

Hanwell IceSpy

Sensor Options

The **Hanwell IceSpy** Sensor options technical data sheet details all the sensors available to use with the Hanwell IceSpy Series products.

Please select your product first from the relevant Hanwell IceSpy product datasheets, then add your required sensor appropriately as below.

Please note that sensor temperature ranges may be restricted by the instrument it is used with. Please check the relevant instrument data sheet.

Note - This datasheet covers our standard and readily available cable lengths. Other lengths may be available than those listed. Please contact Hanwell Solutions with your requirements.



Temperature



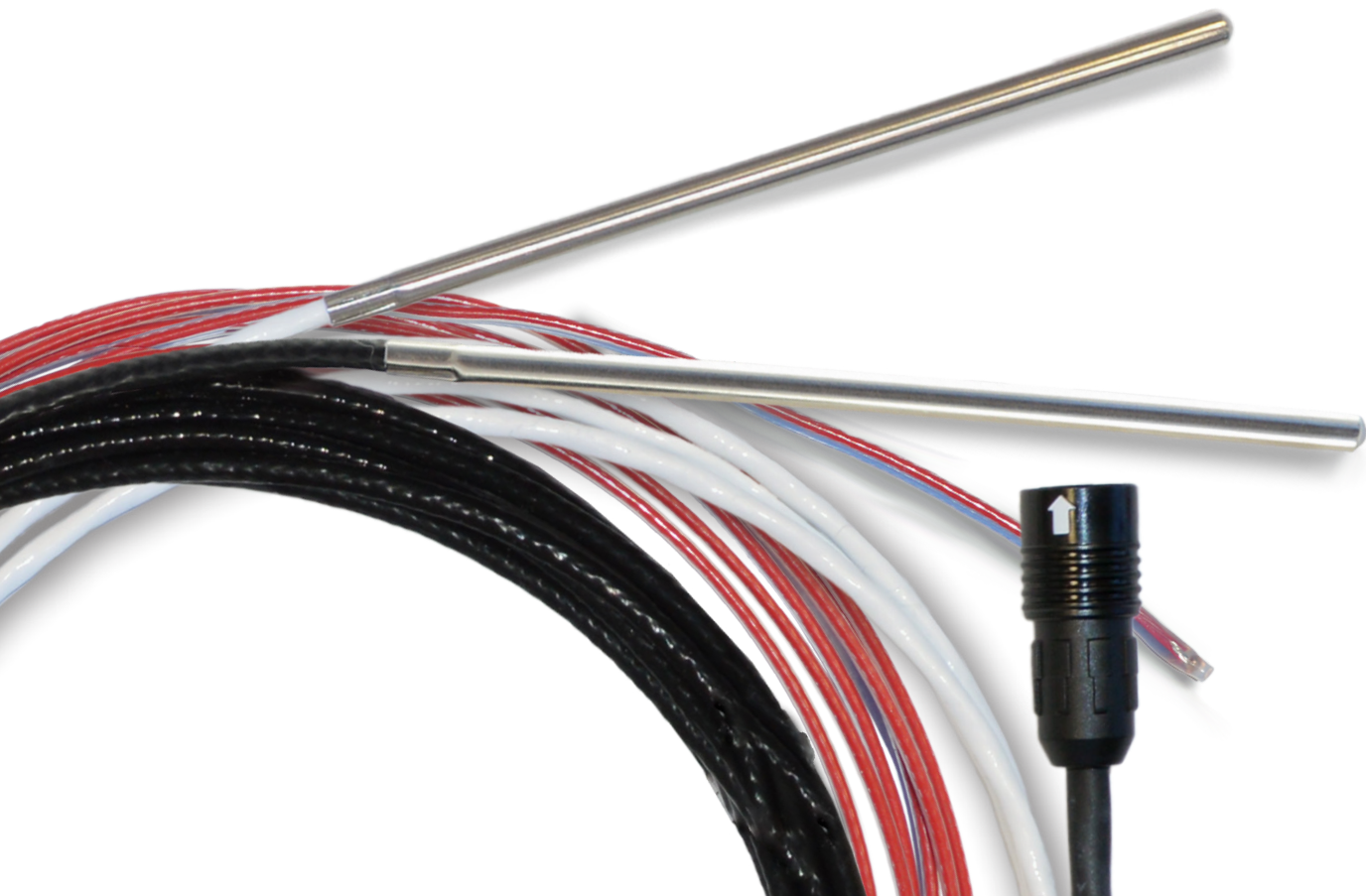
Humidity



Carbon
Dioxide



Airflow



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RoHS



Version 13 - EC210111

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Sensor Options

		Probe Family											
		Thermistor	PT100	Thermocouple		RH/T		CO ₂		Airflow	Door	Differential Pressure	Additional Leads
Product family	Unit Type	IN-TH	IN-PT	J043	J044	IN-HUM	IN-HUM2	IN-CO2	IN-CO2-2000	IN-AF	IN-DC	J266	IN-LSC
IN-TH	External thermistor	✓											
IN-THD	External thermistor + door	✓									✓		
IN-TT	Thermocouple			✓	✓								
IN-TTD	Thermocouple + door			✓	✓						✓		
IN-PT	PT100		✓										
IN-PTD	PT100 + door		✓								✓		
IN-RH	RH/T					✓	✓						
IN-VT001	0-1V							✓					✓
IN-VT002	0-5V							✓		✓			✓
IN-VT003	0-10V							✓					✓
IN-MA001	4-20mA								✓				✓
IN-DP-62	Differential Pressure											✓	
Hanwell Lite:													
IN-WT	External thermistor (+ door *)	✓									✓		

* If door variant

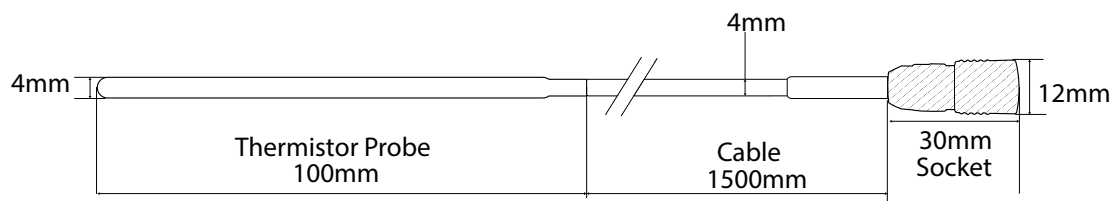
System Accuracy and Range

Note: Accuracies and Measuring Ranges quoted in this Datasheet relate to the **Probes** only.

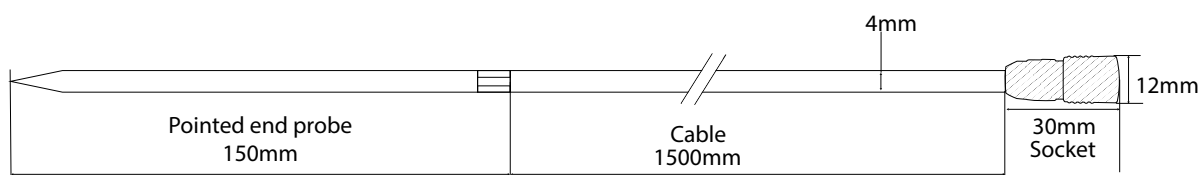
- To calculate **System Accuracy**, add the **Probe Accuracy** to the **Instrument Accuracy** (e.g Transmitter Accuracy).
- The **System Measuring Range**, will be the lesser of the **Instrument** and **Probe** Measuring Ranges.

IN-TH Thermistor Probes

Standard	Part codes	Specifications
Non-waterproof		Probe diameter 4mm
1.5 metre cable	IN-TH150	Probe operating range -40°C to +100°C
3 metre cable	IN-TH300	Accuracy +/- 0.5°C
Waterproof		Long term drift < 0.1°C per year
1.5 metre cable	IN-TH150-WP	IP rating IP68 (Waterproof version only)
3 metre cable	IN-TH300-WP	



Pointed	Part codes	Specifications
Non-waterproof		Probe diameter 4mm (pointed end)
1.5 metre cable	IN-TH150-P	Probe operating range -40°C to +100°C
Waterproof		Accuracy +/- 0.5°C
1.5 metre cable	IN-TH150-P-WP	Long term drift < 0.1°C per year
		IP rating IP68 (Waterproof version only)

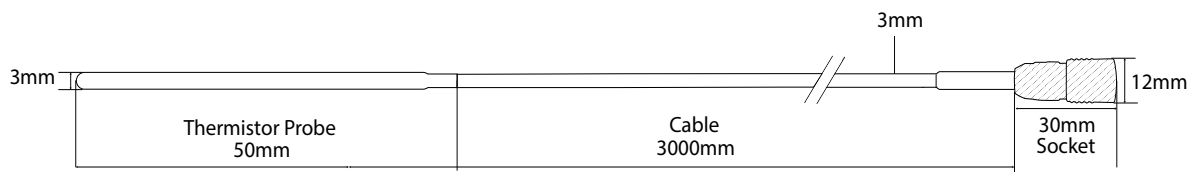


IN-TH Thermistor Probes cont'd

Thin	Part codes	Specifications	
Non-waterproof		Probe diameter	3mm
3 metre cable	IN-TH300-3	Probe operating range	-40°C to +100°C
Waterproof		Accuracy	+/- 0.5°C
3 metre cable	IN-TH300-3-WP	Long term drift	< 0.1°C per year
		IP rating	IP68 (Waterproof version only)

*additional lengths available upon request.

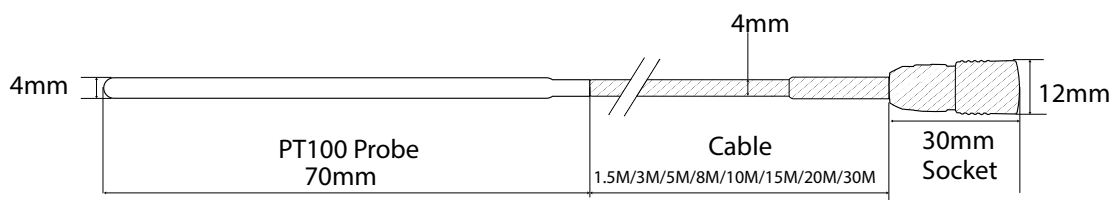
(Thin probe and cable for easy routing around fridge/freezer door seals)



PT100 Probes

IN-PT14XX	Part codes	Specifications	
Non-waterproof		Type Class A	Flat film
1.5 metre cable	IN-PT141.5	Probe diameter	4mm
3 metre cable	IN-PT143	Probe operating range	-90°C to +200°C
5 metre cable	IN-PT145	Accuracy -50°C to +250°C	+/- (0.15+0.002* t)°C
8 metre cable	IN-PT148	Accuracy Below -50°C	+/- (0.3+0.005* t)°C
10 metre cable	IN-PT1410	Long term drift	< 0.1°C per year *dependent on conditions of use
15 metre cable	IN-PT1415	IP Rating	IP68 (Waterproof version only)
20 metre cable	IN-PT1420		
30 metre cable	IN-PT1430		
Waterproof			
1.5 metre cable	IN-PT141.5-WP		
3 metre cable	IN-PT143-WP		
5 metre cable	IN-PT145-WP		

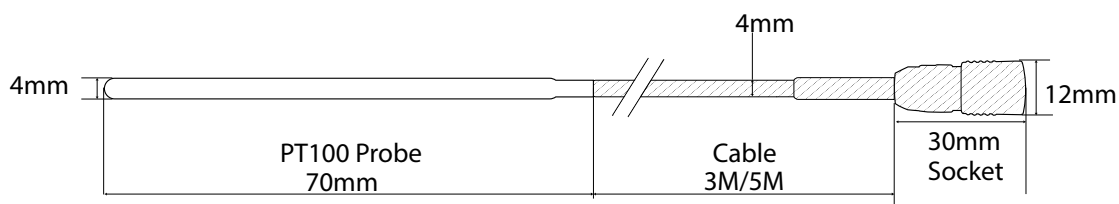
Additional lengths available upon request.



PT100 Probes cont'd

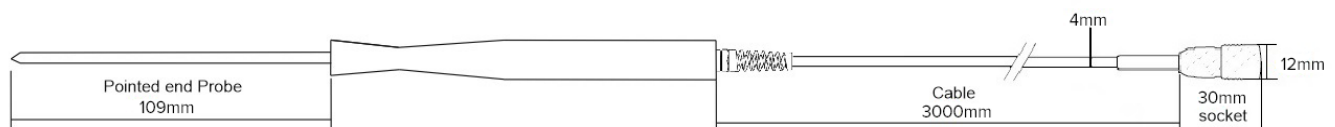
IN-PT143/5	Part codes	Specifications
Non-waterproof		Type Class A Wire wound
3 metre cable	IN-PT143-CAL	Probe diameter 4mm
5 metre cable	IN-PT145-CAL	Probe operating range -200°C to +250°C
Waterproof		Accuracy -100°C to +250°C $\pm(0.15+0.002 \cdot t)^{\circ}\text{C}$
3 metre cable	IN-PT143-CAL-WP	Accuracy Below -100°C $\pm(0.3+0.005 \cdot t)^{\circ}\text{C}$
5 metre cable	IN-PT145-CAL-WP	Long term drift < 0.05°C per year *dependent on conditions of use
		IP Rating IP68 (Waterproof version only)

Additional lengths available upon request.



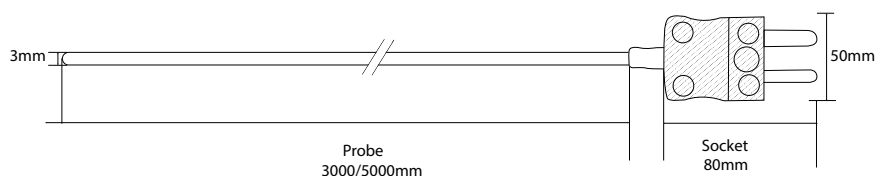
Note: Not suitable for measuring cryogenic liquids such as Liquid Nitrogen (LN2)

IN-PT100-WP	Part codes	Specifications
Stabbing probe	IN-PT100-WP	Type Class A Flat film
		Probe diameter 4mm
		Probe operating range -90°C to +200°C
		Accuracy -50°C to +250°C $\pm(0.15+0.002 \cdot t)^{\circ}\text{C}$
		Accuracy Below -50°C $\pm(0.3+0.005 \cdot t)^{\circ}\text{C}$
		Long term drift < 0.1°C per year *dependent on conditions of use
		IP Rating IP68 (Waterproof version only)

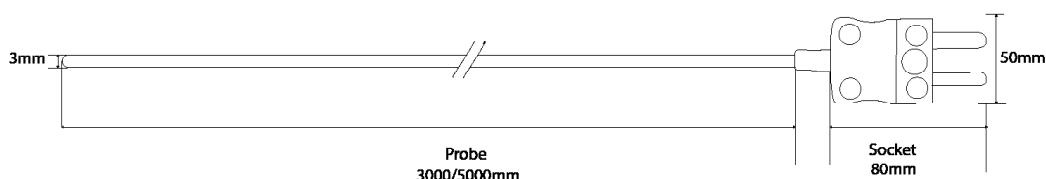


J043/J044 Thermocouple Probes

J043 - Teflon Coated	Part Codes	Specifications
3 metre cable	J043-3-09	Type
5 metre cable	J043-5-09	Ultra precision Teflon coated Type T (Thermocouple junction is isolated from sheath)
		Probe diameter
		3mm
		Probe operating range
		-200°C to +200°C
		Accuracy
		BS EN 60584 - 1:2013 Class 1 +/- 0.5°C or +/-0.4%, (whichever is greater) above -40°C
		Below -40°C +/-1 or 1.5% of reading
		Long term drift
		< 0.1°C per year

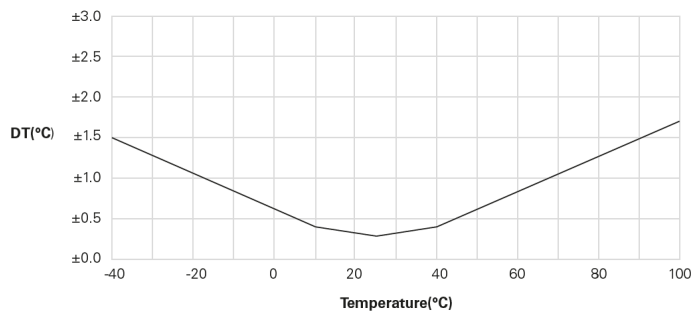
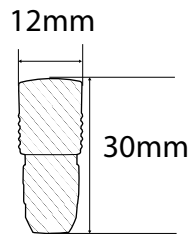


J044 - Mineral Coated	Part Codes	Specifications
3 metre cable	J044-3-09	Type
5 metre cable	J044-5-09	Mineral insulated Type T (Thermocouple junction is isolated)
		Probe diameter
		3mm
		Probe operating range
		-200°C to +300°C
		Accuracy
		BS EN 60584 - 1:2013 Class 1 +/- 0.5°C or +/-0.4%, (whichever is greater) above -40°C
		Below -40°C +/-1 or 1.5% of reading
		Long term drift
		< 0.1°C per year



RH/T Probe

IN-HUM	Part codes
	IN-HUM



Humidity Probe details

Recommended range 0-100% RH non condensing

Accuracy +/- 3% RH

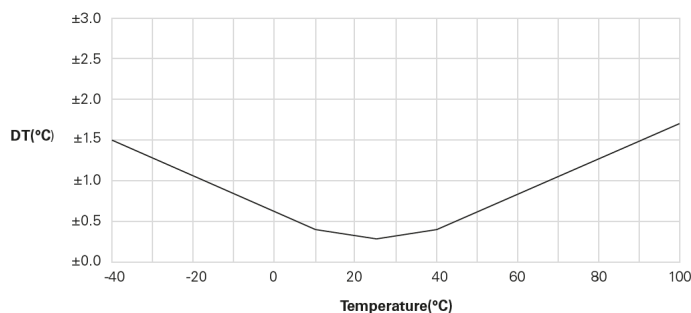
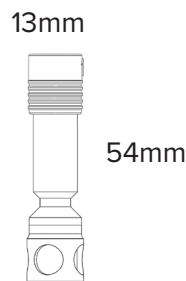
Temperature Sensor details (Band gap internal with RH)

Temperature operating range -30°C to +50°C

Accuracy See chart

Extension cables	Part codes	Specifications
1.5 metre cable	IN-EXT150	Temperature Operating range -25°C to +85°C

IN-HUM-V2	Part codes
	IN-HUM-V2



Humidity Probe details

Recommended range 0-100% RH non condensing

Accuracy +/- 3% RH

Temperature Sensor details (Band gap internal with RH)

Temperature operating range -30°C to +50°C

Accuracy See chart

IN-HUM V2 Probe Compatibility - IN-RH001F1/ IN-RH001F2

Serial Numbers 00-01-66-04 and upwards ie:

00-01-66-04

00-01-66-05 through 00-01-66-99

00-01-67-00 through 00-01-99-99

00-02-00-00 onwards

Extension cables	Part codes	Specifications
1.5 metre cable	IN-EXT150	Temperature Operating range -25°C to +85°C

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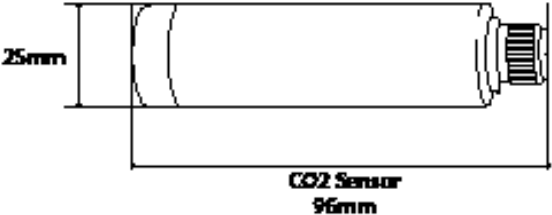
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IN-CO2 CO₂ Sensors

External	Part codes	
(0-5% CO ₂)	IN-CO2-5	Operating Temperature of CO ₂ Measurement -40°C to +60°C
(0-10% CO ₂)	IN-CO2-10	Accuracy @25°C and 1013 PA ±0.1% CO ₂
		Temperature Dependence with Compensation, 0 to 20% CO ₂ between -40°C and +60°C ±0.045% of reading/°C
		Long term drift +/- 0.3% CO ₂ per year
		Housing PET plastic
		Cable 1.5 metre
		Output 0-5VDC

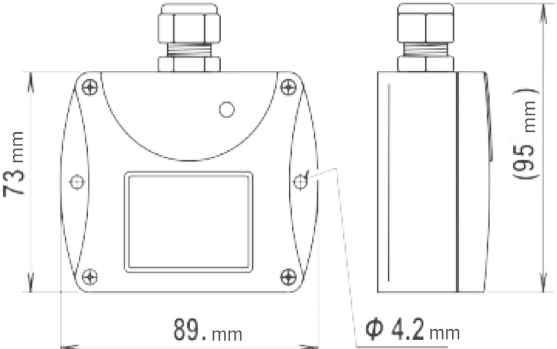


25mm

CO₂ Sensor 96mm

Recommended Installation: The probe can be installed in an environment with an operating temperature range -40 °C to +60 °C. Make sure the probe is in a location that represents the measurement environment properly.

Concentration	Part codes	
	IN-CO2-2000	Operating Temperature of CO ₂ Measurement -30°C to +60°C
		Measuring range 0 to 2000ppm
		Accuracy ±50ppm +2% of measured value
		Temperature Dependence -20°C to +45°C typ. 2ppm CO ₂ / °C
		Analog output 4-20mA
		IP Rating of housing IP30
		Cable 3 metre



73 mm

89.1 mm

95 mm

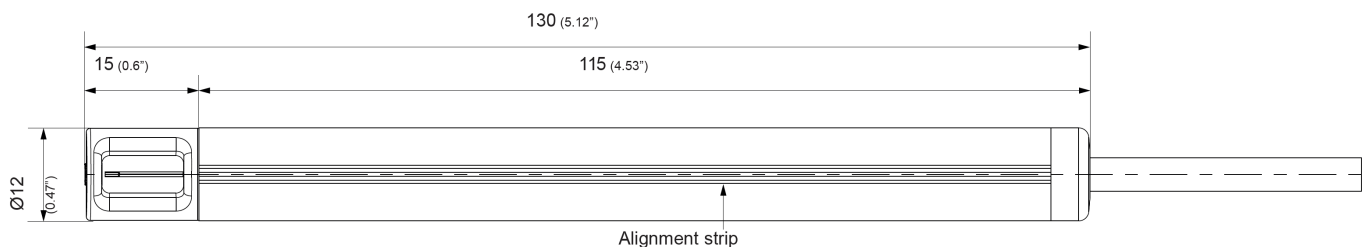
Ø 4.2 mm

Airflow Sensors

0-5M/S	Part codes	Specifications
	IN-AF05MS	
		Probe operating range 0-5m/s (0... 1000ft/min)
		Analogue Output 0-5V
		Working range temperature -20°C to +60°C
		Storage temperature -30°C to +60°C
		Working range 0-5m/s (0... 1000ft/min)
		Accuracy $\pm(0.2\text{m/s} / 40\text{ft/min} + 3\% \text{ of measuring value})$
		Cable length 2 metres
		Power supply 12V via external universal power supply

0-10M/S	Part codes	Specifications
	IN-AF010MS	
		Probe operating range 0-10m/s (0...2000ft/min)
		Analogue Output 0-5V
		Working range temperature -20°C to +60°C
		Storage temperature -30°C to +60°C
		Working range 0-10m/s (0...2000ft/min)
		Accuracy $\pm(0.3\text{m/s} / 60\text{ft/min} + 4\% \text{ of measuring value})$
		Cable length 2 metres
		Power Supply 12V via external universal power supply

0-20M/S	Part codes	Specifications
	IN-AF020MS	
		Probe operating range 0-20m/s (0...4000ft/min)
		Analogue Output 0-5V
		Working range temperature -20°C to +60°C
		Storage temperature -30°C to +60°C
		Working range 0-20m/s (0...4000ft/min)
		Accuracy $\pm(0.4\text{m/s} / 80\text{ft/min} + 6\% \text{ of measuring value})$
		Cable length 2 metres
		Power supply 12V via external universal power supply



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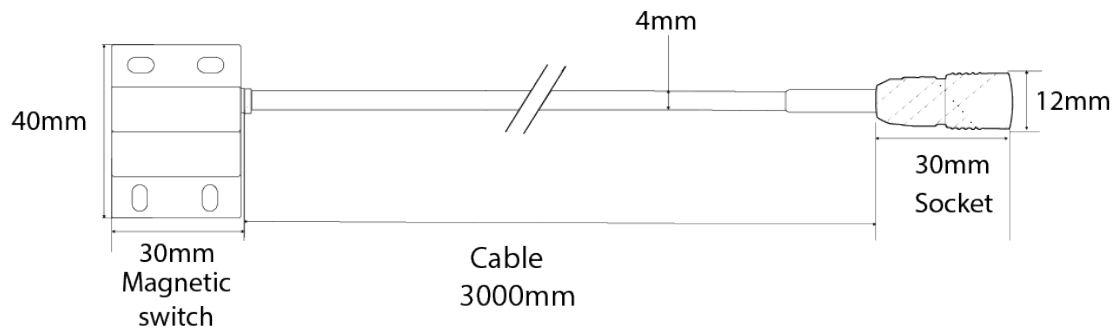
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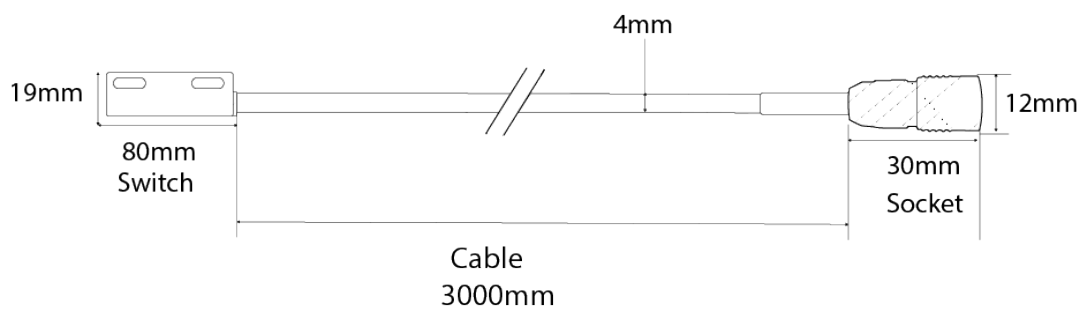
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IN-DC Door Sensors

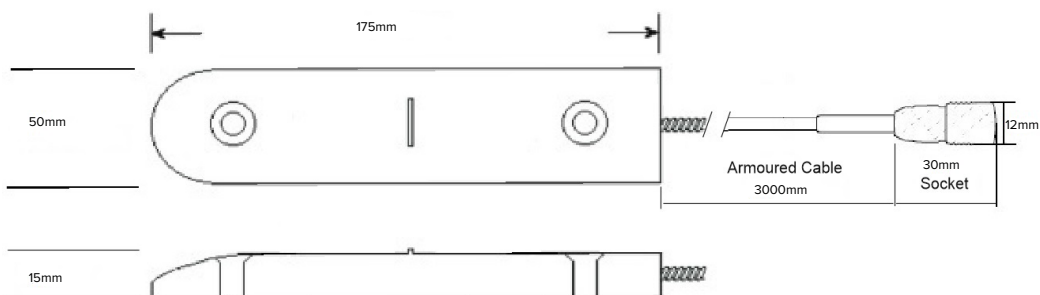
IN-DC001 (Light weight Door switch)	Part codes	Specifications
	IN-DC001	Cable length 3 metre cable



IN-DC002 (Medium duty Door switch with Hirose)	Part codes	Specifications
	IN-DC002	Cable length 3 metre cable

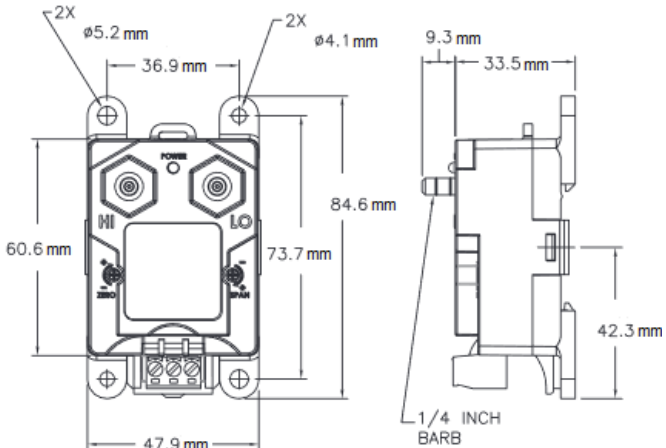


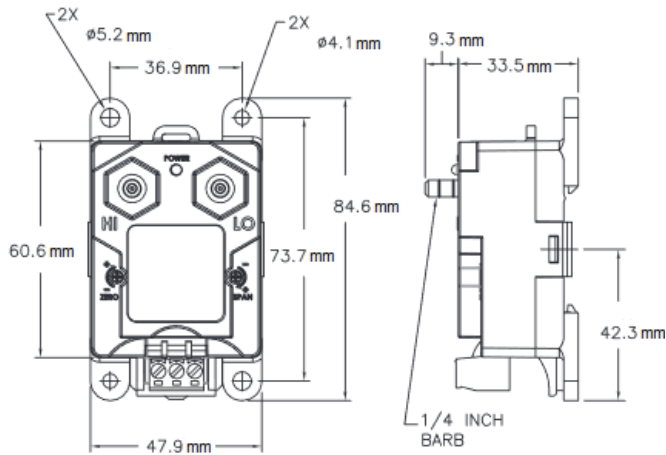
IN-DC003 (Industrial Door events sensor)	Part codes	Specifications
	IN-DC003	Cable length 3 metre cable



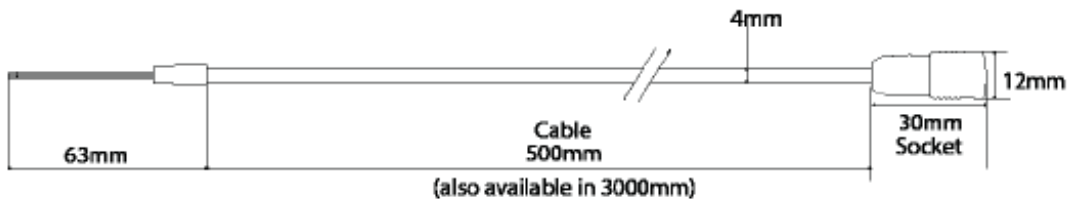
Extension cables	Part codes	Specifications
	IN-DSC-3.0	Temperature Operating Range -20°C to +70°C

IN-DP-62

External	Part codes	Specifications
±0.25 IWC	J266	
 <p>The technical drawing shows two views of the J266 sensor. The front view (left) is a square device with a central display area. It has four mounting holes at the corners, each with a diameter of 5.2 mm. The distance between the centers of the top two mounting holes is 36.9 mm. The overall width is 60.6 mm and the height is 84.6 mm. The bottom edge has a width of 47.9 mm. The side view (right) shows the sensor's profile, with a total height of 42.3 mm. A 1/4 inch barbed cable is attached to the bottom. The distance from the top of the sensor to the base of the cable is 33.5 mm. The cable itself has a diameter of 4.1 mm. The sensor is labeled with 'HI', 'LO', 'ZERO', and 'SPAN' on the front face, and 'POWER' on the top face.</p>		
		Operating Voltage12 - 36 VDC
		Operating Temperature0 to 160°F (-18 to 71°C)
		Storage Temperature-40 to 180°F (-40 to 82°C)
		Humidity10 to 95% R.H., non-condensing
		StabilityLess than m0.25% full range / year
		Accuracy±1% maximum. Includes non-linearity, hysteresis, nonrepeatability, zero offset and span setting errors.
		Response Time250 msec
		Proof Pressure15 psig
		Burst Pressure25 psig
		Cable length0.5 metre



Cable options available	Part codes	Specifications		
	X253	<table><tr><td>Cable length</td><td>3 metre cable</td></tr></table>	Cable length	3 metre cable
Cable length	3 metre cable			



Additional Leads

IN-LSC1

IN-LSC1	Part codes	Specifications
5 metre cable	IN-LSC-0.5	Lead that can be used to attach linear sensors to the IceSpy range
3 metre cable	IN-LSC-3.0	



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