

# I/O Pro 812u - High Capacity Controller

The I/O Pro 812u is a general-use controller that you can easily customize to meet any sequence of operational needs. Fully capable of operating in a 100% stand-alone control mode, the I/O Pro 812u can connect to a Building Automation System (BAS) using any of today's four leading protocols: BACnet®, Modbus® RTU, N2, and LonWorks®. The point mapping to all of these protocols can be pre-set, so that the protocol and baud rates desired are easily field-selected without the need for any additional downloads or technician assistance. The I/O Pro 812u provides ample input/output capacity on the base controller, plus support for multiple expansion boards if additional I/O capacity is needed.

## Key Features and Benefits

### Communications:

- 3 - Configurable Communication Ports
  1. Port E1: 10/100 Base T Ethernet Port for BACnet or Modbus communication
  2. Port 1: EIA-485 Port for BACnet MS/TP or ARC156. Also configurable for Modbus or N2.
  3. Port 2a/2b: EIA-485 or EIA-232 This port allows integration with a Building Automation System (BAS). A dip switch is used to choose the active protocol between BACnet, Modbus RTU, N2, and LonWorks. (\*Note: LonWorks requires SLTA-10 or additional plug-in card for full support)
- 2 - Dedicated Communication Ports
  1. Rnet Sensor/Display Network and Local Access
  2. Xnet Point Expansion Network

### I/O Control:

- I/O point count: up to 140 I/O points by using up to 5 I/O Pro Ex816u expanders
- ON-OFF-AUTO switches and potentiometers for override of outputs during service and troubleshooting
- Jumper configurable universal inputs and outputs to minimize wasted points

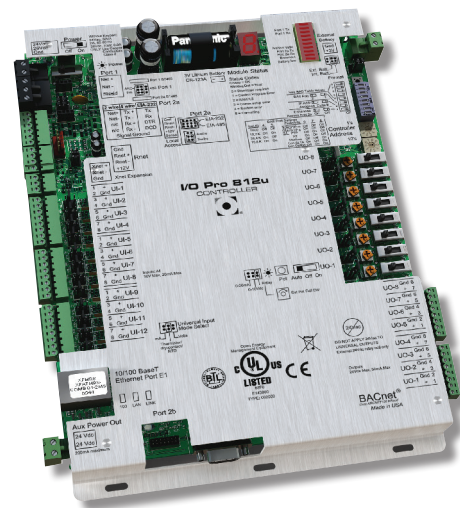
### Programmability / Servicability:

- Custom-programmable using our powerful EIKON® graphic programming tool. The EIKON tool allows you to create graphic control sequences for your application, which can be fully simulated off-line (with the EIKON simulation tool)
- Support for "Live Logic", the ultimate diagnostic tool allows for real-time troubleshooting of the control logic while the equipment is running
- Built-in support through an Rnet port for OEMCtrl's custom-configurable keypad display units including the Equipment Touch 4.3" touchscreen, ZS intelligent communicating sensors, and for local laptop access

### Performance:

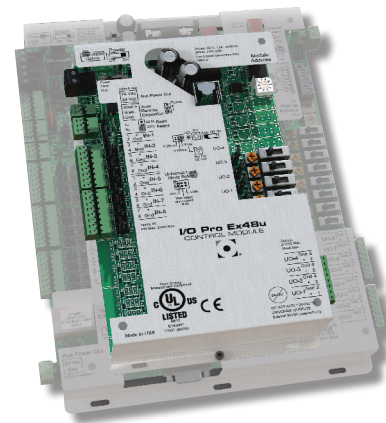
- Powerful, high-speed 32-bit Motorola Power PC microprocessor with 8MB Flash memory and 16MB of battery-backed SDRAM. Memory upgrades can be downloaded locally via the Rnet or Ethernet ports or remotely via the network - no chip replacements necessary
- Rugged, proven hardware platform

## I/O Pro 812u



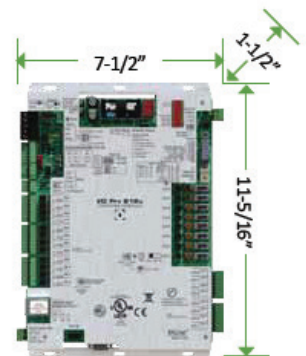
## I/O Pro Ex48u

(point expander shown mounted on top)



# Specifications

Power	24 Vac $\pm$ 10%, 50-60 Hz, 50 VA power consumption (56 VA with BACview attached), 26 Vdc (25 V min, 30 V max), Single Class 2 source only, 100 VA or less
Physical	Rugged aluminum housing, removable screw terminals with custom silk screening available.
Operating Range	-20°F to 140°F (-29° to 60°C); 10 to 95% relative humidity, non-condensing.
Binary Outputs	8 universal outputs that are jumper-configurable as 0-10 Vdc, or 0-20 mA dc with 12-bit A/D or 24 Vdc @ 50 mA relay drive. HOA (hand/off/auto) switches for all outputs, including potentiometer for manual adjustment of analog outputs.
Universal Inputs	12 configurable universal inputs with 14-bit A/D resolution. Supported input types include: 0-5 Vdc, 0-10 Vdc, 0-20 mA, Thermistor (10k Ohm Type II), 1k Ohm RTD (Platinum, Nickel, or Balco), and Dry Contact. All inputs support pulse counting up to 40 cycles per second (25mSec minimum pulse).
Analog Outputs	6 analog outputs; AO's 1 and 2 are configurable for 0-10 V or 0-20 mA; AO's 3 through 6 are 0-10 V only
Communication Ports	<p><b>BACnet</b></p> <p><b>Modbus</b></p> <p><b>N2</b></p> <p><b>LonWorks</b></p> <p><b>Port E1:</b> 10/100 BaseT Ethernet Port for BACnet over Ethernet, BACnet over IP, or Modbus over IP communications</p> <p><b>Port 1:</b> Configurable for ARC156 or EIA-485 (2-wire). Built-in support for BACnet (MS/TP or ARC156), N2, and Modbus, allowing connection to auxiliary devices such as equipment-mounted VFDs, burners, compressors, etc. Proprietary communication protocol support is also available.</p> <p><b>Port 2a:</b> Configurable for EIA-232 or EIA-485 (2-wire or 4-wire). Network protocol selectable for BACnet (MS/TP or PTP), Modbus, N2, LonWorks SLTA, or modem.</p> <p><b>Rnet port:</b> Interface with an Equipment Touch, ZS sensors, or local laptop.</p> <p><b>Xnet Remote Expansion port:</b> Connect up to five I/O Pro Ex816u or I/O Flex Ex8160 point expanders via the Xnet network.</p>
Optional Card Port	<b>Port 2b:</b> LonWorks Option Card for connection to Free Topology LON networks (TP/FT-10 chan.)
Status Indication	Visual (LED) status of power, running, and errors. LED indicators for transmit/receive for Port 1 and Port 2a and for each of the 8 outputs
Battery	Battery CR123A has a life of 10 years with 720 hours of cumulative power outage.
Protection	Surge and transient protection circuitry for power and communications
Compliance/Listing	<p><b>BACnet:</b> Conforms to the BACnet Advanced Application Controller (B-AAC) Standard Device, as defined in BACnet 135-2001 2012 Annex L and tested to Protocol Revision 14</p> <p><b>United States:</b> FCC compliant to Title CFR47, Part 15, Subpart B, Class A; UL Listed, File E143900; CCN PAZX, UL 916, Energy Management Equipment; <b>ANZ:</b> RCM Mark AS/NZS 61000-6-3; <b>Canada:</b> UL Listed File E143900, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equip., Industry Canada Compliant ICES-003, Class A; <b>CE Mark</b> Compliant with 2014/30/EU, and <b>RoHS</b> Compliant: 2015/863/EU; <b>UKCA Mark</b> compliant with Electromagnetic Compatibility Regulations 2016 – Gov. UK and RoHS for Electrical and Electronic Equipment 2012.</p> <p><b>Dimensions</b></p> <p><b>Width:</b> 7.5 in. (19.05 cm)</p> <p><b>Height:</b> 11.3125 in. (28.73 cm)</p> <p><b>Depth:</b> 1.5 in. (3.81 cm)</p>



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1025 Cobb Place Boulevard, Kennesaw, GA 30144  
770-429-3060 | oemctrl.com