



SMART IAQ™

SI-40-N

DESCRIPTION

The simply elegant design of the SI-40-N sets a new standard in aesthetics and functionality to provide superior accuracy and performance, SAP, for the sensing and control of temperature, humidity, CO2 and VOC. The aesthetic integrity of a building no longer has to be compromised to deliver optimum comfort and performance. Architects and designers can now work in harmony with engineers and contractors.

High performance cost effective sensing and control capabilities have been designed into the SI-40-N to provide an integrated solution for indoor air quality management. The display is configurable for sensor values. Viewable sensor data is available for minimum, maximum and average values on all sensors over a 24-hour period. Optimum user functionality has been built into every SI-40-N to provide extensive information while implementing user-friendly displays for intuitive straight-forward operation.

Analog voltage outputs provide access to humidity, CO2 and VOC conditions and direct connection to an on board thermistor for temperature provide the necessary sensing to the input of remote devices.

The output relays functionality can be configured for alarming of Temperature, Humidity, CO2 (default) and VOC conditions. In addition, Humidification and De-Humidification functionality can be selected for the output relays.

FEATURES

- **Simple Elegance™ architectural styling**
- **Superior Accuracy & Performance SAP™**
 - Temperature
 - Humidity
 - CO2
 - VOC
- **LCD Display**
Top Line: 8 Character Alphanumeric
Bottom Line: 4-digit
- **Discreetly Concealed 4 push-buttons with programmable functionality**
- **Field Configurable Programmable Comfort Adjustment Range, Sensor Display Data, Relay Outputs, Alarming, Humidification and De-Humidification**
- **24-Hour Interval Minimum, Maximum and Average Sensor Data**
- **Override Push-Button with Independent Output Contact**
- **Configurable Relay Output Functionality**
- **0-10 or 0-5Vdc Analog Output Humidity, CO2, VOC**
- **Direct 10K Type II Thermistor Output**
- **2 Year Limited Warranty**

SELECTION GUIDE

Si-40- **N** -

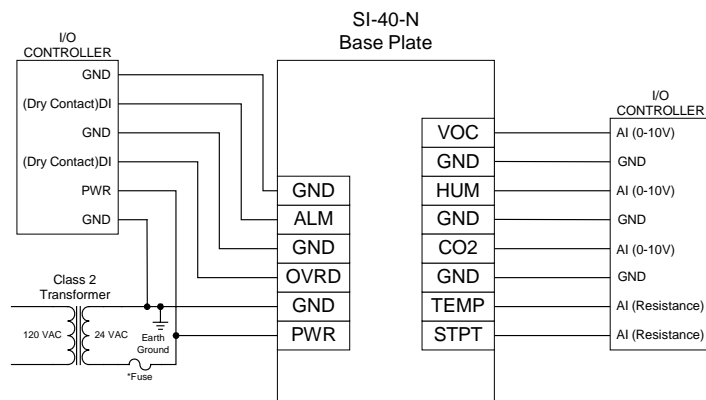
On Board Sensors

- TH** - Temperature, Humidity
- TC** - Temperature, CO2
- THC** - Temperature, Humidity, CO2
- THCV** - Temperature, Humidity, CO2, VOC

Network Communication

N - None

EXAMPLE WIRING DIAGRAM



IMPORTANT WIRING INFORMATION

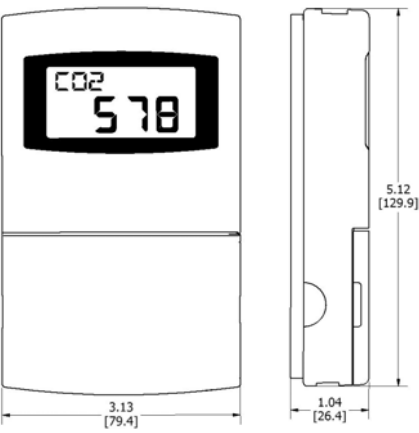
This diagram is an example of device connections and no reference to an application is being provided.

Secondary of Class 2 Transformer should always be earth grounded to provide reliable communication and sensor readings.

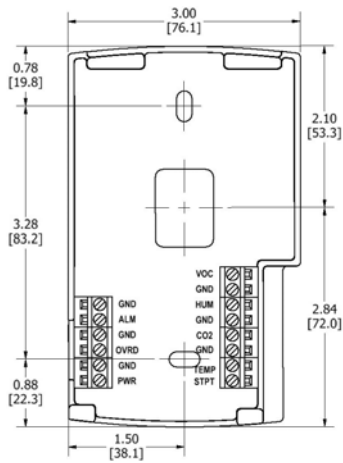
*External fuse not supplied. Size fuse according to application load and not to exceed 5 Amps.

Power wires should always be located away from signal wires.

All ground (GND) are common and electrically the same. Polarity must be observed and maintained.



Inches
(Millimeters)



SPECIFICATIONS

Network Communication

None

Power

Nominal Input Voltage: 24 VAC/VDC
 Input Voltage Range: 19.2-28.8 VAC
 21-28 VDC
 Typical Consumption: 4 VA
 Maximum Consumption: 6 VA

Environmental

Operating Temperature: -0 °C to +50 °C,
 32 °F to 122 °F
 Storage Temperature: -20 °C to 70 °C,
 -4 °F to 158 °F

Temperature

Display Range: 0 to 50 °C (32 to 122 °F)
 Resolution: 0.1 degree

Temperature Sensor: Onboard Thermistor, 10K Type II
 Accuracy: ±0.20 °C, ±0.36 °F

Humidity

Display Range: 0.0 to 100.0 Percent
 Accuracy: ±2% RH (10 to 90%)

Humidity Analog Output: 0-10 VDC (default), 0-5 VDC
 Resolution: 12 Bit
 Accuracy: ±1%FS (25°C, 77°F)
 Protection Circuitry: ESD

CO2

Display Range: 0 to 2000ppm
 Sensor: Non-Dispersive Infrared (NDIR)
 Accuracy: ±30ppm ±2% of measured value
 (at nominal temperature & pressure)
 Repeatability: ±20ppm ±1% of measured value

CO2 Analog Output: 0-10 VDC (default), 0-5 VDC
 Resolution: 12 Bit
 Accuracy: ±1%FS (25°C, 77°F)
 Protection Circuitry: ESD

VOC

Display Range: 0 to 1000
 Sensor: Metal Oxide Semiconductor

VOC Analog Output: 0-10 VDC(default), 0-5 VDC
 Resolution: 12 Bit
 Accuracy: ±1% FS (25°C, 77°F)
 Protection Circuitry: ESD

Output – Set Point Adjust

Resistance Range: 0 – 10K ohms
 Resolution: 256 bits over resistance range
 Adjustment Range (Digital): 0 to ±10 (default ±3)
 over resistance range

Output – Override Push Button

Digital Output: Relay (Normally Open Contact)
 Rating: 1A @ 24 V AC/DC

Output – Alarm

Digital Output: Relay (Normally Open Contact)
 Rating: 1A @ 24 V AC/DC

Enclosure

Dimensions: L 5.14" x W 3.13" x H 1.04"
 (130.6 x 79.5 x 26.4 mm)
 Material: ABS, UL 94-VO rated

Warranty

Period: 2 Years (Limited)

CONTACT



SMART CONTROLS

Office:
 10000 St. Clair Avenue
 Fairview Heights, IL 62208
 U.S.A.
 Phone: 618-394-0300
 Fax: 618-394-1575

E-mail:
sales@smartcontrols.com

Web site:
www.smartcontrols.com

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