General
Specifications

Burns Engineering Wall Temperature Assembly

The Perfect fit for Facilities Monitoring in BioPharma and Pharmaceutical manufacturing

Building Management Systems, Laboratory Testing, Incubators & Fridge/Freezer Monitoring

One of the most critical processes in Drug manufacture and storage and within Laboratory testing facilities is the temperature controlled storage of sterile products in industrial grade Incubators, Fridges and Freezers.

Risks of Contamination and insurance of product stability and integrity requires that products are incubated/stored with accurate control under FDA guidelines and monitoring for 21CFR Part 11 compliance.

After thermal mapping indicates the weakest point of temperature measurement, it is critical that an accurate, stable and responsive independent temperature sensor is installed for continuous monitoring back to a site BMS, QBAS or Independent Chart Recorder.

Irish Power and Process Ltd have combined with Burns Engineering to provide a high accuracy wall mountable Independent Temperature Assembly, designed aesthetically for use in Cleanroom or Laboratory grade areas.

A high accuracy full immersion RTD wired to a Temperature transmitter with HART connectivity enclosed in a polished Stainless enclosure with IP67 rating.

Originally designed by Burns Engineering for the pharmaceutical and biotechnology world as a freezer sensor, the A02 meets the accuracy and repeatability demands of a highly regulated industry while maintaining a very small profile. Equally precise at elevated temperatures, the A02 combines the accuracy of a full-size sensor in a reduced size to easily reach your most critical temperature measurement points.

Burns T55 Temperature Transmitter offers a best in class stability, analog output to monitoring systems and HART communication for ease of set-up and calibration. A loop powered transmitter with full input-output isolation and carries FM, CE and CSA aaprovals.

Features and Benefits:

- Application: Direct or indirect immersion in cryogenic and elevated temperature applications. Easily “snaked” into guide tubes and difficult to reach measurement points.
- Accuracy: Precision, 0.05%
- Sheath: 316 stainless steel, 0.188" diameter, 1.250" length
- Sensitive Length: 0.40"
- Element/Lead Wire Configuration: Single 3 or 4 wire
- Cable: 22 AWG stranded PTFE insulated wires with PFA jacket
- Cleanability: 316 stainless steel sheath and PFA cable jacket

Specifications:

- Element Configuration: Single, 100 ohms at 0°C, 0.00385 ohm/ohm/°C nominal alpha
- Temperature Range: -196°C to 200°C
- Cable Limits: -196°C to 200°C continuous exposure
- R0 interchangeability: R0 ± 0.05 ohms
- Short-Term Repeatability and Hysteresis: ± 0.025°C (0.01 ohms) maximum change at 0°C over any 5 consecutive thermal cycles from -196°C to 200°C
- Repeatability: ± 0.05°C (0.02 ohms) maximum shift at 0°C after 10 cycles between -196°C and 200°C
- Insulation Resistance: 10 mega-ohms minimum at 100 VDC at room temperature

T55

Operating temperature: -40°C to 85°C
Supply voltage, DC
Standard: 8.0 to 35 V
CE, FM and CSA: 7.2 to 30 VDC
Internal consumption: 25 mW to 0.8 W
Voltage drop: 7.2 VDC
Isolation voltage, test / operation: 1.5 kVAC / 50 VAC
Communications interface: Programming Module and HART
Signal / noise ratio: Min. 60 dB
Response time (programmable): 1 to 60 s
EEprom error check: < 10 s
Signal dynamics, input: 22 bit
Signal dynamics, output: 16 bit
Calibration temperature: 20 to 28°C
Accuracy: the greater of general and basic values given in Tables below
Effect of supply voltage variation:* < 0.005% of span/ VDC
Vibration: IEC 60068-2-6 Test FC
Lloyd’s specification no. 1: 4 g / 2 to 100 Hz
Max. wire size: 1 x 16 AWG stranded wire
Humidity: < 95% RH (non-cond.)
Dimensions: Ø 1.73 x 0.8 in
Tightness (enclosure / terminal): IP68 / IP00
Weight: 1.8 oz.

Accuracy General Values

Input Type	Absolute Accuracy	Temperature Coefficient
All	≤ ±0.05% of span*	≤ ±0.005% of span* / °C

Accuracy Basic Values

Input Type	Basic Accuracy	Temperature Coefficient
RTD	≤ ±0.1°C	≤ ±0.005°C/°C
TC Type: E, J, K, L, N, T, U	≤ ±0.5°C	≤ ±0.025°C/°C
TC Type: B, R, S, W3, W5, LR	≤ ±1.0°C	≤ ±0.1°C/°C
EMC immunity influence		< ±0.1% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst		< ±1% of span

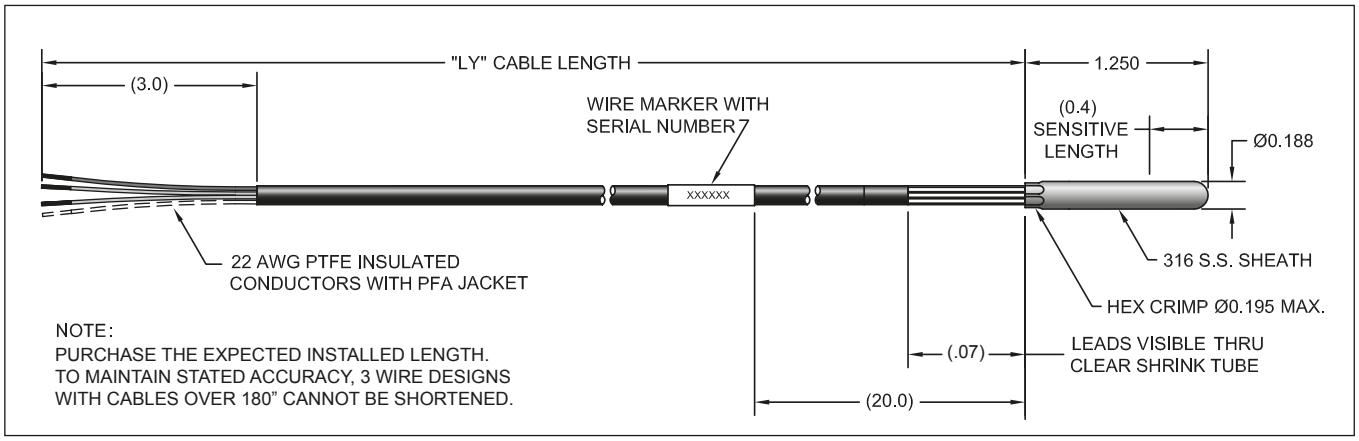
Input Range

Type	Min. Value	Min. Value	Min. Span	Standard
Pt100	-200°C	+850°C	10°C	IEC 60751
Ni100	-60°C	+250°C	10°C	DIN 43760
B	+400°C	+1820°C	100°C	IEC584
E	-100°C	+1000°C	50°C	IEC584
J	-100°C	+1200°C	50°C	IEC584
K	-180°C	+1372°C	50°C	IEC584
L	-100°C	+900°C	50°C	DIN 43710
N	-180°C	+1300°C	50°C	IEC584
R	-50°C	+1760°C	100°C	IEC584
S	-50°C	+1760°C	100°C	IEC584
T	-200°C	+400°C	50°C	IEC584
U	-200°C	+600°C	50°C	DIN 43710
W3	0°C	+2300°C	100°C	ASTM E988-90
W5	0°C	+2300°C	100°C	ASTM E988-90

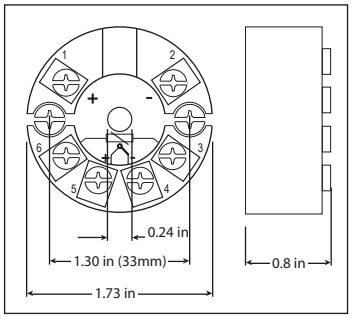
*Of span = Of the presently selected range

A02 I 3/16" Minature RTD

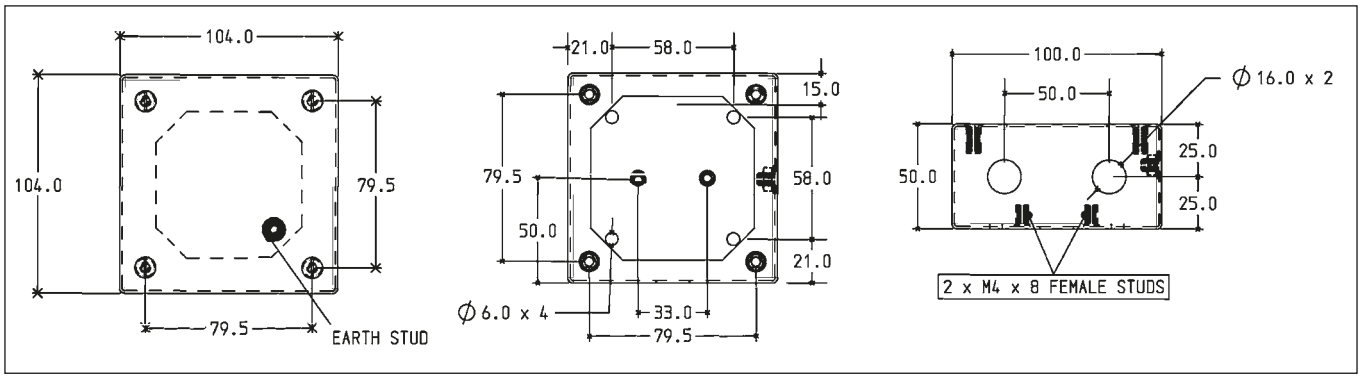
Ordering Information



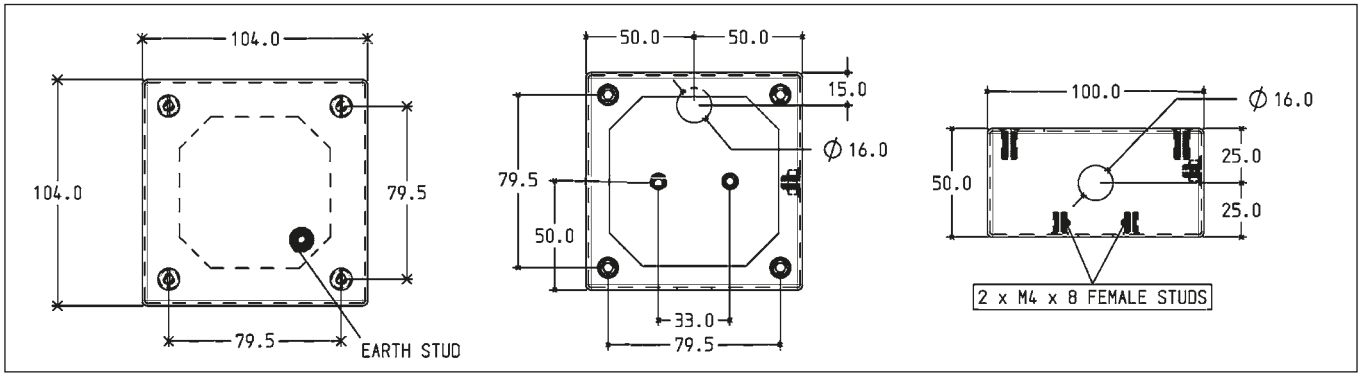
All dimensions in inches



DR3067



DR2913



Ordering Specifications

Model	Suffix Code	Option Code	Description
Enclosure:	3067		
	2913		
Sensor:	A02	- A	
		- B	
	Cable Length	- CL ______________	Specify Length in Inches
Transmitter:	/ T55	- R	Min Range
			Max Range
	Units	C	Celsius
		F	Farenheit
	Laser Etching	/ LE	

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