SYSTIMAX® Solutions

Category 6 Outside Plant Design and Installation Guidelines

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Overview

The SYSTIMAX Category 6 OSP solutions can be used when Channels are needed to locations outside the normal protection of a building. Typical applications are for adjacent buildings, parking garage terminals, guardhouses, outdoor wireless Access Points.
Standards based configurations up to 100 meters having up to 4 connections meet Category 6 (Class E) specifications. When an outside line is considered exposed, a protector must be installed at each end to intercept and ground hazardous voltages and currents. The protectors also terminate the OSP cable and connect it to an approved building cable.

Local code requirements must be followed. Typical code requirements include terminating the OSP cable within 50 feet of entering the building, and common bonding with the electrical systems. The 1571 OSP cable does not have an aerial support strand or rodent protection. These must be included with the design as needed.

Design Options

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### Channel Element

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<th>Channel Element</th>
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<tr>
<td>a – Work area cord</td>
<td>GS8E</td>
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<tr>
<td>b – Remote zone cable</td>
<td>1071/2071/3071</td>
</tr>
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<td>c – OSP cable</td>
<td>1571</td>
</tr>
<tr>
<td>d – EF cable</td>
<td>1071/2071/3071</td>
</tr>
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<td>e – Equipment cord</td>
<td>GS8E</td>
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<tr>
<td>Protector</td>
<td>Category 6 16V (LAN - See Note 2)</td>
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<td></td>
<td>Category 6 16V w/PoE (LAN e/PoE - See Note 3)</td>
</tr>
<tr>
<td></td>
<td>Category 6 235V (Analog Telephone)</td>
</tr>
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### Notes

1. Details of connectors and a, b, d, and e can be found in the SYSTIMAX PS/GS Design Guidelines and Installation Guidelines.

2. VoIP phones, not powered by PoE, should use the Category 6 16V LAN protector.

3. It is imperative to determine whether PoE power is being deployed per IEEE 802.3af Alternative A or B prior to the installation of protectors:
   a. Category 6 w/PoE Protectors support the following PoE devices:
      • All Midspan devices because they only supply power per Alternative B. All SYSTIMAX PoE devices are Midspan.
      • Endspan devices adjusted to supply power per Alternative B
   b. Category 6 w/PoE Protectors do not support the following PoE devices:
      • Endspan devices adjusted to supply power per Alternative A
The water repelling gel may leak from the end, so it should be blocked before termination. A vertical drop to the protector and/or high temperatures may aggravate this. After removing the jacket end, carefully wipe the excess gel from the end, and then follow the steps below.

**Cable Blocking**

1. **Slip the blocking tube over the pairs**

2. **1/2 fill the tube with blocking sealant**

3. **Slide the tube 1/2 over the jacket end**

4. **Tightly tie wrap the end of the tube**

*B-SEALANT 700010911*
5. Bend the pairs toward their termination’s make sure the blocking sealant has filled the tube.

6. Place the blocked cable and terminate.
Protector Installation

1. REMOVE LID

2. INSTALL STARTING SCREW WITH EYELET

3. INSTALL HOLDING SCREW WITH STAR WASHER
If two or more protectors are used in the same location, they should be bonded directly together.

Tighten the bonding screws.

Notes

Only the rightmost protector is bonded to ground (see page 9).
4. Place OSP cable into the holding clip and terminate the pairs (this is the line side). Do not allow pairs to twist into each other if crossing over maintain pair twists up to the point of termination.

DO NOT LET THE 110 PUNCH TOOL DAMAGE THE CIRCUIT BOARD OR COMPONENTS

Notes

1. The pair positions are marked on the circuit board. Every other position is skipped.

2. The PoE protector has the Blue and Brown pair protection set at 62 volts (IEEE 802.3af Alternative B) to allow for power feed.
5. PLACE BUILDING CABLE INTO THE HOLE POSITION AND TERMINATE THE PAIRS (THIS IS THE EQUIPMENT SIDE)

Notes

Do not try to force 1081/2081/3081 cable into the hole position. End the jacket at the hole.
6  BOND TO THE LOCAL GROUND WITH MINIMUM 14 AWG GROUND WIRE

Notes

1  Follow all local code requirements

2  The ground wire must be routed directly to the local ground with minimal bending and no excess

3  TIA 607 provides details for suitable grounding
Notes

Make sure cables are properly positioned and supported
Notes

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