

## SCH-10 Scheduler Module and DL-10 Data Logger Model 43100



### 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 point 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 point 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.

### SCH-10 Scheduler Module

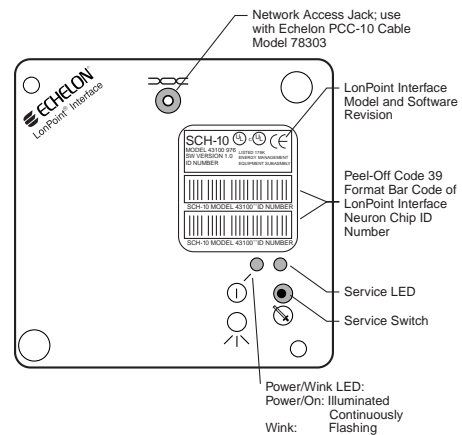
The SCH-10 Scheduler Module is a LONMARK device that provides a real-time clock, calendar, and system scheduler for coordinating system functions. The clock, calendar, and memory are battery-backed to prevent loss during power outages. The scheduler function can incorporate time, date, preset modes, and status information from other devices in the network. Multiple modules can be chained together for redundancy or for more complex scheduling applications.

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. Using the LonMaker tool, the user links together the functional blocks of the SCH-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

- ▼ Provides time, date, and system state for LONWORKS networks
- ▼ Battery-backed real-time clock
- ▼ Converts into a DL-10 data logger via software downloading
- ▼ Network access from front panel jack
- ▼ Two-piece design cuts installation time, cost
- ▼ LNS Plug-In utilities for configuration and operation
- ▼ U.L. Listed, CE Mark, FCC, cU.L. Listed, LONMARK

LonMaker tool, which can both import and export AutoCAD® files and generate as-built documentation.

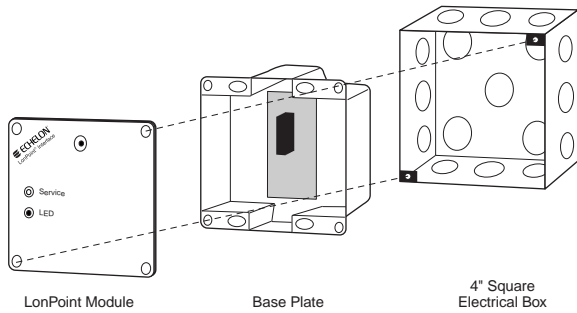
Moves, adds, and changes can be easily accommodated by downloading configuration changes into the module's flash



memory—either locally or via remote LONWORKS or Internet network connection.

The LonPoint Schedule Maker utility, an LNS utility running on Windows, is used by a system engineer or integrator to configure the clock, schedules, and state machine in an SCH-10 Scheduler. The LonPoint Schedule Maker utility includes a powerful simulator that can be used to verify that a schedule and state machine work as expected, prior to configuring an SCH-10 Scheduler.

The LonPoint Schedule Keeper utility, an LNS utility running on Windows, is used by a system operator to modify a schedule or key system parameters. The LonPoint Schedule Keeper utility provides a very easy to use interface that is suitable for system operators and maintenance personnel.

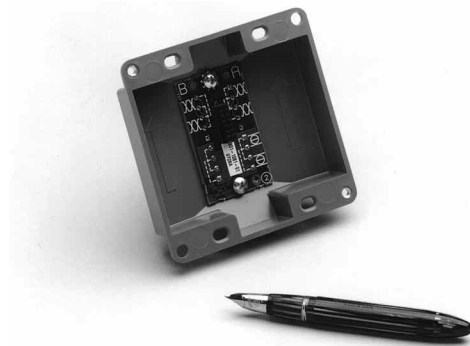


*LonPoint Interface Module 4" Square by 2" Deep Electrical Box  
Mounting Configuration*

## DL-10 Data Logger

The SCH-10 module may be converted into a DL-10 Data Logger by downloading the DL-10 application. The DL-10 Data Logger filters, timestamps, and logs data into any one of three separate data logs for retrieval at a later time by the LonPoint Data Logger Utility. Network variable outputs provide the percentage of remaining storage space in each log. These outputs can be connected to a PC host using the LonMaker tool, or can be polled by the PC host without creating a connection. The clock, calendar, and data log memory are battery-backed to prevent loss during power outages.

The LonPoint Data Logger Utility, an LNS utility running on Windows, uploads data logs from DL-10 modules, exports the uploaded data to comma-separated value (CSV) text files, and optionally calls an external import utility. The CSV text files include the log data as well as the optional source addresses and timestamps. The user can set up the LonPoint Data Logger Utility to automatically upload data logs when their remaining storage space reaches a specified threshold or the user can manually upload and export any of the data logs at any time. The external import utility option can be used to call an import utility that is part of an HMI application such as Wonderware InTouch. The HMI application can then be used to view trend graphs of the uploaded data. The HMI application and LonPoint Data Logger Utility may be running on any PC on the LonWorks network with the DL-10 module, or on a PC with a remote IP connection to the LNS Server for the network.



*Type 1 Base Plate — Front View*

## Hardware

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.

## Mounting

The SCH-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 or 35mm DIN-rail mounting).

## Specifications

Function	Description
Processor/memory	Neuron 3150 <sup>®</sup> Chip, 10MHz, 56K flash memory 512K battery-backed RAM (2 weeks min. back-up, 5 months typical; low-battery detection)
Clock/calendar	Battery-backed clock/calendar (10 year life, low-battery detection), seconds, minutes, hours, date of month, day of week, year
Service function	Recessed service switch, service (wink)LED. Dual tear-off bar-code Neuron ID self-adhesive tag for application to red-line drawings in the field
I/O (for future use)	EIA-232 serial port, selectable bit rate (600, 1200, 2400, 4800), two start, one stop, and no parity bits
I/O isolation	100V, transformer isolation. EIA-232 port isolated from the input power and the network
I/O connector	9 green screw terminal, non-removable, wire clamp style, supports 12-24AWG (2 to 0.5mm) wire - Tx, GND, Rx, GND, RTS, GND, CTS, GND, DCE
DL-10	Storage of events : 64,512 points maximum, 10,752 points with 31-byte SNVT's and timestamp
Transceiver type	FTT-10A with blocking capacitors for compatibility with link power channel
Network connector	4 screw terminals, non-removable, wire clamp style, supports 12-24AWG (2 to 0.5mm) wire, shielded or unshielded cable, daisy-chaining. Phone plug connector accessible from front panel
Input power	16-30VAC or DC @ 2.4VA, internally isolated power supply
Power connector	4 screw terminals, non-removable, wire clamp style, supports 12-24AWG (2 to 0.5mm) wire, daisy-chaining
Mounting	Type 1 Base Plate or Type 1D DIN Base Plate
Temperature	-10 to +60°C, operating and non operating *
Humidity	10 to 95% RH @ 50°C
EMI	FCC A, CE Mark
Safety agency	UL 916
Functional blocks	SCH-10 application: Node object, real-time clock, event scheduler, and state machine DL-10 application: Node object, real-time clock, and data logger
Software configuration	LonMark configuration properties configured by an LNS plug-in (for the DL-10 application) and LNS utilities (for the SCH-10 application). The LNS plug-in is compatible with LNS tools supporting the LNS plug-in standard, including the LonMaker for Windows Integration Tool.
Dimensions	3.9" x 3.9" x 0.9" (9.9cm x 9.9cm x 2.3cm)

\* Battery life is reduced at high temperatures, hence it is recommended to store the batteries in a cool dry place.

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