

# SERIAL INTERFACE

## Cat. No. 10A17-1

### Installation Instructions and User's Guide

**LEVITON®**

DI-021-OA104-00AAR2243  
(10117-1)

#### INSTALLATION

ENGLISH

#### WARNINGS AND CAUTIONS

- Read and understand all instructions. Follow all warnings and instructions marked on the product.
- Do not use this product near water - e.g., near a tub, wash basin, kitchen sink or laundry tub, in a wet basement, or near a swimming pool.
- Never push objects of any kind into this product through openings, as they may touch dangerous voltages.
- SAVE THESE INSTRUCTIONS.

#### DESCRIPTION

The Model 10A17 Serial Interface can be used with an OmniLT, Omni, Omni II, OmniPro, or OmniPro II controller. It allows the controller to be connected to a personal computer or other system to exchange data and commands. The controller can be accessed continuously and in real time through the interface without affecting the operation of the controller. Leviton offers two standard protocols: Omni-Link and Pro-Link. All Leviton systems with Version 1.5 or later firmware support Omni-Link. Omni-Link has defined message formats to retrieve status and send commands to the controller. Omni II, OmniPro, and OmniPro II systems with Version 1.6 or later firmware also support Pro-Link. Pro-Link is a programmable protocol whose messages can be programmed into the controller. Using Pro-Link, a Leviton controller can send commands to and interpret commands from systems that are not programmable, such as lighting controls and infrared controls.

The Model 10A17 supports both RS-232 and RS-485 connections. RS-232 is the standard for connections to most personal computers and related systems. RS-485 can support greater wiring distances.

#### 10A17 HARDWARE FEATURES

- Connects to OmniLT Omni, Omni II, OmniPro, or OmniPro II controllers
- Indicators for status, transmit, and receive data
- Male DB-9 connector for RS-232 connection, configured as DTE (same as a personal computer)
- Use standard "data transfer" or "null modem" cable for connection to personal computer
- Use standard "modem" cable for connection to a modem
- (Cable not supplied; cables are commonly available at computer supply stores for your application)
- 2 terminals provided for RS-485 connections, A and B
- Powered by controller - no external power required
- Wiring diagrams to make your own cable included

#### OMNI-LINK FEATURES

- Available on all Leviton controllers with 1.5 or later firmware
- Half-duplex, poll/response protocol where connected system is master, controller is slave
- Works with Leviton PC Access Version 1.5 or later for local status and upload/download (9600 baud)
- Works with auto answer modem for remote status and upload/download (9600 baud)
- Connected system logs onto controller using valid 4 digit code for security
- Connected system can get status of all zones, units, flags, temperatures, security status, troubles, etc.
- Supports all STATUS and COMMAND features of the Leviton PC Access Software
- Connected system can poll a special buffer for real time, quick access to system events, such as doors opening, motion detected, system armed, button activated, etc.
- Automatic logoff after period of inactivity for security
- Ideal for connection to PC based automation system, touch screen, TV interface device, internet server, other system that needs to command or get status from the Leviton controller

#### INSTALLATION REQUIREMENTS

- The controller must have Version 1.5 or later firmware for Omni-Link, Version 1.6 or later for Pro-Link.
- For connections to a personal computer, use a standard "data transfer" or "null modem" cable, with a DB-9F (female) connector on the end going to the Serial Interface, and either a DB-9F or DB-25F, depending on the application, to the personal computer.
- For connection to an external, auto answer modem, use a standard "modem" cable, with a DB-9F connector for the 10A17 Serial Interface and a DB-25M (male) for the modem.
- If cables are not long enough, or will be installed in the walls, you can make a cable using the diagrams in Figure 3.

#### INSTALLATION

1. Power down the controller by disconnecting the transformer and the battery.
2. Remove 4 6/32 x 1/4 Phillips screws marked "A" in **Figure 1**. Retain screws for future step.
3. Connect supplied cable to 20 pin connector (J3) on controller marked "B" in **Figure 1**, or to open 20 pin connector (J1 or J2) on current module installed on controller.
4. Install the 4 supplied 6/32 x 3/4 male/female Hex spacers in holes where screws were removed, marked "C" in **Figure 2**.
5. Place 10A17 on top of the controller. Line up mounting holes marked "D" with Hex spacers marked "C" in **Figure 2**.
6. Reinstall 4 6/32 x 1/4 Phillips screws through mounting holes "D" in 10A17 Serial Interface into Hex spacers "C" on controller as shown in **Figure 2**.
7. Connect opposite end of supplied cable to the connector (J1 or J2) directly above on the 10A17 marked "E" in **Figure 2**.
8. Set the ADDR (address) jumper "F" on the serial interface as described under **JUMPER SETTINGS**.

Figure 1

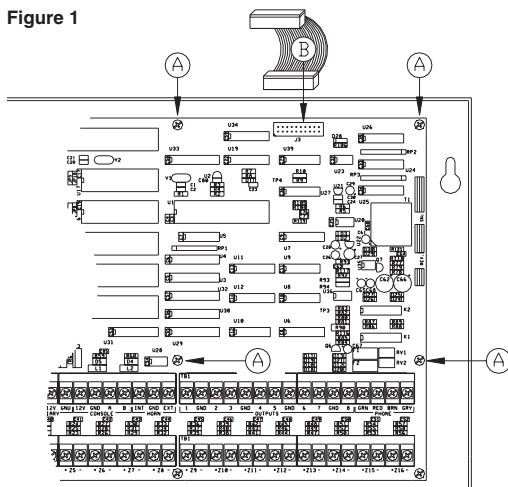
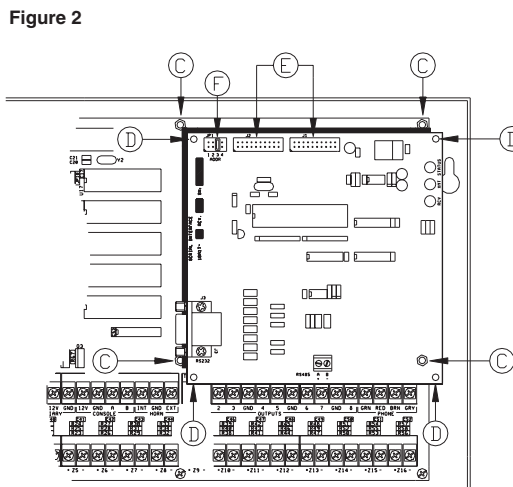


Figure 2



WEB VERSION

## POWER UP PROCEDURE

1. Connect your cable to the DB-9 connector.
2. Restore transformer power and battery power to the controller.
3. The Status LED on the 10A17 should be blinking once per second.
4. When the 10A17 receives information from the connected system, the RCV LED will flash.
5. When it transmits information back, the XMIT LED will flash.

### Using the RS-232 connector (DB-9)

1. RS-232 is specified for 50 feet or less. Although longer distances are usually not a problem, Leviton makes no representation that RS-232 will work over 50 feet.
2. To fully test the 10A17 Serial Interface, connect it to a PC running Leviton Model 1105 or 1106 PC Access Version 1.5 or later, using a data transfer cable. Set PC Access to 9600 baud under Configure | Modem. When connected to PC Access, you can perform all PC Access functions at the 9600 baud connection provided by the 10A17.
3. Connect the 10A17 Serial Interface to the final application system and check it out according to instructions provided with it.
4. Be sure that nothing is connected to the RS-485 connector.

### Using the RS-485 connector (A and B)

1. RS-485 has the advantage of operating over greater distances: up to 1000 feet.
2. The RS-485 connector operates in parallel with the RS-232 connector. Only one may be in use at a time.
3. To use RS-485 connections, connect A and B of the 10A17 Serial Interface to A and B of the connected system.
4. Be sure that nothing is connected to the RS-232 connector.
5. No jumper settings or changes are required to use the RS-485 connections.

## JUMPER SETTINGS

The 10A17 Serial Interface is one of several expansion boards available for Leviton controllers. A controller can have up to 4 expansion boards. Each board has a jumper labeled ADDR for address. The jumper setting determines the address of each board. Each board must have its own address. Then the controller can be configured to determine what type of expander is at each address. The jumpers on the expander boards should be set as follows:

- |                                      |  |
|--------------------------------------|--|
| <b>Model 10A06 Hardwire Expander</b> | - Set jumper to 1 (factory default)                            |
| <b>Model 10A17 Serial Interface</b>  | - Set jumper to 3 for first serial interface (factory default) |
|                                      | - Move jumper to 4 for second serial interface (OmniPro only)  |

The jumper settings marked as factory default are the settings shipped from the factory.

## CONTROLLER SET UP FOR MODEL 10A17 SERIAL INTERFACE

The serial interface must be enabled in the controller software. An Installer Set Up Item has been added to configure the expansion modules on the controller.

If a serial interface board is being installed in an existing system with one or more expander boards, make a note of the jumper settings and type of each expander board and verify that the module type is set properly for each module.

To enter the installer SETUP menu, press 8 (or 9 depending on model and firmware version), enter the installer code (default is 1111), then press # for the installer menu.

### INSTALLER SETUP

1=CTRL 2=ZONE 3=DCM  
4=AREA 5=TEMP 6=MISC  
7=EXP

To configure Module Types, press the 7 (EXP) key. The following items are shown.

### MODULE 1 TYPE

The Module Type defines the function of each expander board on the controller. Module 1 is the module with the ADDR jumper set to 1. Set the module type from the list below. Press # to change the module type, then use the arrow keys to select the proper module type, then press # to enter.

Select from the following for the module with jumper set to 1:

MODULE TYPES	NUMBER	DESCRIPTION
NOT USED	0	No module is installed
HARDWARE EXPNDR	1	Model 10A06 Hardwire Expander installed
ALC	2	ALC Interface Module is installed
OMNI-LINK	3	Model 10A17 Serial Interface using the Omni-Link protocol
PRO-LINK	4	Model 10A17 Serial Interface using the Pro-Link protocol

### MODULE 2 TYPE through MODULE 4 TYPE

Module 2 is the module with the jumper set to 2, and so on. Set the module type for each module as shown above.

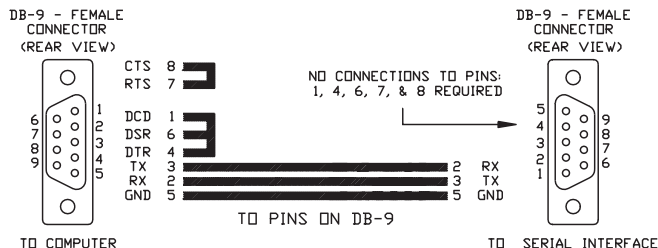
### Notes on Module Types:

1. Omni LT, Omni, Omni II, and OmniPro II controllers with Version 1.5 or later firmware support one 10A17 Serial Interface configured as Omni-Link. The 10A17 on a Omni II and OmniPro II controller can conversely be configured as Pro-Link.
2. OmniPro controllers with Version 1.5 or later can support two 10A17 Serial Interface Modules:
  - a. With Version 1.5 through 1.7 firmware the first serial interface (the one with the lower ADDR setting) can be configured for Omni-Link or Pro Link. The second serial interface can be configured for Pro-Link only.
  - b. With Version 1.8 or later firmware both modules can be set to Omni-Link or to Pro-Link. You can also use a combination of Omni-Link and Pro-Link.

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DB-9 TO DB-25 PIN CONNECTIONS	
DB-9 FEMALE	DB-25 FEMALE
1	8
2	3
3	2
4	20
5	7
6	6
7	4
8	5
9	22

Figure 3 - Wiring diagram for basic data transfer cable



### SERIAL RATE

Select the baud rate for the 10A17 Serial Interface from the list below. Use the arrow keys to select the baud rate then press #.

BAUD RATE	NUMBER
75 baud	1
150 baud	2
300 baud	3
600 baud	4
1200 baud	5
2400 baud	6
4800 baud	7
9600 baud	8 (default)

### FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FOR CANADA ONLY

For warranty information and/or product returns, residents of Canada should contact Leviton in writing at **Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9** or by telephone at **1 800 405-5320**.

### LEVITON LIMITED WARRANTY

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that products manufactured by Leviton under the Leviton brand name ("Product") will be free from defects in material and workmanship for the time periods indicated below, whichever is shorter: • **OmniPro II and Lumina Pro:** three (3) years from installation or 42 months from manufacture date. • **OmniLT, Omni IIe, and Lumina:** two (2) years from installation or 30 months from manufacture date. • **Thermostats, Accessories:** two (2) years from installation or 30 months from manufacture date. • **Batteries:** Rechargeable batteries in products are warranted for ninety (90) days from date of purchase. **Note:** Primary (non-rechargeable) batteries shipped in products are not warranted. **Products with Windows® Operating Systems:** During the warranty period, Leviton will restore corrupted operating systems to factory default at no charge, provided that the product has been used as originally intended. Installation of non-Leviton software or modification of the operating system voids this warranty. Leviton's obligation under this Limited Warranty is limited to the repair or replacement, at Leviton's option, of Product that fails due to defect in material or workmanship. Leviton reserves the right to replace product under this Limited Warranty with new or remanufactured product. **Leviton will not be responsible for labor costs of removal or reinstallation of Product.** The repaired or replaced product is then warranted under the terms of this Limited Warranty for the remainder of the Limited Warranty time period or ninety (90) days, whichever is longer. This Limited Warranty does not cover PC-based software products. **Leviton is not responsible for conditions or applications beyond Leviton's control. Leviton is not responsible for issues related to improper installation, including failure to follow written Installation and operation instructions, normal wear and tear, catastrophe, fault or negligence of the user or other problems external to the Product.** To view complete warranty and instructions for returning product, please visit us at [www.leviton.com](http://www.leviton.com).