

## DM-21 Device Manager Model 43202



### DM-21 Module

The DM-21 Module permits a manufacturer or integrator to manage the operation and maintenance of a control network without an on-site PC. The DM-21 is ideal for networks with 128 or fewer devices in which automatic, highly reliable network management is required and it is impractical use a PC for this purpose. Typical applications include machine tools, printing presses, water treatment systems, light rail vehicles, rail cars and propulsion systems, wayside control networks, airplanes, elevators, power substation systems, semiconductor manufacturing equipment, intelligent highway systems, and robotics equipment.

Resident within the DM-21 module is a powerful, configurable application program. The program includes a variety of function blocks that are configured by the LonMaker integration tool using a Software Plug-In. The LonMaker integration tool links together the function blocks of the DM-21, LonPoint™ modules, and 3rd party LONWORKS® devices, to create an interoperable, 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.

After defining the control system using the LonMaker tool, the configuration information is loaded into the DM-21 module's flash memory. The configuration information loaded into the DM-21 module gives the module an overview of how a fully configured, properly operating control network should function. The DM-21 module then takes over management of the control network - automatically detecting the presence of new devices on the network, identifying, logging, and reporting faults, and replacing failed devices.

The DM-21 is designed to work in single channel and dual channel network topologies. The single channel mode supports a single TP/FT-10 channel and no routers.

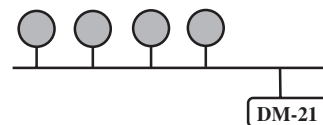
The dual channel mode supports a single router with a TP/FT-10 channel on the DM-21 side of the router and any LONWORKS channel on the other side of the router.

- ▼ Provides automatic installation, fault detection, and device replacement of a LONWORKS® network with up to 128 devices and one router
- ▼ DM-21 runs by itself without a local PC after being loaded from the LonMaker™ Integration Tool
- ▼ Up to 16 databases can be loaded into a single DM-21. Runtime database selection allows the same unit to be used with multiple networks
- ▼ Network access from front panel jack
- ▼ Network database stored in FLASH – no batteries required
- ▼ Two-piece design cuts installation time, cost
- ▼ UL Listed, CE Mark, FCC

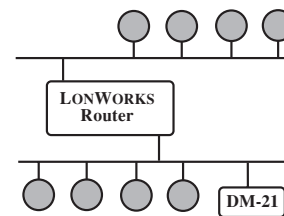
Additionally, it is possible to use multiple DM-21s on a single network when the number of devices or channels exceeds what can be handled by a single DM-21.

By continually polling the devices, the DM-21 module is able to verify their presence and health. New or replacement devices discovered in the course of polling are automatically installed by the DM-21 (both network variable and explicit message connections may be defined). If a device does not respond when polled, the DM-21 records the failure in an internal log and, optionally, updates an output network variable to annunciate the failure over the network.

The internal event log in the DM-21 uses non-volatile flash memory to maintain a history of network status, and is invaluable for commissioning and maintaining systems. Access to the internal log is available locally, through the network jack on the front panel of the module, or over the network.



Single channel mode supporting a single TP/FT-10 channel and no routers



Dual channel mode supporting a single router with a TP/FT-10 channel on the DM-21 side of the router and any LONWORKS channel on the other side of the router.

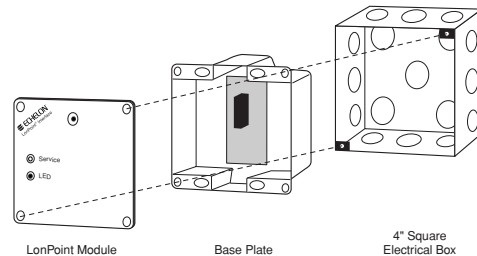
## Mounting

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.

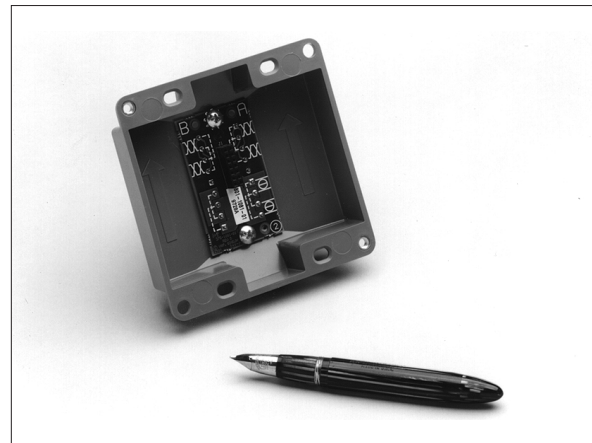
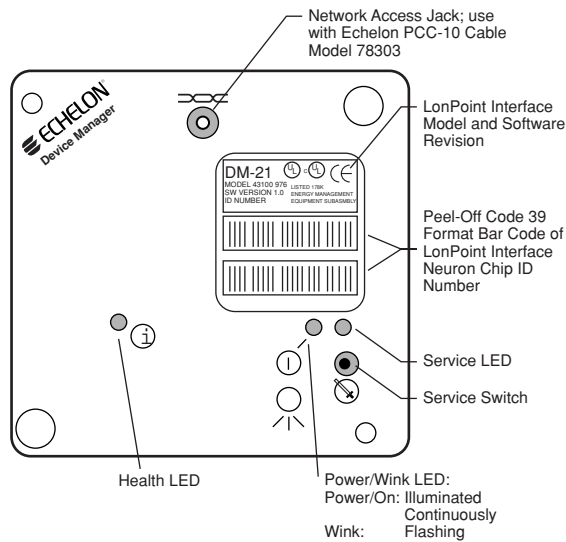
Color-coded screw terminals on the Type 1 (Rev1A) or 1D Base Plates and polarity-insensitive power and network connections minimize the chance of miswiring, and the free topology design allows wiring to be run via the most convenient route. A front panel jack accesses the twisted pair network without 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® Chip ID stickers is provided.

The DM-21 module is mounted to a Type 1 Base Plate, which is in turn mounted to a 4” square by 2” deep electrical box. The Type 1D DIN Base Plate is designed for wall mounting and 35mm DIN rail mounting.



*LonPoint DM-21 Module 4” Square by 2” Deep  
Electrical Box Mounting Configuration*



*Type 1 Base Plate- Front View*

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## Specifications

Function	Description
Processor/memory	Neuron 3150 <sup>®</sup> Chip, 10MHz, 1M flash memory
Method of identifying devices	Automatic detection of devices on the application domain, automatic detection of unconfigured devices. Devices identified by location string and program ID
Service function	Service switch, service LED
Health status	LED indicator
I/O connector	9 screw terminal, non-removable, wire clamp style, supports 12-24AWG (2 to 0.5mm) wire
Transceiver type	FTT-10A with blocking capacitors for compatibility with link power channel
Input power	16-30VAC or DC @ 2.4VA, internally isolated power supply or +5VDC ±5% @ 65mA
Temperature	-40 to +85°C, operating and non-operating
Humidity	10 to 95% RH @ 50°C
Power connector	4 screw terminals, non-removable, wire clamp style, supports 12-24AWG (2 to 0.5mm) wire, daisy-chaining
Mounting	Type 1 Rev 1A 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
Dimensions	3.56" x 3.56" x 0.87" (9.04cm x 9.04cm x 2.21cm)

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