Automated Logic Controls (ALC)

NEW!

with Equipment Touch Interface
The I/O Pro 812u Control module is a general use controller that can be easily customized to meet various sequence of operation needs. Capable of operating in a 100% stand-alone control mode, the I/O Pro 812u can connect to a Building Automation System (BAS) using BACnet®, Modbus, N2 or LonWorks protocols. The point mapping to these protocols can be pre-set, so that the protocol and baud rates desired can be easily field-selected without the need for additional downloads or technician assistance. The I/O Pro 812u provides ample input/output capacity on the base controller, plus support for an expander board if additional input/output capacity is needed.
The I/O Flex Ex8160 is an expander that can be connected to the I/O Pro 812u to increase the number of inputs and outputs. Expanders let your system grow as the size of the job increases.

**SPECIFICATIONS**

**POWER**
24 Vac ±10%, 50–60 Hz, 13 VA power consumption, 26 Vdc (25 V min, 30 V max), Single Class 2 source only, 100 VA or less.

**BINARY INPUTS**
Inputs 1 - 8 support pulse counting up to 10 Hertz, dry contact only

**UNIVERSAL INPUTS**
Inputs 9 - 16 are jumper-selectable between thermistor/dry contact and 0-5 Vdc

**INPUT RESOLUTION**
10 bit A/D

**INPUT PULSE FREQUENCY**
Maximum of 10 pulses per second. Minimum pulse width required for each pulse:
- ON to OFF time (half cycle) is 50 msec
- ON to OFF to ON time (full cycle) is 100 msec

**BINARY OUTPUTS**
8 outputs, relay contacts rated up to 5 A at 250 Vac, configured as dry contact, normally open

**OUTPUT RESOLUTION**
8 bit A/D

**PROTECTION**
Built-in surge and transient protection circuitry - internal solid state Polyswitches on the incoming power and network connections.

**STATUS INDICATORS**
LED’s indicate status of communications, running, errors, and outputs

**ENVIRONMENTAL OPERATING RANGE**
-20 to 140°F (-29 to 60°C), 10–90% relative humidity, noncondensing

**PHYSICAL**
Rugged aluminum housing, removable screw terminals with custom silk-screening available

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**EQUIPMENT TOUCH INTERFACE**

The Equipment Touch interface is designed as an equipment HMI diagnostic tool. Equipment Touch's color LCD touch screen display used to provide a graphic interface for the control of your equipment. Equipment Touch provides a set of “built-in” features/screens that provide the following:

- Schedule Interface – view and edit a BACnet schedule
- Access Control – limit access to data based on credentials
- Alarm Viewing – view the device’s alarm history buffer
- BACnet Object browser – of visible BACnet Objects
- Controller Status Screen - present device performance data
- Historical trending

**DESIGN FEATURES**

- Automatically uploads and stores custom screens from the base controller
- Build up custom screens and navigation with access to virtually any data point in the equipment
- Includes a library of interactive controls from the ViewBuilder tool
- Mounts on equipment or wall
- Real -time clock

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**SPECIFICATIONS**

**POWER**
24 Vac (±15%), 5 VA, 50-60 Hz, Class 2

**BACKLIT COLOR LCD DISPLAY**
4.3" resistive touchscreen color LCD display w/ backlighting

**OPERATING RANGE**
-4° to 140°F (-20°C to 60°C), 10%-90% RH non-condensing

**MEMORY**
- 16 MB Flash memory to store screen file
- 1.5 MB RAM to store variable data and LCD data
- 4 KB Serial EEPROM to store non-volatile configuration data

**LISTED BY**
UL-916 (PAZX), CE, FCC Part 15-Subpart B-Class A

**DIMENSIONS**
5⅞” x 4⅜” x 1⅞”
ZONE SENSOR

For use with the ALC controllers, a zone sensor provides precision measurement and communication capabilities in a low profile enclosure. A hidden communication port provides access to equipment for commissioning and maintenance.

DESIGN FEATURES

**ZS STANDARD**
- Temperature, CO2, humidity
- Addressable supports daisy-chaining
- Hidden communication port
- Dimensions: 3” x 4 13/16” x 13/16”

**ZS PRO**
- Temperature, CO2, humidity
- Addressable supports daisy-chaining
- Hidden communication port
- Occupancy status indicator
- Push-button occupancy override
- Setpoint adjust
- Large, easy-to-read LCD
- Alarm indicator
- Dimensions: 3” x 4 13/16” x 13/16”

SPECIFICATIONS

**POWER SUPPLY**
A controller supplies the Rnet sensor network with 12 Vdc @ 210mA. Additional power may be required for your application.

**COMMUNICATION**
115 kbps Rnet connection between sensor(s) and controller. 15 sensors max per Rnet network; 5 sensors max per control program.

**LOCAL ACCESS PORT**
For connecting a laptop computer to the local equipment for maintenance and commissioning.

**ENVIRONMENTAL OPERATING RANGE**
32° to 122° F (0° - 50° C), 10% to 90% relative humidity, non-condensing.

**MOUNTING**
Mounts on standard 2” x 4” electrical box.

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**SENSING ELEMENT TABLE**

<table>
<thead>
<tr>
<th>Sensing Element</th>
<th>Range</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>-4° to 122° F (-20° C to 50° C)</td>
<td>±0.35° F (0.2° C)</td>
</tr>
<tr>
<td>Humidity (on non-Humidity models)</td>
<td>10% to 90%</td>
<td>±1.8% typical</td>
</tr>
<tr>
<td>CO₂</td>
<td>400 to 1250 PPM 1250 to 2000 PPM</td>
<td>±30PPM or +/-3% of reading (greater of two) ±5% of reading plus 30 PPM</td>
</tr>
<tr>
<td>VOC</td>
<td>0 to 2,000 PPM</td>
<td>±100 PPM</td>
</tr>
</tbody>
</table>

**POWER REQUIREMENT TABLE**

<table>
<thead>
<tr>
<th>Power Requirements</th>
<th>Sensor Type</th>
<th>Power Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Only</td>
<td>All Models</td>
<td>12 Vdc @ 8 mA</td>
</tr>
<tr>
<td>Temperature with Humidity</td>
<td>All Models</td>
<td>12 Vdc @ 60 mA</td>
</tr>
<tr>
<td>Temp with VOC, or Temp/VOC/Humidity</td>
<td>All Models</td>
<td>12 Vdc @ 15 mA (idle) to 190 mA (CO₂ measurement cycle)</td>
</tr>
</tbody>
</table>

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