

	<h1>TARAtec PES7</h1>
Response time	T ₉₀ : approx. 3 min.
Zero point adjustment	Not necessary
Slope calibration	At the device, by analytical determination
interferences	O ₃ : factor 2500 ClO ₂ : factor 1 H ₂ O ₂ : factor 0.005
influence of conductivity acids	1 % sulfuric acid, 1 % nitric acid or 1 % phosphoric acid in the water have no influence on the measuring behaviour.
Absence of the disinfectant	Max. 24 h
Connection	analog-out/analog version: 4-pole plug adapter analog-out/digital version: 4-pole plug adapter digital-out/digital version: 5-pole M12, plug-on flange 4-20 mA version: 2-pole terminal or 5-pole M12, plug-on flange
material	PVC-U, stainless steel 1.4571
Size	diameter: approx. 25 mm Length: analog-out/analog version approx. 175 mm version analog-out/digital approx. 195 mm version digital-out/digital approx. 205 mm 4-20 mA version approx. 220 mm (2-pole-terminal) approx. 190 mm (5-pole-M12)
Transport	+5 ... +50 °C (Sensor, electrolyte, membrane cap)
storage	Sensor: dry and without electrolyte no limit at +5 ... +40 °C
	Electrolyte: in original bottle protected from sunlight at +5 ... +35 °C min. 1 year or until specified EXP-Date
	Membrane cap: in original packing no limit at +5 ... +40 °C (used membrane caps can not be stored)
maintenance	Regularly control of the measuring signal, min. once a week The following specifications depend on the water quality: Change of the membrane cap: once a year (depending on the water quality) Change of the electrolyte: every 3 - 6 months
	EMC-Testing DIN EN 61326-1, 61326-2-3 RoHS compliant

Technical Data
1. PES7 (analog output, analog internal signal processing)

analog-out / analog

A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.

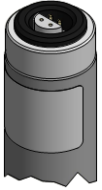
	Measuring range	resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
PES7H	0.5...200 ppm	0.1 ppm	0...-2000 mV 1 kΩ	-10 mV/ppm	±5 - ±15 VDC 10 mA	4-pole screw connector
PES7N	5...2000 ppm	1 ppm		-1 mV/ppm		
PES7L	0.005...2 % (20000 ppm)	0.001 % (10 ppm)		-1000 mV/% (-0.1 mV/ppm)		
PES7HUp	0.5...200 ppm	0.1 ppm	0...+2000 mV 1 kΩ	+10 mV/ppm	10 - 30 VDC 10 mA	
PES7Up	5...2000 ppm	1 ppm		+1 mV/ppm		
PES7Up5000	50...5000 ppm	1 ppm		+0.4 mV/ppm		

(Subject to technical changes!)

2. PES7 (analog output, digital internal signal processing)

analog-out / digital

- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.


	Measuring range	Resolution	Output Output resistance	Nominal Slope	Power supply	Connection
PES7H-An	0.5...200 ppm	0.1 ppm	analog 0...-2 V (max. -2.5 V)	-10 mV/ppm	9-30 VDC approx. 56-20 mA	4-pole screw connector
PES7N-An	5...2000 ppm	1 ppm		-1 mV/ppm		
PES7L-An	0.005...2% (20000 ppm)	0.001% (10 ppm)	1 kΩ	-1000 mV/% (-0.1 mV/ppm)		
PES7H-Ap	0.5...200 ppm	0.1 ppm	analog 0...+2 V (max. +2.5 V)	+10 mV/ppm		
PES7N-Ap	5...2000 ppm	1 ppm		+1 mV/ppm		
PES7L-Ap	0.005...2% (20000 ppm)	0.001% (10 ppm)	1 kΩ	+1000 mV/% (+0.1 mV/ppm)		

(Subject to technical changes!)

3. PES7 (digital output, digital internal signal processing)

digital-out / digital

- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.


	Measuring range	Resolution	Output Output resistance	Power supply	Connection
PES7H-M0c	0.5...200 ppm	0.1 ppm	Modbus RTU There are no terminating resistors in the sensor.	9-30 VDC approx. 56-20 mA	5-pole M12 connector
PES7N-M0c	5...2000 ppm	1 ppm			
PES7L-M0c	0.005...2% (20000 ppm)	0.001% (10 ppm)			

(Subject to technical changes!)

4. PES7 4-20 mA (analog output, analog internal signal processing) analog-out / analog


A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.

4.1 Electrical connection: 2 pole terminal clamp

	Measuring range	resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
PES7MA-CC	0.5...200 ppm	0.1 ppm	4...20 mA uncalibrated	0.08 mA/ppm	12...30 VDC R _L 50Ω...R _L 900Ω	2-pole terminal (2 x 1 mm ²) Recommended: Round cable ∅ 4 mm 2 x 0.34 mm ²
PES7MA-D	5...500 ppm	1 ppm		0.032 mA/ppm		
PES7MA-M	5...1000 ppm	1 ppm		0.016 mA/ppm		
PES7MA-MM	5...2000 ppm	1 ppm		0.008 mA/ppm		
PES7MA-5M	50...5000 ppm	1 ppm		0.0032 mA/ppm		
PES7MA-XM	0.005...1 % (10000 ppm)	0.01 % (10 ppm)		16 mA/% (0.0016 mA/ppm)		

(Subject to technical changes!)

4.2 Electrical connection: 5 pole M12 plug-on flange

	Measuring range	resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
PES7MA-CC-M12	0.5...200 ppm	0.1 ppm	4...20 mA uncalibrated	0.08 mA/ppm	12...30 VDC R _L 50Ω...R _L 900Ω	5-pole M12 plug-on flange Function of wires: PIN2: +U PIN3: -U
PES7MA-D-M12	5...500 ppm	1 ppm		0.032 mA/ppm		
PES7MA-M-M12	5...1000 ppm	1 ppm		0.016 mA/ppm		
PES7MA-MM-M12	5...2000 ppm	1 ppm		0.008 mA/ppm		
PES7MA-5M-M12	50...5000 ppm	1 ppm		0.0032 mA/ppm		
PES7MA-XM-M12	0.005...1 % (10000 ppm)	0.01 % (10 ppm)		16 mA/% (0.0016 mA/ppm)		

(Subject to technical changes!)

Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
PES7H	M7.1N Art. no. 11014.1	EPS7/W, 100 ml Art. no. 11020	S2 Art. no. 11906	14 x 1.8 silicone Art. no. 11805
PES7HUp				
PES7N				
PES7Up				
PES7L	M7.1L Art. no. 11010.1	EPS7L/W, 100 ml Art. no. 11022		
PES7Up5000				
PES7MA-CC	M7.1N Art. no. 11014.1	EPS7/W, 100 ml Art. no. 11020		
PES7MA-D				
PES7MA-M				
PES7MA-MM				
PES7MA-5M	M7.1L Art. no. 11010.1	EPS7L/W, 100ml Art. no. 11022		
PES7MA-XM				

(Subject to technical changes!)

