

## Q7770A RapidLink™ DIAL-UP NETWORK ADAPTER



### PRODUCT DATA



### BEFORE INSTALLATION

The RapidLink Dial-Up Network Adapter provides local access to LONWORKS® Bus (E-bus) from a PC through an industry standard EIA-232 interface (previously called RS-232) or dial-up remote access through an on-board 56K bps modem. All of the RapidLink connections are located on the rear panel of the device. The RapidLink Dial-up Network Adapter interfaces with the LCBS family of controllers (i.e. Excel 10, Excel 15 and Q7300 / T7300 series of controllers, any third party controllers supported by LCBS family of controllers). It can be used with LONSPEC™ 4.6.5, LONSTATION™ Multi-Site 4.6.0, and RapidZone 3.0.0 or new versions of this software packages.

The RapidLink Dial-up Network Adapter requires input power of 9 to 24 Vac or Vdc and at least 250 mA. RapidLink should be connected with UL Class 2 wiring only. The input power can be connected through the screw terminal connector supplied with RapidLink. The E-Bus network connector on the RapidLink is orange colored and located on the rear of the RapidLink enclosure. The mating connector is also a screw terminal type.

RapidLink has LEDs that indicate activity on the serial, modem, and E-Bus. RapidLink has an LED indicating that the device is powered and an LED indicating that the E-Bus Service switch, located on the front panel, is being pressed. RapidLink also provides a Reset switch on the front panel. The RapidLink enclosure has provisions for both wall mounting and tabletop operation.

### FEATURES

- High performance communications protocol provides for faster communication of data to your LONWORKS network.
- Serial EIA-232 interface connects host processors to LONWORKS networks.
- A fixed 115,200 baud rate is supported on serial the EIA-232 port to support direct local connections.
- On-board modem support with baud rate up to 56K bps to support remote dial-up connections.
- Uses LONWORKS network protocol.
- Integral FT-3150® smart transceiver.
- LONWORKS communicates through a 78-kilo-baud transformer-coupled transceiver.
- 9 to 24 Vac or Vdc Class 2 power input using a mating connector with removable screw terminals.
- Automatic dial-out using on-board modem for transferring alarm information to a central station (When used in conjunction with XL15A Building Manager).
- Easy migration for existing systems through one to one replacement of existing LON® transceiver and external modem with RapidLink and upgrading LONSPEC, LONSTATION and XL15A firmware to 4.6.5, 4.6.0 and 2.4.61 (or later versions) respectively.
- Easy wall mounting or tabletop operation.
- Fast installation - No switches to configure.
- Easy to read labels to guide installation of wiring.



## SPECIFICATIONS

The RapidLink Dial-up Network Adapter is a one-piece, externally wired communication device. RapidLink can be hardwired to the LonWorks network. The on-board 56K bps modem provides for communication to the remote site as well as allowing an Excel15A Building Manager to dial out alarms to LonStation. The EIA-232 serial port provides for local access to the E-Bus.

**Model Number:** Q7770A1001

**Supported Application(s):**

LONSPEC Version 4.6.5 and above.  
LONSTATION Multi-Site version 4.6.0 and above.  
RapidZone Version 3.0.0 and above.

**System Processor:** Ubicom™ IP2022 RISC Processor.

**Neuron Transceiver:**

Echelon, Neuron FT-3150 Smart Transceiver.

**Modem Connection:** On-board Modem supports remote connection with connection speeds of up to 56 Kbps.

**Modem Connector Type:** RJ-11.

**Network (E-Bus) Connector:** Weidmuller - 2-conductor BLA.

**Bus Polarity:** Polarity insensitive.

**E-Bus Service Interface:** Service Switch and LED.

**Serial Port** EIA-232 (Formerly RS-232).

**Serial Port Bit Rate:** 115200 bps.

**Serial Connector Type:** Female DB-9.

**Power Polarity:** Polarity insensitive.

**Input Operating Voltage:** 9 to 24 Vac or Vdc.

**Operating Input Current (Typical):** 120 mA.

**Power Supply:** 9 to 24 Vac or Vdc Class 2 power supply only using removable screw terminals.

**Temperature:**

Operating: +32°F to +100°F (0°C to +38°C).  
Storage: -40°F to +185°F (-40°C to +85°C).

**Humidity (non-condensing):**

Operating: 25 to 95% RH at 50°C.  
Storage: 95% maximum at 50°C.

**Dimensions:**

7-1/2 in. L x 5-7/16 in. W x 1-3/16 in. H.  
190 mm L x 138 mm W x 46 mm H.

**Approvals:** UL, cUL, FCC, CE.

**Approved PC Side Modem:** US Robotics 56K external V.90.

**Modem Dip Switch Settings:** None.

**Available Accessories:**

5000591-001 RapidLink U.S. Accessory Kit. 12 Vac, 250 mA (120 Vac, 60 Hz Main Outlet) Class 2-power supply; telephone line cable; serial cable; E-Bus mating connector.

**IMPORTANT**

- *Using the RapidLink Dial-up Network Adapter for alarm dial-out on systems with W7760A Excel 15A Controllers requires upgrading W7760A firmware to version 2.4.61.*
- *Obtain firmware upgrades from Honeywell TAC.*

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

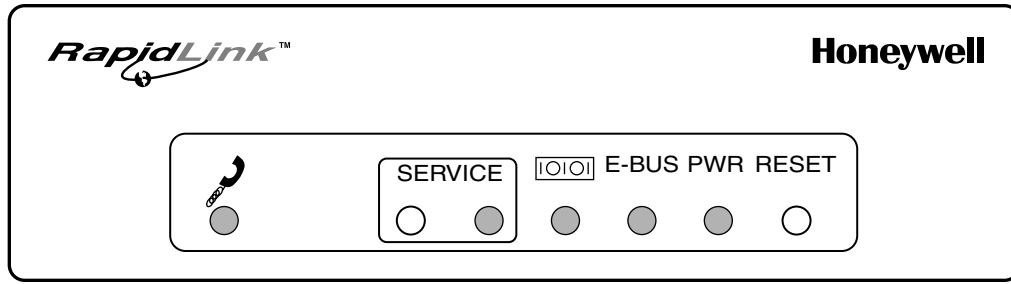
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1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

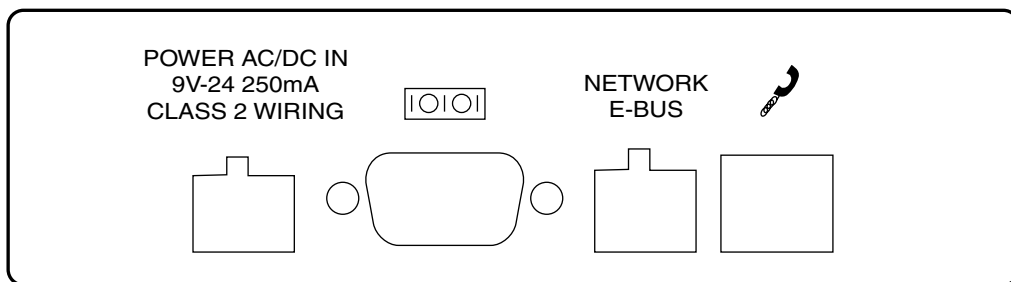
International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

# RAPIDLINK OVERVIEW (FIG. 1 THROUGH 3)



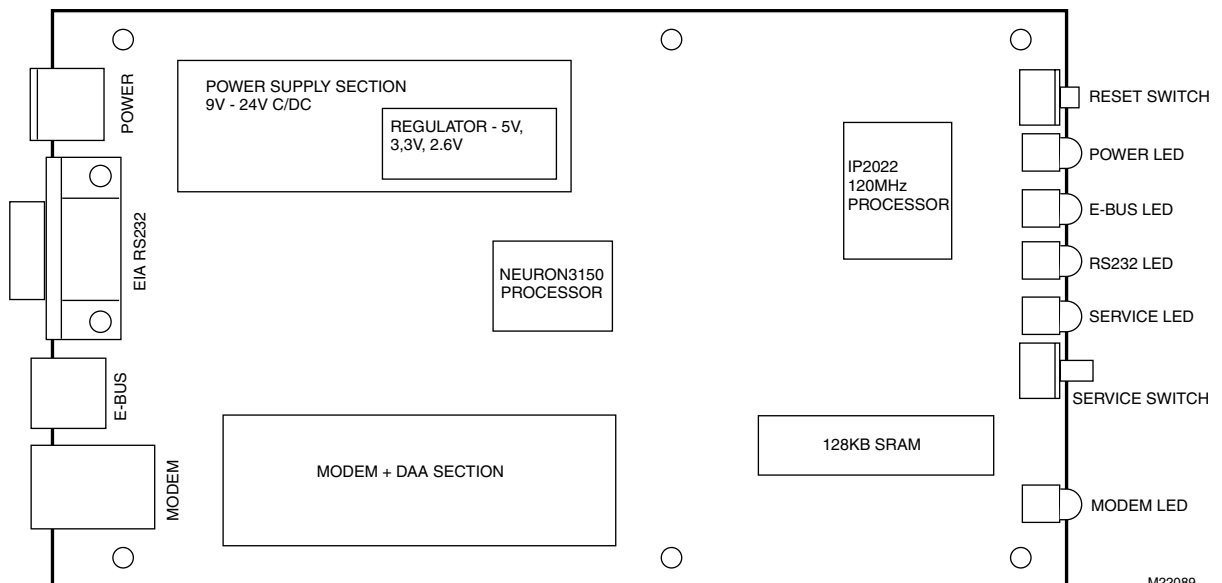
M22087

Fig. 1. RapidLink (front view).



M22088

Fig. 2. RapidLink (rear view).



M22089

Fig. 3. RapidLink (internal view).

**Table 1. RapidLink Interface.**

Interface	Function
Service Switch	Pressing the Service Switch results in a Neuron Service Request for RapidLink. While pressed, the Service LED should be at maximum intensity.
Reset Switch	The Reset Switch is recessed to prevent accidental reset. Pressing the Reset Switch results in a circuit hardware reset and a RapidLink firmware restart.
Unregulated AC/DC Power Input Connector (See Table 4 for power requirements)	Two-position, locking black connector connects RapidLink to a Class 2-power source. The provided mating plug is a Weidmuller part number 1730700000.
E-Bus (Network) Port Connector	Two-position, locking orange connector used to connect to the E-Bus (network) RapidLink port. The provided mating plug is a Weidmuller part number 1356060000.
EIA-232 Serial Data Interface Port Connector	DB-9 female connector used to connect to the RapidLink EIA-232 serial data interface port. The RapidLink EIA-232 interface operates in the DCE mode.
Modem Interface Port Connector	RJ-11 connector used to connect the telephone line cable to RapidLink internal 56K bps modem.
Power LED	The Power LED (Green) indicates the presence of input power to the RapidLink Dial-up Network Adapter.
Service LED	The Service LED (Yellow) indicates that the Service Switch is being pressed. With the Service Switch not pressed, there are three other possibilities: <ul style="list-style-type: none"> <li>• LED ON: The RapidLink board Neuron Chip has detected an unrecoverable error and/or has no application loaded.</li> <li>• LED BLINKING: The RapidLink Neuron processor is not configured.</li> <li>• LED OFF: The RapidLink Neuron processor is configured or there is no power.</li> </ul>
E-bus Activity LED	The E-Bus Activity LED (Green) indicates LonWorks bus activity. The two possible states for this LED: <ul style="list-style-type: none"> <li>• OFF: No data is being transferred on the LonWorks bus or there is no power to RapidLink.</li> <li>• BLINKING: LonWorks bus data communication is in progress.</li> </ul>
Serial Interface Activity LED	The EIA-232 Serial Data Port Activity LED (Green) indicates EIA-232 serial data interface port activity. The two possible states for this LED: <ul style="list-style-type: none"> <li>• OFF: No data is being transferred on EIA-232 interface or there is no power to RapidLink.</li> <li>• BLINKING: EIA-232 serial data interface data communication is in progress.</li> </ul>
Modem Interface Activity LED	The Modem Port Activity LED (Green) indicates activity on the Modem port. The two possible states for this LED: <ul style="list-style-type: none"> <li>• OFF: No data is being transferred on the modem or there is no power to RapidLink.</li> <li>• BLINKING: Modem data communication is in progress.</li> </ul>

## MOUNTING

When mounting RapidLink, be sure to provide adequate room to access and route cables to the device. There should also be enough room to view LEDs and press the service switch on the front panel.

### Wall Mounting

#### With Screws (supplied)

Using the supplied screws (1 in. #6 panhead with combination slot) and, if necessary, wall anchors:

1. Tape template (Fig. 8) to the wall to ensure proper screw spacing.
2. Pre-drill for screws and, if necessary, wall anchors.
3. Remove the template from the wall.
4. Attach the screws to the wall, leaving sufficient space between screw heads and wall to mount the device.
5. Position the device on the screws and slide it into place.

#### With Reclosable Fasteners (supplied)

Leaving the fastener pairs mated, proceed as follows:

1. Attach one side of each fastener pair to the bottom of RapidLink:
  - a. Remove the paper backing material.
  - b. Attach the sticky-backed material to the underside of the device by applying pressure to adhere the fasteners.
2. Remove the exposed paper backing material.
3. Position the RapidLink on the mounting wall (a smooth, flat, clean surface).
4. Apply pressure to adhere the fasteners to the wall.

### Tabletop Mounting

Using the four polyurethane feet (supplied):

1. Remove the paper backing from the mounting feet.
2. Apply each foot over a screw head (located on the underside of the device).

## CABLING AND CONNECTIONS

### Remote Connection

RapidLink has an on-board 56K bps modem that provides for remote communication to the E-Bus. Fig. 4 shows remote connection set-up.

#### LonStation configuration for Remote connection:

1. Login to LonStation.
2. Double-click the site icon in the left side tree control.
3. Select site to be connected from left side tree control.
4. Click the tool bar Connect button.

#### LonSpec Configuration for Remote Connection:

1. Open the project and the network.
2. Edit the network to include the phone number to dial.
3. Click File in the pull-down menu.
4. Select the Communication Settings.
5. Choose the port where the modem is connected.
6. Choose the baud rate.

NOTE: Honeywell recommends 38,400 bps.

7. Choose the modem connection type.

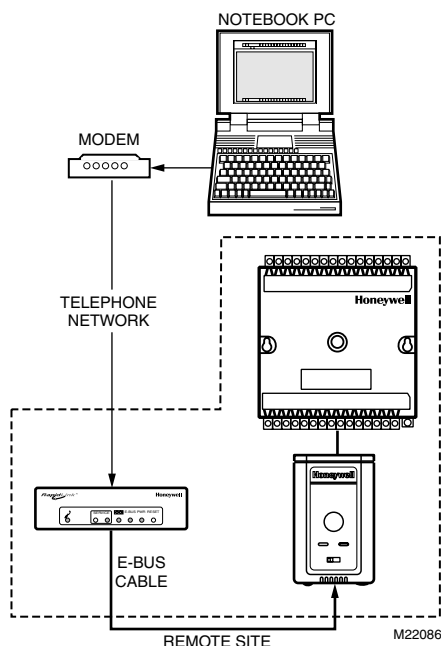


Fig. 4. RapidLink Remote Connection.

### Direct Connection (with 9-pin Serial Cable)

#### Attaching RapidLink to a 9-pin PC Serial Port

When connecting to a PC equipped with a male DB-9 serial interface connector, use a standard serial cable (not a null-modem cable) with one end terminating in a DB-9 male connector and the other end terminating in a DB-9 female connector. See Table 2 for connector wiring termination details.

1. Plug the DB-9 connector male end into RapidLink.
2. Plug the DB-9 connector female end into the PC serial interface connector.

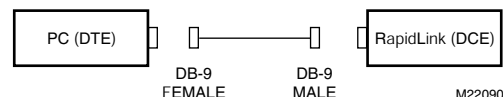


Fig. 5. Serial Cable with DB-9 Connectors.

Table 2. PC DB-9 Connector to RapidLink DB-9 Wiring Terminations. (Use Straight cable.)

Signal Name	PC (DTE) Connector DB-9 Male	RapidLink (DCE) Connector DB-9 Female
RXD	Pin 3	Pin 2
TXD	Pin 2	Pin 3
Signal Ground	Pin 5	Pin 5

#### Attaching RapidLink to a 25-pin Serial PC Port

Some PC serial ports have a 25-pin male DB-25 connector. When connecting to a PC equipped with a DB-25 connector, use a straight-through cable (not a null-modem cable) with one end terminating in a DB-9 male connector and the other end terminating in a DB-25 female connector. See Table 3 for wiring termination details.

1. Plug the DB-9 connector male end into RapidLink.
2. Plug the DB-25 female end into the PC serial port.

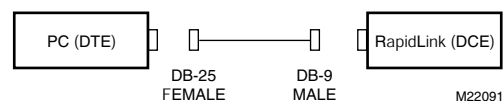


Fig. 6. Serial Cable with one DB-25 (Female) Connector and one DB-9 Connector (Male).

Table 3. Wiring Terminations for PC DB-25 Connector to RapidLink DB-9 Connector.

Signal Name	PC (DTE) Connector DB-25 Male	RapidLink (DCE) DB-9 Connector Female
RXD	Pin 3	Pin 2
TXD	Pin 2	Pin 3
Signal Ground	Pin 7	Pin 5

#### Attaching RapidLink to a LonWorks Network

The network connector for the RapidLink is an orange, two-conductor block type. Use the 2-pin connector with screw terminal terminations that comes with the RapidLink to connect to the twisted-pair wire for the LonWorks network. See Fig. 7.

1. Connect the mini-phono plug of the connector cable to the LonWorks (E-Bus) interface on either a controller or a wall module.
2. Connect the cable wire end to the RapidLink E-Bus mating connector.
3. For E-Bus direct cable wiring:
  - a. Wire one end of the E-Bus cable to the controller or wall module.
  - b. Wire the other end of the E-Bus cable to the mating E-Bus connector on RapidLink.

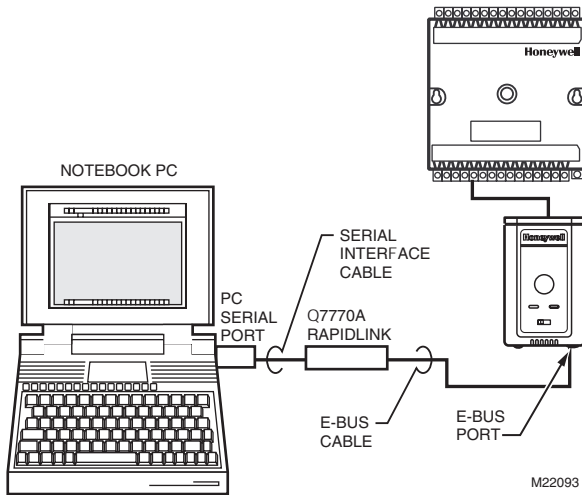
Supply power (use a Class 2 power supply only) to the RapidLink after it is connected to the desired network. Table 4 shows the specification for power input to the RapidLink. Power can be applied using the supplied screw terminal mating connector. This allows RapidLink to connect to a 9 to 30 Vac/Vdc power supply.

NOTES:

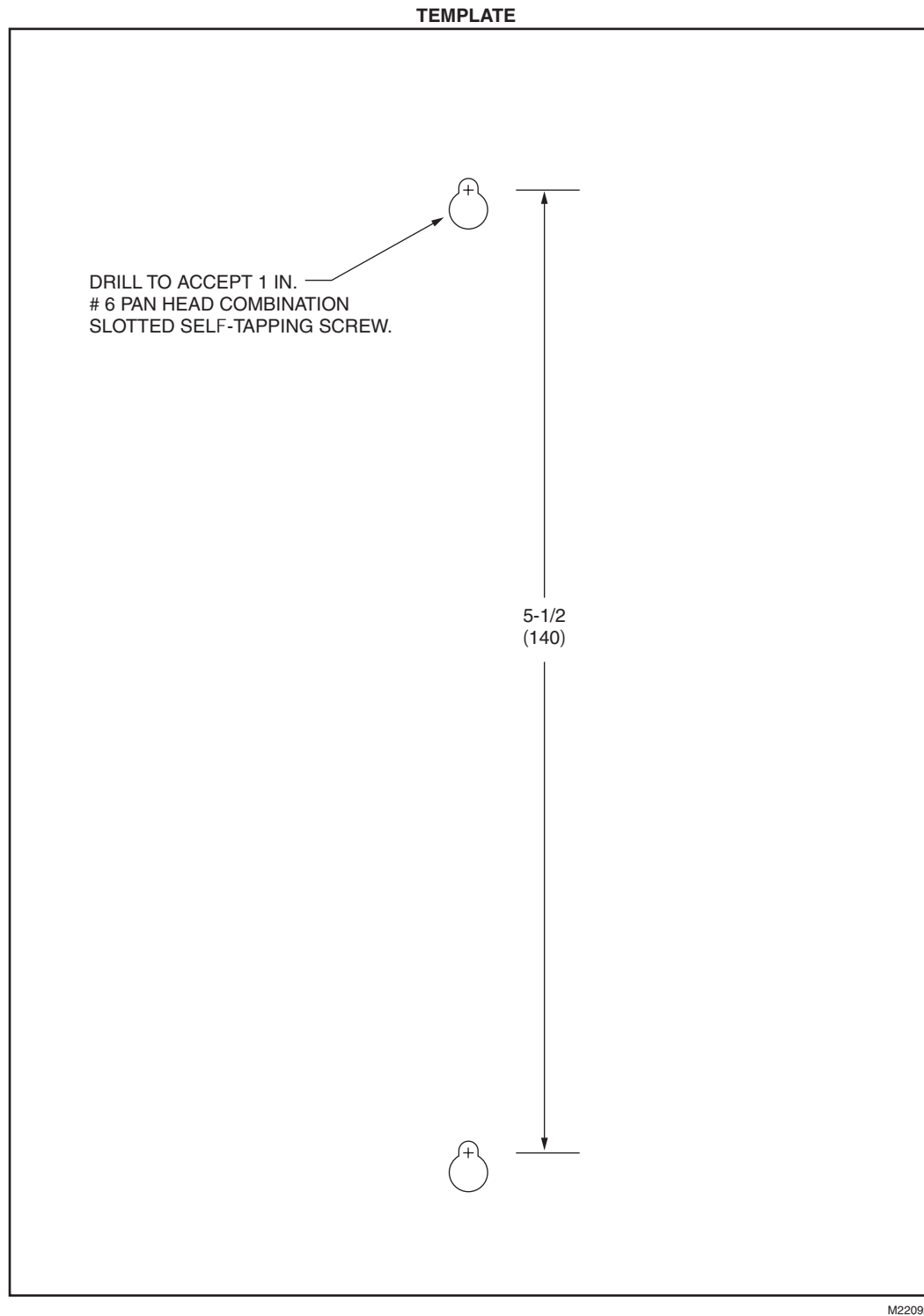
- When power is first connected, all LEDs flash briefly and green power indicator LED turns ON.
- Once a RapidLink is powered, the service LED remains off unless the service request switch is pressed.

**Table 4. RapidLink Power Supply Requirements.**

Power (Class 2 power supply only)	Minimum	Nominal	Absolute Maximum
Unregulated DC	+9 Vdc	+12 Vdc	+30 Vdc
Unregulated AC	+9 Vac	+12 Vac	+30 Vac



**Fig. 7. Connecting the portable operator terminal to the LonWorks Bus.**



**Fig. 8. RapidLink Dial-up Network Adapter - wall mounting template.**

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## APPENDIX A: RAPIDLINK Q7770A1001 REGULATORY INFORMATION

### Manufacturer's Declaration of Conformity

#### FCC Part 15, Class A

Operation is subject to the following conditions:

- This device may not cause harmful electromagnetic interference.
- This device must accept any interference received including interference that may cause undesired operations.

This equipment complies with Part 15 for Commercial use only.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### FCC Part 68

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of this equipment is a label that contains the ACTA product identifier US: HS9MD00BQ7770A01. If requested, this number must be provided to the telephone company.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. See installation instructions for details. This equipment uses the following standard jack types: RJ-11

The REN (Ringer Equivalency Number) is used to determine the number of devices that may be connected to a telephone line. In most areas the sum of REN should not exceed five (5). The REN for this product is 0.

In the unlikely event that this equipment causes harm to the telephone network, the telephone company can temporarily disconnect your service. In the event that a disconnection is deemed necessary, you will be notified of the disconnection and advised of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment, or operations, which could affect the operation of this equipment. If this occurs, the telephone company is required to provide you with advance notice so you can make the modifications necessary to maintain uninterrupted service.

If trouble is experienced with this equipment, check your connections. There are no user repairs that can be performed on the device.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

#### UL Listing/CUL Listing

This equipment is UL Listed and cUL Listed for use with Honeywell's energy management equipment UL File, E87741. The UL Control Numbers associated with this File are: 57M1, 58L9, or 680X. The product has been tested to comply with the requirements of UL 916.

#### CE Mark Declaration of Conformance

This product bears the CE Marking and is in conformity with the protection requirements of the following European Council Directives: 73/23/EEC (the Low Voltage Directive), 89/336/EEC (the EMC Directive), and 1999/5/EC (the Radio Equipment and Telecommunications Terminal Equipment Directive).

#### Applicable Testing Specifications:

##### Emissions:

EN55022 Part 15 Class A  
EN55022 Part 68.

##### Immunity:

EN61000-4-5 Level 2  
EN61000-4-4 Level 2  
EN61000-4.2 Level 3  
EN61000-4-6 Level 2  
EN61000-4-3  
EN61000-4-8  
EN61000-4-11  
EN55024





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