

# Piezo sensors

## Applications:

Fitted in tens of thousands of sites: Pumping stations, drinking water reservoirs, tanks, sewage treatment plants or groundwater tables, rivers or water areas: PARATRONIC piezo-resistive sensors can be used to make level or pressure measurements in waste water, drinking water, or raw water.

## Simple and effective:

Due to their robust design (316L stainless steel, ceramic, polyethylene, etc.), CNR and MPXF sensors are perfectly suited for use in particle-laden water (sanitation, rivers, etc.), and also in drinking water as they have been awarded "ACS" sanitary conformity certification in accordance with the French Ministry of Health directive DGS/SD7A No. 571.

## Failsafe and upgradeable:

Based on 30 years of experience, CNR and MPXF sensors combine PARATRONIC expertise: venting by means of an exclusive double-coated cable system with no capillary tube, lightning surge immunity of up to 20,000 Amperes without having to install surge suppression equipment, measurement scale modification and cable replacement carried out in the factory, 2-year warranty including lightning cover.

## Available:

- Large stock in all standardised models.
- Delivery within 24 hours (1).
- Constant technical availability to respond to your queries.



C101EN-1021	CNR		MPXF	TPC
Measurement range	To be defined from 0 / 0.5 to 0 / 30 metres of water		To be defined from 0 / 0.5 to 0 / 140 metres of water	Standard: 0/1, 0/10, 0/16 or 0/20 bar. On request: All values between 0/0.1 and 0/25 bar.
Power supply	6 to 38 V=		8 to 38 V=	7 to 38 V=
Output signal	4-20 mA on 2 wires 20-4 mA on 2 wires (optional)		4-20 mA on 2 wires 20-4 mA on 2 wires (optional)	4-20 mA on 2 wires
Temperature drift	<+/- 0.02% of full scale per °C		<+/- 0.02% of full scale per °C	<+/- 0.03% of full scale per °C
Precision (typ.)	< 0.3% of full scale		< 0.5 % of full scale	< 0.5 % of full scale
Heating time	< 300 ms		< 200 ms	< 150 ms
Response time	< 150 ms		< 10 ms	< 10 ms
Operating temperature	-20°C to +60°C (liquid phase)		-20°C to +50°C (liquid phase)	-5°C to +50°C (liquid phase)
Storage temperature	0°C / 80°C		0°C / 80°C	0°C / 80°C
Non-deterioration range	1.5 times full scale		1.5 times full scale	1.5 times full scale
Surge immunity	>20 kA (8/20 wave)		>20 kA (8/20 wave)	Level 3 - 2 kV
Fast transients	Level 4		Level 4	Level 4
Electromagnetic Compatibility	EN 61000-6-2, EN 61000-6-3, EN 61010-1		EN 61000-6-2, EN 61000-6-3, EN 61010-1	EN 61000-6-2, EN 61000-6-3, EN 61010-1
ISO Standard	ISO 4373		ISO 4373	---
Protection rating	IP68		IP68	As standard: IP65 (IP68 option under one metre of water)
Pressure connection	Submerged		Submerged	G1/4'' male (8x13) or G1/2'' male (15x21)
Electrical connection	2-wire cable output. Polarity inversion protection			As standard: 3-pin connector provided.
Standard cable	Double-coated, with no capillary tube. Blue polyethylene outer cladding. Electrical shielding, 2 x 0.60 mm² conductors, diam. 7 mm +/-0.5 mm, weight 50 g per metre.			IP68 option: Standard cable output only (length to be specified)
Reinforced cable (optional)	Triple-coated, with no capillary tube. Blue polyethylene outer cladding limiting the effects of abrasion. High-density stainless steel outer braid. Kevlar supporting cable, electrical shielding, 2 x 0.60 mm² conductors, diam. 9 mm +/-0.5 mm, weight 100 g per metre.			
Material	Body: Passivated 316L stainless steel		Body: Passivated 316L stainless steel	Body: 316L stainless steel
Dimensions	Diameter 21.4 mm, length 175 mm		Diameter 17.6 mm, length 187.5 mm	Diameter 27 mm, length 136 mm IP68 option: length 160 mm
Weight	180 g (+50 g / metre of standard cable)		190 g (+50 g / metre of standard cable)	200 g - IP68 option: 160 g (+50 g / metre of cable)
Warranty	2 years including lightning cover		2 years including lightning cover	1 year (2)

(1) For CNR 4/20 mA of full scale of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 or 30 m: 24 hrs. For other sensors: 1 week maximum.

(2) The circuit must be protected with a PRO TAS30.

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