RS-485 Repeater

General Information

Greengate specifies that network runs should not exceed 4000 feet. In addition, there is potential with a large panel job (approximately 35 panels) of exceeding the number of panels that the network wire can electrically support due to added resistance with each panel.
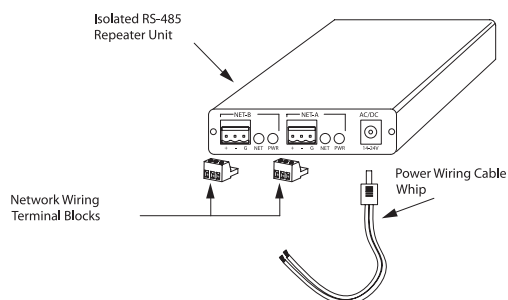
The Isolated RS-485 Repeater was designed to allow the expansion of the network wire beyond the specified 4000 foot limitation as well as the approximate 35 panel limitation. It provides the ability to amplify the network signal through an additional 4000 feet of network wire as well as an additional 35 panels.

The Isolated RS-485 Repeater's design also allows the electrical isolation of one side of the network from another helping to minimize the potential for network disruptions from ground faults present on the lighting control low-voltage wiring between network ports

Packaging

The Gateway data communications system consists of three parts:

- 1 Isolated RS-485 Repeater unit
- 2 Network Wiring Terminal Blocks
- 1 Power Wiring Cable Whip

Remove each part from its packing and check that the system is complete and undamaged

Network Wiring Information

The Isolated RS-485 Repeater should be installed in the middle of the network to allow for maximum signal boost. The Network Wire should not exceed 4000 feet or over approximately 35 panels on either side of the repeater.

Please follow the below instructions and diagrams carefully for proper installation:

1. Decide on the best location for the repeater in the network wire run. This should probably be near the approximate middle of the network wire. In addition, it should be within six feet of a panel for power wiring purposes.

2. Break one leg of the network wire in the panel that the unit is to be tied into.

3. Wire a short length of network wire between the panel network terminal block and the NET B or NET A side of the Isolated RS-485 Repeater matching positive to positive and negative to negative. Leave any shield wires disconnected.

4. Wire the other network port of the Isolated RS-485 Repeater to the network wire run going to the next panel.

5. Power the Isolated RS-485 Repeater unit up following the instructions in the next section.

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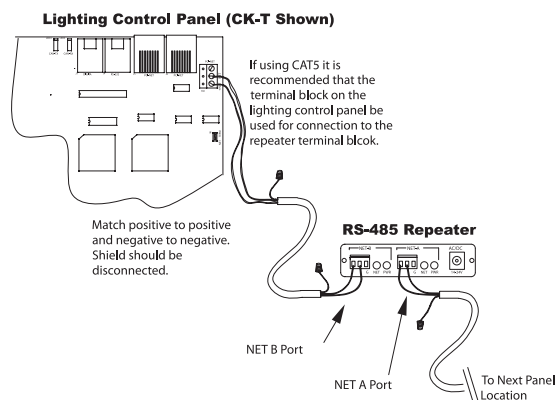
Power Wiring Information

The Isolated RS-485 Repeater is shipped with a power wiring cable whip which allows the unit to be powered off of a lighting control panel power supply. If the unit is being used between a TIM and Gateway device and it is not possible to locate it at another panel, an external power supply will be necessary. If this has not been purchased with your unit, please contact technical support at the number provided in your panel's manual for information on how to obtain the external transformer.

Typical Power Wiring for RS-485 Repeater
1. Locate the Power Wiring Cable Whip provided with the Isolated RS-485 Repeater Unit. It will have two wires.

2. Wire one of the wires from the power cable into the lighting panel's peripheral power connector +24V location. (Wire cable is not polarity sensitive)

3. Wire the other wire from the power cable into the lighting panel's peripheral power DC GND or - location.

4. Plug the barrel connector of the whip into the Isolated RS-485 Repeater power connection.

Local Remote Jumpers moved to the LOCAL position (jumper over pins 2 & 3)
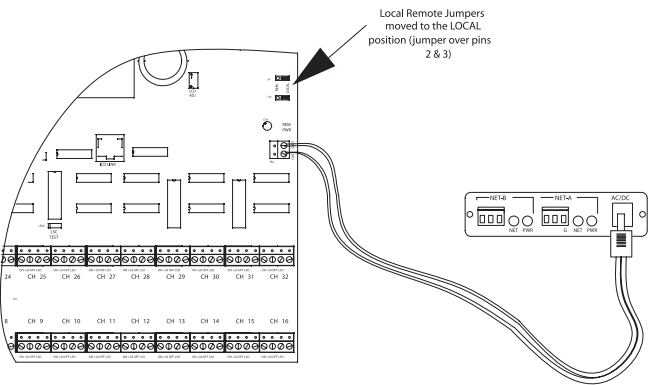
Refer to your lighting panel's installation instructions for location of the peripheral power connector.

Power from the Optional Transformer
If the optional transformer is being used, do not use the provided cable whip. The unit should be plugged directly into a 120VAC wall outlet.

To 120VAC Outlet
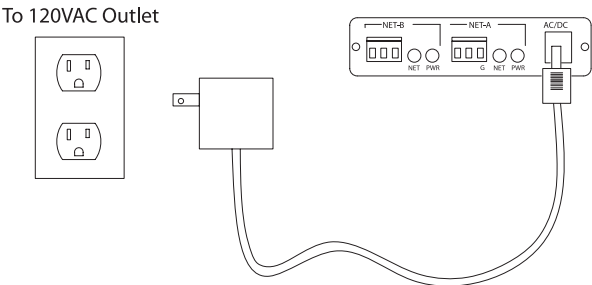
Operation Information

The RS-485 Repeater has LED indicator lights that may help determine whether the unit is functioning properly.

Each Network Port has its own LED indicators. They should operate as follows:

RED LED (Network)   GREEN LED (Power)

RED LED (Network)   GREEN LED (Power)
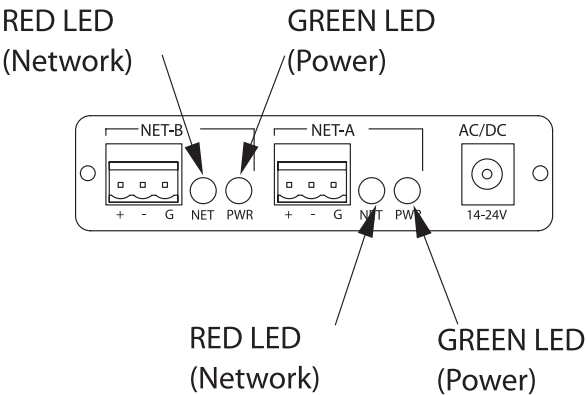
LED	Color	Description of Operation
Network	Red	The Network LED will flash when network traffic is received on the Network port.
Power	Green	An indication that the isolated power supply is functional for that network port. Both Power LEDs should be lit when the unit is powered. If only one Power LED is lit or neither is lit, the unit will not function

WARRANTIES AND LIMITATION OF LIABILITY

Please refer to **www.coopercontrol.com** under the Legal section for our terms and conditions.

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