Oberon Model 1024- assembly with Cisco wireless access point and antennas

This document describes how to assemble the Oberon 1024 NEMA 4 indoor/outdoor enclosure with Cisco wireless access points and antennas.

1) Drill a 1/2” thru hole in each location where it is desirable to mount the bulkhead connector for the Oberon P/N 35-BULKHEAD-JUMP-RPTNC jumper cable. Clean the drill shavings out of the box.

2) Drill a 5th hole for a NEMA cord grip or other means of data cable ingress. The diameter of this hole depends on the cord grip size. Typically this hole is drilled in the bottom of the enclosure to minimize water entry. Upon installation and provisioning of data cable, this hole should be adequately sealed to prevent water and insect intrusion. Clean the drill shavings out of the box.

3) If ac line power is brought into the enclosure, this must be brought in through a 6th hole on a separate surface (for separation of power and data cabling). Upon installation and provisioning of line power, this hole should be adequately sealed to prevent water and insect intrusion.

4) Attach the PoE Injector to the back box using a Velcro adhesive strip or similar product designed for surface attachment.
5) Attach the Cisco AIR-BRACKET-2 to the interior mounting plate. As shown in figure 5

6) Slide the Cisco AP onto the AIR-BRACKET-2 until it snaps in place.

7) Attach and secure a suitable patch cord from PoE Injector to wireless access point as shown in figure 7

8) Install the Oberon P/N Oberon P/N 35-BULKHEAD-JUMP-RPTNC jumper cables in the enclosure. The nut should be tightened to 16 in-lbs torque. Attach the end of the jumper cable to the wireless access point by finger tightening the nut. Since the 4 connectors are all “dual band” it does not matter which connector is mounted to a top or bottom connector.
9) Mount the Model 1024 per the installation instructions provided with the 1024.

10) Attach antennas or cables to the bulkhead connector. Since RPTNC connectors are designed to be finger tightened, it is recommended that the installer shall take extra precautions to weather-seal the location where the antennas or cables attach to the bulkhead connector. See instructions for weatherproofing connectors below.

11) If dipole antennas are attached directly to the enclosure the best performance outdoors will be achieved with the antennas at a 45 degree angle. MIMO antennas work best indoors where the antenna is able to receive multiple wavefronts due to reflections. Outdoors, the antennas due not receive the reflection as they do indoors. By mounting the antennas at 45 degrees, as shown in figure 11, the received signal diversity is increased, which can help performance in the outdoor environment.

12) Make sure externally mounted antennas are at least several inches away from metal structures or poles. Externally mounted antennas must be UV stabilized to avoid deterioration from direct exposure from sunlight. If non-UV stabilized antennas are used, it may be acceptable to mount the antennas beneath an awing or other location where direct exposure to sunlight is minimal, as shown in figure 11.
13) The Oberon model 1024 is a polycarbonate enclosure, and as such is virtually transparent to wireless signals, so antennas may be mounted in the interior to avoid external connector issues. Again, antenna placement at some angle will improve outdoor performance.

IMPORTANT NOTICE: Oberon’s model 1024-00 is not ventilated. The enclosure is designed to provide the capability for NEMA 4 protection against dust and falling/spraying water only. Power dissipated by electronic equipment within the enclosure will cause the internal temperature to rise. Equipment should be de-rated by the anticipated interior temperature rise. Equipment drawing greater than 20 Watts of line power should not be operated in this enclosure. Operation of commercial electronic equipment outdoors and within non-ventilated enclosures may expose the equipment to temperature and humidity ranges beyond the specified operational or storage range of the equipment. Equipment warranties may be voided by operation in outdoor environments.
# Weatherproofing External Connectors

**MATERIAL LIST**
- 1” x 16” butyl mastic tape
- ¾” x 20” electrical tape
- Ilsco DE-OX oxide inhibitor (or similar product)

Step 1. Apply DE-OX with q-tip to both the center pin and the receptacle on both connector interiors. This creates an air/water tight seal inside the connector.

Step 2. Assemble connectors and wipe excess DE-OX away from insulation.

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Step 3. Apply one layer of 3/4” x 20” electrical tape overlapping each row approximately 1/4”. Tape layers should extend approximately 1” past each end of connection and each layer should be tightly wrapped to eliminate any void or air pockets.

Step 4. Apply one layer of butyl mastic overlapping each row approximately 1/2”. Mastic layer should overlap first tape layer at a minimum of 1/2” on each side of connection.