
 <b>TI4310en</b>	<b>Technical Information</b>	
<b>PPE1- Series (dP)</b>	<b>Water Differential Pressure Sensor with Active Output</b>	

The PPE1- Series (dP) is designed to measure differential water pressure in HVAC heating and cooling systems with light aggressive liquids and refrigerants

The sensor is temperature compensated

The sensor operates with low power supply

The control output is active.



<b>Use</b>	<p>Compatible to all common HVAC DDC and Analog Controls systems, with/without Building Automation System</p> <p>Differential pressure measurement in HVAC water systems</p> <p>Used in all common HVAC applications</p> <p>Used in Commercial and Industrial Buildings</p>
------------	---

<b>Features</b>	<p>Sensor with active output</p> <p>Laser welding, full-sealed construction; protection IP67</p> <p>Temperature compensated, high precision device</p> <p>Strong anti- interference ability, perfect long-term stability</p> <p>Professional and practical product design, withstands rough environmental conditions</p> <p>Easy to use, install and maintain</p>
-----------------	---

<b>Product Range</b>	<table border="1"> <thead> <tr> <th>Order Code</th> <th>Power Supply</th> <th>Pressure Range</th> <th>Output</th> <th>Accuracy</th> <th>IP Protection</th> <th>Measuring Membrane</th> <th>Connection Thread</th> <th>Burst Pressure</th> </tr> </thead> <tbody> <tr> <td>PPE1.EAa</td> <td rowspan="5">AC/DC 24V ±10% ; SELV</td> <td>0...0.5bar</td> <td rowspan="5">0...10V</td> <td rowspan="10">0.5% Full Scale @ 25°C</td> <td rowspan="10">IP67 to IEC60529</td> <td rowspan="10">0.5% Full Scale @ 25°C</td> <td rowspan="10">G1/4" , female thread</td> <td rowspan="10">300% of Measuring Range</td> </tr> <tr> <td>PPE1.AAa</td> <td>0...1bar</td> </tr> <tr> <td>PPE1.BAa</td> <td>0...2.5bar</td> </tr> <tr> <td>PPE1.CAa</td> <td>0...4bar</td> </tr> <tr> <td>PPE1.DAa</td> <td>0...6bar</td> </tr> <tr> <td>PPE1.EDa</td> <td rowspan="5">DC 24V ±10% ; SELV</td> <td>0...0.5bar</td> <td rowspan="5">4...20mA</td> </tr> <tr> <td>PPE1.ADa</td> <td>0...1bar</td> </tr> <tr> <td>PPE1.BDa</td> <td>0...2.5bar</td> </tr> <tr> <td>PPE1.CDa</td> <td>0...4bar</td> </tr> <tr> <td>PPE1.DDa</td> <td>0...6bar</td> </tr> </tbody> </table>	Order Code	Power Supply	Pressure Range	Output	Accuracy	IP Protection	Measuring Membrane	Connection Thread	Burst Pressure	PPE1.EAa	AC/DC 24V ±10% ; SELV	0...0.5bar	0...10V	0.5% Full Scale @ 25°C	IP67 to IEC60529	0.5% Full Scale @ 25°C	G1/4" , female thread	300% of Measuring Range	PPE1.AAa	0...1bar	PPE1.BAa	0...2.5bar	PPE1.CAa	0...4bar	PPE1.DAa	0...6bar	PPE1.EDa	DC 24V ±10% ; SELV	0...0.5bar	4...20mA	PPE1.ADa	0...1bar	PPE1.BDa	0...2.5bar	PPE1.CDa	0...4bar	PPE1.DDa	0...6bar
Order Code	Power Supply	Pressure Range	Output	Accuracy	IP Protection	Measuring Membrane	Connection Thread	Burst Pressure																															
PPE1.EAa	AC/DC 24V ±10% ; SELV	0...0.5bar	0...10V	0.5% Full Scale @ 25°C	IP67 to IEC60529	0.5% Full Scale @ 25°C	G1/4" , female thread	300% of Measuring Range																															
PPE1.AAa		0...1bar																																					
PPE1.BAa		0...2.5bar																																					
PPE1.CAa		0...4bar																																					
PPE1.DAa		0...6bar																																					
PPE1.EDa	DC 24V ±10% ; SELV	0...0.5bar	4...20mA																																				
PPE1.ADa		0...1bar																																					
PPE1.BDa		0...2.5bar																																					
PPE1.CDa		0...4bar																																					
PPE1.DDa		0...6bar																																					

All Information and technical data are subject to alteration

<b>Sensor Specification</b>	Sensor Specification	Measured	Water Differential Pressure
		Sensor Characteristics	Active
		Sensor Output (s)	0..10V / 4...20mA
		Accuracy	0.5% Full Scale @ 25°C
		Compensated Temperature Range	-10°C...+80°C
		Temperature Drift (FS), typically	±0.02% FS / °C
		Long Term Stability	±0.2% FS / Year
		Medium Temperature Range	-40°C...+125°C
		Busting Pressure (diaphragm)	300% of Measuring Range
		Measuring Range (s)	See Product Range, Page 1
<b>Technical Information</b>	Electrical Information	Power Supply	
		Type: PPE1.xAa	AC/DC 24V (±10%)
		Type: PPE1.xDa	DC 24V (±10%)
		Frequency	50 / 60 Hz at AC 24V
		Insulation Resistant	<1ms
		Terminal Clamp	Plug-in connector
		Power Consumption	
	Type: PPE1.xAa	≤ 1VA / AC 24V; ≤ 1VA / DC 24V	
	Type: PPE1.xDa	≤ 0.5VA / DC 24V	
	Mechanical Information	Cable Entry	Angle Plug, DIN 43 650, Construction A
		Sensing Element Position	Inside the housing
		Connection Type	G1/4", female thread
	Color and Materials	Sensing Element Position	Inside the housing
		Housing Cover	Black PP, RAL 9017 (Traffic Black)
		Housing Bottom	US:AISI 303; EU: en X 10 CrNiS 18 9; Ger.: W.N. 1.4305
		Diaphragm	US:AISI 316L; EU: EN/DIN 1.4404
		O- Ring	VITRON®
	Environmental Conditions	Cable Gland	Black PP, RAL 9017 (Traffic Black)
		Operation Temperature	-25°C...+70°C
		Operation Humidity	100% r.h., with condensation
		Transport Temperature	-35°C...+70°C
		Transport Humidity	< 90% r.h.
		Storage Temperature	-10°C...+70°C
		Storage Humidity	< 85% r.h., no condensation
	Norms and Directives	IP- Rating	IP67 to IEC60529
		Safety Class	III to EN 60 730
		Product Standard 1	Automatic Electric. Controls for household and similar use
		Product Standard 2	2009/EN 60 730-1
		CE Conformities to	2004/108/EG Electromagnetic Compatibility EMV
		CE Electromagnetic Compatibility Emitted Interference	2000/EN60730-1 Emitted Interference
		CE Electromagnetic Compatibility Interference Resistance	2000/EN60730-1 Interference Resistance
		RoHS Compatibility	RoHS 2011/65/EC
		Operation Climatic Condition	IEC 60 721-3-3
Operation Mechanical Condition		IEC 60 721-3-2 to class2M2	
Transport to Climatic Condition		IEC 60 721-3-2	
Transport Mechanical Condition		IEC 60 721-3-2 to class2M2	
Storage Climatic Condition		IEC 60 721-3-1	
Storage Mechanical Condition		IEC 60 721-3-1 to class2M2	
<b>Miscellanies</b>	Accessories	None	
	Shipping & Handling	Minimum Order	1 box with 1 piece
		Package Material	Rigid Cardboards
	Order Notes	Order Code	See Product Range, Page 1, e.g. PPE1.EAa

All Information and technical data are subject to alteration

**Installation Notes**



Observe the following general regulation for engineering and implementation:

All relevant national and heavy power regulation

Other country specific regulations

Country-specific regulations

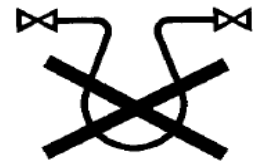
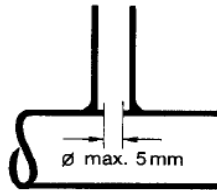
Local electrical supply authority regulation

Schematics, cable listings, dispositions, specification and arrangements from the customer or engineering office in charge

Third party specifications, e.g. general contractors or constructors

**Advices**

**Mounting Advices**



**Disposal Notes**



The device is considered an electronic device for disposal in terms of the EUROPEAN DIRECTIVE 2012/19/EU.

The Device may not be disposed as domestic garbage.

The device must be disposed through channels provided for this purpose.

It is mandatory to complying with local currently applying laws and regulations.

**Connection**

*PPE1.xAa*

(1) UB+ (AC/DC24V)

(3) Output 0..10V



(2) GROUND

*PPE1.xDa*

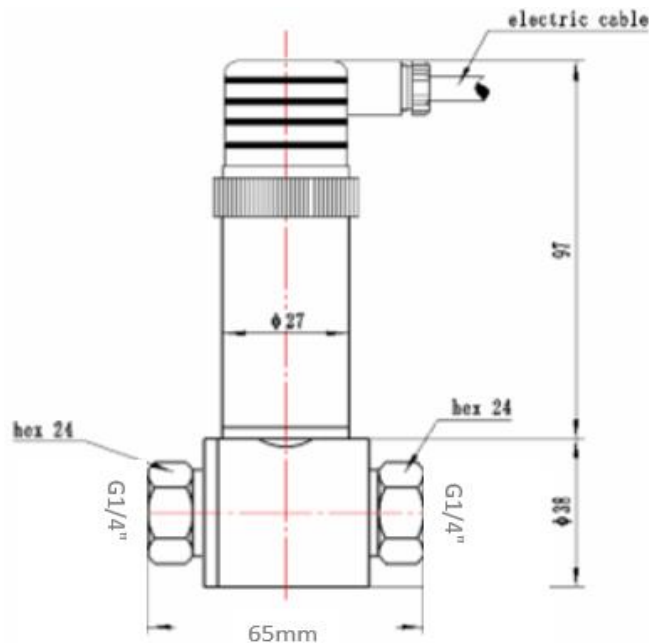
(1) UB+ (DC24V)

(3) Output 4...20mA



(2) n.a.

**Dimensional Drawing**



All Information and technical data are subject to alteration

PPE1- Series (dP) V20.1