**GR 2400 QUICK-START GUIDE**

**System Installer Read This First**
Follow the Release Package (provided with your shipment) and cut your installation time in half. For specific product manuals and installation guides, visit www.lightingcontrols.com or call Tech Support at 800-345-4448 prior to equipment start-up and turn-over.

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**TORQUE SPECIFICATIONS**

**Torque Specification Instructions**
- Torque specs for the relay terminal block is 16 in-lbs. With a 1" diameter = ½" radius screwdriver this means a turning force of 32 lbs. This is a fairly solid turning force without overdoing it.
- **Copper is “ductile,”** which means that it can compress and flow.
- To ensure a good connection in the terminal block, follow this procedure:
  1. Tighten the terminal to the specified torque.
  2. Wiggle wire, move it slowly from side-to-side while pulling gently.
  3. Tighten to the specified torque—1/16 to 1/4 of a turn or more.
  4. Repeat until screw does not turn further.

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**Panel and Switch Schedules**

**IMPORTANT NOTE:**
Digital devices are pre-programmed for installation ease. Follow these schedules and cut your installation time in half.

**Relay Panel Schedule**

**Switch Schedule**

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LOW-VOLTAGE CABLING

Digital devices have two RJ45 connectors and are daisy-chained using Cat. 5 cable. Non-digital devices (photosensors, toggle switches, etc.) are cabled per their installation guides (not daisy-chained).

** Active Device:

- Bus-Powered Device:

<table>
<thead>
<tr>
<th>Total Feet of Cable from Power</th>
<th>Number of Bus-Powered Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 ft.</td>
<td>Non Allowed</td>
</tr>
<tr>
<td>900 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>800 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>700 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>600 ft.</td>
<td>Allowed</td>
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<tr>
<td>500 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>400 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>300 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>200 ft.</td>
<td>Allowed</td>
</tr>
<tr>
<td>100 ft.</td>
<td>Allowed</td>
</tr>
</tbody>
</table>

- A device with a power supply (transformer). It acts as a source of electrical energy for the bus.
- Any device that relies on the 12V supplied by the bus for its power, i.e.—digital switches, and photocell cards.

Eliminate Interference

Isolate Cat. 5 cables from line-voltage cable. Cat. 5 cable must be at least 12” from line-voltage conductors, except to cross or make terminations.

Don’t Cause a Voltage Drop!

There is a limit to how many switches and photocell cards you can add in a row over long runs of Cat. 5 cabling.

OUTDOOR PHOTOCELLS

1. Mount the photocell on the roof facing North.
2. Pull 24/18 AWG from the photocell to the photocell card (usually located in a LCP).
3. Match the blue conductor to the blue input and the red conductor to the red input on the photocell card.
4. The photocell is polarized; so ensure correct cabling.

Bus-Powered Devices’ Allowed for Each Active Device*  

Examples: Per the above chart, up to three bus-powered devices may be powered across 1,000 ft. of cable.

Low-voltage cabling must avoid EMF or RF from ballasts, arc welders or other “noisy” loads. EMF or RF interference can create an unstable bus.

Don’t Cause a Voltage Drop!

There is a limit to how many switches and photocell cards you can add in a row over long runs of Cat. 5 cabling.

MAKING UP RJ45 CONNECTORS

Never made up RJ45 connectors before? It’s easy. Just follow the steps below:

1. Remove two inches of the Cat. 5 jacket —use the wire stripper and cutter provided in our kit. Carefully inspect the conductors for nicks.
2. Untwist all four pairs and straighten/smooth out each conductor.
3. Reorganize conductors in the order shown below. Bring all of the conductors together until they touch.
4. Place an EZ connector on the end of the cable with the locking prong facing down.
5. Push conductors through and trim off all excess cable with flush/cutting tools. Dull tools cause more hazards than sharp ones.
6. Using the recommended ratcheting crimp tool, crimp at least five times for the best possible connection.
7. Visually inspect each connector. Contacts should be pushed into the insulation of each conductor.
8. Repeat on the other end of the cable for a straight-through cable.
9. Test every cable for continuity with a LAN cable tester. While testing, wiggle and tug on each connector to test for a solid crimp.

Important Note:

If you need help or if you get stuck, contact Tech Support at 800-345-4448.