

Engineering Specification

Job Name _____
 Job Location _____
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

Pressure Sensor

The relative pressure sensor is a combined pressure and temperature sensor that is fully compatible with aqueous media. The sensor is based on MEMS and sensing technology in combination with the corrosion-resistant Silicoat® coating technology on the sensor chip.

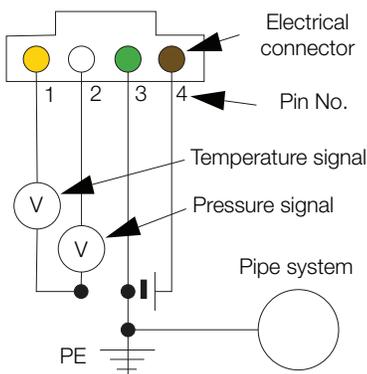
Features

- Pressure and temperature measurement in one sensor for easy and cost-efficient installation
- MEMS technology
- Direct contact with the aqueous media resulting in a fast response time
- Plug and play for quick setup
- Compact and robust design
- Compatible with aqueous media



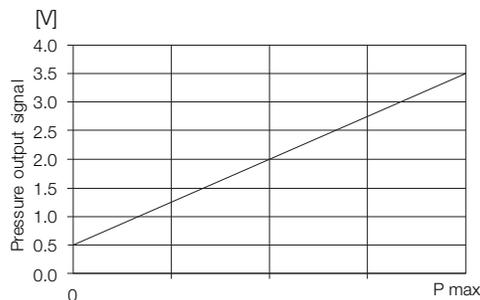
Relative pressure sensor standard

Electrical connections

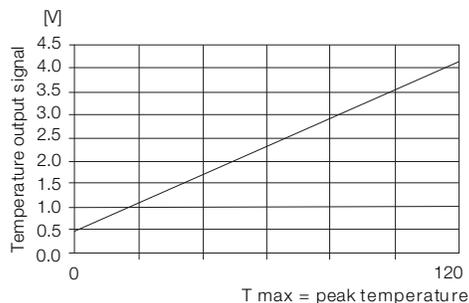


Pin	Analog signal	Color
1	Temperature	Yellow
2	Pressure	White
3	GND, 0 V PEL	Green
4	Voltage supply, (+5 VDC)	Brown

Output signals



Pressure response in analog mode



Temperature response in analog mode

Power supply requirements

- VDC ±5% PELV (Ratiometric)
- The sensor must be separated from hazardous live circuitry by double or reinforced insulation
- Max 10 mV ripple, 50 Hz
- Min output current 25 mA
- Grounding of sensor supply is required

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



Specification

Pressure

Measuring range	0–175 psig
Accuracy 0–80 psig 0–45 °C (32–123 °F)	1 psig
Accuracy >80 psig 0–45 °C (32–113 °F)	1.75 psig
Accuracy >45 °C (32–113 °F)	2 psig
Response time	Less than 1 s
Resolution	0.6 mbar (0.009 psig)

Temperature

Measuring range	0–120 °C (32–248 °F)
Accuracy ($\pm 1\sigma$) 15–90 °C (59–194 °F)	$\pm 0.5K$
Accuracy ($\pm 1\sigma$) 0–120 °C (32–248 °F)	$\pm 1K$
Response time for sensor electronics	250 ms
Resolution	0.008 K

Differential Temperature

Accuracy 15–90 °C (59–194 °F)	0.3 K
Accuracy 0–120 °C (32–248 °F)	0.5 K

System conditions and environment

Liquid types	Aqueous media compatible with wetted materials
Liquid temperature, operation	0–120 °C (32–248 °F)
Liquid temperature, peak	-25 to +120 °C (-13 to +240 °F) non-freezing
Ambient temperature, operation	-25 → +60 °C (-13 → +140 °F)
Ambient temperature, peak	-55 → +90 °C (-67 → +194 °F)
Humidity, relative	0–95%, non-condensing
Maximum system pressure	24 bar (348 psi)
Burst pressure	30 bar (435 psi)

Certificates



Electrical data

Power supply	5 VDC ($\pm 5\%$), PELV Grounding of sensor supply required
Output signals	Ratiometric
Analog output signals	0.5–3.5 V for pressure (zero at 0.5 V) 0.5–4.1 V for temperature (zero at 0.5 V and 100 °C at 3.5 V)
Power consumption	Appr. 75 mW
Load impedance	>47 k Ω
Maximum cable length	3 m (9.10 ft)

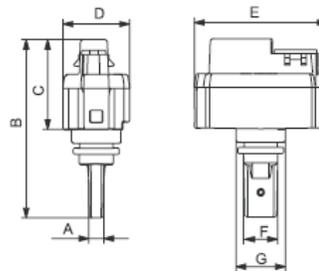
Materials

Sensing element	Silicon-based MEMS
Sealing	EPDM O-rings, FKM O-rings or EPDM sealing cap with FKM O-rings
Housing	Composite, PPS
Wetted materials	Corrosion-resistant coating, PPS, EPDM or FKM Adapter ISO 7/1 - R1/2" and NPT 1/2", EN 1.4408 (AISI 316)

Environmental standards

Enclosure class	IP44
Temperature cycling	IEC 68–2–14
Vibration, non-destructive	20–2000 Hz, 10G, 4 h
Electromagnetic compatibility	EN 61326–1

Dimensions



	A	B	C	D	E	F	G
mm	4.5	53.7	27	20	39.9	10.2	14.8
in	3.23	2.11	1.06	0.79	1.57	0.40	0.58

