urban-gro®

Titan Omni Sensor

ARGUS CONTROLS®

The Titan Omni-Sensor is an aspirated module for in-zone climate monitoring. It combines temperature, humidity, PAR light, and optional CO2 monitoring (SEN-OSM/CO2) in a compact unit that can be suspended anywhere within a monitored or controlled zone. v3.0 Omni-Sensors are backwards compatible with v1 and v2 models.

Applications

The advanced electronics and instrumentation on board the Omni-Sensor make it suitable for a wide range of applications, including greenhouses, growth chambers, produce coolers, high humidity propagation houses and other clean ambient air sampling environments.

Use wherever combined temperature and humidity measurements are required. The integrated light sensor is suitable for confirmation of lighting and shade system operations as well as quantitative light measurement. The **SEN-OSM/CO2** includes an on-board CO2 sensor that can be used for both CO2 monitoring and control applications.

Note: Aspirated sensors are not suitable for environments containing a lot of fog or very fine mist. Fans and other electronic parts will be damaged from prolonged exposure to free water. In addition, moisture will accumulate in the air path affecting both humidity and temperature readings through local evaporation and evaporative cooling until the unit is completely dry again. Use non-aspirated versions of this sensor or other sensors for these special applications. For all other applications, aspiration improves response.

Alternative

Argus provides a wide selection of application-specific sensors and sensor enclosures for use with the Titan system. Other models of the Omni-Sensor include one for temperature-only monitoring (**SEN-OSM/T**) and one for temperature and humidity monitoring (**SEN-OSM/RHT**). Both are supplied without digital displays. Individual sensor options are also available for CO2, PAR light measurement, and many other environmental parameters. For special applications, customer specified sensors can also be connected. Please contact Argus for additional details.

Features

- A convenient **on-board display** shows the current values for all readings and accepts operator entered field calibration adjustments for the optional CO2 sensor (SEN-OSM-1.2/CO2 model).
- Connects to a Titan I/O Module using **simple, two-conductor shielded or unshielded cable.** This also provides an easy means of suspension for the sensor. Digital communications enable **long wiring runs up to 4000 feet.** Custom cable lengths can be specified.
- Requires only a single digital input on the I/O Module leaving all analog inputs free for other uses. Up to two Omni-Sensors can be connected to one I/O Module.
- High accuracy temperature and humidity measurements. A diagnostic self-test function is included for the humidity sensor.
- A **high-resolution integrated PAR light sensor** is included for measurement of the local light conditions at the sensor location. This is useful for confirming the operation of shade and blackout curtains as well as supplemental lighting equipment.
- **Compact, versatile construction.** The box cover can be rotated 180 degrees, so that the cable enters via the bottom of the unit. This accommodates wall or post mounting and eliminates any shading effect from the cable on the light sensor. A bracket for wall or post mounting is included.

Specifications

Dimension:

4.9" H x 3.3" W x 2.1" D

Power Requirements:

Power is provided by the connected I/O Module via the 2-wire connection.

Cabling:

Factory cable is provided separately. Standard lengths are 15', 30', and 60'. Custom lengths are also available. Cables can also be extended using 2-conductor non-shielded 18-24 AWG UV-resistant cable. A blue Omni-Sensor Input Protection Board is provided with each sensor and must be installed on the I/O Module input as shown. Wiring details are provided with each unit.

Display:

2 line, 16 characters reflective. 0 – 50 °C operating range.

Max Operating Range:

0 °C to +50 °C

Temperature Sensors:

- 2 solid-state digital sensors.
- **Accuracy:** <85%RH ± 0.2°C; >85%RH ± 0.3°C.
- **Range:** -10 to + 40 °C.

Humidity Sensors:

- **Range:** 10 -100 % non-condensing
- **Accuracy:** 10 - 20 %RH: +/- 4%; 20 - 85 %RH +/- 1.8 %; >85 %RH: +/- 4 %

Light Sensor:

PAR (Photosynthetically Active Radiation). Readings are in µmols. The sensor is calibrated to outdoor sunlight as aquantum light sensor. This sensor is intended for general use only.

CO_2 (SEN-OMNI/CO_2 only):

0-2000 ppm dual element NDIR (Non-Dispersive Infra-Red) sensor with an accuracy of +/- 100 ppm + 2 % of measuring value. Sensor is self-calibrating to compensate for aging of the sensor elements.

Wiring Details

Typical wiring example. For installation, refer to the supplied wiring diagrams and instructions.

The supplied Input Protection Board (Omni IPB) provides power for the Omni-Sensor and protection for the I/O Module.

Omni Sensor

Typical Wiring Connection
to Argus IO Module