



# Hub and Bus Isolator (APR3-HUB2) (V1.0)



## Instructions APR3HUB2-EI01

### INTRODUCTION

The APR3-HUB2 is a non-addressable module that extends and divides the control panel's bus into two completely isolated bus outputs (two for each connected APR3-HUB2). It extends the combus/communication bus by regenerating the signal between the control panel and its modules. Should one bus output experience trouble or tampering, the other will remain unaffected. The hub monitors the signal between the control panel and modules on each output. If the hub detects a loss of signal integrity it will cut off the troubled output until proper communication is reestablished.

If a hub's output experiences trouble or tampering, the control panel will generate a missing module trouble for every module connected on that output.

### INSTALLATION

#### Connecting the APR3-HUB2

Connect the APR3-HUB2's four input terminals labelled RED, BLK, GRN, and YEL to the corresponding terminals of the control panel as shown on the back page (Figure 2 "Connecting the APR3-HUB2").

#### Extending the Bus

The APR3-HUB2 has two independent bus output terminals (labeled "OUT") to connect system modules. From a hub, you can connect modules in a serial or "daisy-chain" configuration up to a distance of 914m (3000ft) for Digiplex panels and 76m (250ft) for a Spectra panel as shown on the back page (Figure 2 "Connecting the APR3-HUB2").

Each hub on the combus/communication bus requires the connection of two power supplies (one for each bus output terminal). Use either an external power supply such as the PS-817 for Spectra or a supervised power supply such as the DGP2-PS17 for Digiplex. In addition, each power supply requires its own transformer. Alternate configurations may result in improper operation or damage to the system.

The APR3-HUB2 is non-addressable, therefore you can connect an unlimited amount of hubs to the combus/communication bus without affecting the total number of modules supported by the control panel.

### Visual Feedback

The APR3-HUB2 has on-board LEDs to display activity status. These are:

- WDG LED: Flashes to show proper hub operation.
- ERROR LED: Flashes to show a network fault.
- DATA LED: Flashes to show network communication between modules to control panel.

### Troubleshooting

In the event that LEDs display the following status:

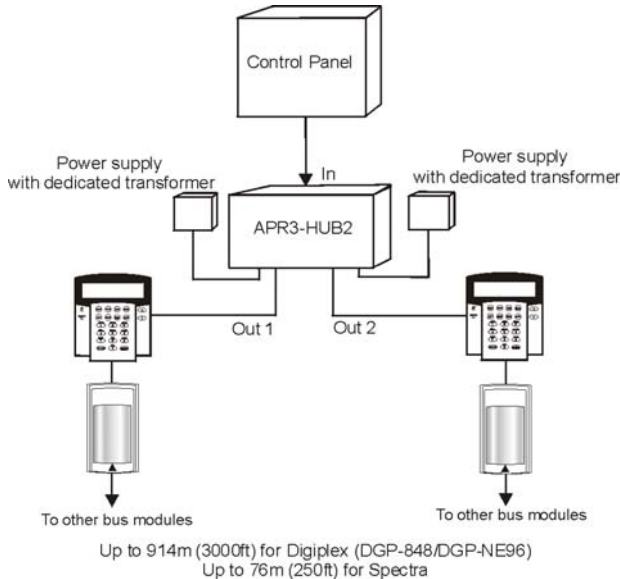
- WDG LED does not flash: Verify that the power supply for the input is properly connected.
- ERROR LED Flashes: Verify the following:
  - Verify that the power supply for the output is properly connected.
  - Verify for wire shorts between the output's GRN and BLK wires.
  - Verify for wire shorts of connected modules on the affected output.
  - Remove any relay, hardwired, or non bus-modules connected on the output, as this will affect communication.

### SPECIFICATIONS

- Power input: Typically 12-16Vdc
- Current consumption: Typically 24mA. (50mA max)
- Distance from panel: Digiplex (DGP-848/DGP-NE96): 18AWG = 914m (3000ft) or 22AWG = 305m (1000ft)  
Spectra: 18AWG or 22AWG = 76m (250ft)
- Distance of each output: Digiplex (DGP-848/DGP-NE96): 18AWG = 914m (3000ft) or 22AWG = 305m (1000ft)  
Spectra: 18AWG or 22AWG = 76m (250ft)
- Operating temperature: -20°C to 50°C (-4°F to 122°F)
- Compatibility: Any Spectra or Digiplex (DGP-848, DGP-NE96) control panel

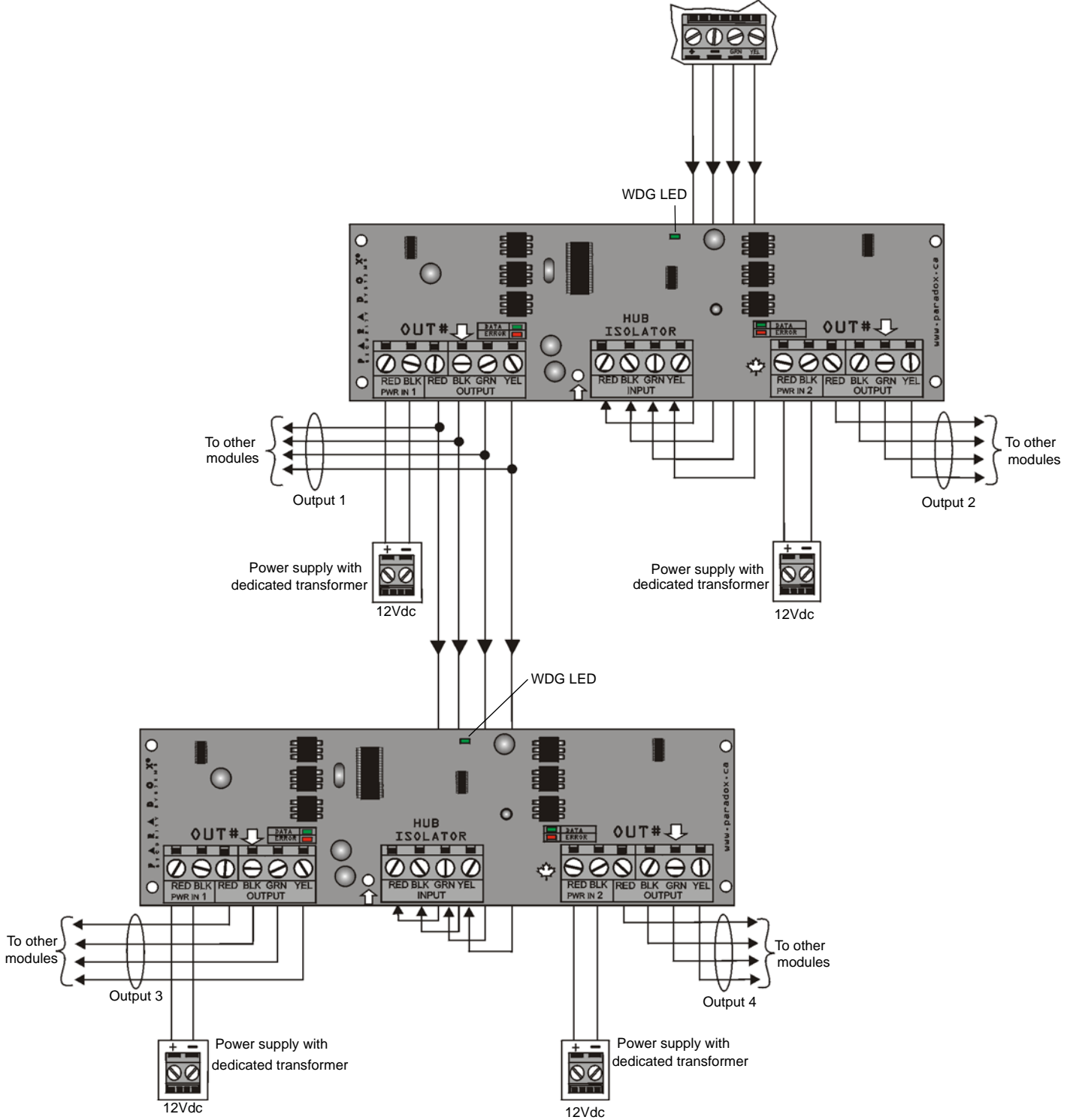
Since the APR3-HUB2's is non-addressable, the WinLoad software will not recognize the APR3-HUB2. WinLoad will recognize addressable modules connected to hubs throughout the combus/communication bus.

Figure 1: Overview of the APR3-HUB2



**Figure 2: Connecting the APR3-HUB2**

From other modules or a Spectra or Digiplex (DGP-848/DGP-NE96) control panel



The APR3-HUB2 is non-addressable, therefore you can connect an unlimited amount of hubs to the bus network without affecting the total number of modules supported by the control panel.

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