UNIT DESCRIPTION

The LMSM-3E/LMSM-6E Digital Lighting Management (DLM) Digital Network Segment Manager is a network controller designed for use with DLM local networks (including LMCP panels), and/or LILM lighting control panels. The Segment Manager provides global control, monitoring, adjustment, and scheduling functionality for networked DLM systems across multiple rooms in a building. The Segment Manager can also communicate with Segment Manager Supervisor software for large building and campus control applications.

PREPARATION

Unpack the Segment Manager and power module and inspect the package contents for damaged or missing components. If damaged, notify the appropriate carrier at once and return any damaged components for immediate repair or replacement.

Included in this Package

Included in this package you should find the following items:

• A Segment Manager.
• An LMSM-PS power supply.
• These Segment Manager Installation Instructions.
• Grounding wire, with quick-disconnect 0.187” female connector.
• Segment Network terminal block(s); one for the LMSM-6E, three for the LMSM-3E.
• End-of-Line 120 Ohm terminating resistors; two for the LMSM-6E, six for the LMSM-3E.

Additional resistors can be ordered if they can’t be sourced locally, using the part number LMTR-10PK.

Safety Precautions

The following items are warnings of a general nature relating to the installation and start-up of the Segment Manager. Be sure to heed these warnings to prevent personal injury or equipment damage.

Warning

• Disconnect power before installation or servicing to prevent electrical shock or equipment damage.
• Make all connections in accordance with national and local electrical codes. Use copper conductors only.
• To reduce the risk of fire or electrical shock, install in a controlled environment relatively free of contaminants.
• This device is only intended for use as a monitoring and control device. To prevent data loss or equipment damage, do not use it for any other purpose.

Static Discharge Precautions

Static charges produce voltages high enough to damage electronic components. The microprocessors and associated circuitry within a Segment Manager are sensitive to static discharge. Follow these precautions when installing, servicing, or operating the system:

Caution

• Work in a static-free area.
• Discharge any static electricity you may have accumulated. Discharge static electricity by touching a securely grounded object.
• Do not handle the printed circuit board (PCB) without proper protection against static discharge. Use a wrist strap when handling PCBs. The wrist strap clamp must be secured to earth ground.
Mounting

Mount the Segment Manager in a location that allows clearance for wiring, servicing, and module removal. Environmental Requirements

Note the following requirements for the Segment Manager mounting location:

- This product is intended for indoor use only. Do not expose the unit to ambient conditions outside of the range of 0°C (32°F) to 50°C (122°F) and relative humidity outside the range 5% to 95% non-condensing.
- If mounting inside an enclosure, that enclosure should be designed to keep the unit within its required operating range considering a 20-watt dissipation by the Segment Manager, plus dissipation from any other devices installed in the same enclosure. This is especially important if the Segment Manager is mounted inside an enclosure with other heat producing equipment.
- Do not mount the unit:
  - in an area where excessive moisture, corrosive fumes, or explosive vapors are present.
  - where vibration or shock is likely to occur.
  - in a location subject to electrical noise. This includes the proximity of large electrical conductors, electrical machinery, welding equipment, spark igniters, and variable frequency drives.

Physical Mounting

The following information applies to physically mounting the unit.

- You can mount the Segment Manager in any orientation. It is not necessary to remove the cover before mounting.
- Mounting on a 35mm wide DIN rail is recommended. The Segment Manager unit base has a molded DIN rail slot and locking clip.
- If DIN rail mounting is impractical, you can use screws in mounting tabs on the Segment Manager. Tab dimensions are in Figure 2.
- The LMSM-ENC1 is an optional DIN rail equipped enclosure. The LMSM-ENC1 provides an integral 120VAC receptacle, conduit connection points and protection for the Segment Manager. It is designed for applications where code or the local AHJ requires that low voltage wiring such as control and communication wiring be run inside conduit, or where needed for customer specifications. See the instructions provided with the LMSM-ENC1 for more information.
- The LMCP-AMP is an optional mounting plate, which allows mounting the LMSM within an LMCP panel. The LMSM then uses a cable provided with the LMSM-AMP, to connect to the power supply of the LMCP instead of the LMSM-PS.
- The LMSM-6E can also be mounted in an LMNC enclosure, where multiple NB-Routers and an NB-Switch are used.

To mount on third-party DIN rail (when not using the LMSM-ENC1 or LMCP-AMP)

The following procedure provides step-by-step DIN rail mounting instructions for the Segment Manager. It is recommended to leave 2 inches of clearance above and below the segment manager.

1. Securely install the DIN rail using at least two screws, near both ends of the rail.
2. Position the Segment Manager on the rail, tilting to hook DIN rail tabs over one edge of the DIN rail (see Fig. 1).
3. Use a screwdriver to pry down the plastic locking clip, and push down and in on the Segment Manager, to force the locking clip to snap over the other edge of the DIN rail.

General Dimensions

- 7.13" (181mm)
- 6.38" (162mm)
- 2.05" (52mm)
- 4.1" (104mm)

Attaching to DIN rail

Removing from DIN rail

Fig. 1: DIN Rail Mounting
Tab Mounting

Electronic and printed versions of this guide may not show the dimensions to scale. Verify all measurements before drilling.

NOTE: DIN rail mounting is recommended over tab mounting (see Fig. 1).

![Tab Mounting Dimensions](image)

Removing and Replacing the Cover

The cover snaps onto the base with four plastic tabs (two on each end).

To remove the cover, press in the four tabs on both ends of the unit, and lift the cover off.

To replace the cover, orient it so the cutout area for comm ports is correct, then push inwards to snap in place.

![Removing the Cover](image)

BOARD LAYOUT

Fig. 4 shows the location of LEDs, option slots, and other features of the Segment Manager with the cover removed. For a side view of communications ports and other features see Fig. 5 & 6.

![Board Layout](image)
Make connections to the Segment Manager in the following order:

1. Connect supplied earth grounding wires (with spade connector) from the earth ground lug on the Segment Manager to a nearby earth grounding point. See “Grounding” for details.
2. Prepare power wiring, but leave the unit powered off; do not plug in the Barrel power connector from the Power Module until all other mounting and wiring is complete. See “Power Wiring” for details.
3. Connect communications cables. See Figures 5 & 6 for ports available on the Segment Manager.

**Grounding**

An earth ground spade lug (0.187”) is provided on the base of the Segment Manager for connection to earth ground. For maximum protection from electrostatic discharge or other forms of EMI, connect the supplied earth grounding wire to this lug and a nearby earth ground (see Fig. 4 & 6). Keep this wire as short as possible.

**Power Wiring**

The Segment Manager must be powered by an approved 15VDC power source. This can be either an external wall mount AC adapter (LMSM-PS included with Segment Manager), or other source of 15 volts DC.

If mounting the Segment Manager inside an LMCP panel using the LMCP-AMP mounting bracket, the Segment Manager connects directly to the panel’s LMPI circuit board, using the Auxiliary Power connector. See the LMCP-AMP Installation Instructions for details.

The Segment Manager does not have an on/off switch. To apply power, plug in the Barrel power connector to the Segment Manager (see Fig. 5 & 6 for location).

**Caution**

Do not plug the Barrel connector plug from the LMSM-PS into the Segment Manager until all other mounting and wiring is completed.

**Power Supply Module (LMSM-PS)**

The power module is a self-contained, isolated, switching power supply designed to plug into a standard building 115/120VAC power receptacle. To supply power to the Segment Manager, you then simply plug the Barrel connector plug from the LMSM-PS into the Barrel power connector on the Segment Manager board.

**Communications Wiring**

Before connecting cables, provide strain relief for them to prevent damage to the Segment Manager. Connect communications wiring to the Segment Manager using ports on the bottom of the unit (see Fig. 6), which include:

- RJ-45 Ethernet for PC or LAN connection
- RS-485 (3-position) for Segment Network (BACnet MS/TP) connections

**Wiring an LMSM-3E**

Connect an RJ-45 Ethernet cable from a PC (or a network the PC is connected to) to the LMSM-3E. See the “Ethernet” section on the next page for details.

For each segment you are connecting to the LMSM-3E (up to 3), attach one end of the LM-MSTP cable to a terminal block, as shown in Figure 6 and described below.

Connect a 120 ohm resistor between - and + wires on the Segment Manager Terminal block and on the last DLM MS/TP network device located at the other end of the segment.

Connect the shield conductors from all network segments to earth ground at the Segment Manager. The LMSM-ENC1 enclosure provides a ground lug for this purpose and is recommended. Do not connect the shield conductor(s) at any other device.

**Wiring an LMSM-6E**

Typically, an LMSM-6E will be connected to a switch and to multiple routers. These components are usually housed inside an LMNC DLM Network Component Enclosure. In this case, the LMSM-6E connects to the switch using Ethernet cable, and each router connects to a segment using LM-MSTP cable. The rules regarding termination and grounding still apply when connecting the cable to the router. See the wiring examples in the section, “Connecting the Segment Manager to an MS/TP Network.”
**Attaching Ferrules to LM-MSTP Wires**

WattStopper recommends attaching ferrules to the LM-MSTP wires to help maintain signal integrity. Wires should be stripped as shown in Fig. 7. Insert the wire into a ferrule and crimp the end, using a crimping tool designed to work with ferrules. Then insert the end of the ferrule into the appropriate slot in the terminal block.

**Ethernet**

Two female 10/100-Mbit Ethernet connections are provided on the Segment Manager. These are RJ-45 connectors labeled LAN2 and LAN1. Use a standard Ethernet patch cable for connecting to a hub or Ethernet switch. An activity LED for each Ethernet port is visible and they are labeled “SEC” (for LAN2) and “PRI” (for LAN1) on the cover.

The factory-default **IP address for LAN1** on a Segment Manager is **192.168.1.12x**, where the last digit of the Segment Manager’s serial number. This address can be changed. See the Segment Manager Operation Manual for details. The **subnet mask** is **255.255.255.0**.

The factory-default **IP address for LAN2** on a Segment Manager is **192.168.5.12x**, where the last numeral “x” in the address matches the last digit of the Segment Manager’s serial number.

**NOTE:** Only use LAN1 (primary port), unless you have a specific application for isolating a driver’s network traffic to a separate LAN, using LAN2. Do not use LAN2 as the primary port.

**Serial Port LEDs**

LEDs for the two serial ports are located on the Segment Manager’s bottom board, on the opposite side of the RS-232 and RS-485 ports (see Fig. 6). Labels “COM1” and “COM2” correspond to the software configuration of the COM ports. LEDs show the transmit and receive activity for the serial ports and optional modem. (The RS-232 port is not normally used.)

**NOTE:** You must remove the cover to view the serial port LEDs. See **Tab Mounting** on page 3.

- The yellow transmit (Tx) LED indicates that the Segment Manager is sending data out the serial port over a communications line to a connected device.
- The green receive (Rx) LED indicates that the Segment Manager is receiving data from a connected device.

These LEDs provide a fixed on-time when data is detected on the port. If the Rx LED is on constantly, this indicates a problem with the communications channel, such as a shorted wire or reversed wiring.

**Connecting the Segment Manager to an MS/TP Network**

The Segment Manager should always be placed at one end of an MS/TP segment. It can be connected directly to a PC, or else to an NB-Router. There is a maximum of 40 LMBC-300s or panels (with a maximum of 300 total DLM devices) per segment network.

**NOTE:** Because panels are a much larger collection of objects, they count as multiple rooms and devices. See the table in the next section.

**NOTE:** With large implementations, WattStopper recommends not fully loading a segment to maximum capacity, to allow for future changes or additions to the segment.

Following are some examples of various connection scenarios.

**LMSM-3E**

The LMSM-3E can connect to up to three separate segments, and is used for buildings in which there is no more than 120 rooms (controlled by the LMBC-300 bridge) or common areas (controlled by a panel or zone controller).

---

**Fig. 7: Attaching Ferrules**

**Fig. 8: LMSM-3E – Example of a single network segment with 40 or fewer rooms/common spaces**
LMSM-6E

The LMSM-6E is typically used in conjunction with multiple NB-Routers and an NB-Switch. These components are usually housed inside an LMNC DLM Network Component Enclosure. Each router communicates with one segment. There is a maximum of 300 rooms or common spaces controlled by a single Segment Manager, and the maximum of 40 per segment still applies. Therefore a typical application with close to 300 rooms/spaces (and up to 2200 DLM devices) might use between seven and nine routers, depending on how many devices are connected in each segment. (As mentioned previously, WattStopper recommends not fully loading a segment to maximum capacity, to allow for future changes or additions to the segment.)

Fig. 9: MSM-3E – Example of a 3 story building with no more than 40 rooms/common spaces per floor

Fig. 10: LMSM-6E – Example of a 4 story building with some floors having more than 40 rooms/common spaces

Wattstopper recommends a maximum of 32 rooms per segment to allow for future expansion.
In larger buildings with more floors and/or more than 300 rooms/spaces, multiple segment managers are used and connected via Ethernet.

Fig. 11: Two LMSM-6Es – Example of a 10 story building with no more than 40 rooms/common spaces per floor

Wattstopper recommends a maximum of 32 rooms per segment to allow for future expansion.
Panel/Room Equivalency

Relay panel products/zone controllers supported by the Segment Manager must be treated as large DLM rooms when calculating the segment network device count, as shown in the equivalency chart below. Note that because LMCP relay panels create data objects for connected in-room products, a count of connected products (sensors, switches, etc.) must be added to the device equivalency number to establish the total data footprint for the panel/zone controller.

<table>
<thead>
<tr>
<th>Panel</th>
<th>Room equivalency</th>
<th>Device equivalency</th>
<th>Connected devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMCP8</td>
<td>3</td>
<td>20</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>LMCP24</td>
<td>5</td>
<td>30</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>LMCP48</td>
<td>7</td>
<td>40</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>LILM8*</td>
<td>3</td>
<td>20</td>
<td>Do not count connected devices</td>
</tr>
<tr>
<td>LILM24*</td>
<td>5</td>
<td>30</td>
<td>Do not count connected devices</td>
</tr>
<tr>
<td>LILM48*</td>
<td>7</td>
<td>40</td>
<td>Do not count connected devices</td>
</tr>
</tbody>
</table>

* not recommended for new DLM projects

<table>
<thead>
<tr>
<th>LMZC-301 Zone Controller</th>
<th>Room equivalency</th>
<th>Device equivalency</th>
<th>Connected devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>With 0 LMFC-011s or LMRCs connected</td>
<td>1</td>
<td>10</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>With 1-24 LMFC-011s or LMRCs connected</td>
<td>3</td>
<td>20</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>With 25-48 LMFC-011s or LMRCs connected</td>
<td>5</td>
<td>30</td>
<td>Count connected devices</td>
</tr>
<tr>
<td>With 49-64 LMFC-011s or LMRCs connected</td>
<td>7</td>
<td>40</td>
<td>Count connected devices</td>
</tr>
</tbody>
</table>

POWER UP AND INITIAL CHECKOUT

Ensure power wiring to the Segment Manager is ready—see the “Power Wiring” section above. Refer to Fig. 4 for the locations of the Segment Manager battery connector, status LEDs and Barrel power connector (for LMSM-PS only).

After mounting and wiring, perform the following:

**Step 1: Apply Power**

Apply power to the Segment Manager by plugging the power plug into the power connector on the Segment Manager. Refer to Figure 5 for location of the power connector.

**Step 2: Check the Status LEDs**

When power is applied, the green LED labeled “STATUS” lights. This indicates that the system is OK and that power is applied.

Once the Segment Manager boots, the yellow “BEAT” (heartbeat) LED begins blinking, with a typical rate of about 1 Hz. Blinking should begin within 30 seconds after power is applied. Watch the blinking yellow BEAT LED and wait at least one minute before attempting to log on to the Segment Manager.

If after applying power, the STATUS LED goes out, or if the BEAT LED comes on (steady) and stays lit longer than two minutes, contact WattStopper Technical Support. See also the “Using Status LEDs” section.

**BATTERY**

A custom 10-cell NiMH battery pack is available for the Segment Manager. It is mounted to the unit (under the cover). This battery allows the Segment Manager to continue operation through a very short power loss (a few seconds in duration).

The Segment Manager charges the battery during normal operation, until fully charged. Typically, the charge operation completes within 18 hours. Following a power outage, the battery is charged again, as necessary. The power and battery circuitry is monitored by a station running on the Segment Manager (via the PowerMonitorService). Station alarms are generated whenever primary power is lost, or if the battery is uncharged or unable to hold a sufficient charge. The battery should be replaced approximately every three years, or more often if the unit is in a high temperature environment.

**NOTE:** A NiMH battery characteristic is to lose charge if not left in charge mode (trickle charge). Leaving the battery unconnected, or in a unit that is powered off, causes the battery to fully discharge in a matter of weeks. Note that new Segment Managers ship from the factory with a completely discharged battery. Allow at least 18 hours for the battery to charge if it has not been in a powered unit.

For more information on the use and replacement of the battery, refer to the “Required Battery Maintenance” section.
USING STATUS LEDS

The Segment Manager includes several LEDs that can help you determine the status of the unit. They are located in two places as shown in Fig. 4: the top of the Segment Manager (visible through the cover), and for serial ports, on the bottom board (visible only with cover removed). From left to right these LEDs include:

- Ethernet Ports (SEC, PRI)
- Heartbeat (BEAT)
- Status (STATUS)
- Serial Ports (see Serial Ports section on page 8 for explanation)

Refer to Fig. 4 for the exact locations of status LEDs on the Segment Manager.

Ethernet Ports

Each Ethernet port (“SEC” for LAN2, “PRI” for LAN1) has one green LED, visible on the top cover. The LED indicates activity on the associated port as follows:

- Off – No Ethernet link is made.
- On – Ethernet link is present, but no activity on the LAN.
- Blinking – Ethernet link is present with data activity on the LAN.

Heartbeat

The “BEAT” LED is located to the right of the Ethernet LEDs, and is yellow. Under normal operation, this LED should blink about once per second. If the heartbeat LED stays on constantly, does not light, or blinks very fast (more than once per second), contact technical support.

Status

The “STATUS” LED is located to the right of the heartbeat (“BEAT”) LED, and is green. This LED provides a CPU machine status check, and should be lit when the Segment Manager is powered.

If the STATUS LED is not lit while power is applied, contact WattStopper Technical Support.

INITIAL LOGIN AND SET UP

Make sure that you have followed all installation instructions and that the Segment Manager is properly powered and connected to the segment network(s).

1. Connect a PC to the LAN 1 connection on the Segment Manager using a standard Ethernet cable (not supplied). Note that some older PCs require the use of a crossover cable for this connection.

2. Confirm that the LED labeled PRI is lit on the top of the Segment Manager housing. This indicates that an Ethernet connection is present. Confirm that the link indicator on the PC’s NIC is also lit. If both are not lit, try using another cable or try using a crossover cable.

3. Set the network adaptor in your PC to use a static IP address in the same range as the Segment Manager. Set the PC to 192.168.1.xxx (where xxx is any number between 001 and 255 and is not the same as the Segment Manager). Set the subnet mask to 255.255.255.0. If you need assistance with this step, see the Appendix: Static IP Address Setup on page 14.

4. Open a browser on the PC and enter the following in the address field:

   http://192.168.1.12x

   (where x is the last digit of the Segment Manager’s serial number)

   The Segment Manager’s serial number is printed on a label located near the LAN1 connector under the plastic cover.

5. Press ENTER. The browser displays a progress indicator while the Segment Manager downloads a small application to the PC. This process is only required the first time that you connect to the Segment Manager.

6. When the Login window appears, enter the factory default login:

   Username: SegMan
   Password: w@ttstopper

   Note that both the user name and password are case sensitive

   Click the “Login” button. Logins with individual permissions can be customized for different users. Refer to the Operation Manual for setting up user logins.

7. The Segment Manager’s Home screen opens in the browser window. Refer to the Operation Manual for further set up and operation of the Segment Manager.

MAINTAINING THE SEGMENT MANAGER

Cleaning

If dust or metal filings are present inside the unit, clean with vacuum or compressed air. Otherwise, no cleaning inside the unit is required. Optionally, if the cover becomes dirty, you can wipe it with a damp cloth and mild detergent.

Required Battery Maintenance

Battery life expectancy is a function of its discharge cycles (the number of discharges and their depth) and the ambient temperature of the battery during normal operation. In most applications, the battery should see relatively few discharges. Therefore, ambient temperature has more to do with determining the life expectancy of the battery than does any other factor. If the Segment Manager is installed in a conditioned space, the battery should provide dependable service for approximately three years (average). In an environment where the operating temperature is higher (that is, 50ºC or 122ºF), you should only expect the battery to last approximately one year.
The NiMH battery in the Segment Manager is fully discharged when factory shipped. Additionally, NiMH batteries lose charge over time if not kept trickle-charged (see “About the Battery”). Therefore, even a new unit (or replacement battery) requires up to 18 hours of powered operation before it can provide reliable backup power (is at full charge).

The Segment Manager monitors the battery and periodically loads the battery to test its ability to maintain battery-backed functions. Investigate any battery trouble message, and check the battery connections to the unit. Replace the battery as required.

Replacing the Battery
The replacement NPB-BATT battery is a complete assembly, that is a custom NiMH battery pack pre-attached to a battery bracket (see Figures 4 and 5).

Caution
Use only battery packs approved for use with the Segment Manager.

1. Backup the Segment Manager’s configuration to your PC using the appropriate NiagaraAX software tool (for example, Workbench).
2. Remove power from the Segment Manager. Wait for LED activity to stop—after several seconds, all LEDs on the Segment Manager should be off.
3. Remove the cover. See “Removing and Replacing the Cover,” page 6.
4. Remove the old battery and bracket assembly by taking out the four screws holding it in place, setting the screws aside for later. Unplug the battery from the connector on the Segment Manager.
5. Plug the battery connector plug of the replacement battery into the battery connector on the Segment Manager. The connector is keyed—you cannot insert it incorrectly. The red (positive) connection should be the furthest from the two 30-pin option board connectors. For more battery details, see “About the Battery.”
6. Set the replacement battery/bracket assembly back over the option card slots, with the mounting holes aligned with the standoffs.
7. Place the four screws through the battery bracket, option card blanking plates, option cards (if any), and into the standoffs on the Segment Manager board. Using a screwdriver, hand tighten these screws.
8. Replace the cover.
9. Restore power to the Segment Manager and verify normal operation.

CERTIFICATIONS

Federal Communications Commission (FCC)
This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause interference with radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case, users at their own expense will be required to take whatever measures may be required to correct the interference. Any unauthorized modification of this equipment may result in the revocation of the owner’s authority to continue its operation.

Canadian Department of Communications (DOC)
NOTE: This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
NOTE: Cet appareil numerique de la classe A respecte toutes les exigencies du Reglement sur le material broilleur du Canada.

EMC Standards Applied

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
<th>Criteria Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 61000-6-4</td>
<td>Electro-Magnetic Compatibility Emissions Generic</td>
<td>Complies</td>
</tr>
<tr>
<td>EN 61000-6-2 and EN 61000-6-1</td>
<td>Electro-Magnetic Compatibility Immunity</td>
<td>Complies</td>
</tr>
<tr>
<td>EN50081-2</td>
<td>Generic Emission Standard for residential, commercial, and light industrial environment</td>
<td></td>
</tr>
<tr>
<td>CISPR 11</td>
<td>Limits of Radio Disturbance - Radiated Emissions</td>
<td>PASS Class A</td>
</tr>
<tr>
<td></td>
<td>Limits of Radio Disturbance - Conducted Emissions</td>
<td>PASS Class A</td>
</tr>
<tr>
<td>IEC 61000-4-2</td>
<td>E.S.D</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>IEC 61000-4-3</td>
<td>Radiated Field Immunity</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>IEC 61000-4-4</td>
<td>Electrical Fast Transient Immunity (Signal Ports) Electrical</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td></td>
<td>Fast Transient Immunity (AC Power)</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>IEC 61000-4-5</td>
<td>Surge Immunity</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>IEC 61000-4-6</td>
<td>Conducted Immunity</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>EN 61000-3-2</td>
<td>Harmonic</td>
<td>Current PASS</td>
</tr>
<tr>
<td>EN 61000-3-3</td>
<td>Quasi-Stationary Harmonics Test, Voltage Fluctuation and Flicker</td>
<td>PASS</td>
</tr>
<tr>
<td>IEC 61000-4-11</td>
<td>Voltage Dips</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td></td>
<td>Voltage Interrupts</td>
<td>PASS Criteria A</td>
</tr>
<tr>
<td>IEC 61010-10-1: 90 +A1:92 + A2:95</td>
<td>Safety requirement for electrical equipment for measurement, control and laboratory use</td>
<td>PASS</td>
</tr>
</tbody>
</table>
These instructions apply to Windows 7, 8, or 10. Consult the appropriate documentation for other operating systems.

To set up the computer for direct connection to the Segment Manager, proceed as follows:

1. Click on the Start menu and type: network sharing center. Then Click on “Network and Sharing Center” in results.

2. Click Local Area Connection to open the Local Area Connection Status window.

4. Click Properties.

5. Select **Use the following IP address**.

6. Enter the **IP address** and **Subnet mask**. Set the PC to 192.168.1.xxx (where xxx is any number between 001 and 255 and is **not** the same as the Segment Manager). Set the subnet mask to 255.255.255.0.

7. Click **OK** then close all remaining windows.