-proof (is + xp)" 2) | | | | NC |
| Electrical connection | | | | | |
| Screwed gland M20x | 1.5 | | | | В |
| Screwed gland ½-14 | | | | | C |
| PROFIBUS plug M12 | incl. mating connector 4) | | | | F |
| Display | | | | | |
| without (digital display | y hidden) | | | | |
| with visible digital ind | | | | | |
| | digital indicator (setting | | | | |
| with customer-specific | digital illulcator (Settinic) | | | | |

The device is delivered together with brief instructions (Leporello) and a CD-ROM containing detailed documentation.

- 1) Version 7MF4233-1DY... only up to max. span 200 mbar (2.9 psi)
- Without cable gland, with blanking plug
 With enclosed cable gland EEx ia and blanking plug
- Not together with types of protection "Explosion-proof" and "Intrinsic safety und explosion-proof"
- E) Combinations of the versions marked with E) are subject to the export regulations AL: 2B230, ECCN: N.

| Further designs | Order code |
|--|------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Pressure transmitter with mounting bracket made of: | - |
| • Steel | A01 |
| • Stainless steel | A02 |
| Rating plate inscription | |
| (instead of German) | D44 |
| ● English ● French | B11 B12 |
| • French • Spanish | B12 |
| • Italian | B14 |
| English rating plate | B21 |
| Pressure units in inH ₂ O or psi | DZI |
| Manufacturer's test certificate M | C11 |
| to DIN 55.350, Part 18 and to ISO 8402 | CII |
| , | C12 |
| Acceptance test certificate B to EN 10 204-3.1B | 012 |
| | C14 |
| Factory certificate to EN 10.204-2.2 | C14 |
| | D07 |
| Acid gas version to NACE | D07 |
| (only together with seal diaphragm made of Hastelloy) | |
| Type of protection IP68 (not together with PDCFIRUS plug M12) | D12 |
| (not together with PROFIBUS plug M12) | |
| Digital indicator along side the input keys | D27 |
| (only together with the devices 7MF42340A.6 orA.7-Z, Y21) | |
| Use on zone 1D / 2D | E01 |
| (only together with type of protection "Intrinsic safety | LUI |
| (EEx ia)" | |
| Use at zone 0 | E02 |
| only together with type of protection "Intrinsic safety | |
| (EEx ia)" | |
| Oxygen application | E10 |
| | |
| Additional data | |
| Measuring point number/identification | Y15 |
| max. 16 characters, specify in plain text: | |
| Y15: | |
| Measuring point text | Y16 |
| max. 27 characters, specify in plain text: | |
| Y16: | |
| Setting of pressure indicator in pressure units | Y21 |
| specify in plain text (standard setting: mA): Y21: mbar, bar, kPa, MPa, psi, | |
| Note: | |
| The following pressure units can be selected: | |
| oar, mbar, mm H ₂ O ^{*)} , inH ₂ O ^{*)} , ftH ₂ O ^{*)} , mmHG, inHG, osi, Pa, kPa, MPa, g/cm ² , kg/cm ² , mA, Torr, ATM or % | |
| | |
| osi, Pa, kPa, MPa, g/cm², kg/cm², mA, Torr, ATM or % | |
| *) Reterence temperature 20 °C | |
| osi, Pa, kPa, MPa, g/cm², kg/cm², mA, Torr, ATM or % Preset bus address specify in plain text (standard setting: 126) | Y25 |

Only the settings for "Y21" and "Y25" can be made in the factory

SITRANS P measuring instruments for pressure Transmitters for pressure, absolute pressure, differential pressure, flow and level DS III PA series for absolute pressure (from differential pressure series)

| Technical specifications | | Power supply | Supplied through bus |
|---|--|--|---|
| SITRANS P transmitters, DS III PA from the differential pressure series | series for absolute pressure, | Separate 24 V power supply necessary | No |
| Mode of operation and system | | Bus voltage | |
| design | | • Not Ex | 9 32 V |
| Measuring principle | Piezo-resistive | With intrinsically-safe operation | 9 24 V |
| Input | | Current consumption | |
| Measured variable | Absolute pressure | Basic current (max.) | 12.5 mA |
| Nominal measuring range | Max. working pressure | Max. current in event of fault | 15.5 mA |
| • 250 mbar (3.6 psi) | 32 bar (464 psi) | Certificate and approvals | |
| • 1300 mbar (18.9 psi) | 32 bar (464 psi) | Classification according to pressure | For gases of fluid group 1 and |
| • 5 bar (72.5 psi) | 32 bar (464 psi) | equipment directive (DRGL 97/23/EC) | liquids of fluid group 1; complies with requirements of article 3, |
| • 30 bar (435 psi) | 160 bar (2320 psi) | (=::::==:;==; | paragraph 3 (sound engineering |
| • 100 bar (1450 psi) | 160 bar (2320 psi) with pressure cover screws M10 and | Explosion protection | practice) |
| | ¹ / ₁₆ -20 UNF | Intrinsic safety "i" | PTB 99 ATEX 2122 |
| Lower measuring limit | | - Identification | Ex II 1/2 G EEx ia/ib IIB/IIC T6 |
| Measuring cell with silicone oil fil- ling | 0 mbar absolute | - Permissible ambient temperature | -40 +85 °C (-40 +185 °F) temperature class T4; |
| Upper measuring limit | 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) | | -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 |
| Output | Digital PROFIBUS PA signal | - Connection | To a certified intrinsically-safe circuit with maximum values: |
| Physical bus Measuring accuracy | IEC 61158-2 | | • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA},$ |
| Reference conditions | Increasing characteristic | | $P_0 = 5.32 \text{ W}$ |
| Tierer and a container of | Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling | | • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, P_0 = 1.2 \text{ W}$ |
| Error in measurement (including | Room temperature (25 °C (77 °F)) | Effective internal inductance/ capacitance | $L_{\rm i} = 7 \ \mu {\rm H}, \ C_{\rm i} = 1.1 \ {\rm nF}$ |
| hysteresis and repeatability) | | • Explosion-proof "d" | PTB 99 ATEX 1160 |
| - Linear characteristic | ≤ 0.075% | - Identification | Ex II 1/2 G EEx d IIC T4/T6 |
| Influence of ambient temperature | | - Permissible ambient temperatu- | -40 +85 °C (-40 +185 °F) |
| • With -10 +60 °C (14 140 °F) • With -4010 °C and | ≤ 0.3% ≤ 0.25% / 10 K (≤ 0.25% / 18 °F) | re | temperature class T4; -40 +60 °C (-40 +140 °F) temperature class T6 |
| +60 °C +85 °C (-40 +14 and 140 185 °F) | | - Connection | To circuits with values: U _H = 9 32 V DC |
| Rated conditions | | Dust explosion protection for | PTB 01 ATEX 2055 |
| Degree of protection (to EN 60529) | IP65 | zone 20 | |
| Process temperature - Measuring cell with silicone oil fil- | -40 +100 °C (-40 +212 °F) | - Identification | Ex II 1 D IP65 T 120 °C Ex II 1/2 D IP65 T 120 °C |
| ling | -20 +60 °C (-4 +140 °F) in conjunction with dust explosion | Permissible ambient temperature | -40 +85 °C (-40 +185 °F) |
| Danima | protection | - Max.surface temperature | 120 °C (248 °F) |
| Design Weight (without options) | ≈ 4.5 kg (≈ 9.9 lb) | - Connection | To a certified intrinsically-safe circuit with maximum values: |
| Wetted parts materials - Seal diaphragm | Stainless steel, mat. No. | | • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA},$ $P_0 = 5.32 \text{ W}$ |
| | 1.4404/316L, Hastelloy C276, mat. No. 2.4819, Monel, mat. No. 2.4360, tantalum or gold | | • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA},$ $P_0 = 1.2 \text{ W}$ |
| Measuring cell filling | Silicone oil or inert filling liquid (max. 160 bar (2320 psi) with oxy- | Effective internal inductance/ capacitance | $L_{\rm i} = 7 \ \mu {\rm H}, \ C_{\rm i} = 1.1 \ {\rm nF}$ |
| Process connection | gen measurement) Female thread ¹ / ₄ -18 NPT and | Dust explosion protection for zone 21/22 | PTB 01 ATEX 2055 |
| | flange connection to DIN 19213 | - Identification | Ex II 2 D IP65 T 120 °C |
| | with mounting thread M10 or $^{7}/_{16}$ -20 UNF to EN 61518 | - Connection | To circuits with values: $U_{\rm H}$ = 9 32 V DC; $P_{\rm max}$ = 1.2 W |
| | | • Type of protection "n" (zone 2) | Planned |

Transmitters for pressure, absolute pressure, differential pressure, flow and level

DS III PA series for absolute pressure (from differential pressure series)

Explosion protection to FM

Certificate of Compliance

3008490

- Identification (XP/DIP) or (IS);

CL I, DIV 1, GP ABCD T4...T6; CL II, DIV 1, GP EFG; CL III; CL I, ZN 0/1 AEx ia IIC T4...T6; CL I, DIV 2, GP ABCD T4...T6; CL II, DIV 2, GP FG; CL III

• Explosion protection to CSA

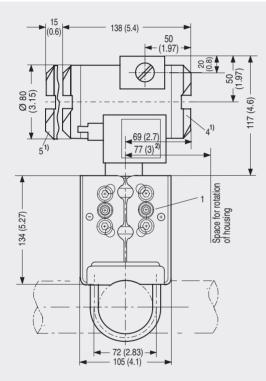
Certificate of Compliance

1153651

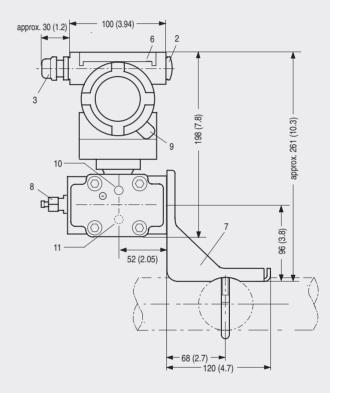
- Identification

CL I, GP ABCD; CL II, GP EFG; CL III; Enclosure Type 4X, CL I, DIV 2, GP ABCD; CL II, DIV 2, GP FG; CL III; Enclosure Type 4X

Dimensional drawings



- Process connection: 1/4-18 NPT (EN 61518)
- Blanking plug
- Electrical connection:
 - screwed gland M20x1,5 4),
 - screwed gland 1/2-14 NPT or
 - PROFIBUS plug M12 3) 4)
- Electronic side, digital display (longer overall length for cover with window) Protective cover over keys
- Mounting bracket (option)
- Sealing screw with valve (option) Screw cover safety bracket (only for explosion-proof enclosure,
- not shown in the drawing) 10
- Lateral venting for liquid measurement
 Lateral venting for gas measurement (suffix H02)



- Allow approx. 20 mm (0.79 inch) thread length in addition
- 92 mm (3.62 inch) for minimum distance to permit rotation with indicator
- Not with type of protection "explosion-proof enclosure" 3)
- Not with type of protection "FM + CSA"

SITRANS P pressure transmitters, DS III PA series for absolute pressure from the differential pressure series, dimensional drawing, dimensions in mm (inch)

DS III PA series for absolute pressure (from differential pressure series)

| Selection and Ordering | g data | Ord | der | No | |
|--|---|-----|------|-----|-------------|
| SITRANS P pressure t | | 7 N | 1F 4 | 3 3 | 3 4 - |
| for absolute pressure Differential pressure | from the series | | | | |
| DS III PA series | | | | | |
| | Measuring cell cleaning | | | | |
| Measuring cell filling Silicone oil | Standard | 1 | | | |
| Inert liquid | Grease-free | 3 | | | |
| Rated measuring rang | | _ | | | |
| nateu illeasurilig railg 250 mbar | (3.63 psi) | D | , | | |
| 1300 mbar | (18.9 psi) | F | | | |
| 5 bar | (72.5 psi) | G | i | | |
| 30 bar | (435 psi) | Н | ı | | |
| 100 bar | (1450 psi) | K | E | | |
| Wetted parts materials | · · · · · · · · · · · · · · · · · · · | | | | |
| Seal diaphragm | Parts of measuring cell | | | | |
| Stainless steel | Stainless steel | | Α | | |
| Hastelloy | Stainless steel E |) | В | | |
| Hastelloy | Hastelloy E | · | С | | |
| Tantalum | Tantalum | | E | | |
| Monel | Monel E |) | Н | | |
| Gold | Gold | | L | | |
| Version as diaphragm s | eal 1) | | Υ | | |
| Non-wetted parts mate Process flange screws Stainless steel Stainless steel | ₃ -20 UNF to EN 61518 Prials | _ | 6 | | |
| Design | | | | | , |
| Standard design International version, I inscriptions, documer on CD | | | | | 1 |
| Explosion protection | | | | | |
| without with CENELEC, Type | of protection: | | | | Α |
| - "Intrinsic safety (EEx | | | | | В |
| - "Explosion-proof (EE | | | | | D |
| | explosion-proof enclosure | | | | P |
| dust explosion prote zone 1D/2D)" 4) | osion-proof enclosure and ection (EEx ia + EEx d + | | | | E R |
| with FM + CSA, Type "Intrinsic pefety and desired in the control of th | | | | | N O |
| | explosion-proof (is + xp)" 3) | | | | NC |
| Electrical connection | | | | | В |
| Screwed gland M20x² Screwed gland ½-14 PROFIBUS plug M12 | | | | | B C F |

| Selection and Ordering data | Order No. |
|--|-----------------|
| SITRANS P pressure transmitters for absolute pressure from the series Differential pressure | 7 M F 4 3 3 4 - |
| DS III PA series | |
| Display | |
| without (digital display hidden) | 1 |
| with visible digital indicator | 6 |
| with customer-specific digital indicator (setting as specified, Order code "Y21" required) | 7 |

- Included in delivery of the device:

 Brief instructions (Leporello)

 CD-ROM with detailed documentation
- Sealing plug(s) or sealing screw(s) for the process flanges(s)
- 1) Version 7MF4334-1DY... only up to max. span 200 mbar (2.9 psi)
- 2) Not for nominal measuring range 100 bar (1450 psi).
- 3) Without cable gland, with blanking plug
- 4) With enclosed cable gland EEx ia and blanking plug
- 5) Not together with types of protection "Explosion-proof" and "Intrinsic safety und explosion-proof"
- E) Combinations of the versions marked with E) are subject to the export regulations AL: 2B230, ECCN: N.

SITRANS P measuring instruments for pressure Transmitters for pressure, absolute pressure, differential pressure, flow and level DS III PA series for absolute pressure (from differential pressure series)

| Further designs | Order code |
|--|------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Pressure transmitter with mounting bracket made of: • Steel • Stainless steel | A01 A02 |
| O-rings for process flanges | |
| (instead of FPM (Viton)) | |
| PTFE (Teflon)FEP (with silicone core, approved for food) | A20 A21 |
| FFPM (Kalrez, compound 4079) | A22 |
| NBR (Buna N) | A23 |
| Sealing screws 1/4-18 NPT, with valve in material of process flanges | A40 |
| Rating plate inscription | |
| (instead of German) | B44 |
| English French | B11 B12 |
| • Spanish | B13 |
| • Italian | B14 |
| English rating plate | B21 |
| Pressure units in inH ₂ O or psi | |
| Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 | C11 |
| Acceptance test certificate B to EN 10 204-3.1B | C12 |
| Factory certificate to EN 10.204-2.2 | C14 |
| Acid gas version to NACE | D07 |
| (only together with seal diaphragm made of Hastelloy and process flange screws made of stainless steel) | |
| Type of protection IP68 (not together with PROFIBUS plug M12) | D12 |
| Digital indicator along side the input keys (only together with the devices 7MF43340.2A.6 orA.7-Z, Y21) | D27 |
| Use on zone 1D / 2D (only together with type of protection "Intrinsic safety | E01 |
| (EEx ia)" | E00 |
| Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" | E02 |
| Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) | E10 |
| Interchanging of process connection side | H01 |
| Vent on side for gas measurements | H02 |
| Process flange | |
| Hastelloy | K01 |
| Monel Stainless steel with PVDF insert | K02 K04 |
| Max. PN 10 (MWP 145 psi) Max. temperature of medium 90 °C (194 °F) | 1.04 |
| | |

| Further designs | Order code |
|--|------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Additional data | - |
| Measuring point number/identification max. 16 characters, specify in plain text: Y15: | Y15 |
| Measuring point text max. 27 characters, specify in plain text: Y16: | Y16 |
| Setting of pressure indicator in pressure units specify in plain text Y21: mbar, bar, kPa, MPa, psi, Note: The following pressure units can be selected: | Y21 |
| bar, mbar, mm H ₂ O [*]), inH ₂ O [*]), ftH ₂ O [*]), mmHG, inHG, psi, Pa, kPa, MPa, g/cm ² , kg/cm ² , mA, Torr, ATM or % *) Reference temperature 20 °C Preset bus address | Y25 |
| specify in plain text (standard setting: 126) Y25: | 123 |

Only the settings for "Y21" and "Y25" can be made in the factory

DS III PA series for differential pressure and flow

SITRANS P measuring instruments for pressure Transmitters for pressure, absolute pressure, differential pressure, flow and level

| SPICEAUR Pressure transmitters DS III PA series for differential pressure and flow Worldoor parts and flow World | Technical specifications | | Design | |
|--|------------------------------------|-----------------------------------|---|--|
| Table | <u></u> | DS III PA series for differential | Weight (without options) | ≈ 4.5 kg (≈ 9.9 lb) |
| Measuring variable Max. working pressure Max. wo | | | Wetted parts materials | |
| Measured variation Uniferential pressure and tow Max. working pressure Hatelloy (276, max No. 24819, Monel, max or gold or g | Input | | Seal diaphragm | |
| PN 32 (MWP 464 pa) 2.0 mbar (0.29 pa) 32 bar (464 ps) 33 bar (0.230 ps) 34 bar (2320 ps) | Measured variable | Differential pressure and flow | | Hastelloy C276, mat. No. 2.4819, |
| • PN 32 (MWP 464 psi) | Nominal measuring range | Max. working pressure | | |
| - 20 mbar (0.29 ps) - 80 mbar (0.87 psi) - 60 mbar (0.87 psi) - 60 mbar (0.87 psi) - 60 mbar (3.67 psi) - 60 mbar (3.67 psi) - 60 mbar (3.67 psi) - 600 mbar (3.67 psi) - 160 bar (2.320 psi) - 160 ba | , , , | | Measuring cell filling | 9 |
| Formula (1,637 ps) 160 bar (2320 ps) 160 | | 32 bar (464 psi) | | (max. 160 bar (2320 psi) with oxy- |
| - 250 mbar (3.63 psi) 160 bar (2320 psi) 160 ba | 1 / | | Process connection | , |
| Following (8,7 ps) 160 bar (2320 ps) 160 bar (6092 ps) 1600 mbar (8,7 ps) 16 | | (1 / | 1 Tocess connection | flange connection to DIN 19213 |
| Four mass (17.5 p.s) | | | | with mounting thread M10 or ⁷ / _{4c} -20 UNF to FN 61518 |
| Separate 24 V power supply necessary | | | Power supply U _{LI} | |
| So Darf (235 psi) 160 bar (2320 psi) 50 bar (2320 psi) 50 bar (2320 psi) 50 bar (236 psi) 220 bar (6092 psi) 420 bar (609 | , , , | | *** | |
| • PN 400 (MWP 6092 psi) 420 bar (6092 psi) • Not Ex 9 32 V - 250 mbar (3.63 psi) 420 bar (6092 psi) • With intrinsically-safe operation 9 24 V - 600 mbar (23.3 psi) 420 bar (6092 psi) • Mith intrinsically-safe operation 9 24 V - 5 bar (72.5 psi) 420 bar (6092 psi) • Basic current (max.) 12.5 mA - 30 bar (435 psi) 420 bar (6092 psi) • Max. current in event of fault 15.5 mA Lower measuring limit • 100% of nominal measuring range (r33% with nominal measuring range (r33% with nominal measuring range (r0.435 psi) bro 20 mbar (0.435 psi) bro 20 mbar (0.435 psi) bro 20 mbar (0.435 psi) brosolute Cartificates and approvals Upper measuring limit • 100% of nominal measuring range (rax. 160 bar (2320 psi) with oxygen measurement and intent filling liquid) • PN 32/160 (MWP 464/2320) For gases of fluid group 1 and liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) • PN 420 (MWP 6092) For gases of fluid group 1 and liquids of fluid group 1; complies with requirements of article 3, paragraph 1 (appendix 1); assigned to category III, conformity evaluation module H by the TUV Nord Explosion protection • Explosion protection • Explosion protection • Intrinsic safety '1' • Identification • Ext II 1/2 G Etx ia/b IIB/IIC T6 • Ext II 1/2 G Etx i | , , , | , , , | | |
| - 250 mbar (3.63 psi) | | 160 bar (2320 psi) | Bus voltage | |
| - 600 mbar (8.7 psi) 420 bar (6092 psi) 420 bar (435 psi) or 30 mbar (0.435 psi) or 30 mbar (0.235 psi) or 30 mbar (0.2 | , , | 400 (0000 ") | • Not Ex | 9 32 V |
| - 1600 mbar (23.3 psi) - 5 bar (72.5 psi) - 30 bar (6092 psi) - 30 bar (435 psi) - 20 bar (6092 psi) - 30 bar (435 psi) - 420 bar (6092 psi) - 30 bar (435 psi) - 420 bar (6092 psi) - 420 bar (6092 psi) - 420 bar (6092 psi) - 5 bar (72.5 psi) - 30 bar (43.5 psi) - 30 bar (43.5 psi) - 420 bar (6092 psi) | | | With intrinsically-safe operation | 9 24 V |
| - 5 bar (72.5 psi) - 30 bar (435 psi) - 30 bar (435 psi) - 30 bar (435 psi) - 420 bar (6092 psi) Lower measuring limit - 100% of nominal measuring range (33% with nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling fliquid) Utper measuring limit Digital PROFIBUS PA signal Physical bus IEC 61158-2 Measuring accuracy Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel sead diaphragm Silicone oil filling power to category III, conformity evaluation module H by the TUV Nord Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 20 40 | ` ' ' | | Current consumption | |
| - 30 bar (435 psi) Lower measuring limit • Measuring cell with silicone oil filling arange (-33% with nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) Output Digital PROFIBUS PA signal Physical bus IEC 61158-2 Measuring accuracy Reference conditions Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow > 50 % - Square-root characteristic, flow = 25 50% Influence of ambient temperature • With -10 +60 °C (14 140 °F) temperature class T6 | , , , | | Basic current (max.) | 12.5 mA |
| Lower measuring limit Calssification according to pressure equipment directive (DRGL 97/23/EC) • Measuring cell with silicone oil filing range (-33% with nominal measuring range (-33% with nominal measuring range (-33% with nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) - PN 32/160 (MWP 464/2320) For gases of fluid group 1 and liquids of fluid | | , , , | Max. current in event of fault | 15.5 mA |
| • Measuring cell with silicone oil filling ling -100% of nominal measuring range (-33% with nominal measuring range) about (435 psi)) or 30 mbar (0.435 psi) absolute classification according to pressure equipment directive equipment directive (PRCL 97/23/EC) For gases of fluid group 1 complies with requirements of article 3, paragraph 3 (sound engineering practice) Upper measuring limit 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) - PN 32/160 (MWP 464/2320) For gases of fluid group 1 complies with requirements of article 3, paragraph 3 (sound engineering practice) Output Digital PROFIBUS PA signal IEC 61158-2 Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Explosion protection Explosion protection Error in measurement (including hysteresis and repeatability) 0.075% Explosion protection Explosion protection< | | 420 bar (6092 psi) | Certificates and approvals | |
| ling range (3.3% with nominal measuring range (3.3% with nominal measuring range (3.0 mbar (0.435 psi) absolute Upper measuring limit 100% of nominal measuring range (am.x. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) Output Digital PROFIBUS PA signal Physical bus IEC 61158-2 Measuring accuracy Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Error in measurement (including hysteresis and repeatability) - Linear characteristic ≤ 0.075% ≤ 0.1% ≤ 0.1% ≤ 0.1% ≤ 0.2% ≤ 0.075% - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 25 50% - With -10 +60 °C (14 140 °F) (70 °F | ŭ | 1000/ of paginal pagaging | | |
| Upper measuring limit 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 100% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 10% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 10% of nominal measuring range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) 10% of nominal measuring range (max. 160 bar (all of the value with requirements of article 3, paragraph 3 (sound engineering practice) 10% of the value of the value with 20 mbar (0.29 psi) nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / 10 K (≤ 0.25 % / 18 °F) (10% of nominal measuring range) 10% of nominal measuring range (0.25 % / | | | | |
| Upper measuring limit 100% of nominal measuring range (max. 160 bar (2320 psi) with requirements of article 3, paragraph 3 (sound engineering practice) Output | g | | - PN 32/160 (MWP 464/2320) | For gases of fluid group 1 and |
| range (max. 160 bar (2320 psi) with oxygen measurement and inert filling liquid) Output Digital PROFIBUS PA signal Physical bus IEC 61158-2 Measuring accuracy Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow > 50 % - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 26 +65 °C - Square-root characteristic, flow 27 +60 °C (14 140 °F) - Square-root characteristic, flow 27 +60 °C (14 140 °F) - Square-root characteristic (20.29 psi) nominal measuring range) • With -10 +60 °C (14 140 °F) - With -4010 °C and +60 °C +85 °C - (70 +85 °C - (70. | Unner measuring limit | , , , | | liquids of fluid group 1; complies with requirements of article 3 |
| Output Digital PROFIBUS PA signal For gases of fluid group 1 and liquids of fluid group 1; complies with basic safety requirements of article 3, paragraph 1 (appendix 1); assigned to category III, conformity evaluation module H by the TUV Nord Measuring accuracy Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Explosion protection Explosion protection Ex II 1/2 G EEx ia/ib IIB/IIC T6 Error in measurement (including hysteresis and repeatability) - Linear characteristic ≤ 0.075% - Identification Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +48 °C (-40 +188 °F) temperature class T4, -40 +60 °C (-40 +158 °F) temperature class T6, -40 +60 °C (-40 +140 °F) temperature class T6 - Connection To a certified intrinsically-safe circuit with maximum values: • With -10 +60 °C (14 140 °F) ≤ 0.3% (Twice the value with 20 mbar (0.29 psi) nominal measuring range) - Connection To a certified intrinsically-safe circuit with maximum values: • With -4010 °C and +60 °C +85 °C (-40 +85 °C (| opper measuring limit | range (max. 160 bar (2320 psi) | | paragraph 3 (sound engineering |
| Output Digital PROFIBUS PA signal Physical bus IEC 61158-2 Fix 420 (WWP 6092) Fix 425 (WWP 6092) | | | DNI 400 (MIM/D 0000) | , |
| Physical bus IEC 61158-2 with basic safety requirements of article 3, paragraph 1 (appendix 1); assigned to category III, conformity evaluation module H by the TUV Nord Measuring accuracy Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Explosion protection Explosion protection Error in measurement (including hysteresis and repeatability) - Linear characteristic ≤ 0.075% - Intrinsic safety "t" PTB 99 ATEX 2122 - Square-root characteristic, flow 25 50 % ≤ 0.1% ≤ 0.1% - Permissible ambient temperature re - 40 +85 °C (-40 +185 °F) temperature class T6; -40 +60 °C (-40 +140 °F) temperature class T6; -40 +60 °C (-40 +140 °F) - Connection To a certified intrinsically-safe circuit with maximum values: PISCO supply unit: U ₀ = 17.5 V, I ₀ = 380 mA, P ₀ = 5.32 W • Linear barrier: U ₀ = 24 V, I ₀ = 250 mA, P ₀ = 1.2 W • Linear barrier: U ₀ = 24 V, I ₀ = 250 mA, P ₀ = 1.2 W • Effective internal inductance/ capacitance • Effective internal inductance/ capacitance • Effective internal inductance/ capacitance • Explosion-proof °d" • Explosion-proof | Output | | - PN 420 (MWP 6092) | liquids of fluid group 1; complies |
| Measuring accuracy Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Explosion protection Explosion protection Error in measurement (including hysteresis and repeatability) - Linear characteristic ≤ 0.075% - Identification Ex II 1/2 G EEx ia/ib IIB/IIC T6 - Square-root characteristic, flow > 50 % ≤ 0.1% ≤ 0.1% - Permissible ambient temperature re - Square-root characteristic, flow 25 50% ≤ 0.2% ≤ 0.2% - Connection To a certified intrinsically-safe circuit with maximum values: Influence of ambient temperature • With -10 +60 °C (14 140 °F) ≤ 0.3% (Twice the value with 20-mbar (0.29 psi) nominal measuring range) - Connection To a certified intrinsically-safe circuit with maximum values: • With -4010 °C and +60 °C +85 °C (-40 +185 °F) ≤ 0.25% / 10 K (≤ 0.25% / 18 °F) (Twice the value with 20 mbar (0.29 psi) nominal measuring range) - Effective internal inductance/ capacitance - Effective internal inductance/ capacitance Rated conditions - Explosion-proof *d* PTB 99 ATEX 1160 | · | o o | | |
| Reference conditions Increasing characteristic Start-of-scale value 0 bar Stainless steel seal diaphragm Silicone oil filling Room temperature (25 °C (77 °F)) Error in measurement (including hysteresis and repeatability) - Linear characteristic $\leq 0.075\%$ $\leq 0.075\%$ $\leq 0.1\%$ $\leq 0.1\%$ $\leq 0.1\%$ $\leq 0.1\%$ $\leq 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ $< 0.2\%$ | Measuring accuracy | | | 1); assigned to category III, con- |
| Stainless steel seal diaphragm Silicone protection Silicone if filling Room temperature (25 °C (77 °F)) Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow > 50 % - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 25 50% - With -10 +60 °C (14 140 °F) | Reference conditions | Increasing characteristic | | formity evaluation module H by the TÜV Nord |
| Silicone oil filling Room temperature (25 °C (77 °F)) Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow 2550% - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - With $-10 + 60 °C$ ($14 140 °F$) - Effective internal inductance/ capacitance - Explosion-proof "d" - Intrinsic safety "i" - Identification - Permissible ambient temperature - $-10 + 60 °C$ ($-40 + 185 °F$) - $-10 + 10 °C$ ($-40 + 185 °F$) - Connection - Fisco supply unit: - $-10 + 10 °C$ supply unit: - $-10 + 10 °$ | | | Explosion protection | |
| Error in measurement (including hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow $25 \dots 50\%$ Influence of ambient temperature • With -10 +60 °C (14 140 °F) - With -4010 °C and $40 \times 100\%$ (Twice the value with 20-mbar (0.29 psi) nominal measuring range) • With -4010 °C and $40 \times 100\%$ (Twice the value with 20 mbar (0.29 psi) nominal measuring range) • Effective internal inductance/ capacitance • Ex II 1/2 G EEx ia/ib IIB/IIC T6 - Permissible ambient temperature -40 +85 °C (-40 +185 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 - Connection To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, P_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, P_0 = 1.2 \text{ W}$ - Effective internal inductance/ capacitance • Explosion-proof "d" Page 7 μ H, $C_1 = 1.1 \text{ nF}$ | | Silicone oil filling | Intrinsic safety "i" | PTB 99 ATEX 2122 |
| hysteresis and repeatability) - Linear characteristic - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow $25 \dots 50\%$ - Square-root characteristic, flow $25 \dots 50\%$ - Square-root characteristic, flow $25 \dots 50\%$ - Connection - Fisco supply unit: $U_0 = 17.5 \text{ V}, \ V_0 = 380 \text{ mA}, \ V_0 = 5.32 \text{ W}$ - Linear barrier: - Connection - Connection - Connection - Connection - Fisco supply unit: - Connecti | | Room temperature (25 °C (77 °F)) | - Identification | Ex II 1/2 G EEx ia/ib IIB/IIC T6 |
| - Linear characteristic $\leq 0.075\%$ re temperature class T4; $-40 \dots +70 ^{\circ}\mathrm{C} (-40 \dots +158 ^{\circ}\mathrm{F})$ temperature class T5; $-40 \dots +60 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{F})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperature class T6 $-20 ^{\circ}\mathrm{C} (-40 \dots +140 ^{\circ}\mathrm{C})$ temperatu | | | - Permissible ambient temperatu- | -40 +85 °C (-40 +185 °F) |
| - Square-root characteristic, flow $> 50 \%$ - Square-root characteristic, flow $25 \dots 50\%$ - Square-root characteristic, flow $25 \dots 50\%$ - Connection - Connection - Connection - Connection - Connection - Connection To a certified intrinsically-safe circuit with maximum values: - FISCO supply unit: $U_0 = 17.5 \text{ V}, \ I_0 = 380 \text{ mA}, \ P_0 = 5.32 \text{ W}$ - Linear barrier: - With -4010 °C and +60 °C +85 °C (-40 +85 °C (-40 +14 and 140 185 °F) - Effective internal inductance/ capacitance - Explosion-proof "d" - PTB 99 ATEX 1160 | | ≤ 0.075% | | temperature class T4; |
| > 50 % - Square-root characteristic, flow 25 50% - Square-root characteristic, flow 25 50% Influence of ambient temperature • With -10 +60 °C (14 140 °F) ≤ 0.3% (Twice the value with 20-mbar (0.29 psi) nominal measuring range) • With -4010 °C and +60 °C +85 °C (Twice the value with 20 mbar (0.29 psi) nominal measuring range) • With -40 +14 and 140 185 °F) Rated conditions - Connection - FISCO supply unit: $U_0 = 17.5 \text{ V}$, $I_0 = 380 \text{ mA}$, $P_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}$, $I_0 = 250 \text{ mA}$, $I_0 = 250 \text{ mA}$, $I_0 = 250 \text{ mA}$, $I_0 = 1.2 \text{ W}$ - Effective internal inductance/ capacitance - Explosion-proof "d" - PTB 99 ATEX 1160 | - Square-root characteristic. flow | | | temperature class T5; |
| - Square-root characteristic, flow $25 \dots 50\%$ Influence of ambient temperature • With -10 +60 °C (14 140 °F) • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) Rated conditions - Connection - Connection - Connection - Connection - Connection To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}$, $I_0 = 380 \text{ mA}$, $P_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}$, $I_0 = 250 \text{ mA}$, $I_0 = 1.2 \text{ W}$ - Effective internal inductance/ capacitance • Explosion-proof "d" PTB 99 ATEX 1160 | | | | |
| Influence of ambient temperature • With -10 +60 °C (14 140 °F) $\leq 0.3\%$ (Twice the value with 20-mbar (0.29 psi) nominal measuring range) • With -4010 °C and +60 °C +85 °C (Twice the value with 20 mbar (0.29 psi) nominal measuring range) • Effective internal inductance/ capacitance • Explosion-proof "d" • FISCO supply unit: $U_0 = 17.5 \text{ V}$, $I_0 = 380 \text{ mA}$, $I_0 = 5.32 \text{ W}$ • Linear barrier: $I_0 = 24 \text{ V}$, $I_0 = 250 \text{ mA}$, $I_0 = 250 \text{ mA}$, $I_0 = 1.2 \text{ W}$ • Explosion-proof "d" • Explosion-proof "d" • PTB 99 ATEX 1160 | | ≤ 0.2% | - Connection | To a certified intrinsically-safe cir- |
| • With -10 +60 °C (14 140 °F) \leq 0.3% (Twice the value with 20-mbar (0.29 psi) nominal measuring range) \leq 0.3% (Twice the value with 20-mbar (0.29 psi) nominal measuring range) \leq 0.25% / 10 K (≤ 0.25% / 18 °F) \leq 0.25% / 10 K (≤ 0.25% / 18 °F) (Twice the value with 20 mbar (0.29 psi) nominal measuring range) \leq 0.25% / 10 K (≤ 0.25% / 18 °F) \leq 0.25% / 10 K (≤ 0.25% / 18 °F) \leq 0.25% / 10 K (≤ 0.25% / 18 °F) \leq 0.25% / 10 F (\leq 0.25% / 1 | Influence of ambient temperature | | | |
| • With -4010 °C and \pm 0.25% / 10 K (\pm 0.25% / 18 °F) (Twice the value with 20 mbar (-40 +14 and 140 185 °F) (0.29 psi) nominal measuring range) • Explosion-proof "d" • With -4010 °C and \pm 0.25% / 10 K (\pm 0.25% / 18 °F) (Twice the value with 20 mbar (0.29 psi) nominal measuring range) • Explosion-proof "d" • Explosion-proof "d" • Explosion-proof "d" • PTB 99 ATEX 1160 | • With -10 +60 °C (14 140 °F) | mbar (0.29 psi) nominal measu- | | $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA},$ $P_0 = 5.32 \text{ W}$ |
| +60 °C +85 °C (Twice the value with 20 mbar (-40 +14 and 140 185 °F) (0.29 psi) nominal measuring range) Rated conditions P ₀ = 1.2 W L _i = 7 μ H, C _i = 1.1 nF capacitance • Explosion-proof "d" PTB 99 ATEX 1160 | With -40 | 5 5 / | | |
| Rated conditions Explosion-proof "d" PTB 99 ATEX 1160 | +60 °C +85 °C | (Twice the value with 20 mbar | | |
| Rated conditions • Explosion-proof "d" PTB 99 ATEX 1160 | (-40 +14 and 140 185 °F) | | | $L_{\rm i} = 7 \ \mu {\rm H}, \ C_{\rm i} = 1.1 \ {\rm nF}$ |
| - Explosion-proof unitable (to EN 00500) IROS | Rated conditions | | • | PTR 99 ATFX 1160 |
| LA II 1/2 G ELA U IIO 14/10 | | IP65 | · | |
| Process temperature - Permissible ambient temperatur -40 +85 °C (-40 +185 °F) | , , | | | |
| • Measuring cell with silicone oil fil40 +100 °C (-40 +212 °F) • re Termissible amblent temperature temperature class T4; | · | -40 +100 °C (-40 +212 °F) | • | temperature class T4; |
| ling -20 +60 °C (-4 +140 °F) in -40 +60 °C (-40 +140 °F) temperature class T6 | ling | -20 +60 °C (-4 +140 °F) in | | |
| conjunction with dust explosion protection - Connection To circuits with values: | | | - Connection | · |
| $U_{\rm H}$ = 9 32 V DC | | | | <i>U</i> _H = 9 32 V DC |

Transmitters for pressure, absolute pressure, differential pressure, flow and level

DS III PA series for differential pressure and flow

| • Dust explosion protection for zone 20 |
|---|
| - Identification |
| - Permissible ambient tempera |

Ex II 1 D IP65 T 120 °C Ex II 1/2 D IP65 T 120 °C

PTB 01 ATEX 2055

-40 ... +85 °C (-40 ... +185 °F)

- Max.surface temperature

120 °C (248 °F)

- Connection To a certified intrinsically-safe circuit with maximum values:

> • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA},$ $P_0 = 5.32 \text{ W}$

• Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA},$ $P_0 = 1.2 \text{ W}$

- Effective internal inductance/capacitance

 $L_{\rm i} = 7 \, \mu \text{H}, \, C_{\rm i} = 1.1 \, \text{nF}$

• Dust explosion protection for zone 21/22

- Identification

- Connection

• Type of protection "n" (zone 2)

• Explosion protection to FM

- Identification (XP/DIP) or (IS);

• Explosion protection to CSA

- Identification

PTB 01 ATEX 2055

Ex II 2 D IP65 T 120 °C

To circuits with values: $U_{\rm H} = 9 \dots 32 \text{ V DC}; P_{\rm max} = 1.2 \text{ W}$

Certificate of Compliance 3008490

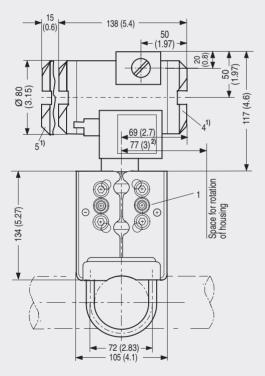
CL I, DIV 1, GP ABCD T4...T6; CL II, DIV 1, GP EFG; CL III; CL I, ZN 0/1 AEx ia IIC T4...T6; CL I, DIV 2, GP ABCD T4...T6; CL II, DIV 2, GP FG; CL III

Certificate of Compliance

1153651

CL I. GP ABCD: CL II. GP EFG: CL III; Enclosure Type 4X, CL I, DIV 2, GP ABCD; CL II, DIV 2, GP FG; CL III; Enclosure Type 4X

Dimensional drawings

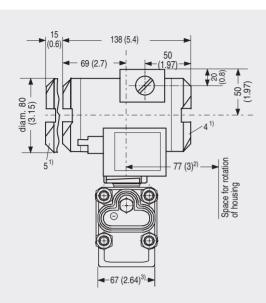


- Process connection: 1/4-18 NPT (EN 61518)
- Blanking plug
- Electrical connection:
 - screwed gland M20x1,5 4)
 - screwed gland ½-14 NPT or
- PROFIBUS plug M12 3) 4) Terminal side
- Electronic side, digital display (longer overall length for cover with window)
- Protective cover over keys Mounting bracket (option)
- Sealing screw with valve (option)
- Screw cover safety bracket (only for explosion-proof enclosure, not shown in the drawing)
- Lateral venting for liquid measurement
- Lateral venting for gas measurement (suffix H02)

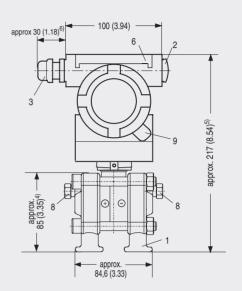
- 100 (3.94) approx. 30 (1.2) 2 261 (10.3) approx. 96 52 (2.05) 68 (2.7) 120 (4.7)
 - Allow approx. 20 mm (0.79 inch) thread length in addition
 - 92 mm (3.62 inch) for minimum distance to permit rotation with indicator
 - Not with type of protection "explosion-proof enclosure"
 - Not with type of protection "FM + CSA"

SITRANS P pressure transmitters, DS III PA series for differential pressure and flow, dimensional drawing, dimensions in mm (inch)

DS III PA series for differential pressure and flow

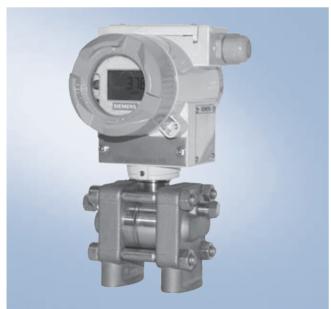


- Process connection 1/4-18 NPT (EN 61 518)
- Blanking plug 2
- Electrical connection: 3 screwed gland M20x1.5, screwed gland 1/2-14 NPT or PROFIBUS plug M12
- Terminal side
- Electronics side, digital display (longer overall length for cover with window)
- Protective cover over keys
- Mounting bracket (option)
- Sealing screw with valve (option)
- Screw cover safety bracket (only for explosion-proof enclosure, not shown in the drawing)



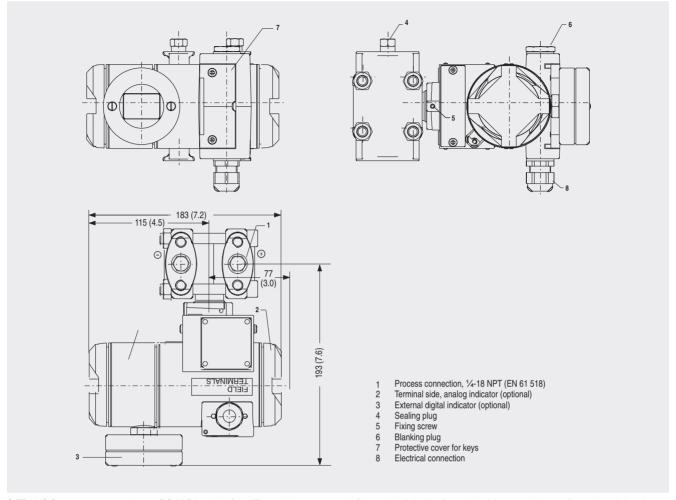
- Allow approx. 20 mm (0.79 inch) thread length in addition
- 92 mm (3.6 inch) for minimum distance to permit rotation 2) without indicator
- 74 mm (2.9 inch) for PN \geq 420 (MWP $\geq~6092~psi)$
- 91 mm (3.6 inch) for PN ≥ 420 (MWP ≥ 6092 psi)
- 219 mm (8.62 inch) for PN \geq 420 (MWP \geq 6092 psi)
- Approx. 45 mm (1.77 inch) for Pg 13.5 with adapter

SITRANS P pressure transmitters, DS III PA series for differential pressure and flow, with process covers for vertical differential pressure lines, dimensional drawing, dimensions in mm (inch)



SITRANS P pressure transmitters, DS III PA series for differential pressure and flow, with process covers for vertical differential pressure lines

DS III PA series for differential pressure and flow



SITRANS P pressure transmitters, DS III PA series for differential pressure and flow, with digital indicator beside control keys, dimensional drawing, dimensions in mm (inch)



SITRANS P pressure transmitters, DS III PA series for differential pressure and flow, with digital indicator beside control keys

DS III PA series for differential pressure and flow

| Selection and Order | | Order No. |
|--|--|---|
| SITRANS P pressure for differential press | | 7 M F 4 4 3 4 - |
| DS III PA series, PN 3 | 32 / 160 (MWP 464 / 2320 psi) | |
| Measuring cell filling | g Measuring cell cleaning | |
| Silicone oil | Standard | 1 |
| Inert liquid | Grease-free | 3 |
| <u> </u> | 200 | |
| Rated measuring ra PN 32 (MWP 464 psi) | _ | |
| 711 32 (1818) 404 psi) 20 mbar ¹⁾ | (0.29 psi) | В |
| | | В |
| PN 160 (MWP 2320 p | | |
| 60 mbar | (0.87 psi) | С |
| 250 mbar | (3.63 psi) | D |
| 600 mbar | (8.70 psi) | E |
| 1600 mbar | (23.2 psi) | F |
| 5000 mbar | (72.5 psi) | G |
| 30 bar | (435 psi) | Н |
| Wetted parts materia | | |
| (stainless steel proce | ss flanges) | |
| Seal diaphragm | Parts of measuring cell | |
| Stainless steel | Stainless steel | Α |
| Hastelloy | Stainless steel | В |
| Hastelloy | Hastelloy | С |
| Tantalum ²⁾ | Tantalum | E |
| Monel ²⁾ | Monel | н |
| Gold ²⁾ | Gold | L |
| Version as diaphragn | n seal | Υ |
| Sealing screw opportunity Mounting thread Nounting thread To the Mounting on side of portunity | / _{/16} -20 UNF to EN 61518 process flanges ²⁾ | 0 2 |
| Sealing screw opportunity Mounting thread Nounting thread Nounting on side of present the Mounting thread Nounting t | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 | |
| Sealing screw opportune of Mounting thread Nounting thread Nounting on side of present of Mounting thread Nounting thread Non-wetted parts median | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 | 2 |
| Sealing screw opportunity Mounting thread Nounting thread Nounting on side of present the sealing of the sealing of | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials | 2 |
| Sealing screw opportunity Mounting thread Mounting thread Mounting on side of present the Mounting thread Mounting thread Mon-wetted parts methods Non-wetted parts methods Stainless steel | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 orocess flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials se Electronics housing | 2 4 6 |
| Sealing screw opportunity Mounting thread Mounting thread Mounting on side of present the Mounting thread Mounting thread Mon-wetted parts methods Non-wetted parts methods Stainless steel | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 orocess flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials vs Electronics housing Die-cast aluminium | 2 4 6 |
| Sealing screw opporage Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts methods Non-wetted parts methods Stainless steel | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials se Electronics housing Die-cast aluminium Stainless steel precision | 2 4 6 |
| Sealing screw opporage - Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts means of the stainless steel Stainless steel Design Standard design | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials se Electronics housing Die-cast aluminium Stainless steel precision casting | 2 4 6 - |
| Sealing screw opporage - Mounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts metrocess flange screw Stainless steel Design Standard design International version | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials vs Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, | 2 4 6 |
| Sealing screw opporation Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts more stainless steel Stainless steel Design International version documentation in 5 | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials See Electronics housing Die-cast aluminium Stainless steel precision casting Die, English label inscriptions, languages on CD | 2 4 6 - |
| Sealing screw opporation Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts more stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials See Electronics housing Die-cast aluminium Stainless steel precision casting Die, English label inscriptions, languages on CD | 2 4 6 2 3 3 |
| Sealing screw opporation Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts metabolish stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials SE Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, languages on CD | 2 4 6 - |
| Sealing screw opporation Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts may recess flange screw Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without with CENELEC, Type | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials Se Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, languages on CD n e of protection: | 2 4 6 2 3 3 |
| Sealing screw opporation Mounting thread N Mon-wetted parts m Process flange screw Stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without with CENELEC, Typ "Intrinsic safety (E | posite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials See Electronics housing Die-cast aluminium Stainless steel precision casting The protection of the prot | 2 4 6 - 2 3 3 - 1 2 |
| Sealing screw opporation Mounting thread N Mon-wetted parts m Process flange screw Stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without with CENELEC, Typ "Intrinsic safety (E "Explosion-proof (| posite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials See Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, languages on CD n te of protection: Ex ia)" EEx d)" 3) | 2 4 6 2 3 3 1 2 A B D |
| Sealing screw opporation Mounting thread N Mounting thread N Venting on side of present of the seal of the sea | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials SE Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, languages on CD n e of protection: Ex ia)" EEx d)" 3) d explosion-proof enclosure | 2 4 6 - 2 3 3 - 1 2 |
| Sealing screw opporation Mounting thread N Mon-wetted parts m Process flange screw Stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without with CENELEC, Typ "Intrinsic safety (E "Explosion-proof ("Intrinsic safety an (EEx ia + EEx d)" | posite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials SE Electronics housing Die-cast aluminium Stainless steel precision casting The protection of the process of the process of the protection: Ex ia)" EEx d)" 3) Indexplosion-proof enclosure 4) | 2 4 6 2 3 1 2 A B D P |
| Sealing screw opporation Mounting thread N Mon-wetted parts m Process flange screw Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection without with CENELEC, Typ "Intrinsic safety (E "Explosion-proof ("Intrinsic safety an (EEx ia + EEx d)" "n (zone 2)" (plann | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials SE Electronics housing Die-cast aluminium Stainless steel precision casting The protection: Ex ia)" EEx d)" 3) Ind explosion-proof enclosure 4) Indeed) | 2 4 6 6 |
| Sealing screw opporations Mounting thread Nounting thread Nounting thread Nounting thread Nounting thread Nounting thread Non-wetted parts may recess flange screw Stainless steel Stainless steel Stainless steel Design Standard design International version documentation in 5 Explosion protection with CENELEC, Typerinter in the center of the center | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 aterials Electronics housing Die-cast aluminium Stainless steel precision casting n, English label inscriptions, languages on CD n e of protection: Ex ia)" EEx d)" 3) d explosion-proof enclosure 4) prolosion-proof enclosure and | 2 4 6 2 3 1 2 A B D P |
| Sealing screw opporation Mounting thread N Mounting thread N Mounting thread N Mounting thread N Mon-wetted parts m Process flange screw Stainless steel Stainless steel Stainless steel Standard design International version documentation in 5 Explosion protection without with CENELEC, Typ "Intrinsic safety (E "Explosion-proof ("Intrinsic safety an (EEx ia + EEx d)" "In (zone 2)" (planr "Intrinsic safety, ex dust explosion production procedust explosion procedus explosion ex | osite process connection M10 to DIN 19 213 M16-20 UNF to EN 61518 Process flanges 2) M10 to DIN 19 213 M16-20 UNF to EN 61518 Aterials SE Electronics housing Die-cast aluminium Stainless steel precision casting The protection: Ex ia)" EEx d)" 3) Ind explosion-proof enclosure 4) Indeed) | 2 4 6 6 |
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| Selection and Ordering data | Order No. |
|---|-----------------|
| SITRANS P pressure transmitters for differential pressure and flow | 7 M F 4 4 3 4 - |
| DS III PA series, PN 32 / 160 (MWP 464 / 2320 psi) | |
| Display without (digital display hidden) with visible digital indicator with customer-specific digital indicator (setting as specified, Order code "Y21" required) | 1 6 7 |

Included in delivery of the device:

• Brief instructions (Leporello)

- CD-ROM with detailed documentation
- Sealing plug(s) or sealing screw(s) for the process flanges(s)
- 1) Not suitable for connection of remote seal
- Only together with max. spans 250, 1600, 5000 and 30000 mbar (3.63, 23.2, 72.5 and 435 psi).
- 3) Without cable gland, with blanking plug
- 4) With enclosed cable gland EEx ia and blanking plug
- 5) Not together with types of protection "Explosion-proof" and "Intrinsic safety und explosion-proof"

DS III PA series for differential pressure and flow

| Please add "-Z" to Order No. and specify Order code. | | |
|--|---|------------|
| Pressure transmitter with mounting bracket made of: Steel Stainless steel O-rings for process flanges (instead of FPM (Viton)) PITE (Teflon) A21 FFPP (with silicone core, approved for food) A21 FFPM (Kairez, compound 4079) A22 NBR (Buna N) Sealing screws W-18 NPT, with valve in material of process flanges A40 Rating plate inscription (instead of German) English English English English Elialian E | | Order code |
| • Steel • Stainless steel O-rings for process flanges (instead of FPM (Viton)) • PTFE (Teflon) • FEP (with silicone core, approved for food) • FEP (with silicone make in the core in the co | | |
| • Stainless steel O-rings for process flanges (instead of FPM (Viton)) • FTEF (Teflon) • FEP (with silicone core, approved for food) • FEPM (Kalrez, compound 4079) • Rating Bare inscription (instead of German) • English • English • French • Spanish • Italian English rating plate Pressure units in inH2O or psi Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 Acceptance test certificate B to EN 10.204-2.1 Acid gas version to NACE (only together with seal diaphragm made of Hastelloy and process flange screws made of stainless steel) Type of protection IP68 (not together with PROFIBUS plug M12) Digital indicator along side the input keys (only together with the devices 7MF44340-A.6 or -A.7-Z, Y21) Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Overgete in the process flanges for vertical differential pressure lines (not together with casel or gas measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel • K04 K04 K04 K04 K04 K04 K04 K04 | | *** |
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| Type of protection IP68 (not together with PROFIBUS plug M12) Digital indicator along side the input keys (only together with the devices 7MF44340A.6 orA.7-Z, Y21) Use on zone 1D / 2D (only together with type of protection "Intrinsic safety (EEx ia)" Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | • | D07 |
| (not together with PROFIBUS plug M12) Digital indicator along side the input keys (only together with the devices 7MF44340A.6 orA.7-Z, Y21) Use on zone 1D / 2D (only together with type of protection "Intrinsic safety (EEx ia)" Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | |
| (only together with the devices 7MF44340A.6 orA.7-Z, Y21) Use on zone 1D / 2D (only together with type of protection "Intrinsic safety (EEx ia)" Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Ho1 Vent on side for gas measurements Ho2 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | •• | D12 |
| Use on zone 1D / 2D (only together with type of protection "Intrinsic safety (EEx ia)" Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements Ho2 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | (only together with the devices 7MF44340A.6 or | D27 |
| (EEx ia)" Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Ho1 Vent on side for gas measurements Ho2 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | E01 |
| (only together with type of protection "Intrinsic safety (EEx ia)" Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements Ho2 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | |
| Overfilling safety device for flammable and non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | Use at zone 0 | E02 |
| non-flammable liquids (max. PN 32 (MVWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Ho1 Vent on side for gas measurements Ho2 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel Stainless steel with PVDF insert K04 Max. PN 10 (MWP 145 psi) | | |
| protection "Intrinsic safety (EEx ia)") Oxygen application (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | E08 |
| (max. 160 bar (2320 psi) with oxygen measurement and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | |
| and inert liquid) Interchanging of process connection side Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | Oxygen application | E10 |
| Vent on side for gas measurements H02 Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | |
| Stainless steel process flanges for vertical differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | Interchanging of process connection side | H01 |
| differential pressure lines (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | Vent on side for gas measurements | H02 |
| (not together with K01, K02 and K04) 1) Process flange • Hastelloy • Monel • Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | | H03 |
| Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) K01 K02 K04 | | |
| Hastelloy Monel Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) K01 K02 K04 | Process flange | |
| Stainless steel with PVDF insert Max. PN 10 (MWP 145 psi) | • | K01 |
| Max. PN 10 (MWP 145 psi) | | |
| Man, the to (with 1970 poly) | | K04 |
| Max. temperature of medium 90 °C (194 °F) | Max. temperature of medium 90 °C (194 °F) | |

| Further designs | Order code |
|---|------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Additional data | _ |
| Measuring point number/identification max. 16 characters, specify in plain text: Y15: | Y15 |
| Measuring point text max. 27 characters, specify in plain text: Y16: | Y16 |
| Setting of pressure indicator in pressure units specify in plain text Y21: mbar, bar, kPa, MPa, psi, Note: The following pressure units can be selected: bar, mbar, mm H ₂ O*), inH ₂ O*), tH ₂ O*), mmHG, inHG, psi, Pa, kPa, MPa, g/cm², kg/cm², mA, Torr, ATM or % | Y21 |
| *) Reference temperature 20 °C Preset bus address specify in plain text (standard setting: 126) Y25: | Y25 |

Only the settings for "Y21" and "Y25" can be made in the factory

¹⁾ Not suitable for connection of remote seal

DS III PA series for differential pressure and flow

| Selection and Ord | ering data | Order No. | |
|--|--|---|---|
| SITRANS P pressi for differential pre | | 7MF4534- | |
| DS III PA series, PN | l 420 (MWP 6092 psi) | 1=== | П |
| Rated measuring | range | | П |
| 250 mbar | (3.63 psi) | D | |
| 600 mbar | (8.70 psi) | E | |
| 1600 mbar | (23.2 psi) | F | |
| 5 bar | (72.5 psi) | G | |
| 30 bar | (435 psi) | Н | |
| Wetted parts mate | rials | | |
| (stainless steel prod | cess flanges) | | |
| Seal diaphragm | Parts of measuring cell | | |
| Stainless steel | Stainless steel | Α | |
| Hastelloy | Stainless steel | В | |
| Gold 1) | Gold | L | |
| Process connection | on | | |
| | 8 NPT with flange connection | | |
| Sealing screw op | posite process connection | | |
| - Mounting thread | M12 to DIN 19 213 | 1 | |
| - Mounting thread | d ⁷ / ₁₆ -20 UNF to EN 61518 | 3 | |
| Venting on side or | • • | 3 | |
| | d M12 to DIN 19 213 | 5 | |
| | th ⁷ / ₁₆ -20 UNF to EN 61518 | | |
| | | 7 | |
| Non-wetted parts | materials | | |
| | | | |
| Process flange scre | ews Electronics housing | | |
| | | 2 | |
| Stainless steel | Die-cast aluminium Stainless steel precision | 2 3 | |
| Process flange scre Stainless steel Stainless steel | Electronics housing Die-cast aluminium | | |
| Stainless steel Stainless steel Design | Die-cast aluminium Stainless steel precision | 3 | |
| Stainless steel Stainless steel Design Standard design | Die-cast aluminium Stainless steel precision casting | 3 | |
| Stainless steel Stainless steel Design Standard design International vers | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, | 3 | |
| Stainless steel Stainless steel Design Standard design International versidocumentation in | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD | 3 | |
| Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD | 3 1 2 | |
| Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protection | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD | 3 | |
| Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Ti | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: | 3 1 2 | |
| Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protect without with CENELEC, To "Intrinsic safety | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: (EEx ia)" | 3 1 2 - A B | |
| Stainless steel Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protecti without with CENELEC, Tielly and the control of the control | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion type of protection: (EEx ia)" f (EEx d)" 2) | 3 1 2 - A B D | |
| Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protecti without with CENELEC, Tielly and the companion of the companion | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion type of protection: (EEx ia)" f (EEx d)" 2) | 3 1 2 - A B | |
| Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protecti without with CENELEC, Tielly and the companion of the companion | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure " 3) | 3 1 2 - A B D | |
| Stainless steel Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protecti without with CENELEC, Ty "Explosion-proo "Intrinsic safety (EEx ia + EEx d "In (zone 2)" (pla "Intrinsic safety, | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure "3" nned) explosion-proof enclosure and | 3 1 2 - A B D P | |
| Stainless steel Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protecti without with CENELEC, Ty "Explosion-proo "Intrinsic safety (EEx ia + EEx d "In (zone 2)" (pla "Intrinsic safety, dust explosion processors." | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure y" 3) | 3 1 2 A B D P | |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protect without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx design - "Intrinsic safety in (zone 2)" (pla - "Intrinsic safety, dust explosion prone 1D/2D)" 3) | Die-cast aluminium Stainless steel precision casting sion, English label inscriptions, 5 languages on CD sion type of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure projection (EEx ia) + EEx d + | 3 1 2 A B D P | |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx defined - "Intrinsic safety (UEx ia + EEx defined - "Intrinsic safety (UEx ia + Ex defined - "Intrinsic safety (UEX ia + | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion type of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure p" 3) explosion-proof enclosure and protection (EEx ia + EEx d + type of protection: | 3 1 2 A B D P E R | |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx d - "n (zone 2)" (pla - "Intrinsic safety, dust explosion prone 1D/2D)" 3) with FM + CSA, Tile "Intrinsic safety and the safety are safety | Die-cast aluminium Stainless steel precision casting sion, English label inscriptions, 5 languages on CD sion type of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure projection (EEx ia) + EEx d + | 3 1 2 A B D P | |
| Stainless steel Stainless steel Stainless steel Stainless steel Pesign Standard design International vers documentation in Explosion protect without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx design of the control of the c | Die-cast aluminium Stainless steel precision casting ion, English label inscriptions, 5 languages on CD ion ype of protection: (EEx ia)" f (EEx d)" 2) and explosion-proof enclosure "" 3) nned) explosion-proof enclosure and protection (EEx ia + EEx d + ype of protection: and explosion-proof (is + xp)" 2) | 3 1 2 A B D P E R | |
| Stainless steel Stainless steel Stainless steel Stainless steel Stainless steel Pesign Standard design International versic documentation in Explosion protect without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx defined = "Intrinsic safety, dust explosion protection of the p | Die-cast aluminium Stainless steel precision casting Joen Stainless steel precision c | 3 1 2 A B D P E R | |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx d " n (zone 2)" (pla "Intrinsic safety, dust explosion prone 1D/2D)" 3) with FM + CSA, Till thin thin thin thin thin thin thin thin | Die-cast aluminium Stainless steel precision casting Joe-cast aluminium Stainless steel precision casting Joen Stainless ste | 3 1 2 A B D P E R | 3 |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protect without with CENELEC, Tile "Explosion-proo" "Intrinsic safety (EEx ia + EEx d" n (zone 2)" (pla - "Intrinsic safety) dust explosion prone 1D/2D)" "Intrinsic safety amax. PN 360 Electrical connect Screwed gland M Screwed gland M | Die-cast aluminium Stainless steel precision casting Joe-cast aluminium Casting Joe-cast a | 3 - 1 2 - A B D P E R | 3 |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International vers documentation in Explosion protect without with CENELEC, Tile "Intrinsic safety (EEx ia + EEx design of the control of the c | Die-cast aluminium Stainless steel precision casting Joe-cast aluminium Stainless steel precision casting Joen Stainless ste | 3 1 2 A B D P E R | 3 |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile and the standard design Intrinsic safety (EEx ia + EEx d - "n (zone 2)" (pla - "Intrinsic safety, dust explosion prone 1D/2D)" 3) with FM + CSA, Tile and the standard safety and the standard safety and the screwed gland Mescrewed gland Mescrew | Die-cast aluminium Stainless steel precision casting Joen Stainless steel precision casting casting Joen Stainless steel precision casting c | 3 - 1 2 - A B D P E R | 3 |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile and the standard design Intrinsic safety (EEx ia + EEx d - "n (zone 2)" (pla - "Intrinsic safety, dust explosion prone 1D/2D)" 3) with FM + CSA, Tile and Tile and the screwed gland Mile screwed gland Mil | Die-cast aluminium Stainless steel precision casting Joen Stainless steel precision casting c | 3 - 1 2 - A B D P E R | 1 |
| Stainless steel Stainless steel Stainless steel Stainless steel Design Standard design International versidocumentation in Explosion protecti without with CENELEC, Tile and the standard design Intrinsic safety "Explosion-prood" (EEx ia + EEx dodown and the safety of the standard and the standard and the standard and the screwed gland the screwed glan | Die-cast aluminium Stainless steel precision casting Joen Stainless steel precision casting c | 3 - 1 2 - A B D P E R | 3 |

| Ir | nciuaea in | aelivery | of the | device: |
|----|-------------|----------|--------|---------|
| _ | Duint inner | tiono / | 1 | ۱۱۵۱ |

- Brief instructions (Leporello)
- CD-ROM with detailed documentation
- Sealing plug(s) or sealing screw(s) for the process flanges(s)
- 1) Not together with max. span 600 mbar
- 2) Without cable gland, with blanking plug
- 3) With enclosed cable gland EEx ia and blanking plug
- Not together with types of protection "Explosion-proof" and "Intrinsic safety und explosion-proof"

| Further designs | Order code |
|--|--------------------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Pressure transmitter with mounting bracket made of: • Steel • Stainless steel | A01 A02 |
| O-rings for process flanges (instead of FPM (Viton)) • PTFE (Teflon) • FEP (with silicone core, approved for food) • FFPM (Kalrez, compound 4079) • NBR (Buna N) | A20 A21 A22 A23 |
| Sealing screws 1/4-18 NPT, with valve in material of process flanges | A40 |
| Rating plate inscription (instead of German) English French Spanish Italian | B11 B12 B13 B14 |
| English rating plate Pressure units in inH ₂ O or psi | B21 |
| Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 | C11 |
| Acceptance test certificate B to EN 10 204-3.1B | C12 |
| Factory certificate to EN 10.204-2.2 | C14 |
| Acid gas version to NACE (only together with seal diaphragm made of Hastelloy and process flange screws made of stainless steel) | D07 |
| Type of protection IP68 (not together with PROFIBUS plug M12) | D12 |
| Digital indicator along side the input keys (only together with the devices 7MF45340.2A.6 orA.7-Z, Y21) | D27 |
| Use on zone 1D / 2D (only together with type of protection "Intrinsic safety (EEx ia)" | E01 |
| Use at zone 0 (only together with type of protection "Intrinsic safety (EEx ia)" | E02 |
| Interchanging of process connection side | H01 |
| Stainless steel process flanges for vertical differential pressure lines | Н03 |
| | |

DS III PA series for differential pressure and flow

| Further designs | Order code |
|--|------------|
| Please add "-Z" to Order No. and specify Order code. | |
| Additional data | _ |
| Measuring point number/identification | Y15 |
| max. 16 characters, specify in plain text: Y15: | |
| | |
| Measuring point text | Y16 |
| max. 27 characters, specify in plain text: | |
| Y16: | |
| Setting of pressure indicator in pressure units | Y21 |
| specify in plain text (standard setting: mA): | |
| Y21: mbar, bar, kPa, MPa, psi, | |
| Note: | |
| The following pressure units can be selected: | |
| bar, mbar, mm $H_2O^{*)}$, in $H_2O^{*)}$, ft $H_2O^{*)}$, mmHG, in HG, | |
| psi, Pa, kPa, MPa, g/cm ² , kg/cm ² , mA, Torr, ATM or % | |
| *) Reference temperature 20 °C | |
| Preset bus address | Y25 |
| specify in plain text (standard setting: 126) | |
| Y25: | |
| | |

Only the settings for "Y21" and "Y25" can be made in the factory

DS III PA (PROFIBUS) for level

SITRANS P measuring instruments for pressure Transmitters for pressure, absolute pressure, differential pressure, flow and level

| Technical specifications | | Design | |
|---|--|--|---|
| | DC III DA corios for level | Weight | |
| SITRANS P pressure transmitters, | DS III PA Series for level | To DIN (pressure transmitter with | ≈ 11 13 kg (24.2 28.7 lb) |
| Input Measured variable | Level | mounting flange, without tube) | |
| Rated measuring range | Max. working pressure | To ASME (pressure transmitter with mounting flange, without tube) | ≈ 11 18 kg (24.2 39.2 lb) |
| • 250 mbar (3.63 psi) | See "Mounting flange" | Wetted parts materials | |
| | See Mounting hange | High-pressure side: | |
| • 600 mbar (8.7 psi) | | Seal diaphragm of mounting flan- | Stainless steel 316L, |
| 1600 mbar (23.2 psi)5000 mbar (72.5 psi) | | ge | Monel 400, mat. No. 2.4360, |
| Lower measuring limit | | | Hastelloy B2, mat. No. 2.4617, Hastelloy C276, mat. No. 2.4819, |
| Measuring cell with silicone oil fil- | -100% of max. span or | | Hastelloy C4, mat. No. 2.4610, tantalum, PTFE, ECTFE |
| ling | 30 mbar (0.435 psi) absolute, | Measuring cell filling | Silicone oil |
| | depending on mounting flange | Process connection | Silicone oil |
| Upper measuring limit | 100% of max. span | High-pressure side | Flange to DIN and ANSI |
| Output | Digital PROFIBUS PA signal | Low-pressure side | Female thread 1/4-18 NPT and |
| Physical bus | IEC 61158-2 | • Low-pressure side | flange connection to DIN 19213 |
| Measuring accuracy | | | with mounting thread M10 or $^{7}/_{16}$ -20 UNF to EN 61518 |
| Reference conditions | Increasing characteristic Start-of-scale value 0 bar | Power supply U _H | Supplied through bus |
| | Stainless steel seal diaphragm | Separate 24 V power supply neces- | No |
| | Mounting flange without tube Silicone oil filling | sary | 140 |
| | Room temperature (25 °C (77 °F)) | Bus voltage | |
| Error in measurement (including | | • Not Ex | 9 32 V |
| hysteresis and repeatability) - Linear characteristic | ≤ 0.15% | With intrinsically-safe operation | 9 24 V |
| Influence of ambient temperature | ≤ 0.15% | Current consumption | |
| • With -10 +60 °C (14 140 °F) | | Basic current (max.) | 12.5 mA |
| - 250-mbar (3.63 psi) measuring | ≤ 0.7% | Max. current in event of fault | 15.5 mA |
| cell | | Certificates and approvals | |
| 0011 | | oooutoo unu approrato | |
| - 600-mbar (8.7 psi) measuring | ≤ 0.5% | Classification according to pressure | For gases of fluid group 1 and |
| - 600-mbar (8.7 psi) measuring cell | | • • | For gases of fluid group 1 and liquids of fluid group 1; complies with requirements of article 3, |
| - 600-mbar (8.7 psi) measuring cell- 1,600 and 5,000 mbar (23.2 and | ≤ 0.5% ≤ 0.45% | Classification according to pressure equipment directive | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and | | Classification according to pressure equipment directive (DRGL 97/23/EC) | liquids of fluid group 1; complies with requirements of article 3, |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C | | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) | ≤ 0.45% | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection • Intrinsic safety "i" | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C | | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring | ≤ 0.45% | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection • Intrinsic safety "i" | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperatu- | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperatu- | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperatu- | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating tempera- | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T6; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA},$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: U ₀ = 17.5 V, I ₀ = 380 mA, P ₀ = 5.32 W • Linear barrier: |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, I_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, I_0 = 240 \text{ mA}$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, I_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, I_0 = 1.2 \text{ W}$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil fil- | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, I_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, I_0 = 240 \text{ mA}$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil filling | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection - Effective internal inductance/ca- | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, I_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, I_0 = 1.2 \text{ W}$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil fil- | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 • p _{abs} ≥ 1bar: -40 +175 °C (-40 +347 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection - Effective internal inductance/capacitance | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, I_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, I_0 = 1.2 \text{ W}$ $L_i = 7 \text{ µH}, C_i = 1.1 \text{ nF}$ |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil filling | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 • p _{abs} ≥ 1bar: -40 +175 °C (-40 +347 °F) • p _{abs} < 1bar: -40 +80 °C | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection Effective internal inductance/capacitance Explosion-proof "d" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, I_0 = 380 \text{ mA}, P_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA}, P_0 = 1.2 \text{ W}$ $L_i = 7 \text{ µH}, C_i = 1.1 \text{ nF}$ PTB 99 ATEX 1160 Ex II 1/2 G EEx d IIC T4/T6 -40 +85 °C (-40 +185 °F) |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil filling - High-pressure side | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 • p _{abs} ≥ 1bar: -40 +175 °C (-40 +347 °F) • p _{abs} < 1bar:-40 +80 °C (-40 +176 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection - Effective internal inductance/capacitance Explosion-proof "d" Identification | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V, } I_0 = 380 \text{ mA, } P_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V, } I_0 = 250 \text{ mA, } P_0 = 1.2 \text{ W}$ $L_i = 7 \text{ \muH, } C_i = 1.1 \text{ nF}$ PTB 99 ATEX 1160 Ex II 1/2 G EEx d IIC T4/T6 |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil filling | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 • p _{abs} ≥ 1bar: -40 +175 °C (-40 +347 °F) • p _{abs} < 1bar:-40 +80 °C (-40 +176 °F) -40 +100 °C (-40 +212 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection Effective internal inductance/capacitance Explosion-proof "d" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, V_0 = 380 \text{ mA}, V_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, V_0 = 250 \text{ mA}, V_0 = 1.2 \text{ W}$ $V_1 = 7 \text{ µH}, V_1 = 1.1 \text{ nF}$ PTB 99 ATEX 1160 Ex II 1/2 G EEx d IIC T4/T6 -40 +85 °C (-40 +185 °F) temperature class T4; |
| - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells • With -4010 °C and +60 °C +85 °C (-40 +14 and 140 185 °F) - 250-mbar (3.63 psi) measuring cell - 600-mbar (8.7 psi) measuring cell - 1,600 and 5,000 mbar (23.2 and 72.5 psi) measuring cells Rated conditions Degree of protection (to EN 60529) Temperature of medium • Measuring cell with silicone oil filling - High-pressure side | ≤ 0.45% ≤ 0.4% / 10 K (≤ 0.4% / 18 °F) ≤ 0.3% / 10 K (≤ 0.4% / 18 °F) ≤ 0.27% / 10 K (≤ 0.4% / 18 °F) Note Note the assignment of the max. permissible operating temperature to the max. permissible operating pressure of the respective flange connection! IP65 • p _{abs} ≥ 1bar: -40 +175 °C (-40 +347 °F) • p _{abs} < 1bar:-40 +80 °C (-40 +176 °F) | Classification according to pressure equipment directive (DRGL 97/23/EC) Explosion protection Intrinsic safety "i" Identification Permissible ambient temperature Connection Effective internal inductance/capacitance Explosion-proof "d" Identification Permissible ambient temperature | liquids of fluid group 1; complies with requirements of article 3, paragraph 3 (sound engineering practice) PTB 99 ATEX 2122 Ex II 1/2 G EEx ia/ib IIB/IIC T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +70 °C (-40 +158 °F) temperature class T5; -40 +60 °C (-40 +140 °F) temperature class T6 To a certified intrinsically-safe circuit with maximum values: • FISCO supply unit: $U_0 = 17.5 \text{ V}, V_0 = 380 \text{ mA}, V_0 = 5.32 \text{ W}$ • Linear barrier: $U_0 = 24 \text{ V}, V_0 = 250 \text{ mA}, V_0 = 1.2 \text{ W}$ $V_0 = 1.2 \text{ W}$ Linear barrier: $V_0 = 24 \text{ V}, V_0 = 1.1 \text{ nF}$ PTB 99 ATEX 1160 Ex II 1/2 G EEx d IIC T4/T6 -40 +85 °C (-40 +185 °F) temperature class T4; -40 +60 °C (-40 +140 °F) |

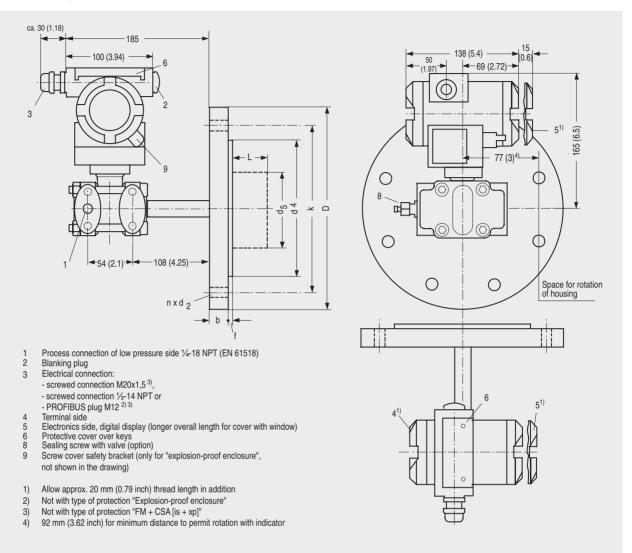
DS III PA (PROFIBUS) for level

| Dust explosion protection for zone 20 | PTB 01 ATEX 2055 |
|---|---|
| - Identification | Ex II 1 D IP65 T 120 °C Ex II 1/2 D IP65 T 120 °C |
| Permissible ambient temperature | -40 +85 °C (-40 +185 °F) |
| - Max.surface temperature | 120 °C (248 °F) |
| - Connection | To a certified intrinsically-safe circuit with maximum values: |
| | • FISCO supply unit: $U_0 = 17.5 \text{ V}$, $I_0 = 380 \text{ mA}$, $P_0 = 5.32 \text{ W}$ |
| | • Linear barrier: $U_0 = 24 \text{ V}, I_0 = 250 \text{ mA},$ $P_0 = 1.2 \text{ W}$ |
| - Effective internal inductance/ca- pacitance | $L_{i} = 7 \mu H, C_{i} = 1.1 nF$ |
| • Dust explosion protection for zone 21/22 | PTB 01 ATEX 2055 |
| - Identification | Ex II 2 D IP65 T 120 °C |
| - Connection | To circuits with values: $U_{\rm H}$ = 9 32 V DC; $P_{\rm max}$ = 1.2 W |
| Type of protection "n" (zone 2) | Planned |
| Explosion protection to FM | Certificate of Compliance 3008490 |
| Identification (XP/DIP) or (IS); (NI) | CL I, DIV 1, GP ABCD T4T6; CL II, DIV 1, GP EFG; CL III; CL I, ZN 0/1 AEX ia IIC T4T6; CL I, DIV 2, GP ABCD T4T6; CL II, DIV 2, GP FG; CL III |
| • Explosion protection to CSA | Certificate of Compliance 1153651 |
| - Identification | CL I, GP ABCD; CL II, GP EFG; CL III; Enclosure Type 4X, CL I, DIV 2, GP ABCD; CL II, DIV 2, GP FG; CL III; Enclosure Type 4X |

| Mounting flange Nom. diam. | Nom. press. | |
|----------------------------|------------------------|--|
| | Nom. press. | |
| • To EN 1092-1 | | |
| - DN 80 | PN 40 | |
| - DN 100 | PN 16 PN 40 | |
| • To ASME B16.5 | | |
| - 3 inch | class 150 class 300 | |
| - 4 inch | class 150 class 300 | |
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DS III PA (PROFIBUS) for level

Dimensional drawings



SITRANS P pressure transmitters, DS III PA series for level, including mounting flange, dimensions in mm (inch)

Connection to EN 1092-1

| Nom. diam. | Nom. press. | b | D | d | d_2 | d_4 | d_5 | d_{M} | f | k | n | L |
|------------|-------------|----|-----|-----|-------|-------|-------|------------------|----|-----|----|--------------|
| | | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |
| DN 80 | PN 40 | 24 | 200 | 90 | 18 | 138 | 76 | 72 ¹⁾ | 2 | 160 | 8 | 0, 50, 100, |
| DN 100 | PN 40 | 20 | 220 | 115 | 18 | 158 | 94 | 89 | 2 | 180 | 8 | — 150 or 200 |
| | PN 40 | 24 | 235 | 115 | 22 | 162 | 94 | 89 | 2 | 190 | 8 | |

Connection to ASME B16.5

| Nom. diam. | Nom. press. | b | D | d_2 | d_4 | d_5 | d_{M} | f | k | n | L |
|------------|-------------|----------------|-----------------|----------------|-----------------|--------------|----------------------------|---------------|-----------------|---|-------------------------------|
| | lb/sq.in. | inch (mm) | inch (mm) | inch (mm) | inch (mm) | inch (mm) | inch (mm) | inch (mm) | inch (mm) | | inch (mm) |
| 3 inch | 150 | 0.94 (23.8) | 7.5 (190.5) | 0.75 (19.0) | 5 (127) | 3 (76) | 2.81 ¹⁾ (72) | 0.06 (1.6) | 6 (152.4) | 4 | 0, 2, 3.94, 5.94 or 7.87 |
| | 300 | 1.12 (28.6) | 8.25 (209.5) | 0.87 (22.2) | 5 (127) | 3 (76) | 2.81 ¹⁾ (72) | 0.06 (1.6) | 6.69 (168.3) | 8 | - (0, 50, 100, 150 or 200) |
| 4 inch | 150 | 0.94 (23.8) | 9 (228.5) | 0.75 (19.0) | 6,19 (157.2) | 3.69 (94) | 3.5 (89) | 0.06 (1.6) | 7.5 (190.5) | 8 | _ |
| | 300 | 1.25 (31.7) | 10 (254) | 0.87 (22.2) | 6,19 (157.2) | 3.69 (94) | 3.5 (89) | 0.06 (1.6) | 7.88 (200) | 8 | _ |

d: Internal diameter of gasket to DIN 2690

d_M: Effective diaphragm diameter

^{1) 89} mm = $3\frac{1}{2}$ inch with tube length L = 0.

DS III PA (PROFIBUS) for level

| Selection and Ordering | Order No |). | | |
|---|--|------------------|-------------|--|
| SITRANS P pressure to | ransmitters | 7 M F 4 6 | 3 4 - | |
| DS III PA series | | 1 Y | - | |
| Rated measuring rang 250 mbar 600 mbar 1600 mbar 5 bar | e (3.63 psi) (8.70 psi) (23.2 psi) (72.5 psi) | D E F G | | |
| Process connection of Female thread ¼-18 NP • Mounting thread M10 • Mounting thread ⁷ / ₁₆ - ² | T with flange connection to DIN 19 213 | 0 2 | | |
| Non-wetted parts mater Process flange screws | erials Electronics housing | | | |
| Stainless steel Stainless steel | Die-cast aluminium Stainless steel precision casting | 2 | | |
| Standard design International version, I documentation in 5 land | English label inscriptions, nguages on CD | | 1 2 | |
| • without • with CENELEC, Type of | of protection: | | A | |
| - "Explosion-proof (EE | - "Intrinsic safety (EEx ia)" - "Explosion-proof (EEx d)" 1) - "Intrinsic safety and explosion-proof enclosure | | | |
| - "n (zone 2)"- "Intrinsic safety, expl | osion-proof enclosure and oction (EEx ia + EEx d + | | E R | |
| with FM + CSA, Type of a safety and experience | of protection: explosion-proof (is + xp)" 1) | | N C | |
| • Screwed gland ½-14 l • PROFIBUS plug M12 | 1.5 | | B C F | |
| Display • without (digital display • with visible digital indi • with customer-specific as specified, Order co | cator c digital indicator (setting | | 1 6 7 | |

Ordering information:
1st order item: Pressure transmitter 7MF4634-... 2nd order item: Mounting flange 7MF4912-...

Example of ordering:

Item line 1: 7MF4634-1EY20-1AA1 Item line 2: 7MF4912-3GE01

Included in delivery of the device:
• Brief instructions (Leporello)

- CD-ROM with detailed documentation
- Sealing plug(s) or sealing screw(s) for the process flanges(s)
- 1) Without cable gland, with blanking plug
- 2) With enclosed cable gland EEx ia and blanking plug
- 3) Not together with types of protection "Explosion-proof" and "Intrinsic safety

| Further designs | Order code |
|---|------------|
| Please add "-Z" to Order No. and specify Order code. | 0.00.000 |
| O-rings for process flanges on low-pressure side | |
| (instead of FPM (Viton)) | |
| • PTFE (Teflon) | A20 |
| • FEP (with silicone core, approved for food) | A21 |
| • FFPM (Kalrez, compound 4079) | A22 |
| NBR (Buna N) | A23 |
| Sealing screws 1/4-18 NPT, with valve in material of process flanges | A40 |
| Rating plate inscription | |
| (instead of German) | |
| • English | B11 |
| • French | B12 |
| SpanishItalian | B13 B14 |
| | |
| English rating plate Pressure units in inH ₂ O or psi | B21 |
| Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 | C11 |
| Acceptance test certificate B to EN 10 204-3.1B | C12 |
| Factory certificate | C14 |
| to EN 10.204-2.2 | 014 |
| Type of protection IP68 | D12 |
| (not together with PROFIBUS plug M12) | DIZ |
| Use on zone 1D / 2D | E01 |
| (only together with type of protection "Intrinsic safety (EEx ia)" | |
| Use at zone 0 | E02 |
| (only together with type of protection "Intrinsic safety (EEx ia)" | |
| Overfilling safety device for flammable and non-flammable liquids | E08 |
| (max. PN 32 (MWP 464 psi), basic device with type of protection "Intrinsic safety (EEx ia)") | |
| Interchanging of process connection side | H01 |
| Additional data | |
| Measuring point number/identification | Y15 |
| max. 16 characters, specify in plain text: Y15: | |
| Measuring point text | Y16 |
| max. 27 characters, specify in plain text: Y16: | |
| Setting of pressure indicator in pressure units | Y21 |
| specify in plain text (standard setting: mA): Y21: mbar, bar, kPa, MPa, psi, | |
| Note: The following pressure units can be selected: | |
| bar, mbar, mm H ₂ O*), inH ₂ O*), ftH ₂ O*), mmHG, inHG, psi, Pa, kPa, MPa, g/cm², kg/cm², mA, Torr, ATM or % *) Reference temperature 20 °C | |
| Preset bus address | Y25 |
| specify in plain text (standard setting: 126) Y25: | . 20 |
| Only the settings for "Y21" and "Y25" can be made in the f | ooton. |

Only the settings for "Y21" and "Y25" can be made in the factory

Further designs

SITRANS P measuring instruments for pressure Transmitters for pressure, absolute pressure, differential pressure, flow and level

DS III PA (PROFIBUS) for level

Order code

| Selection and Ord | Order No. | | | | | |
|--|--|-----------|-------|--|--|--|
| Mounting flange | | 7 M F 4 9 | 12 - | | | |
| directly fitted to pro SITRANS P (conve for DS III series | essure transmitter erter part) for level, | 3 | - | | | |
| Connection to EN | l 1092-1 | | | | | |
| Nom. diam. | Nom. press. | | | | | |
| DN 80 | PN 40 | D | | | | |
| DN 100 | PN 16 PN 40 | G H | | | | |
| Connection to AS | | | | | | |
| Nom. diam. | Nom. press. | | | | | |
| 3 inch | Class 150 | Q | | | | |
| | Class 300 | R | | | | |
| 4 inch | Class 150 | Т | | | | |
| | Class 300 | U | | | | |
| Other version | | z | J 1 Y | | | |
| Add Order code a | | | , , | | | |
| | ; Nominal pressure: | | | | | |
| Wetted parts mat | | | | | | |
| • Stainless steel 3 | | A | | | | |
| - Coated with PF | | D | | | | |
| - Coated with PT | | E 0 | | | | |
| - Coated with EC | CIFE | F | | | | |
| Monel 400, mat. | No. 2.4360 | G | | | | |
| Hastelloy B2, ma | | Н | | | | |
| Hastelloy C276, | | J | | | | |
| Hastelloy C4, ma | at. No. 2.4610 | U | | | | |
| Tantalum | | K | | | | |
| Other version | | Z | K 1 Y | | | |
| Add Order code a | | | | | | |
| Wetted parts mate Sealing face, see ' | | | | | | |
| Tube length | Teerimeal data | _ | | | | |
| • Without | | 0 | | | | |
| • 50 mm | (1.97 inch) | 1 | | | | |
| • 100 mm | (3.94 inch) | 2 | | | | |
| • 150 mm | (5.90 inch) | 3 | | | | |
| • 200 mm | (7.87 inch) | 4 | | | | |
| Other version: | | 9 | L 1 Y | | | |
| Add Order code a | nd plain text: | | | | | |
| Tube length: | | | | | | |
| Filling liquid | | | | | | |
| Silicone oil M5 | | 1 | | | | |
| Silicone oil M50 | | 2 | | | | |
| | | 3 | | | | |
| High-temperature | | 4 | | | | |
| High-temperatureHalocarbon oil (f | or O ₂ measurements) | | | | | |
| High-temperatureHalocarbon oil (fVegetable oil | | 5 | | | | |
| High-temperatureHalocarbon oil (f | | | | | | |
| High-temperatureHalocarbon oil (fVegetable oil | | 5 | | | | |

| Spark arrestor | A01 |
|---|-----|
| for mounting on zone 0 (including documentation) | |
| Manufacturer's test certificate M to DIN 55.350, Part 18 and to ISO 8402 | C11 |
| Acceptance test certificate B to EN 10 204-3.1B | C12 |
| Vacuum-proof design (for use in low-pressure range) | V04 |
| Calculation of span of associated pressure transmitter (enclose filled-in questionnaire with order) Note: Suffix "Y01" required with pressure transmitter | Y05 |
| | |

Please add "-Z" to Order No. and specify Order code.

¹⁾ For vacuum on request

²⁾ Not suitable for use in low-pressure range