

June 23, 2023

LON Option Module (12978) Install Sheet

This document covers the mounting and wiring of a LON¹ option module (12978) for a JACE-8000 controller (12977) and a JACE-9000 controller (15885).

Model / Description

NPB-8000-LON (12978)

FTT-10A LON (LonWorks) adapter with a 2-position removable screw-terminal connector plug.

Module Combinations

The controller supports a maximum total of four option modules across all option types. If two Dual RS485 modules are used, only one additional non-RS485 module may be added for a maximum total of three modules.

COM Port Assignments

If only one LON option is used, it operates as LON1, regardless of its position.

If multiple LON option modules are used, the module closest to the controller base operates as LON1, the next closest as LON2, and so on. So, if 4 LON options are installed, the module furthest from the controller base operates as LON4.

In the Niagara 4 station hosted by the controller, use a separate LonNetwork for each installed LON option. Specify LON port on a network's property sheet (Lon Comm Config, Device Name = LONn).

Related topics such as the mounting and wiring of the controller or other option modules, installation of Niagara 4 software, and usage

of the Niagara 4 Lonworks driver are in other documents. See "Related documentation".

Included in this package

Included in this package you should find the following items:

- A LON (12978) option module, with a 2-position terminal plug, for wiring to an FTT-10A LonWorks network.
- This *LON Option Module (12978) Install Sheet*

Material and tools required

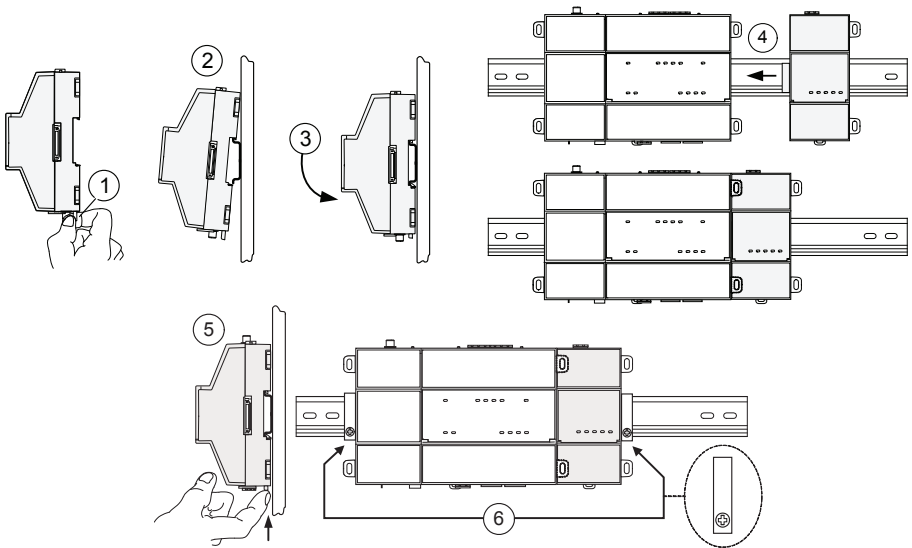
Suitable tools and fasteners for mounting the unit, attaching it to an already mounted controller. DIN-rail mounting of the controller and all its option modules is recommended.

A small flat-blade screwdriver is required to make wiring connections to the FTT-10A LonWorks network.

¹ LON and LonWorks are registered trademarks of the Echelon Corporation.



Figure 2: DIN rail mounting



Precautions

The following are warnings relating to the installation of the controller option module.

General Precautions

- ⚠ Remove all power to controller before attaching (plug in) or detaching (unplug) any option module to prevent possible equipment damage.**
- ⚠ Removal of the cover is not required.** No configurable or user-serviceable items (such as jumpers) are inside the option module.

Static Discharge Precautions

- ⚠ Static charges produce voltages high enough to damage electronic components. The microprocessors and associated circuitry within the devices are sensitive to static discharge.**
- ⚠ Work in a static-free area.**
- ⚠ Discharge any static electricity you may have accumulated. Discharge static electricity by touching a known, securely grounded object.**

Mounting

Mounting the controller and all option modules on a 35mm-wide DIN rail is recommended. Mounting on a DIN rail ensures accurate alignment of connectors between all modules. Tabs on the controller or module can be

used for panel mounting as an alternate to DIN rail mounting.

- ⚠ Remove all power to controller before installing or removing option modules. See “Precautions”.**

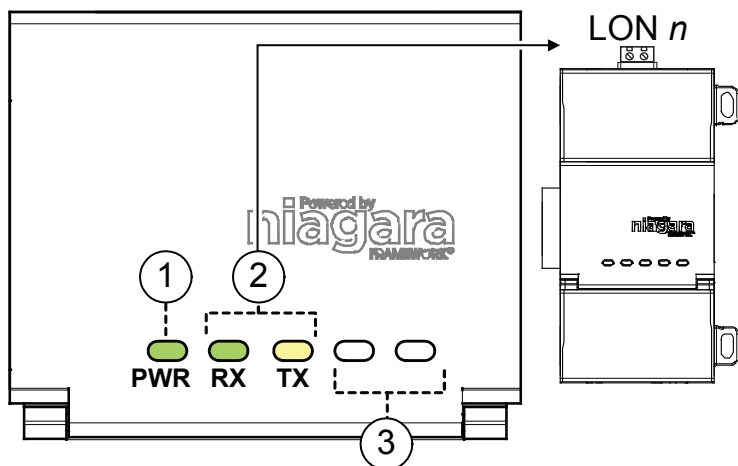
Mounting on DIN Rail

Prerequisite: The controller is securely mounted on a 35mm DIN rail, with adequate room left to mount the module.

- ① Pull the option module's locking clip down.
- ② Tilt the module to hook over the DIN rail.
- ③ Push down and in on the unit, fastening to the rail.
- ④ Slide the module firmly into the controller's connector (or existing option module) to seat. Repeat for other modules as needed (4 maximum).
- ⑤ Push up the locking clip on all modules.
- ⑥ Carefully secure both ends of the final assembly with DIN rail end-clips provided by the DIN rail vendor.

NOTE: To remove a unit from the DIN rail, pull down its locking clip. Slide the unit away from other devices, then swing the bottom out and lift away from the rail.

Figure 3: LEDs on LON option module.



Wiring

Connect LonWorks FTT-10A communications wiring to the 2-position connector of the LON option module. Polarity is not a factor in FTT-10A wiring. The connector accepts wire sizes from 26-12AWG.

Refer to the *LonWorks FTT-10A Free Topology Transceiver User's Guide (078-0156-01F)* for technical guidelines associated with free topology restrictions, and the *Junction Box and Wiring Guidelines for Twisted Pair LonWorks Networks (005-0023-01)* for more detailed information on wiring. These documents are available on Echelon's web site (www.echelon.com).

LEDs

Three LED groups are visible on the front of the LON option module.

- ① Unused
- ② TX (Transmit) and RX (Receive)
- ③ PWR - Green, remains lit while controller is powered.

The LED pair RX and TX operate as follows:

- TX (yellow) — Transmit, flashing indicates that the controller is transmitting a message on the LON trunk.
- RX (green) — Receive, flashing indicates that another LonWorks device is transmitting a message.

LEDs are also visible when the front access door is opened.

Compliance



Complies with the requirements of the relevant ACMA Standards.

Manufacturer Representative:

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Brooks Green Road
Coolham, West Sussex
RH13 8GR United Kingdom



China EEP Hazardous Substance Information

Restricted Materials Above Threshold

部件名称与型号 Assembly Name and Model		有害物质 Hazardous Substances					
型号 Model	部件名称 Assembly Name	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
12978	PWB 组件 PWB Assemblies	X	O	O	O	O	O
本表格依据 SJ/T 11364 的规定编制。 This table is prepared in accordance with the provisions of SJ/T 11364.							
O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。 Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.							
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。 Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572							
“未列入表内的其他部件，皆不含任何超出限量要求的限制使用物质。” All other components, not listed in the table, do not contain restricted substances above the threshold level							
电子电气产品的环保使用期限依据SJ/T11388 标准的规定确定。 The EPUP value of EEP is defined according to SJ/T 11388 standard.							

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