

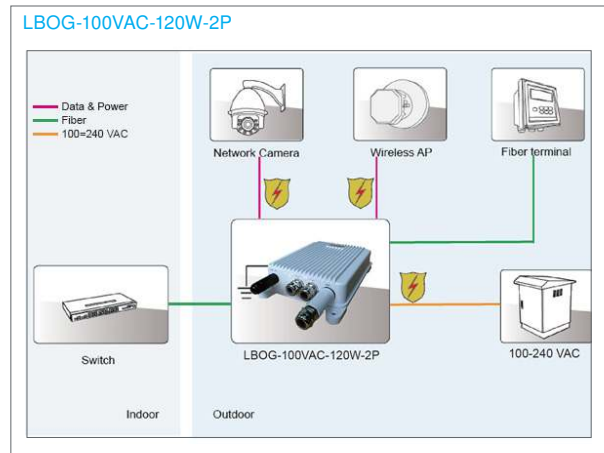
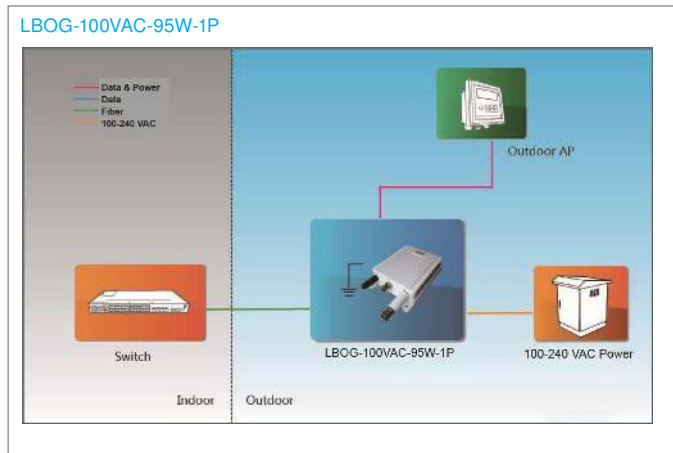
LBOG-100VAC Series PoE++ Optical Backhaul Demarcation Devices

INSTALLATION MANUAL

PRODUCT OVERVIEW

Lindsay's LBOG-100VAC series of devices are outdoor-rated fiber PoE++ products designed for backhaul and networking applications. The single and dual output devices deliver 55 VDC power to remote IP devices with the security of 6 kV surge protection and support 10/100/1000 Mbps data speed. The LBOG-100VAC series support IEEE 802.3af/at/bt applications. The effective distance is 100 meters over Cat5e/Cat6e cables. The IP66 housing does not need to be opened and provides a quick, seamless installation.

APPLICATION DIAGRAMS



WIRE CONNECTION

The power cable diameter is 4-8.2 mm. See photos under the text instructions below.

1. The AC input port is a screw terminal connector. Near the AC input port there is an indicator showing the pin definition. The 3 pins are labelled: Ground, N (neutral), and L (line).
2. Add the cable gland to the cable but do not tighten. Strip 1.0" (2.5 cm) of the cable jacket and 0.4" (1 cm) of each wire jacket.
3. Insert wires into the correct pin ports and use a straight/slotted screwdriver to fix the wires to each pin.
4. Slide the cable gland over the AC input port pins and hand tighten to the housing. Hand tighten the cable gland nut to the cable.
5. Wiring completed.





RJ45 CONNECTION

The Ethernet cable diameter range is 5-12 mm. See photos under the text instructions below.

The components making up the metal connector waterproof covering are in the first photo below (does not include the cable). We recommend a Cat5e or Cat6 cable rated for the power transformer.

This installation manual includes instructions for both single and dual RJ45/PoE devices. Based on the model purchased, the ports connect the same way. Place the components for the waterproof covering in the order as shown in the photos, then string the RJ45 cable through. Tighten to the product's RJ45 socket.

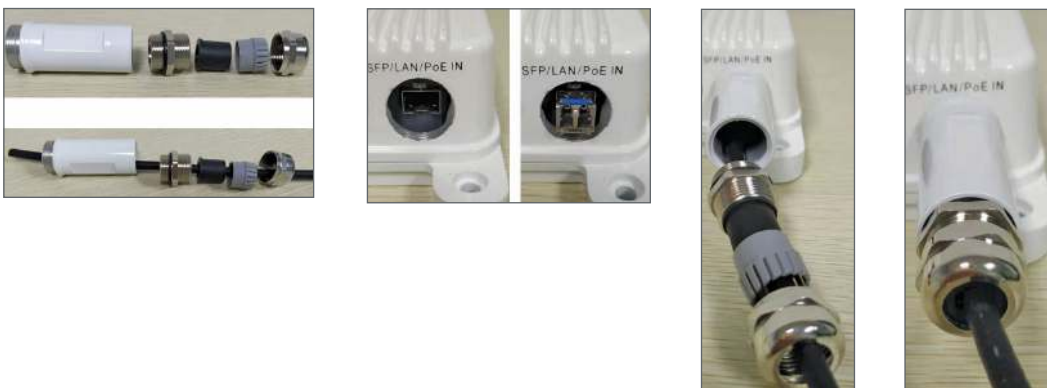


SFP FIBER SLOT CONNECTION

See photos under the text instructions below.

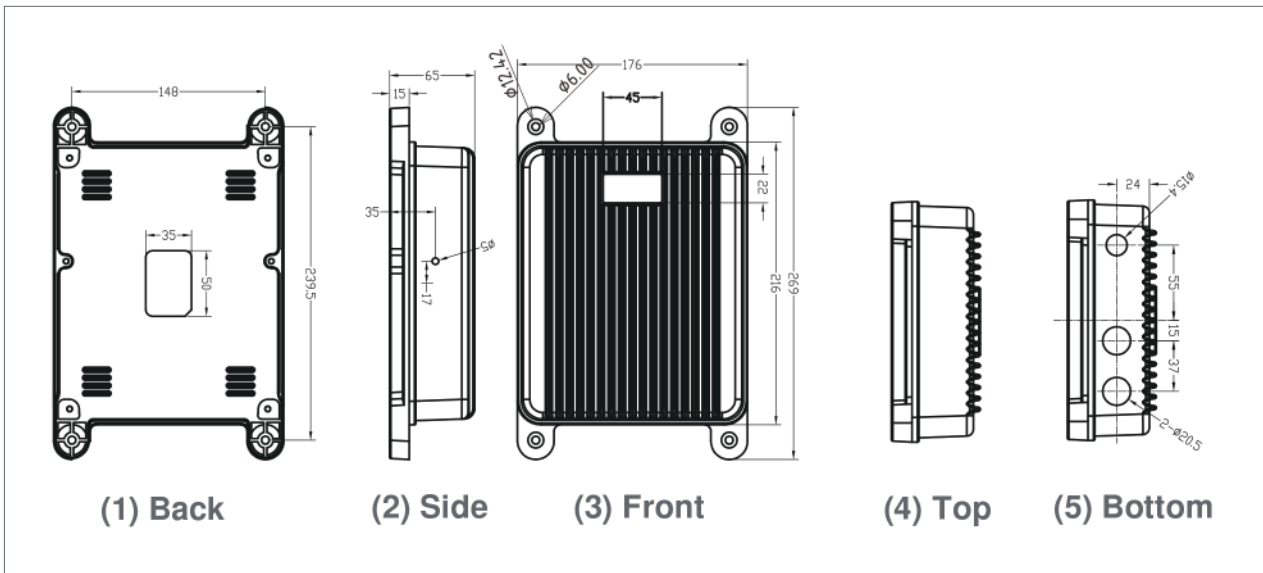
The component making up the SFP fiber slot metal gland and cap are in the first photo below (does not include the fiber cable).

Place the components for the SFP fiber slot metal gland and cap in the order as shown in the photos, then string the fiber cable through. Add the SFP transceiver and plug it into the SFP slot (SFP transceiver not included but available from Lindsay Broadband). Tighten to the product SFP port.



DIMENSIONS

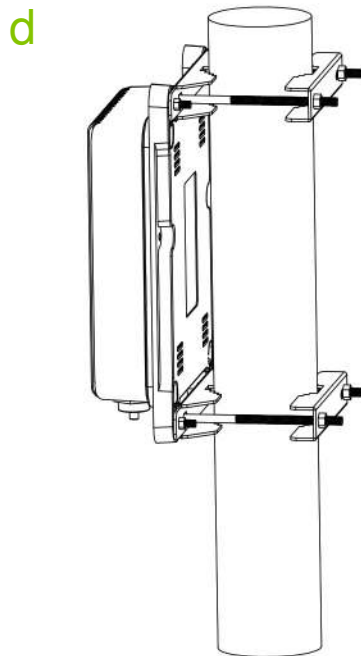
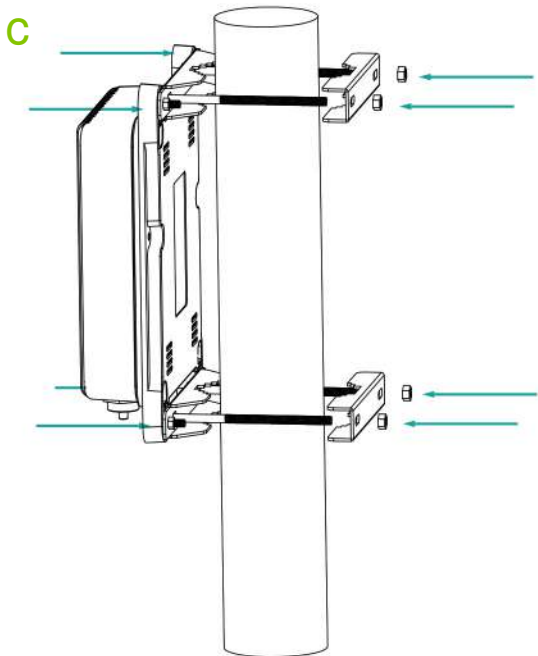
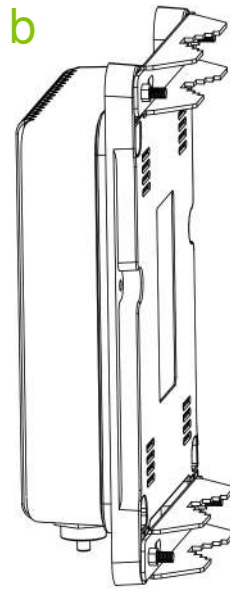
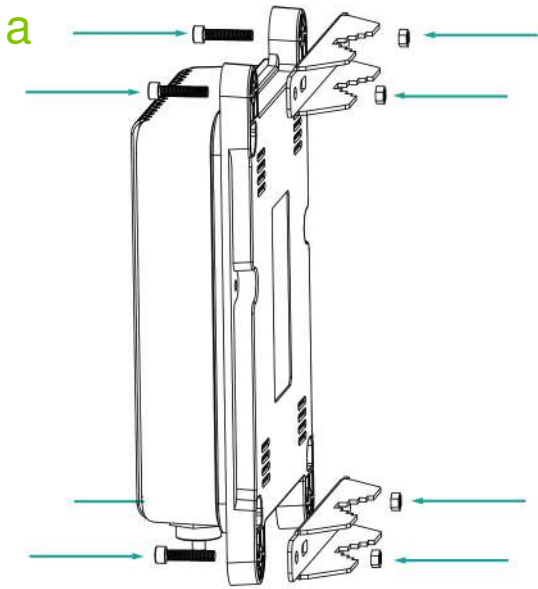
Unit: mm





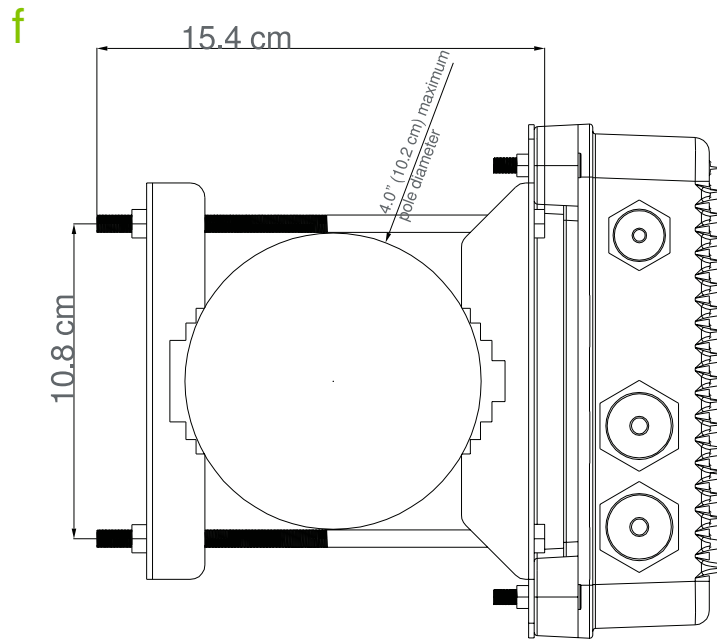
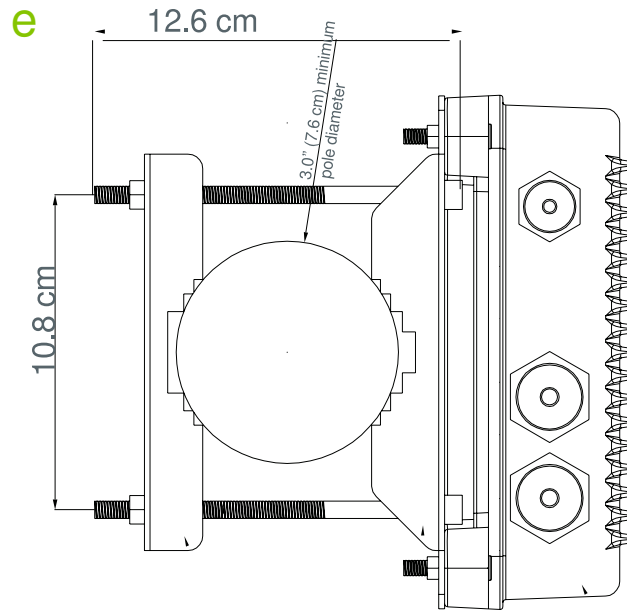
MOUNTING INSTRUCTIONS

1. Pole mounting with a diameter range of 3-4" (7.6-10.2 cm). See drawings under the text instructions below.
 - a) Use 4 M5x25 screws and M5 nuts to mount the two large brackets to the back of the product.
 - b) View of product with mounting bracket attached is below.
 - c) Use 4 M6x 120 screws and M6 nuts, and the two small brackets to mount the product to a suitable pole.
 - d) View of product with mounting bracket attached is below.
 - e) Top view of the product mounted to a 3.0" (7.6 cm) pole diameter (next page).
 - f) Top view of the product mounted to a 4.0" (10.2 cm) pole diameter (next page).





MOUNTING INSTRUCTIONS CONT'D.



2. Mounting to a wall.
 - a) Based on the dimensions of the product's installation holes, make four holes in the wall.
 - b) Use screws to mount the product to the wall. The AC input port and RJ45 port should face down.



MOUNTING INSTRUCTIONS

2. Mounting to a wall.

- a) Based on the dimensions of the product's installation holes, make four holes in the wall.
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SPECIFICATIONS (LBOG-100VAC-95W-1P)

| Parameter | Specification |
|-------------------------------------|---|
| Standard | |
| Ethernet | IEEE 802.3 10Base-T |
| | IEEE 802.3u 100Base-Tx |
| | IEEE 802.3ab 1000Base-T |
| Input | 100-240 VAC 2.0 A 50/60 Hz |
| Output | 55 VDC 1750 mA |
| | Power pins 4/5(+), 7/8(-), 3/6(+), 1/2(-) |
| | IEEE 802.3af/at/bt |
| Surge Protection | |
| AC Surge | Line-Line 1.2/50 μ s(8/20 μ s): 4 kV |
| | Line-Earth 1.2/50 μ s(8/20 μ s): 6 kV |
| PoE Surge | Protected line 1,2,3,4,5,6,7,8 |
| | Common mode (10/700 μ s): 6 kV |
| | Differential mode (10/700 μ s): 1.5 kV |
| Approvals | |
| Safety | cULus |
| EMI | FCC Part 15, Class B |
| EMS | IEC 61000-4-2 (ESD) 6 kV (contact), 8 kV (air) |
| | IEC 61000-4-3 (RS) 10 V/m (80 MHz 2 GHz) |
| | IEC 61000-4-4 (EFT) power port 2 kV; data port 1 kV |
| | IEC 61000-4-5 (Surge) power port 1 kV/DM; 2 kV/CM |
| | IEC 61000-4-6 (CS) 10 V(150 kHz 80 MHz) |
| Immunity | IEC 60068-2-6 (Vibration) |
| | IEC 60068-2-27 (Impact) |
| | IEC 60068-2-32 (Free Fall) |
| Environmental & Physical | |
| Operating Temperature | -40 °C to +65 °C (-40 °F to +149 °F) |
| Operating Humidity | Maximum 90%, non-condensing |
| Storage Temperature | -40 °C to +85 °C (-40 °F to +185 °F) |
| Storage Humidity | 10% to 90%, non-condensing |
| Operating Altitude | Up to 3000 meters |
| Housing | White metal |
| Mounting | Wall-mounted / pole kit optional |
| IP Rated | IP66, IEC 60529, NEMA 250 |
| Dimensions (H x W x D) | 10.6"H x 6.9"W x 2.6"D (26.9H x 17.6W x 6.5D cm) |
| Weight | 4.0 lb (1.8 kg) |

ORDERING INFORMATION (LBOG-100VAC-95W-1P)

| Part # | Description |
|--------------------|---|
| LBOG-100VAC-95W-1P | Outdoor-hardened 100-240 VAC, SFP, 95 W PoE++ 1-port; optical backhaul demarcation device |
| Accessory | |
| LBOG-100VAC-KIT | Pole mount kit |



SPECIFICATIONS (LBOG-100VAC-120W-2P)

| Parameter | Specification |
|-------------------------------------|---|
| Standard | |
| Ethernet | IEEE 802.3 10Base-T |
| | IEEE 802.3u 100Base-Tx |
| | IEEE 802.3ab 1000Base-T |
| Input | 100-240 VAC 2.0 A 50/60 Hz |
| Output | 55 VDC 1.1 A x 2 ports |
| | Power pins 4/5(+), 7/8(-), 3/6(+), 1/2(-) |
| | IEEE 802.3af/at/bt |
| Surge Protection | |
| AC Surge | Line-Line 1.2/50 μs(8/20 μs): 4 kV |
| | Line-Earth 1.2/50 μs(8/20 μs): 6 kV |
| PoE Surge | Protected line 1,2,3,4,5,6,7,8 |
| | Common mode (10/700 μs): 6 kV |
| | Differential mode (10/700 μs): 1.5 kV |
| Approvals | |
| Safety | cULus |
| EMI | FCC Part 15, Class B |
| EMS | IEC 61000-4-2 (ESD) 6 kV (contact), 8 kV (air) |
| | IEC 61000-4-3 (RS) 10 V/m (80 MHz 2 GHz) |
| | IEC 61000-4-4 (EFT) power port 2 kV; data port 1 kV |
| | IEC 61000-4-5 (Surge) power port 1 kV/DM; 2 kV/CM |
| Immunity | IEC 61000-4-6 (CS) 10 V(150 kHz 80 MHz) |
| | IEC 60068-2-6 (Vibration) |
| Immunity | IEC 60068-2-27 (Impact) |
| | IEC 60068-2-32 (Free Fall) |
| Environmental & Physical | |
| Operating Temperature | -40° C to +65° C (-40° F to +149° F) |
| Operating Humidity | Maximum 90%, non-condensing |
| Storage Temperature | -40° C to +85° C (-40° F to +185° F) |
| Storage Humidity | 10% to 90%, non-condensing |
| Operating Altitude | Up to 3000 meters |
| Housing | White metal |
| Mounting | Wall-mounted / pole kit optional |
| IP Rated | IP66, IEC 60529, NEMA 250 |
| Dimensions (H x W x D) | 10.6"H x 6.9"W x 2.6"D (26.9H x 17.6W x 6.5D cm) |
| Weight | 4.0 lb (1.8 kg) |

ORDERING INFORMATION (LBOG-100VAC-120W-2P)

| Part # | Description |
|---------------------|--|
| LBOG-100VAC-120W-2P | Outdoor-hardened 100-240 VAC, SFP, 120 W PoE++ 2-port; optical backhaul demarcation device |
| Accessory | |
| LBOG-100VAC-KIT | Pole mount kit |