Data Center Coolant Pressure Sensor (DCPQ)

For MQD installation in liquid cooling circuits

Product description

The Data Center Coolant Pressure Sensor for Quick Connectors (DCPQ) is designed for integration into the liquid cooling circuit of data center racks and blades (coolant inlet/outlet, rack and blade level) and monitors coolant pressure to assess cooling performance and protect IT equipment.

The high-accuracy stainless steel sensor element is hermetically welded to a stainless steel pressure port, providing high media resistance and long-term stability.

An MQD-compatible (Multi Quick Disconnect) pressure port enables simple installation and dry connect/disconnect within the cooling circuit.

Fields of application

- Detection of leaks, blockages, and interruptions in liquid cooling loops at rack and blade level in data centers
- Enables dry connect/disconnect via MQD adapters for fast, tool-free maintenance and serviceability

Features

- Media-compatible full stainless steel design
- High compatibility with liquid coolants (water and coolant)

Application-specific features

- Tailored for Coolant Distribution
- Corrosion resistant material
- Tried-and-tested stainless steel measuring element, welded
- MQD-02 ready for dry connect/ disconnect
- Tried-and-tested EMC/ESD resistance
- Extended diagnostic and protective functions
- Light weight
- Cost effective
- Easy integration into existing systems

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Technical Specification

Measurement Range

Nominal pressure	0–7 bar up to 0-20 bar
Over pressure	35 bar
Burst pressure	70 bar
Pressure type	Relative

Electrical Characteristics

Supply voltage	2.7–5.5 VDC (3.3 VDC or 5 VDC nominal)
Current consumption	max. 10 mA
Output signal	I2C (Presssure & Temperature)

Mechanical Characteristics

Measuring element	Stainless steel, welded
MQD adapter	Stainless steel
Pressure connection	Adapter for direct assembly to MQD-02 socket[1)]
Electrical connection	4-pin JST-Connector (BM04B-SURS-TF)[1)]
Installation position	Any
Weight	Approx. 12 g

Accuracy

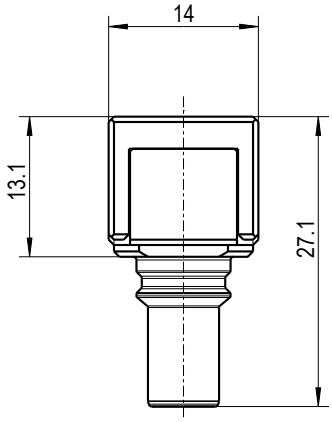
Total pressure error	±0.5 % FS (0–85 °C, BoL) [2)]
Response time (t90)	≤ 10 ms

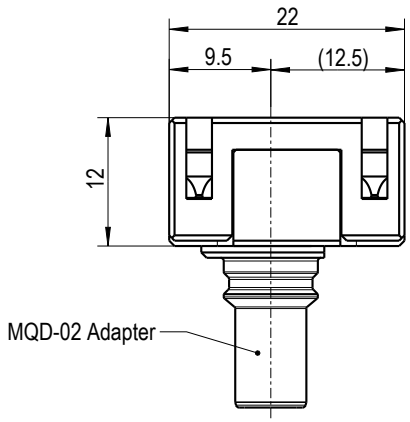
Environmental Conditions

Operating temperature range	0–85 °C
Media temperature range	0–85 °C
Media compatibility	Liquid Coolants [3)]

[1)] Other pressure and electrical connections available on request
[2)] Includes repeatability, hysteresis, non-linearity (TBL), calibration and temperature effects; depends on pressure and temperature range
[3)] Other media possible if material-compatible

Dimension





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