

## AI-10 Analog Input Interface Module Model 41300



### LonPoint System

The LonPoint System is a family of products designed to integrate new and legacy sensors and actuators, as well as LONMARK® devices, into cost-effective, interoperable, control systems for building and industrial applications. In contrast to traditional control networks, which use closed islands of control linked with proprietary gateways, the LonPoint System offers an open distributed system architecture in which every device performs some control processing and can be accessed from any location in the network. Distributing the processing throughout the network and providing open access to every device lowers the overall installation and life cycle costs, increases reliability by minimizing single points of failure, and provides the flexibility to adapt the system to a wide variety of applications.

The system consists of the LonPoint Interface, Scheduler, Data Logger, Router Modules, LonPoint Application Programs, LNS™ based LonMaker™ for Windows® Integration Tool, LonPoint Plug-In, and LNS DDE Server.

### AI-10 Module

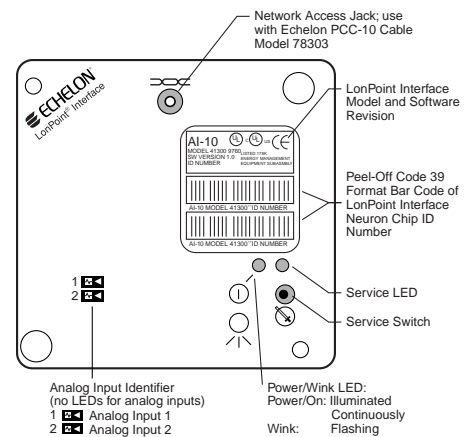
The AI-10 Module is a LONMARK device that provides 2 16-bit analog inputs that can monitor 0-24mA, 0-10V, and 100Ω to 15kΩ resistive inputs. 0-24mA devices may be powered by the module's current source or from a remote power supply. The module operates from 16 to 30VAC or VDC, allowing it to be powered from the same sources as the sensors.

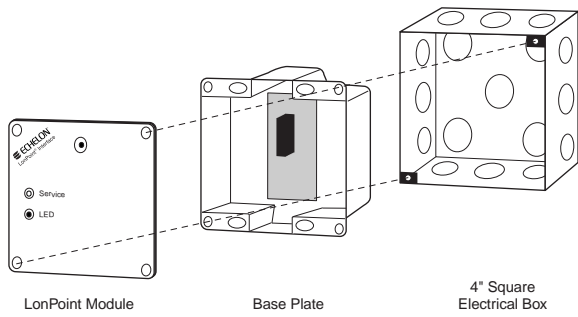
Resident within the module is a powerful, configurable application program. The program includes a variety of software functional blocks (LONMARK objects) that define how the module will function. Analog Input functional blocks provide configurable A/D settings, input signal to output value translation, output offset, override, and heartbeat control of the analog inputs. Digital Encoder functional blocks encode up to four digital values to produce configurable digital and mode outputs. Analog Function Blocks perform configurable logic, math, or enthalpy calculations on two analog inputs to generate

- ▼ Seamlessly integrates analog sensors into interoperable LONWORKS networks
- ▼ 2 16-bit analog inputs: 0-24mA, 0-10V, 100Ω-15kΩ
- ▼ Supports current loop or remotely powered devices
- ▼ Flash memory: download via network
- ▼ Network access from front panel jack
- ▼ Two-piece design cuts installation time, cost
- ▼ LNS Plug-In
- ▼ U.L. Listed, cU.L. Listed, CE Mark, FCC, LONMARK

analog and digital outputs. Type Translator functional blocks convert any input network variable type to any output network variable type using a configurable translation table. Using the LonMaker tool, the user links together the functional blocks of the AI-10, other LonPoint modules, and other LONMARK and LONWORKS devices, to create an open distributed control system. Network design and configuration is simplified by the Visio® interface of the LonMaker tool, which can both import and export AutoCAD® files and generate as-built documentation.

The user configures the AI-10 Module using the simple and intuitive interface provided by the LonPoint Plug-In. Moves, adds, and changes can be easily accommodated by downloading configuration changes into the LonPoint module's flash memory—either locally or via remote LONWORKS or Internet network connection.





*LonPoint Interface Module 4" Square by 2" Deep Electrical Box Mounting Configuration*

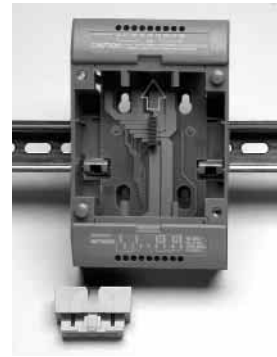
A unique, two-piece design allows pre-wiring and cable testing by an electrician prior to installation of the electronics; technician time can be reserved for tasks such as device configuration. Power and network wiring are looped through the base plate, providing the ability to replace modules by hot-plugging without disrupting network operation.

Polarity-insensitive power and network connections minimize the chance of miswiring, and the free topology design allows wiring to be run via the most convenient route. A front panel jack accesses the twisted pair network without any disassembly, saving time when the network must be accessed for configuration or maintenance.

A front panel bar code with the model, revision, and two removable Neuron® ID stickers is provided. When placed on the building or system design plans, these stickers can save installation time, especially for inaccessible devices.



*Type 1 Base Plate — Front View*



*Type 1D DIN Base Plate — Front View*

## Mounting

The AI-10 module can be mounted to a Type 1 Base Plate, which is in turn mounted to a 4" square by 2" deep electrical box or a Type 1D DIN Base Plate (for wall, panel, or 35mm DIN-rail mounting).

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## Specifications

| Function               | Description  |
|------------------------|--|
| Processor/memory       | Neuron 3150 <sup>®</sup> Chip, 10MHz, 56K flash memory   |
| Service function       | Recessed service switch, service (wink) LED. Dual tear-off bar-code Neuron ID self-adhesive tag  |
| I/O                    | 2 independent 16-bit resolution analog inputs  |
| I/O type               | 0 to 156mV, 0 to 625mV, 0 to 10V, 0 to 20V, 0 to 24mA, or resistive transducers from 100Ω to 15kΩ, nominal   |
| I/O resolution         | 0 to 20VDC: 0.3mV resolution; 0 to 24mA: 0.37μA resolution   |
| I/O isolation          | 100V, transformer isolation. Inputs are isolated from the input power and the network but not from each other  |
| Transceiver type       | FTT-10A with blocking capacitors for compatibility with link power channel   |
| Input power            | 16-30VAC or DC @ 2.1VA for voltage, resistance, or remotely-powered current input; 4.5VA for locally-powered input   |
| Mounting               | Type 1 Base Plate or Type 1D DIN Base Plate  |
| Temperature            | -40 to +85°C, operating and non-operating  |
| Humidity               | 10 to 95% RH @ 50°C  |
| EMI                    | FCC A, CE Mark   |
| Safety agency          | U.L. 916   |
| Function blocks        | Node object, analog input, (2), digital encoders (2), analog function blocks (4), type translators (4)   |
| Software configuration | LONMARK configuration properties configured by an LNS plug-in. The LNS plug-in is compatible with LNS tools supporting the LNS plug-in standard, including the LonMaker for Windows Integration Tool |
| LONMARK status         | Certified to meet LONMARK Interoperability Guidelines  |
| Dimensions             | 3.9" x 3.9" x 1" (10cm x 10cm x 2.5cm)   |

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