

Model EPT3000 series

Smart Differential Pressure Transmitter
Monocrystalline silicon differential pressure sensor
Mass production, automated calibration

Materontek
Sensing and Internet of Things

Features

- ❑ The highest accuracy be $\pm 0.065\%$
- ❑ Overload pressure up to 10MPa
- ❑ Excellent overvoltage performance
 - overpressure of 1kPa nominal range chip: 1MPa
 - overpressure of 6kPa nominal range chip: 2MPa
- ❑ Flexible range of compression Range ratio up to: 100:1
- ❑ Excellent operability & convenient use
- ❑ Five-digit LCD with backlight
- ❑ View of units (Pa, kPa, MPa, bar, mbar, %, psi, mmH₂O)
- ❑ Quickly adjusted through built-in three buttons



Application

- ❑ Be suitable to measure liquid, gas or steam flow as well
- ❑ Process control systems
- ❑ Chemical industry
- ❑ Energy industry
- ❑ Machine building

Technical data

Performance

| | | |
|------------------------|---|--|
| Accuracy* | 0.065%FS@25°C(Min.) 0.1%FS@25°C(Typ.) | *Linearity (best straight line) + Hysteresis + Repeatability |
| Operating Temperature | -40 to 85°C | |
| Storage temperature | -40 to 90°C | |
| Temp. coeff - Zero | $\pm(0.08\% \text{range} + 0.055\% \text{ upper limit of range})$ | |
| Temp. coeff - Span | $\pm(0.08\% \text{range} + 0.055\% \text{ upper limit of range})$ | |
| Vibration | 20 g RMS(20 to 2000Hz) | |
| Shock | 100 g(10ms) | |
| Cycles | 10×10^5 | |
| Effect of overpressure | $\pm(0.065\% \text{upper limit of range})/5\text{MPa}$ | |
| Long Term Stability | $\pm 0.05\% \text{upper limit of range/year}$ | |

Electrical @25°C

| | | |
|-----------------------------|---|--|
| Output signal / Supply | 2-wire 4...20mA+HART / $V_s = 10.5... 45\text{VDC}$ | *Intrinsic safety explosion-proof DC10.5~26V |
| Load resistance | 250~600 DC 24V, include cable resistance | |
| Insulation Resistance | 100 MΩ@100VDC | |
| Load capacity | 0.55mF | |
| Load inductance | 3.3mH | |
| Spacing above power line | 15cm(please avoid parallel wiring) | |
| Saturation current | Upper limit 20.8mA, lower limit 3.8mA | |
| Adjustment function | The zero & full span point can be adjusted in situ through three-button from the top of the housing or be adjusted remotely through configuration software. | |
| EMC Test | IEC61000-6-2/IEC61000-6-3 | |
| Effect of Power supply | $\pm 0.005\% / 1\text{V}$ | |
| Damp | The time constant can be adjusted from 0 to 99.9 seconds | |
| Reverse polarity protection | No damage – no function | |

Physical Specifications

| | |
|-------------|--|
| Housing | Low copper aluminum die casting + polyurethane coating |
| Diaphragm | SUS316LSS, Hastelloy C-276, Tantalum |
| Sealing | NBR or Viton O-ring |
| Oil Filling | Silicone oil |
| Protection | IP67 |
| Weight | ~4.2kg(without cable) |

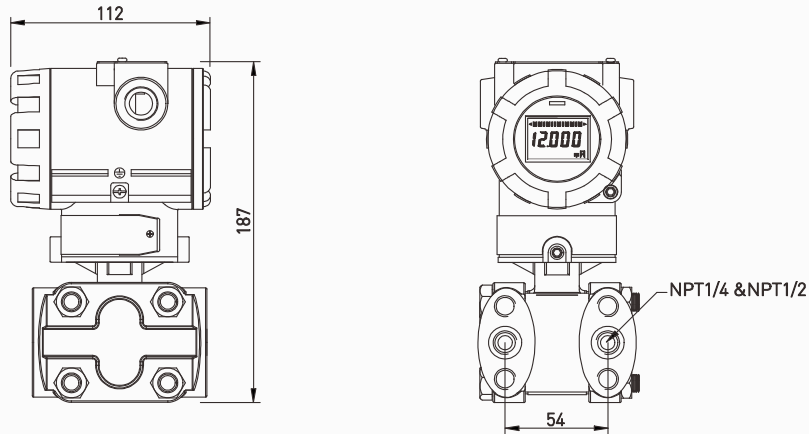
The listed specifications and dimensions are subject to change without prior notice

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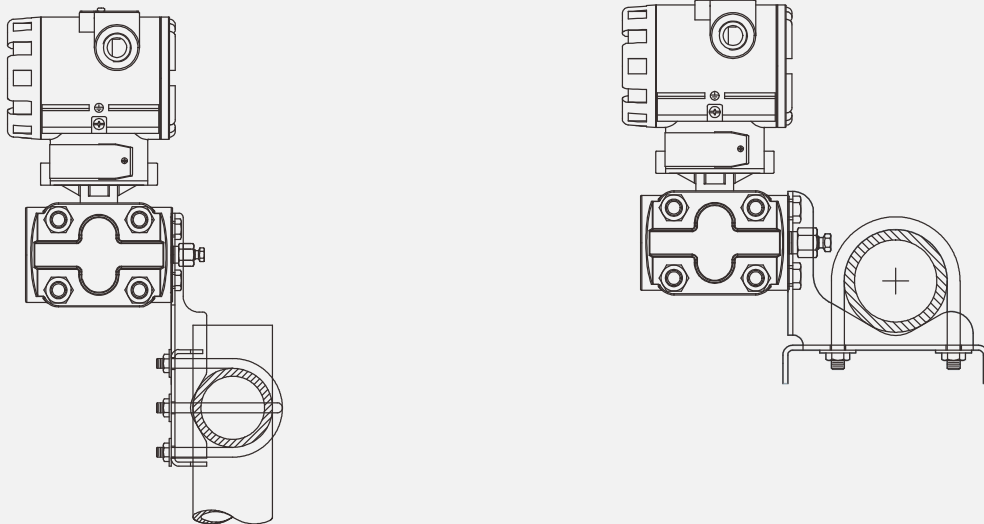
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Dimensions (All dimensions in mm)



Code B1
Flat bracket

Code B2
Right angle bracket



Standard pressure range & URL

| Code | Nominal pressure [bar] | Overpressure [bar] | Static pressure [bar] |
|------|---------------------------|-----------------------|--------------------------|
| S1 | 0...0.01 | 10 | 70 |
| S2 | 0...0.06 | 20 | 70 |
| S3 | 0...0.4 | 70 | 160 |
| S4 | 0...1 | 100 | 250 |
| S5 | 0...4 | 100 | 250 |
| S6 | 0...40 | 100 | 250 |
| S7 | 0...100 | 100 | 250 |

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Ordering code

| | | | |
|-------|--|-------------|------------------|
| Model | EPT3000 | | |
| Code | Pressure range | | |
| S1 | 10 mbar | | |
| S2 | 60 mbar | | |
| S3 | 400 mbar | | |
| S4 | 1 bar | | |
| S5 | 4 bar | | |
| S6 | 40 bar | | |
| S7 | 100 bar | | |
| 99 | Customized range | | |
| Code | Pressure Type | | |
| D | Differential | | |
| G | Gauge | | |
| A | Absolute | | |
| Code | Output signal | | |
| A | 4...20mA+HART Protocol | | |
| Code | Accuracy | | |
| 01 | 0.065%FS | URL>100mbar | |
| 02 | 0.1%FS | | |
| 03 | 0.2%FS | | |
| 04 | 0.5%FS | | |
| Code | Materials | | |
| | Membrane | Flange | Filled liquid |
| 22 | 316LSS | 316SS | Silicone oil |
| 23 | Hastelloy-C | 316SS | Silicone oil |
| 24 | Tantalum | 316SS | Silicone oil |
| 25 | 316LSS gold plating | 316SS | Silicone oil |
| 26 | 316LSS | 316SS | Fluorocarbon oil |
| 27 | Hastelloy-C | Hastelloy-C | Silicone oil |
| Code | Process connection | | |
| D42 | 1/2-18NPT Female | | |
| D43 | 1/2-14NPT Female | | |
| D44 | Customized | | |
| Code | Electrical connection | | |
| E1 | M20x1.5 | | |
| E2 | 1/2" NPT | | |
| Code | Meters | | |
| M1 | LCD display | | |
| Code | Sealing materials | | |
| 01 | Fluororubber | | |
| 02 | NBR | | |
| Code | Mounting bracket | | |
| B1 | Flat bracket | | |
| B2 | Right angle bracket | | |
| Code | Explosion-proof | | |
| N | No | | |
| IA | Intrinsic safety and dust explosion-proof approval | | |
| D | Flame-proof and dust explosion-proof approval | | |
| Code | Label | | |
| S | Standard | | |
| N | Neutral packing | | |
| C | Custom label | | |