



ER2035

Installation Instructions

ER800-001007-000 Rev A

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Important Notice on Product Safety

This product may present safety risks due to laser, electricity, heat, and other sources of danger.

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Introduction

These are the installation instructions for the Eridan ER2035 radio.

It is intended for use by a certified professional installer in compliance with local safety regulations and building codes in the country of installation.

Specifications, pictures and/or sketches shown in this document may seem or look slightly different than the actual product due to continuous improvement and/or change in the design.

Important Safety

Read this document carefully and in full before attempting installation as important safety and regulatory information is enclosed.

Failure to do so may expose the user or service provider to legal and financial liability as well as injury or death.

Although tested and certified by relevant safety organizations, Eridan Communications, Inc. assumes no liability for injury, damage, or violation of regulations relating to the installation of the product.

Caution: any changes or modifications not expressly approved by Eridan Communications, Inc. could void the user's authority to operate the equipment.

Regulatory Compliance

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC radiation exposure limits. This device should be installed and operated with a minimum distance of 38 cm (15 inches) between the antenna and the individual when the device is radiating.

Note: Additional requirements for category B deployment.

(a) Category B CBSDs must be professionally installed.

(b) In the 3550-3650 MHz band, Category B CBSDs must be authorized consistent with information received from an ESC.

(c) Category B CBSDs are limited to outdoor operations.

(d) When registering with an SAS, Category B CBSDs must transmit all required information plus the following additional information: antenna gain, beamwidth, azimuth, down tilt angle, and antenna height above ground level.

Guidelines and Restrictions

- Before installation, read this guide in full and follow all safety and operations instructions. Failure to follow safety and operations instructions void the warranty of the product.
- Only trained qualified personnel should install, service, or replace the equipment. Trained qualified personnel is a CPI certified via WinnForum CPI Accreditation Standard.
- The device should not be modified in any way unless expressly approved in writing by Eridan or one of its authorized agents. Any modifications could compromise device safety and void the legal operation of the device under local regulations.
- Install this device only in an approved location.
- Use caution against excess RF exposure when installing and ensure that the overall EIRP is within regulatory limits.
- Do not open or void the tamper-evidence seal. There is no user-serviceable equipment inside the unit box.
- Sections of the unit can exceed 70°C; use proper care during maintenance when handling the radio to avoid burns.
- Do not install the ER2035 in adverse environmental or weather conditions.
- Ground the unit to protect against power surges and static electricity; install this device in accordance with local electrical codes.
- When installation is completed, the product must comply with all the Safety Standards and regulatory requirements of the country in which it is installed.

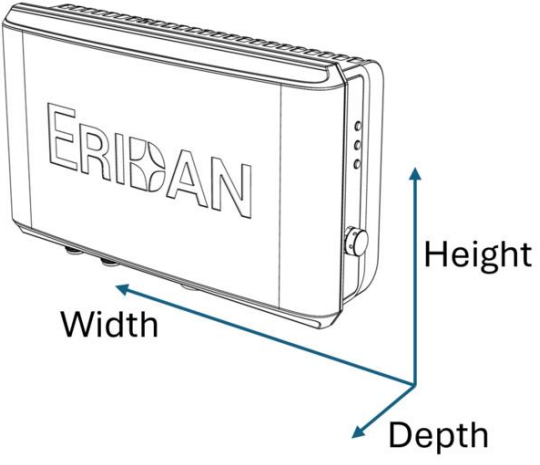
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ER2035 Description

Specification	Details
Standard	3GPP compliant ORAN Split 7.2a Radio Unit
Band	n48 (3550 – 3700 MHz)
Number of TX/RX	2T/2R
Instantaneous bandwidth (IBW)	150MHz
Occupied bandwidth (OBW)	20MHz or 40MHz
Modulation	256 QAM DL, 256 QAM UL
Maximum output power	0.158W per TX
Dimensions	162 mm (H) x 259 mm (W) x 82 mm (D) 6.4 in (H) x 10.2 in (W) x 3.2 in (D)
Volume	3.4 liter
Weight	2.6kg / 5.7lbs (without mounting brackets)
Supply voltage / Connector type	DC -40V to -57V / 2 pole connector
Power consumption	40W
Antenna ports	2 x N-type female connector
Optical ports	1 x SFP+, 10G
Other interfaces	Ethernet RJ45
Operation temperature range	-20°C to +55°C
Cooling	Natural convection cooling
Installation options	Pole and wall mount options
Ingress	IP65

Table 1 Description of the ER2035

ER2035 Dimensions

Property	Value	Dimensions Orientation
Height (H)	162 mm (6.4 in)	 Figure 1 Radio Dimensions Orientation
Width (W)	259 mm (10.2 in)	
Depth (D)	82 mm (3.2 in)	
Weight	2.6kg / 5.7lbs (without mounting brackets)	
Volume	3.4 liter	

ER2035 Installation Clearances

The minimum clearances around the ER2035

Property	Value
Front space	600 mm (23.6 in. maintenance space)
Back space	76 mm (3.0 in. airflow space)
Top space	305 mm (12 in. airflow space)
Space on both sides	100 mm (3.9in)
Bottom space	305 mm (12 in. maintenance and airflow space)

ER2035 connector interfaces

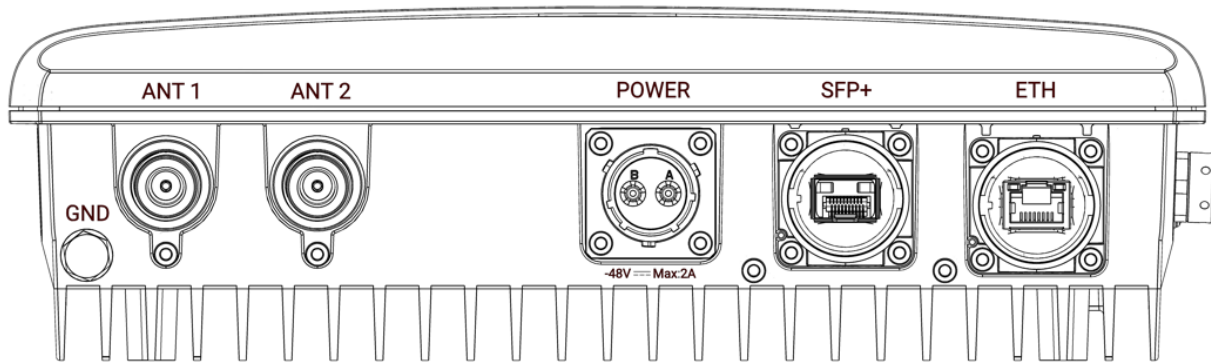


Figure 2 Bottom view - radio interfaces

ER2035 content of delivery

Qty.	Item	Notes
1	ER2035	
1	Ground lug with screw	
2	Mounting bracket w. clamp incl. Hex screws (50 – 200 mm diameter pole mount)	Optional
2	SFP transceivers	Optional
1	Power connector	Optional
1	Cable connector for fiber optic	Optional
1	Cable connector for ethernet	Optional

Table 2 Content of Delivery

Installation

RF Exposure safety



Use caution against excess RF exposure when working in and around external antennas, and ensure that the overall EIRP is within regulatory limits.

Installation tools

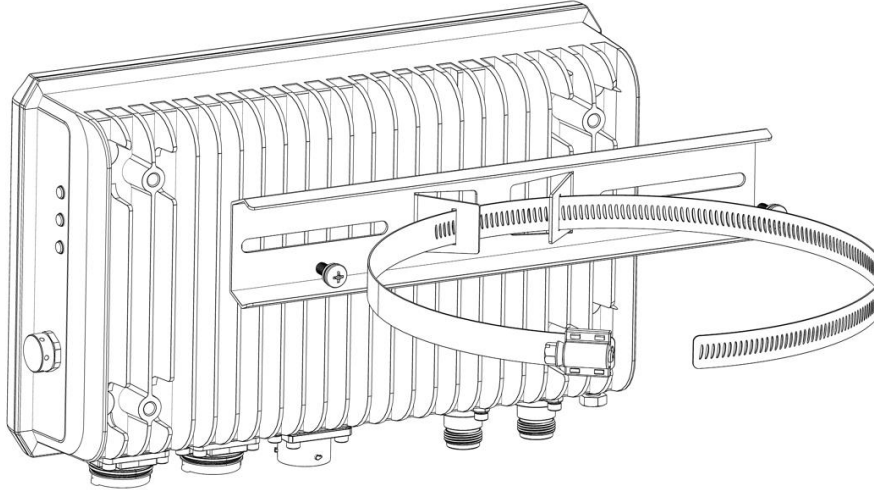
	Description
1	Torque screwdriver T15
2	Torque spanner M25 5 - 10 Nm
3	Torque spanner M30 5 - 10 Nm
4	Lifting bag/bucket
5	Cable cutter
6	Permanent marker pen
7	Multimeter AC/DC w. Amp Clamp
8	Fiber optic video inspection scope/microscope for LC type connectors
9	Fiber optic visible light source
10	SM & MM LC type fiber patch cable/adaptor
11	Cleaning tools for optical cables
12	Hardhat
13	Cell site/tower personal safety equipment
14	Flat Head screwdriver
15	Side cutters
16	Measure tape

17	Philips screwdriver
18	Terminal lug crimper w/die set up to 2/0AWG
19	Digital level or Inclinator
20	Electronic label maker
21	Fiber optic power meter for LC type connector
22	Fiber optic power source for LC type connectors
23	Cleaning tools for SFP connectors
24	Safety glasses

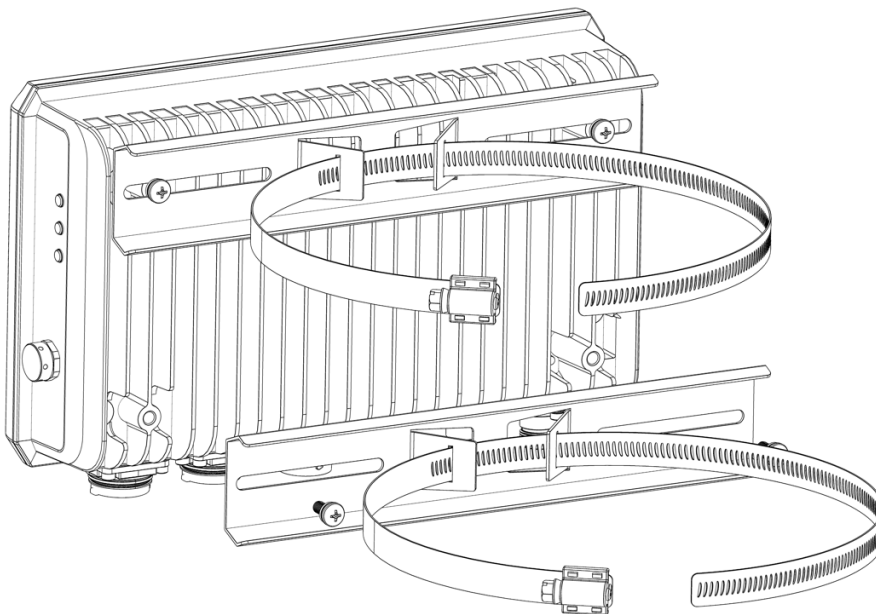
Table 3 Installation tools

Pole/Wall installation

1. Affix the pole mounting bracket to the upper two screw holes on the radio



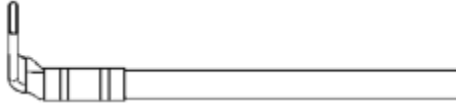
2. Affix the pole mounting bracket to the lower two screw holes on the radio



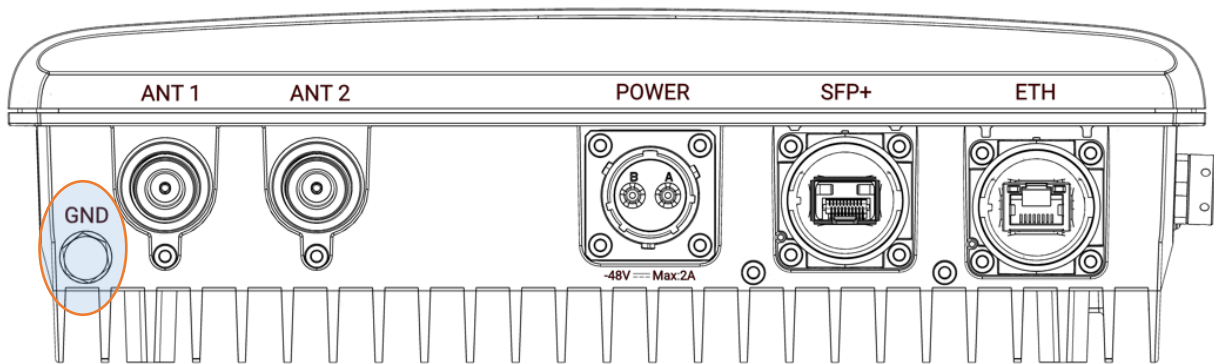
3. Affix the two clamps around the pole and tighten the adjustable screws until there is a secure hold

Grounding

1. Insert the grounding cable (AWG 6) into the provided ground lug and crimp

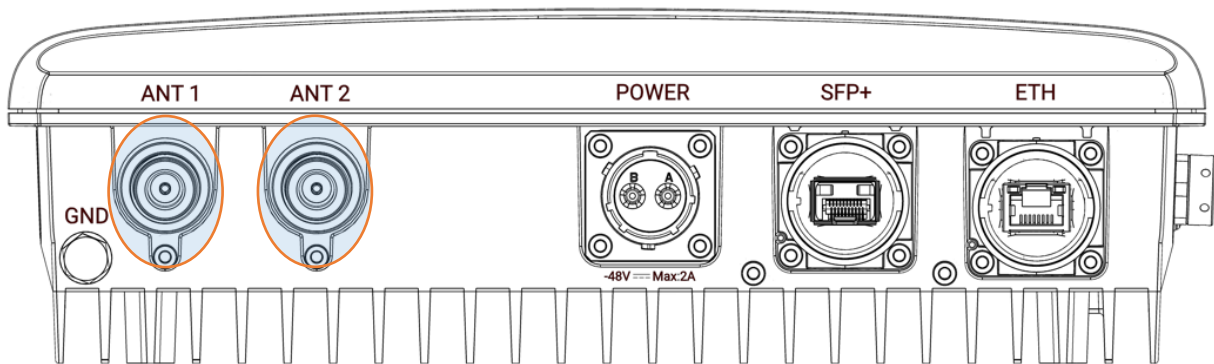


2. Screw the ground lug in place on the radio



RF Cabling

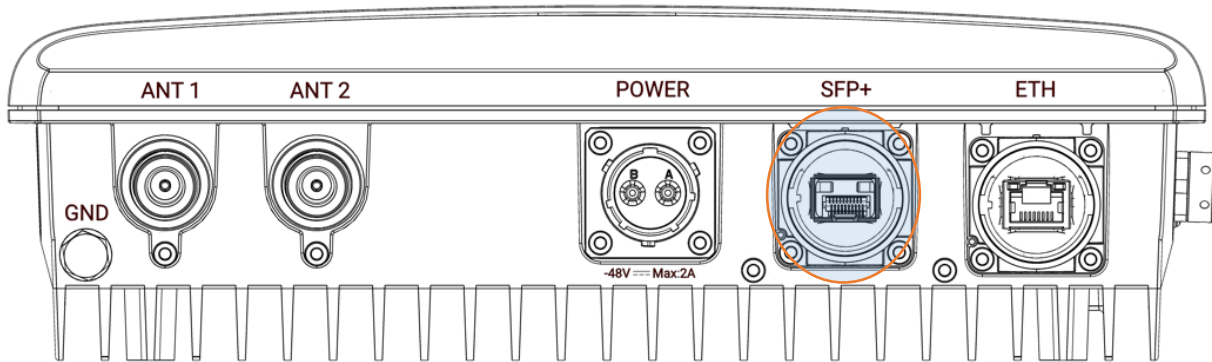
1. Remove protective caps from ANT 1 and ANT 2



2. Connect the antenna cables to ANT 1 and ANT 2
3. Tighten the antenna cables according to the cable supplier specifications

Optical cabling and handling

1. Remove dust cap from SFP+



2. Insert the SFP into the SFP+ port on the radio
3. Install the Fiber Optic Connector on the optical cable using the proper gland seal for the dimension of the cable



TE Part Number	Cable Diameter
2061973-1	4.8±0.2 mm
2061973-2	5.0±0.2 mm
2061973-3	7.0±0.2 mm
 2061973-4	4.8±0.2 mm
	6.0±0.2 mm
	7.0±0.2 mm

4. Clean the SFP connectors and the end face of the optical connectors
5. Insert the fiber optical cable into the SFP
6. Tighten the connector nut

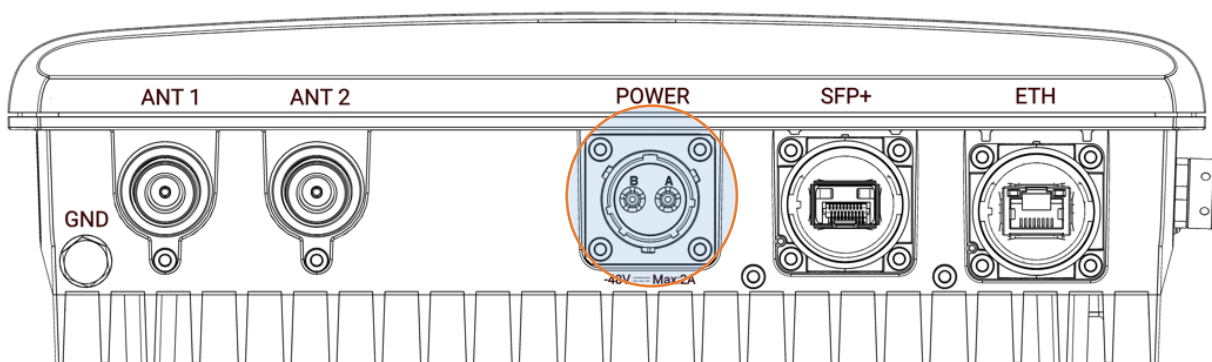
Power cabling

1. Two Way DC Cable Connector, package contents:



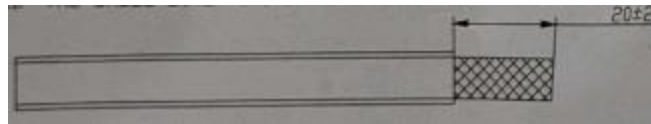
1	2 WAY DC CONNECTOR C10-730511-Z2S
2	GROMMET FOR CABLE OD 6-9MM
3	GROMMET FOR CABLE OD 14-18MM
4	CONIC WASHER FOR CABLE OD UNDER 10MM
5	DUST CAP/ASSEMBLY FIXTURE USED DURING ASSEMBLY PROCESS

2. Remove DUST cap from POWER

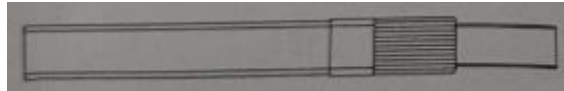


3. Cable assembly

3.1 Strip the cable outer jacket per dimension shown below



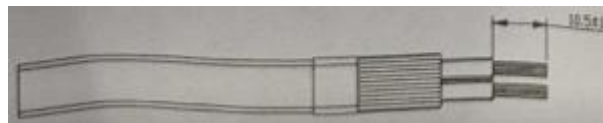
3.2 Fold back the shielding braid and fix it on the outer jacket



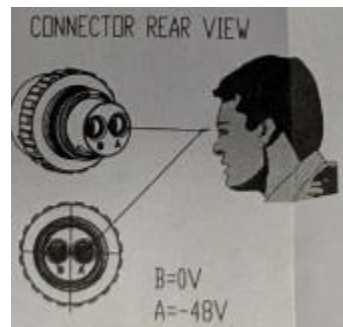
3.3 Remove the inner insulation/foil



3.4 Strip the inner jacket of the conductor per dimension shown 10.5 ± 1

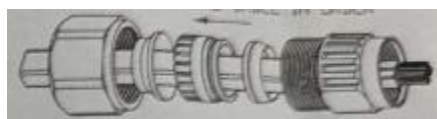


Note, connector rear view:

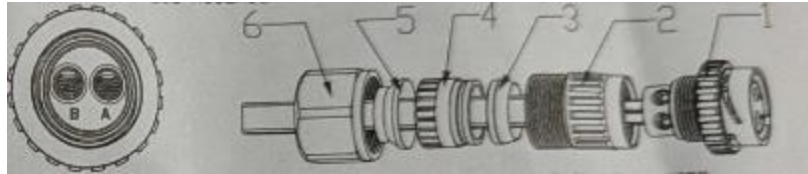


4. Cable assembly procedure

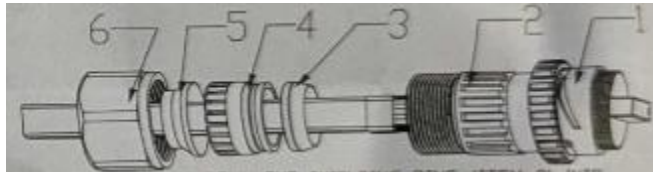
4.1 Disassemble the cable gland and slide the components over the cable in the order shown:



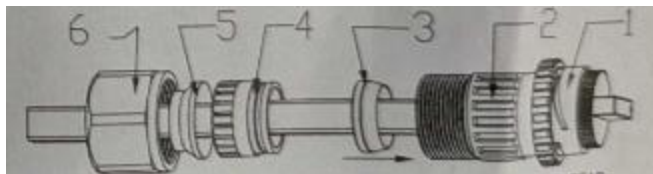
4.2 Use torque screw driver T15 to terminate the 2 conductors in the corresponding contacts A, B in the front plus assembly (item 1)



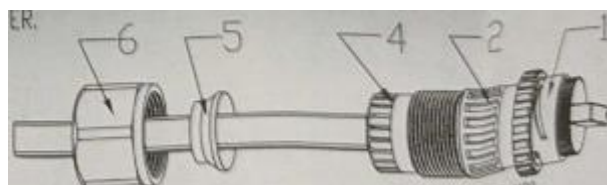
4.3 Mate the dust cap onto the front plug and assemble the cable gland adapter (item 2) into position using an M25 spanner



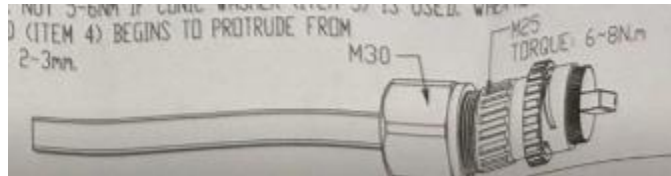
4.4 Spread open the shielding braid and slide down the shielding ring (item 3) into position so that the shielding braid is equally pressed around and between the shielding ring and the id surface of the adapter. Extra length of the shielding braid should be folded around and into the id of the shielding ring



4.5 Press the cable gland (item 4) down into a tightly seated position into the rear of the cable gland adapter



4.6 Assemble the hex nut (item 6) onto the adapter and tighten using an M25 and M30 spanner, torque the rear nut 5-6Nm if conic washer (item 5) is used, otherwise torque the rear of the hex nut 2-3mm.



5. Remove the dust cap from the assembled power connector

6. Connect the power cable to the POWER port on the radio

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SAS Portal Update

Upon installation complete, the Certified Professional Installer must update the SAS portal with the installation information.

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ER2035 LED indicators

Description	LED color indication				
	Off	Green, blinking at 1Hz	Green, solid	Green, blinking at 5Hz	Red, solid
No power supplied to the unit	PWR NET STAT				
Unit is booting up and initializing PTP sync. Sync state is “synchronizing”	STAT	NET	PWR		
Unit is fully booted and initializing PTP sync. Sync state is “synchronizing”	STAT	PWR NET			
Unit is ready for operation and synced with PTP source. Sync state is “synchronized”	STAT	PWR	NET		
Unit lost sync source, still synced. Sync state is “holdover”	STAT	PWR		NET	
Unit has no valid sync source. Sync state is “free”	STAT	PWR			NET

Table 4 Description of LED indicators

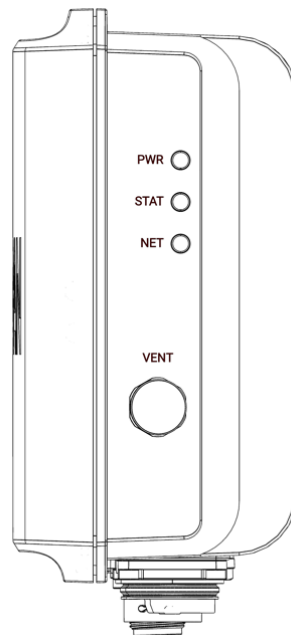


Figure 3 Side of radio with LEDs