# IceSpy Notion Pro

## Temperature Transmitters

**notion** pro
Affordable wireless monitoring without compromise

The IceSpy Notion Pro series of temperature transmitter units are flexible, reliable and waterproof to IP65. Each unit has been designed to offer a comprehensive range of temperature measurement options for multiple applications across Food, Healthcare and Pharmaceuticals industries. There is a backwardly compatible version available for legacy systems.

The accompanying temperature probes range from -30°C to +50°C as standard to -200°C to +350°C using external probes. See below for further options.

Data is easily transferred wirelessly to the local Network Receiver for immediate and real-time data collection within the systems software. Each of the Notion Pro transmitter units have a radio range that can reach up to 300mtrs* using dependable wireless technology you can fully rely on. For added data security each transmitter has on-board logging capability for 5 days, data is downloaded via RFID.

The units are powered by a single 1.5V AA Lithium battery, which can be replaced by the user as and when required, battery life will be 2 years plus, with notification when a change is required.

*Over open ground.

## Product Features

- Superior performance hardware with high accuracy sensors
- Vast range of units and sensors provide users with multiple temperature related applications
- Waterproof to IP65
- Easily accessible battery for user replacement, when required
- Calibration available up to UKAS standard
- All transmitters incorporate a wall bracket
- Low power radio for long distance transmission
- Battery life 2 years plus
- Complies with BS EN 12830
- Complies with RoHS, EU directives and WEEE
- Carries CE Marking

## Benefits

- Assists with HACCP, MHRA and other national regulatory requirements
- Reduces errors resulting from manuals checks
- Eliminate time spent taking manual readings
- Improve product quality with small non-intrusive transmitters
- Reduces the risk of damage to stock caused by temperature fluctuations

## Sectors

- Food Manufacturing
- Food Processing
- Pharmaceutical Manufacturing
- Blood Banks
- Cold Rooms
- Pharmaceutical Storage
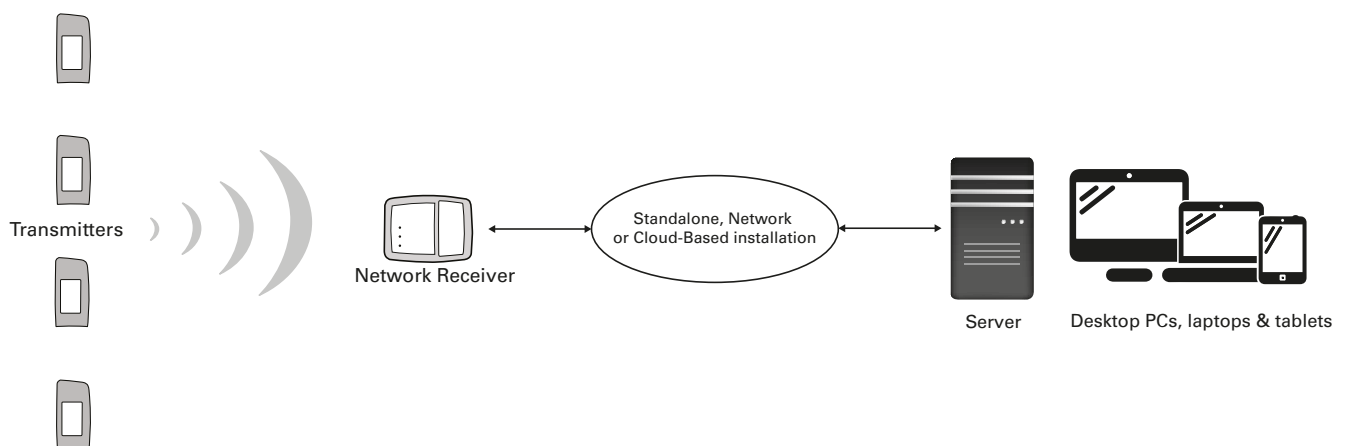- Food Storage and Distribution
- Laboratory Equipment

**Always ask for a long-range signal strength test when buying any radio system.**
We can prove ours to be unrivalled.

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**www.fluidic-ltd.co.uk**

## TECHNICAL SPECIFICATIONS

**Radio Transmitter Functions** (applicable to all Notion Pro Temperature transmitters)

| | |
|---|---|
| Frequency: | 433-434MHz band |
| Radio Protocol: | Frequency hopping for greater security |
| Radio Power: | Max 10mW, duty cycle >0.1% |
| Radio Range: | 300mtrs over open ground |
| Software Required: | IceSpy Notion Pro |
| Case Material: | ABS |
| Operating Temp: | -30°C to +50°C |
| Storage Temp: | -40°C to +85°C |
| Power Supply: | 12DCV via external universal power supply. Power supply included. (IMC recommend only IMC approved power supplies stock code:G422) |
| Battery Life: | 2 years plus |
| Battery: | 1.5V AA Lithium*1 1.5V AA Alkaline (Not recommended for use below -10°C) *2 *1 – IMC only recommend the approved and tested Energizer Ultimate LithiumL91 (IMC stock No. G301 *2 – Battery life will be reduced at low temperatures Duracell ID1500-10 (IMC stock No. 88705 |
| Hardware Required: | - Network Receiver - Repeater (only required in special circumstances)* * Whether you need repeaters or not would be discussed with you in your signal strength test |
| Optional Hardware: | - ARB module (Alarm, RFID and Bluetooth) - SMS module |

**Schematic:**



Transmitters → Network Receiver ↔ Standalone, Network or Cloud-Based installation ↔ Server → Desktop PCs, laptops & tablets

**notion** pro

## NP3000 — INTERNAL TEMPERATURE TRANSMITTER
### PART NO. IN-TH001F1 - TRANSMITTER UNIT

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 130 x 65 x 32mm (40 including mounting bracket) |
| Weight: | 130g including battery |
| Internal Sensor Type: | Semiconductor |
| Range: | -30°C to +50°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Typical Applications: | - Inside Small Fridges<br>- Serve Over Counters<br>- Sandwich Counters<br>- Vaccine Fridges |

## NP3000 — INTERNAL TEMPERATURE TRANSMITTER AND DOOR SWITCH
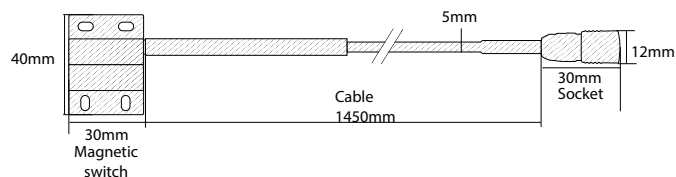### PART NO. IN-THD01F1 - TRANSMITTER UNIT
### PROBES PART NO. IN-DC001 - DOOR SWITCH

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| Internal Sensor Type: | Semiconductor with door switch |
| Range: | -30°C to +50°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Door Switch: | Magnetic reed switch (purchased separately) |
| Door Switch Cable: | 3mtrs |
| Typical Applications: | - Inside Small Fridges<br>- Vaccine Fridges<br>- Door Status |

**Door Switch:**

40mm

5mm

12mm

30mm Socket

Cable 1450mm

30mm Magnetic switch

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## NP3000

# EXTERNAL TEMPERATURE TRANSMITTER
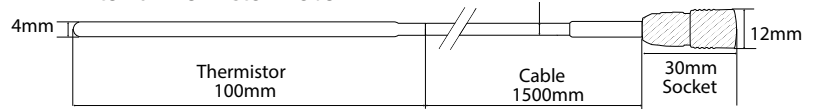### PART NO. IN-TH002F1 - TRANSMITTER UNIT

PROBES PART NO.
- IN-TH150 (1.5M CABLE) - EXTERNAL THERMISTOR PROBE
- IN-TH300 (3M CABLE) - EXTERNAL THERMISTOR PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | Thermistor (purchased separately) |
| External Temp. Probe Range: | -40°C to +100°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Typical Applications: | - Walk in Fridges<br>- Freezers<br>- Walk in Freezers<br>- Food Core Temperature |

**External Thermistor Probe:**

4mm | Thermistor 100mm | Cable 1500mm | 30mm Socket | 12mm

## NP3000

# EXTERNAL THERMISTOR TRANSMITTER AND DOOR SWITCH
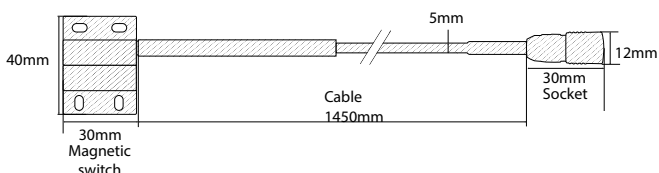### PART NO. IN-THD02F1 - TRANSMITTER UNIT

PROBES PART NO.
- IN-DC001 - DOOR SWITCH
- IN-TH150 (1.5M CABLE) - EXTERNAL THERMISTOR PROBE
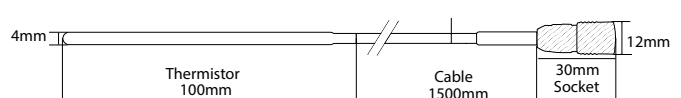- IN-TH300 (3M CABLE) - EXTERNAL THERMISTOR PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | Thermistor (purchased separately) |
| External Probe Temp Range: | -40°C to +100°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Door Switch: | Magnetic reed switch (purchased separately) |
| Door Switch Cable: | 3mtrs |
| Typical Applications: | - Walk in Fridges<br>- Freezers<br>- Walk in Freezers<br>- Food Core Temperature<br>- Door Status |

**Door Switch:**

40mm | 30mm Magnetic switch | Cable 1450mm | 5mm | 30mm Socket | 12mm

**External Thermistor Probe:**

4mm | Thermistor 100mm | Cable 1500mm | 30mm Socket | 12mm

## NP3000
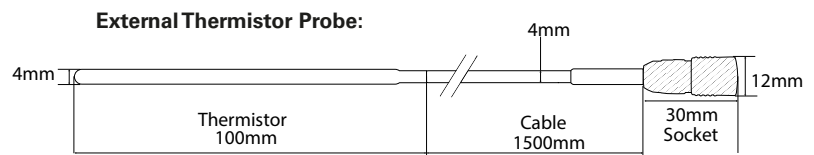
# INTERNAL AND EXTERNAL TEMPERATURE TRANSMITTER

### PART NO. IN-TH003F1

PROBES PART NO. • IN-TH150 (1.5M CABLE) - EXTERNAL THERMISTOR PROBE
• IN-TH300 (3M CABLE) - EXTERNAL THERMISTOR PROBE

## INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| Internal Sensor Type: | Semiconductor |
| Range: | -30°C to +50°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| External Probe Type: | Thermistor (purchased separately) |
| External Probe Temp. Range: | -40°C to + 100°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Typical Applications: | - Walk in Fridges |
| | - Freezers |
| | - Walk in Freezers |
| | - Internal and Ambient temperatures can be monitored |

**External Thermistor Probe:**

4mm — Thermistor 100mm — 4mm — Cable 1500mm — 30mm Socket — 12mm

## NP3000

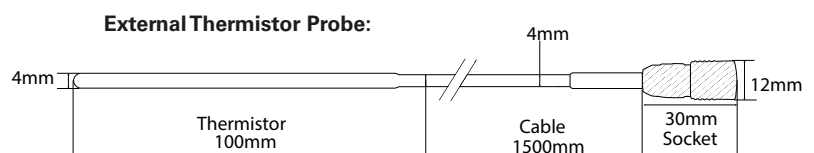# DUAL EXTERNAL THERMISTOR TRANSMITTER

### PART NO. IN-TH004F1

PROBES PART NO. • IN-TH150 (1.5M CABLE) - EXTERNAL THERMISTOR PROBE
• IN-TH300 (3M CABLE) - EXTERNAL THERMISTOR PROBE

## INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | Thermistor (purchased separately) |
| External Probe Temp. Range: | -40°C to + 100°C |
| Resolution: | 0.1°C |
| Accuracy: | ±0.5°C |
| IP Rating: | IP65 |
| Typical Applications: | - Walk in Fridges |
| | - Freezers |
| | - Walk in Freezers |
| | - Food Core Temperature |
| | - Two processes can be monitored with one unit |

There is a second probe option for the thermistor probe with a 3mtr or 3000mm cable

**External Thermistor Probe:**

4mm — Thermistor 100mm — 4mm — Cable 1500mm — 30mm Socket — 12mm

## NP3000 — DUAL EXTERNAL AIR CORE TRANSMITTER

KIT PARTS:
- 1 X IN-TH004F1- - TRANSMITTER
  Plus
- 1 X IN-TH150 - CORE TEMPERATURE PROBE
  Plus
- 1 X IN-TH – AIR TEMPERATURE PROBE
  Plus
- 1 X BLK100 - SIMULANT BLOCK 100ML
  Or
- 1 X BLK200 – SIMULANT BLOCK 200ML

### INSTRUMENT SPECIFICATIONS

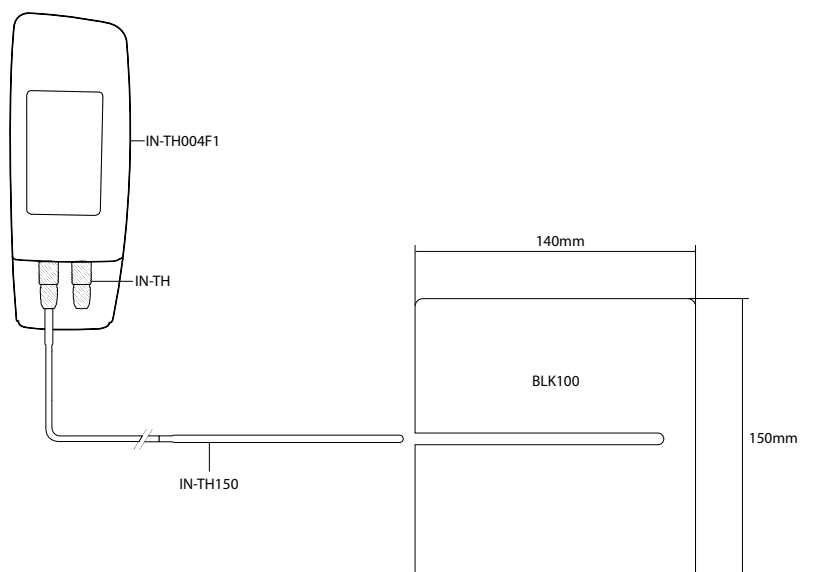| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | Thermistor (purchased separately) |
| External Probe Temp. Range: | -40°C to + 100°C |
| Resolution: | 0.1°C |
| IP Rating: | IP65 |
| Accuracy: | ±0.5°C |
| Typical Application: | - Walk in Fridges<br>- Freezers<br>- Walk in Freezers<br>- Food Core Temperature<br>- Healthcare core temperature<br>- Two processes can be monitored with one unit |

There is a second probe option for the thermistor probe with a 3mtr or 3000mm cable

**Notion Pro Air Core kit:**

IN-TH004F1

IN-TH

IN-TH150

140mm

BLK100

150mm

*(probe technical drawing available on page 4)*
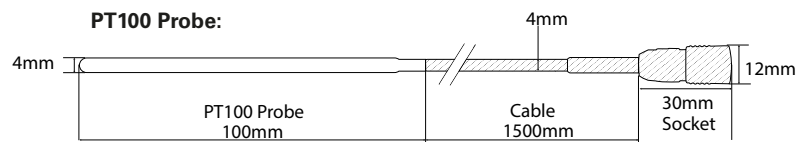
## NP3100 — EXTERNAL PT100 TRANSMITTER
### PART NO. IN-PT001F1

PROBES PART NO.
- IN-PT143 (1.5M CABLE) - PT100 PROBE
- IN-PT145 (3M CABLE) - PT100 PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | 4 Wire Class A PT100 (purchased separately) |
| External Probe Temp. Range: | -100°C to +200°C |
| Resolution: | 0.1°C |
| IP Rating: | IP65 |
| Instrument Accuracy: | ±0.1°C |
| Probe Accuracy: | Class A = ± (0.15+0.0020*|t|)°C |
| Loop Calibration for unproved accuracy | |
| Typical Applications: | - Ultra Cold Freezers (-80°C)<br>- Measurements requiring wider range and greater accuracy |

**PT100 Probe:**

4mm — PT100 Probe 100mm — Cable 1500mm — 4mm — 30mm Socket — 12mm

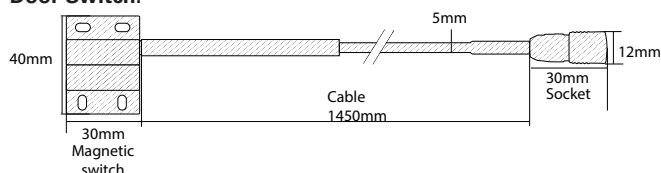## NP3100 — EXTERNAL PT100 TRANSMITTER AND DOOR SWITCH
### PART NO. IN-PTD01F1

PROBES PART NO.
- IN-DC001 - DOOR SWITCH
- IN-PT143 (1.5M CABLE) - PT100 PROBE
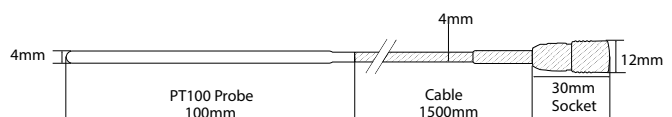- IN-PT145 (3M CABLE) - PT100 PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | 4 Wire Class A PT100 |
| External Probe Temp. Range: | -100°C to +200°C |
| Resolution: | 0.1°C |
| IP Rating: | IP65 |
| Instrument Accuracy: | ±0.1°C |
| Probe Accuracy: | Class A = ± (0.15+0.0020*|t|) °C |
| Loop calibration for unproved accuracy | |
| Door Switch: | Magnetic reed switch (purchased separately) |
| Door Switch Cable: | 3mtrs |
| Typical Applications: | - Ultra Cold Freezers (-80°C)<br>- Door Status |

**Door Switch:**

40mm — 30mm Magnetic switch — Cable 1450mm — 5mm — 30mm Socket — 12mm

**PT100 Probe:**

4mm — PT100 Probe 100mm — Cable 1500mm — 4mm — 30mm Socket — 12mm
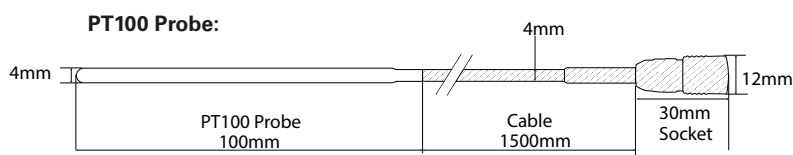
## NP3100

# DUAL EXTERNAL PT100 TRANSMITTER
### PART NO. IN-PT002F1
PROBES PART NO. • IN-PT143 (1.5M CABLE) - PT100 PROBE
• IN-PT145 (3M CABLE) - PT100 PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g inlcuding battery |
| External Probe Type: | 4 Wire Class A PT100 (purchased separately) |
| External Probe Temp. Range: | -100°C to +200°C |
| Resolution: | 0.1°C |
| IP Rating: | IP65 |
| Instrument Accuracy: | ±0.1°C |
| Probe Accuracy: | Class A = ± (0.15+0.0020*|t|) °C |
| Loop calibration for unproved accuracy | |
| Typical Applications: | - Ultra Cold Freezers (-80°C)<br>- Two Freezers can be monitored with on transmitter |

The PT100 probe cable length is 3 mtrs or 3000mm also there is a second option with a 5 mtr cable or 5000mm.

**PT100 Probe:**

4mm — PT100 Probe 100mm — 4mm — Cable 1500mm — 30mm Socket — 12mm

## NP3200

# EXTERNAL TYPE T THERMOCOUPLE TRANSMITTER
### PART NO. IN-TT001F1
PROBES PART NO. IN-THC03 - THERMOCOUPLE TYPE T PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | Ultra Premium Grade Teflon TypeT 22 AWG Thermocouple 3 mtrs* (purchased separately) |
| External Probe Temp. Range: | -200°C to +350°C |
| Resolution: | 0.3°C |
| IP Rating: | IP53 |
| Accuracy: | ±0.5°C |
| Typical Applications: | - Cryogenic Temperature Monitoring<br>- Ovens and cooking processes<br>- Water Baths |

* Specified sensor is recommended for us in cryogenic applications. Other sensor types are available.

**Thermocouple Type T Probe:**

3mm — Cable 290mm — 30mm Socket — 12mm

Version 4

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## NP3200 — DUAL EXTERNAL TYPE T THERMOCOUPLE

**PART NO. IN-TT002F1**
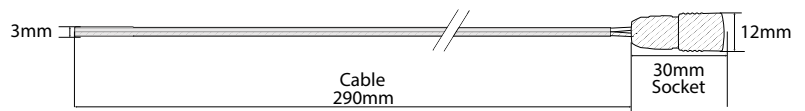
PROBES PART NO. IN-THC03 - THERMOCOUPLE TYPE T PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | External Ultra Premium Grade Teflon Type T 22 AWG Thermocouple 3mtrs* (purchased separately) |
| External Probe Temp. Range: | -200°C to +350°C |
| Resolution: | 0.3°C |
| IP Rating: | IP53 |
| Accuracy: | ±0.5°C |
| Typical Application: | - Cryogenic Temperature Monitoring<br>- Liquid Nitrogen Level Monitoring<br>- Ovens and cooking processes<br>- Water Baths |

\* Specified sensor is recommended for us in cryogenic applications. Other sensor types are available.

**Thermocouple Type T Probe:**

3mm — Cable 290mm — 30mm Socket — 12mm

## NP3200 — EXTERNAL TYPE T THERMOCOUPLE TRANSMITTER AND DOOR SWITCH

**PART NO. IN-TTD01F1**

PROBES PART NO. • IN-DC001 - DOOR SWITCH
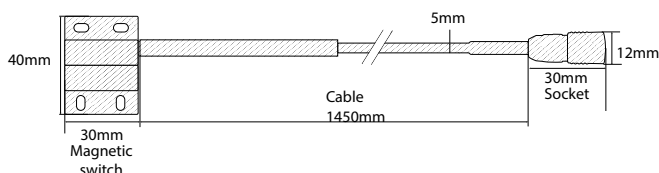• IN-THC03 - THERMOCOUPLE TYPE T PROBE

### INSTRUMENT SPECIFICATIONS

| | |
|---|---|
| Dimensions: | 165 x 65 x 35mm (40 including mounting bracket) |
| Weight: | 150g including battery |
| External Probe Type: | External Ultra Premium Grade Teflon Type T 22 AWG Thermometer 3mtrs* (purchased separately) |
| External Probe Temp. Range: | -200°C to +350°C |
| Resolution: | 0.3°C |
| IP Rating: | IP53 |
| Accuracy: | ±0.5°C |
| Door Switch: | Magnetic reed switch (purchased separately) |
| Door Switch Cable: | 3mtrs |
| Typical Applications: | - Cryogenic Temperature Monitoring<br>- Ovens and cooking processes<br>- Door Status |

The thermocouple probe cable length is 3 mtrs or 3000mm.

\* Specified sensor is recommended for us in cryogenic applications. Other sensor types are available.

**Door Switch:**

40mm — 30mm Magnetic switch — Cable 1450mm — 5mm — 30mm Socket — 12mm

**Thermocouple Type T Probe:**

3mm — Cable 290mm — 30mm Socket — 12mm