GreenTrol Automation Inc.

GreenCount GC Series

GC-N100 Counter

Product Data

Thermal Imaging Occupancy Counter for Interior Doors

- ❑ Count the number of people passing through an interior door or opening
- ❑ Mount on top door jamb or stand-off from door with optional mounting bracket
- ❑ Bi-directional counting allows counters to be used on spaces with more than one door
- ❑ 5% or better counting accuracy typical
- ❑ Designed for single width interior doors
- ❑ RS-485 BACnet MS/TP or Modbus RTU network connection
- ❑ User defined auto-zero reset delay on inactivity feature minimizes long-term false counts
- ❑ No negative count feature for single entry spaces minimizes false counts at low population levels
- ❑ Requires 24 VAC power source

- √ Estimate occupant throughput
- √ Count occupants for outdoor air ventilation reset
- √ Demonstrate compliance with ASHRAE Standards 62.1, 90.1 and 189.1
- √ Save energy

The GC-N100 occupancy counter measures the number of people that pass through an opening, such as a doorway. The RS-485 BACnet/Modbus network connection allows it to interface seamlessly with building automation systems and application controllers that have network capability.

The GC-N100 is ideal for population based DCV applications and is designed to work with all GreenTrol outdoor air controllers. It is also ideal for general counting applications that require the analysis of occupant movement and activity (retail, mixed use spaces, etc.). Bi-directional counting allows multiple counters to be used on a single space.

The GC-N100 uses two thermopiles to detect the thermal signature of people passing through an opening or door in real-time. The counter looks for changes between the ambient and objects in the detection cone immediately below the sensor. A unique algorithm detects occupant throughput as “half” counts. As a result, the counter can accurately measure people passing under and opening or closing door. It can also detect stoppage under the door and a change in direction. In most cases, it can even detect a person passing by an individual stopped under the door.

Application Comments:

The counter was designed for applications with 10 or more people in a space. It is nearly flawless in counting people passing through a fixed opening or door frame without a door. The counter may be affected by door closers. The counter can be applied on double doors but may provide false counts if two or more people pass through the opening side by side at the same time. It may provide a false measurement if a person stops under the sensor for an extended period of time or waves their arms in an effort to false the device. False reading may result on exterior door installation (inside) and is therefore not recommended.

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GC-N100 Technical Specifications

Functionality

Occupancy Counting: Provides an RS-485 BACnet or Modbus network value for the number of people passing under the counter

User Interface

Baud Rate, Protocol and Direction: DIP switch
Addressing: DIP switch
End of Line Termination: 2-posiiton switch
Important: Modification of the factory default addressing requires that power is cycled to the device. It is recommended that each device is bench configured prior to installation OR settings are provided at the time of order so that the device can be factory configured prior to shipment.

Occupancy Counting Sensor

Sensors: Two thermopile sensors
Mounting
Standard: Install on the non-swing side of the overhead door jamb
Optional: Install above the door frame of either side of the door above with the optional standoff bracket
Accuracy: ±5% or 3 people, whichever is greater
Recommended Maximums for Specified Accuracy
Opening: 42 in. [1.07 m]
Height: 96 in. [2.43 m]

Network Connection

N1
Type: Non-isolated MS/TP BACnet master or Modbus RTU connection (provide an RS-485 network isolator if isolation is required)
B.A.S. Object Read/Write Access: Yes
Device Load: 1/8 load
Supported Baud Rates: 9.6, 19.2, 38.4 and 76.8 kbaud

Environmental Limits & Power Requirements

Environmental Limits
Recommended Temperature: 65 to 85 ºF [18.3 to 29.4 ºC]
Humidity: 5 to 95%
Power Requirement: 24 VAC (22.8 to 26.4 under load) @1.5V-A