

# Honeywell

## C7355B In-Duct IAQ Monitor

### IN-DUCT AIR MONITORING FOR COMMERCIAL BUILDINGS

#### SPECIFICATION DATA

#### DISCLAIMER

All images used in this document are for illustrative purposes only and may not match the actual product.



#### APPLICATION

This monitor is an advanced, configurable device for commercial buildings. It monitors PM2.5/PM10, CO<sub>2</sub>, TVOC, temperature and relative humidity. This device communicates using the Modbus protocol over RS-485 and easily integrates with the building management operation.

The built-in commercial grade, high-precision sensor module, supports long-term stable and reliable application.

#### FEATURES

- **The in-duct air quality monitor is specially designed for monitoring multiple air quality parameters in the outdoor or return air ducts.**
- **The built-in sensor module is designed with enclosed cast aluminum structure. It ensures stability and shielding from interference.**
- **Built-in regulated fan insures constant air volume and improves the stability and lifetime of the sensor.**
- **Special design of pitot tube adapts to a wider range of air speeds, allowing longer lifetime and reducing the need to change the air pump.**

- **Easy to clean filter mesh, can be cleaned and used many times.**
- **Temperature and humidity compensation reduces the impact of change in ambient environment.**
- **Real-time monitoring parameters: particles (PM2.5 and PM10), carbon dioxide (CO<sub>2</sub>), TVOC, air temperature and humidity.**
- **Isolated measurements of temperature and relative humidity in the air duct assures data accuracy.**
- **RS-485 Modbus communication interface.**

#### SPECIFICATIONS

##### General Data

**Part Number:** C7355B1052

**Detection Parameters:**

PM2.5/PM10, CO<sub>2</sub>, TVOC, Temperature & RH

**Power Supply:** 12–28 Vdc/18–27 Vac

**Power Consumption:**

Average: 1.65W

Maximum: 3W

**Output:** RS-485/RTU (Modbus)

**Applicable Air Speed in Duct:**

6.56–49.21 ft/s (2.0–15m/s)

**Operating Environment:**

4–140 °F (–20 °C–60 °C)

0–99% RH (No condensation)

**Storage Condition:**

32–122 °F (0 °C–50 °C)

10–60% RH

**Overall Dimension:**

7.09 in × 4.92 in × 2.58 in

(180 mm × 125 mm × 65.5 mm)

**Pitot Tube Length:** 9.45 in (240 mm)

**Net Weight:** 1.87 lb (850 g)

**Material of Shell:** PC material



31-00439-01

## CO<sub>2</sub> Data

**Sensor:** Non-Dispersive Infrared Detector (NDIR)

**Measuring Range:** 0–2000 ppm

**Output Resolution:** 1 ppm

**Accuracy:**

±50ppm + 3% of reading or ±75ppm (whichever is bigger)  
(77 °F [25 °C], 10%–80% RH) PM2.5/PM10 Data

## PM2.5/PM10 Data

**Sensor:** Laser particle sensor

**Measuring Range:**

PM2.5: 0–500 µg/m<sup>3</sup>  
PM10: 0–500 µg/m<sup>3</sup>

**Output values:**

Moving average/60 seconds,  
Moving average/1 hour,  
Moving average/24 hours

**Output Resolution:** 0.1 µg/m<sup>3</sup>

**Zero Point Stability:** <2.5 µg/m<sup>3</sup>

**PM2.5 Accuracy (mean per hour):**

<±5 µg/m<sup>3</sup> +10% reading (0–300 µg/m<sup>3</sup>  
@50 ~ 86 °F (10~30 °C), 10–60% RH)

## TVOC Data

**Sensor:** Metal oxide gas sensor

**Measuring Range:** 0–3.5 mg/m<sup>3</sup>

**Output Resolution:** 0.001 mg/m<sup>3</sup>

**Accuracy:**

<±0.05 mg/m<sup>3</sup> + 15% of reading (77 °F [25 °C], 10%–60% RH)

## Temperature and Humidity Data

**Sensor:**

Band gap material temperature sensor, capacitive humidity sensor

**Measuring Range:**

Temperature: 4–140 °F (-20–60 °C)  
Humidity: 0–99% RH

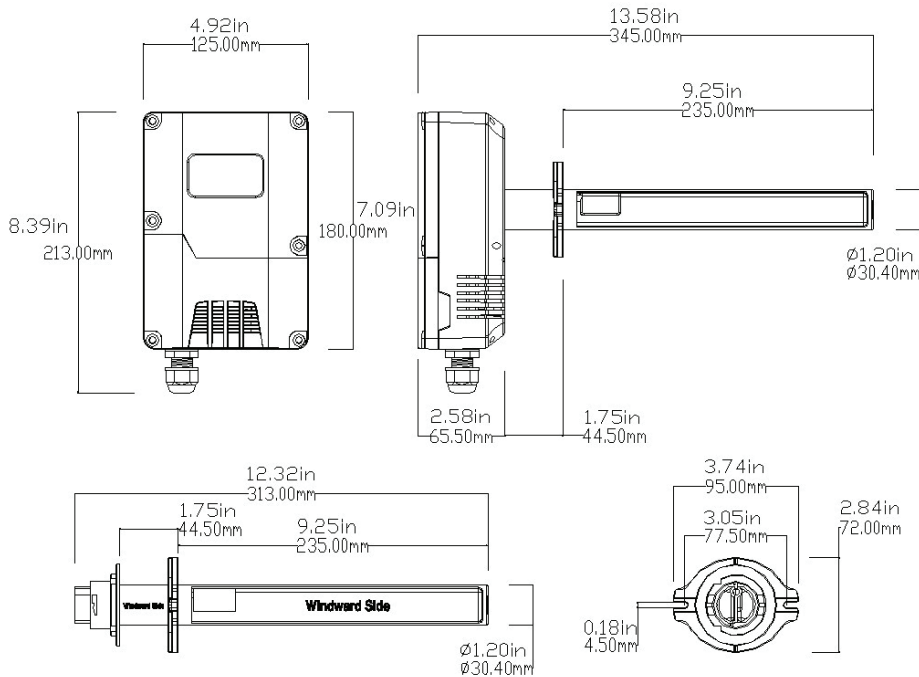
**Output Resolution:**

Temperature: 32.02 °F (0.01 °C)  
Humidity: 0.01% RH

**Accuracy:**

±0.5 °C, 3.5% RH (77 °F [25 °C], 10%–60% RH)

## Dimensions



**Fig. 1. Dimensions.**

## GENERAL SAFETY INFORMATION

- When performing any work (installation, mounting, start-up), all manufacturer instructions and in particular the Installation and Commissioning Instructions are to be observed.
- IAQ monitor may be installed and mounted only by authorized and trained personnel.
- Rules regarding electrostatic discharge should be followed.
- If IAQ monitor is modified in any way, except by the manufacturer, all warranties concerning operation and safety are invalidated.
- Use only accessory equipment which comes from or has been approved by Honeywell.
- It is recommended that devices be kept at room temperature for at least 24 hours before applying power. This is to allow any condensation resulting from low shipping/storage temperatures to evaporate.
- CE declarations according to LVD Directive 2014/35/EU and EMC Directive 2014/30/EU.
- Product standards are EN50581, EN61010-1 and EN61326-1.
- This monitor has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- This monitor complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- The monitor is Class B digital apparatus and complies with Canadian ICES-003.
- The monitor complies with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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