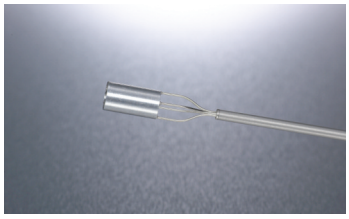
LumaSense™ TECHNOLOGIES

Air Temperature Transducer – INNOVA MM0034



Uses:

- Measures actual air temperature
- Provides input for thermal comfort evaluations

Features:

- Measurements are stable and accurate
- Robust design
- Reacts quickly to temperature changes
- Shielding against thermal radiation
- Complies with ISO7726
- Uses extension cables without loss of accuracy

Introduction

The MM0034 measures the air temperature with minimal thermal radiation interference from hot or cold objects.

Air temperature is one of the six parameters required to evaluate the thermal environment, according to ISO7730.

The measurement principle provides accurate measurement results, which are both stable and traceable.

The transducer can be used with the following instruments: Thermal Comfort Data Logger - INNOVA 1221, Multipoint Sampler and Doser – INNOVA 1303 and Multipoint Sampler – INNOVA 1309.

Transducer Design

To provide stable and accurate results requires a stable transducer and signal processing system. To fulfil this, a Pt100 resistor sensor is used in this transducer.

The sensor is surrounded by an open ended aluminium-foil cylinder. This is highly polished to reduce the thermal radiation interference from any hot or cold bodies in close proximity to the transducer. The cylinder, with its open ends, enables a free flow of air to come in contact with the sensor.

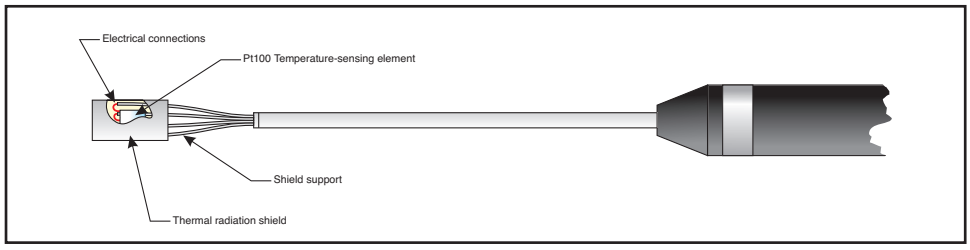
By choosing a Pt100 sensor and a 4-wire connection, it is possible to connect the transducer via an extension cable without a loss of accuracy.

Pt100 Sensor

This is a resistor sensor (resistance of 100Ω at 0˚C) made of platinum, which provides excellent stability and accuracy.

The actual sensors chosen for this transducer provide results within a narrow tolerance range. This enables the transducer to be moved around and connected to other instruments without requiring any pre-measurement adjustments to be made.

Although the transducer will operate without ever requiring recalibration, it should be checked regularly for possible physical damage, which may impair its functionality.



Specifications – INNOVA MM0034

AIR TEMPERATURE TRANSDUCER:

Measurement Range:
–20 to 50˚C (–4 to 122˚F)

Response Time:
20s to 50% of step change, 50s to 90% in still air

Accuracy:
5 to 40˚C range: ±0.2˚C
(41 to 104˚F range: ±0.4˚F)
–20 to 50˚C range: ±0.5˚C
(–4 to 122˚F range: ±0.9˚F)

Electrical Output:
A Pt100 signal in a 4-wire connection

Integral Connection Cable:
Length 2.5m; connected to associated equipment via a 4-pin DIN plug JP0404

WEIGHT:
Approx. 125g (including cable)

DIMENSIONS:
Length: 240mm

CE	**COMPLIANCE WITH STANDARDS** CE-mark indicates compliance with EMC Directive and Low Voltage Directive.
Safety	EN 61010-1 (1993) & IEC 1010-1 (1990): Safety requirements for electrical equipment for measurement, control and laboratory use.
EMC Emission	EN 50081-1 (1992) : Generic emission standard. Part 1: Residential, commercial and light industry. EN 50081-2 (1993): Generic emission standard. Part 2: Industrial environment. CISPR 22 (1993): Limits and methods of radio disturbance characteristics of information technology equipment. Class B Limits. FCC Class B limits.
EMC Immunity	EN 50082-1 (1992): Generic immunity standard. Part 1: Residential, commercial and light industry. EN 50082-2 (1995): Generic immunity standard. Part 2: Industrial environment. **Note:** The above is guaranteed using accessories listed in this Product Data sheet only.
Temperature	IEC 68-2-1 & IEC 68-2-2: Environmental Testing. Cold and Dry Heat. Operating Temperature: 5 to 40°C (41 to 104°F) Storage Temperature: -25 to +70°C (-13 to 158°F)
Humidity	IEC 68-2-3: 90% RH (non-condensing at 40°C).
Mechanical	IEC 68-2-6: Vibration: 0.3 mm, 20m/s², 10-500 Hz. IEC 68-2-27: Shock: 1000 m/s². IEC 68-2-29: Bump: 1000 bumps at 250m/s².

Ordering Information

MM0034 Air Temperature Transducer

Optional Accessories

1221	Thermal Comfort Data Logger
1303	Multipoint Sampler and Doser
1309	Multipoint Sampler
DH0492	Tripod Mounting Adaptor for 3 Transducers
UA1347	Tripod Mounting Adaptor for 4 Transducers
KE0357	Transducer Carrying Case
UA0803	Tripod
UA1348	Tripod Extension Rods (3)
UA0588	Transducer Mounting Adaptor
WL0690	Extension Cable (std. length 6m)
WL0690/y	Extension Cable (definable length up to 100m; y is length in meters)

LumaSense Technologies reserves the right to change specifications and accessories without notice.

LUMASENSE™ TECHNOLOGIES

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