COLD STORAGE

Product Specifications

Thermo Scientific
Smart-Vue Wireless Monitoring Solution

Technical Data Sheet: PT100 External Sensor for -86°C Freezers and Nitrogen Tanks to -196°C

Application

Module and sensor used for monitoring ultra-low temperature freezers at -86°C, nitrogen tanks at -196°C

General

- Measured temperature range: from -200°C to +150°C depending on sensor
- Size: 132.74 x 64.15 x 34 mm (5.2 x 2.5 x 1.3 in)
- Weight: 150 g (5.3 oz)
- Module Holder Mounting Options: Velcro*, magnetic, or fixed
- Warranty: 1 year on all hardware (see warranty terms & conditions for details on coverage)

Wireless Technology

- Industrial Scientific Medical (ISM) band frequencies: 4 different bands available for worldwide use based on location
- Wireless Range: up to 700 meters (2,300 ft.) in open space, from 25 meters (82 ft.) to 100 meters (330 ft.) indoors, and up to 400 meters (1,312 ft.) indoors with 3 repeaters
- Wireless Power Output: 25mW (check with your sales representative for international product availability and radio signal strength

Sensor Information

Nitrogen Tanks and -150°C Auto Cascade Ultra-Low Temperature Freezers

- Measured temperature range: From -200°C to 0°C.
- Type of sensor: 3-wire PT100 sensor, class B, with TEFLON* sensor cable.
- Sensor dimensions: 150 mm x 3 mm stainless steel. Sensor cable length 1.4 meters and module cable length 1.5 meters.
- Connector with 3 gold-plated pins between sensor and module.
- Measurement uncertainty: ±0.7°C at -196°C and ±0.1°C at 0°C.
- Resolution: 0.07°C
- Calibration Certificate: 3 point sensor calibration performed with reference standard at; -196°C, -80°C and 0°C.
- Protection index: IP67

-86°C Ultra-Low Temperature Freezers

- Measured temperature range: From -100°C to +150°C.
- Sensor type: 3-wire PT100 sensor, class B, with PTFE sensor cable.
- Sensor dimensions: 100 mm x 3 mm stainless steel. Sensor cable length 3.5 meters and module cable length 3.0 meters.
- Connector with 3 gold-plated pins between sensor and module.
- Measurement uncertainty: ±0.4°C at -80°C and ±0.1°C at 0°C.
- Resolution: 0.07°C
- Calibration certificate: Calibration Certificate; 3 point sensor calibration performed with reference standard at; -80°C, -40°C and 0°C.
- Protection index: IP67

Memory

- 3,000 data measurement points
- Sampling rates: minimum every 1 minute to maximum every 24 hours

Alarm

- Smart-Vue Siren • Phone call or SMS Text • Email • Fax • Print
- Programming: Programmable high and low alarm limits with delay option; visual pre-alarm; visual and local audible settings for alarm limits
- Sensor Failure Protection: Spontaneous alarm emission for technical failures (sensor or receiver based); low battery alarm

Software

- Software Design: Cognitive ergonomic design to optimize user's work, reduce risk of error and provide additional system security
- Server/Client Relationship: Single server installation with unlimited client installation license agreement
- Scalability: Single software package manages all system sizes
- Report files require Microsoft* Word* and/or Excel* to handle data files exported in these formats

Standards and Regulations

- Compliant with FCC Part 15 for non-interference with existing Wi-Fi network and other wireless devices

Environmental Conditions

- Temperature range for exposure of the module (functioning of the electronics of the module): 0°C to 50°C (32° to 122°F), 0 to 90% RH non-condensing.

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