# ER2025
# Installation Instructions

**ER800-xxxxxx-xxx 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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# 1. Introduction

These are the installation instructions for the Eridan ER2025 radio.

It is intended for use by a 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.

## 1.1 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 product.

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# 1.2 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 device has been tested and found to comply with the limits for a Class A 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 the radiation exposure limits pursuant to part 15 of the FCC Rules. 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.

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## 1.3 Guidelines and Restrictions

- Before installation, read this guide in full and follow all safety and operations instructions. Failure to follow safety and/or operations instructions, including these guidelines and restrictions, voids all express and/or implied warranties of the product.
- Only trained qualified personnel should install, service, or replace the product.
- The product should not be modified in any way unless expressly approved in writing by Eridan or one of its authorized agents. Any modifications, misuse, or failure to comply with installation guidelines could compromise product safety and voids all express and/or implied warranties of safety and compliance of the product and under local and federal regulations.
- Install this product only in an approved location.
- Use caution against excess RF exposure when installing the product and ensure that the overall EIRP is within regulatory limits.
- Opening the product or breaking the tamper-evidence seal voids all express and/or implied warranties of the product.
- Sections of the product can exceed 70°C; use proper care during maintenance when handling the radio to avoid burns.
- Do not install the product in adverse environmental or weather conditions.
- Ensure proper grounding of the product to protect against power surges and static electricity; install the product 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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# 2. ER2025

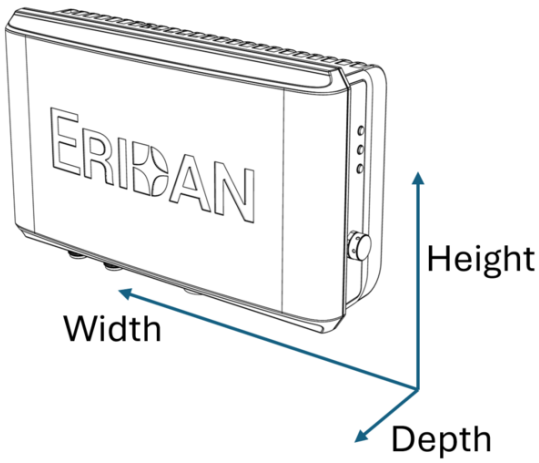
## 2.1 ER2025 Description

| Specification | Details |
|---|---|
| Standard | 3GPP compliant<br>ORAN Split 7.2a Radio Unit |
| Band | n41 (2496 – 2690 MHz) |
| Number of TX/RX | 2T/2R |
| Instantaneous bandwidth (IBW) | 194MHz |
| Occupied bandwidth (OBW) | 10MHz, 20MHz or 40MHz |
| Modulation | 256 QAM DL, 256 QAM UL |
| Output power | 0.224W per TX |
| Dimensions | 162 mm (H) x 259 mm (W) x 82 mm (D)<br>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 / OCTIS Power 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 | -40°C to +55°C |
| Cooling | Natural convection cooling |
| Installation options | Pole and wall mount options |
| Ingress | IP65 |

*Table 1 Description of the ER2025*

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## 2.2 ER2025 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 | |

## 2.3 ER2025 Installation Clearances

The minimum clearances around the ER2025

| 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) |

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## 2.4 ER2025 connector interfaces

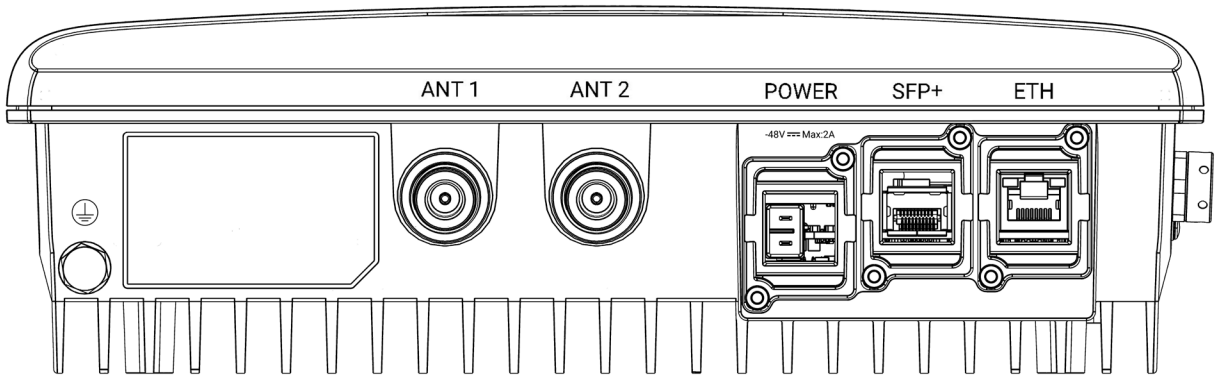



*Figure 2 Bottom view - radio interfaces*

## 2.5 ER2025 content of delivery

| Qty. | Item | Notes |
|---|---|---|
| 1 | ER2025 | |
| 1 | Ground lug with screw | |
| 2 | Mounting bracket w. clamp incl. Hex screws<br>(50 – 200 mm diameter pole mount) | Optional |
| 2 | SFP transceivers | Optional |
| 1 | OCTIS Power Connector | Optional |
| 1 | OCTIS Optical Connector | Optional |

*Table 2 Content of Delivery*

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# 3. Installation

## 3.1 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.

## 3.2 Installation tools

| | Description |
|---|---|
| 1 | Lifting bag/bucket |
| 2 | Digital level or Inclinometer |
| 3 | Measure tape |
| 4 | Permanent marker pen |
| 5 | Electronic label maker |
| 6 | Terminal lug crimper w/die set up to 6AWG |
| 7 | Multimeter AC/DC w. Amp Clamp |
| 8 | Philips screwdriver |
| 9 | Flat Head screwdriver |
| 10 | Side cutters |
| 11 | Cable cutter |
| 12 | Torque screwdriver T15 |
| 13 | Torque spanner M25 5 - 10 Nm |
| 14 | Torque spanner M30 5 - 10 Nm |
| 15 | Cleaning tools for optical cables |
| 16 | Cleaning tools for SFP connectors |

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| | |
|---|---|
| 17 | Fiber optic video inspection scope/microscope for LC type connectors |
| 18 | Fiber optic visible light source |
| 19 | SM & MM LC type fiber patch cable/adaptor |
| 20 | Fiber optic power meter for LC type connector |
| 21 | Fiber optic power source for LC type connectors |
| 22 | Cell site/tower personal safety equipment |
| 23 | Hardhat |
| 24 | Safety glasses |

*Table 3 Installation tools*

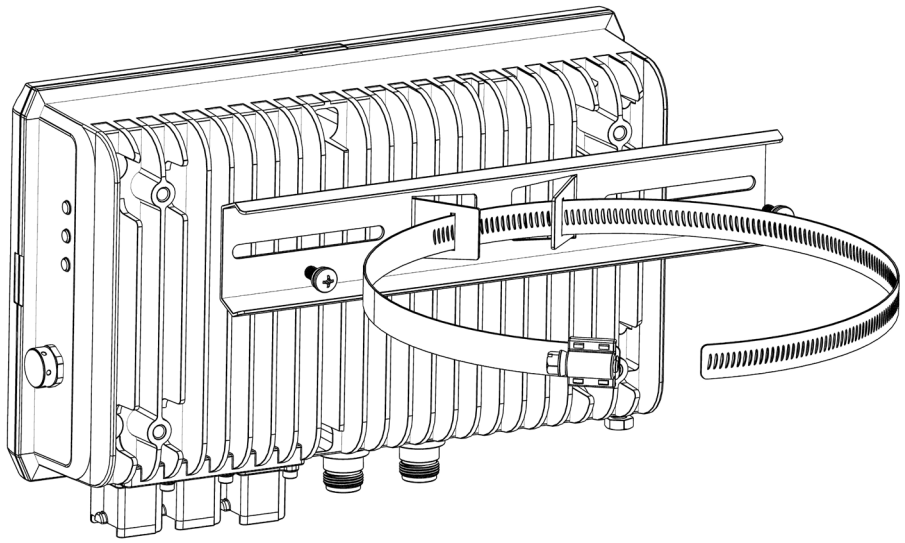
## 3.3 Recommended Cable Types

| Usage | Description |
|---|---|
| Power cable | Two leads, UV protected, Shielded, AWG14 |
| Grounding cable | AWG 6 |
| Optical cable | UV protected, Armored |

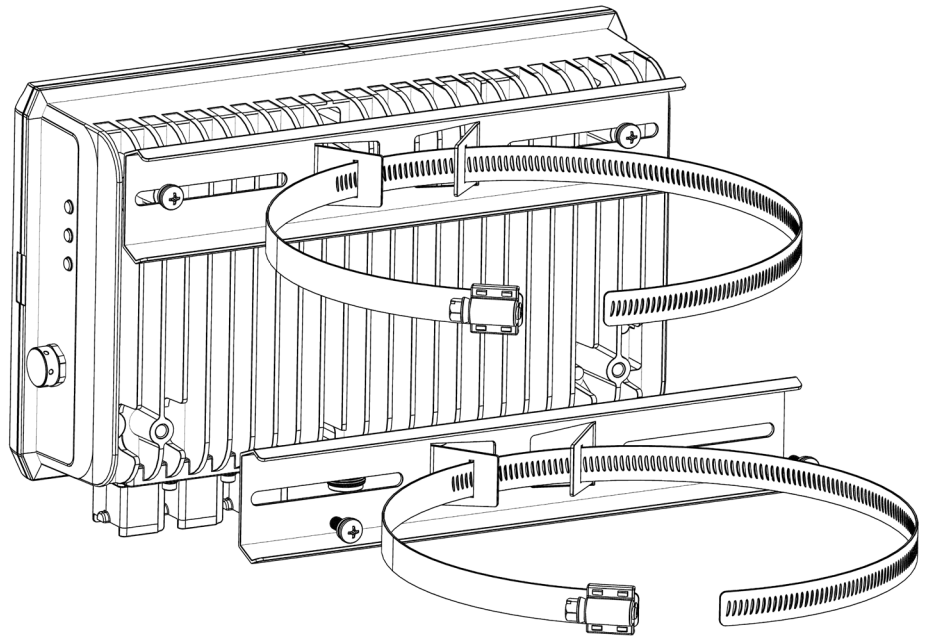
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# 3.3 Pole/Wall installation

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

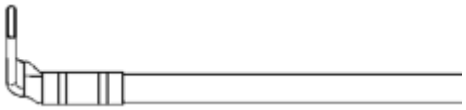


3. Affix the two clamps around the pole and tighten the adjustable screws until there is a secure hold

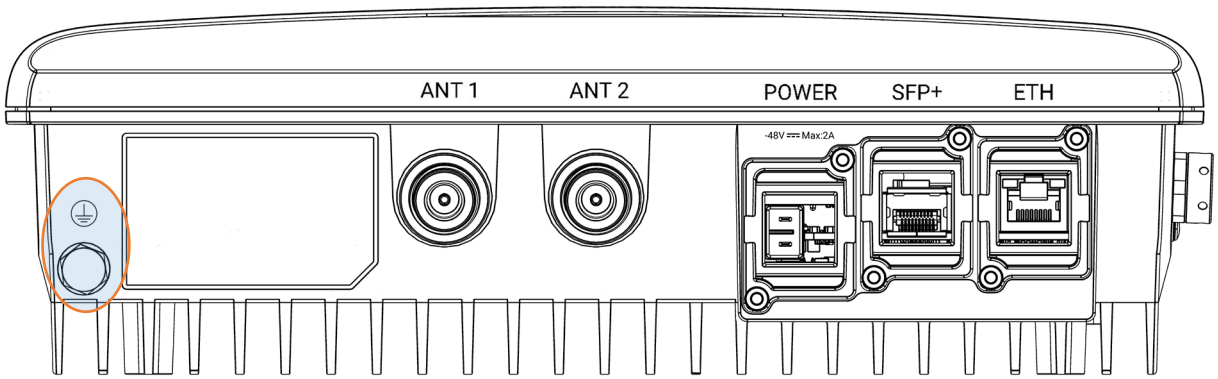
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## 3.4 Grounding

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

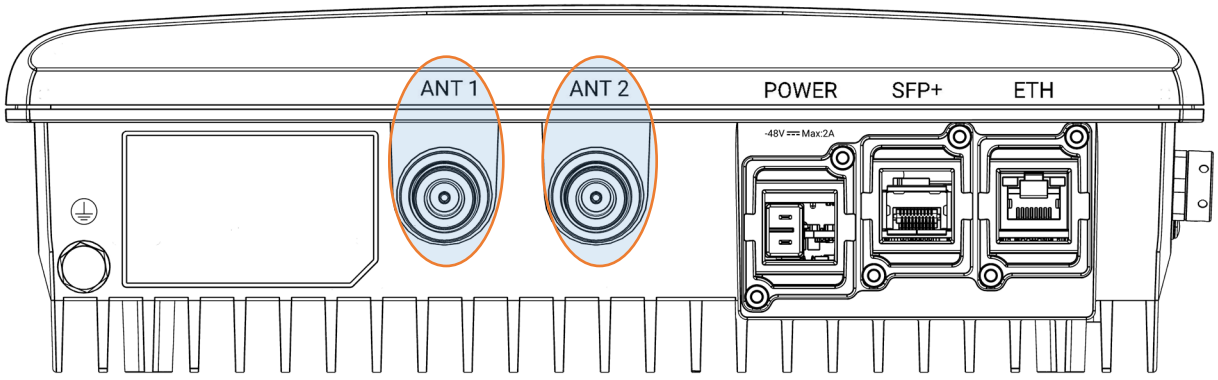


2. Screw the ground lug in place on the radio




## 3.5 RF Cabling

1. Remove protective caps from ANT 1 and ANT 2



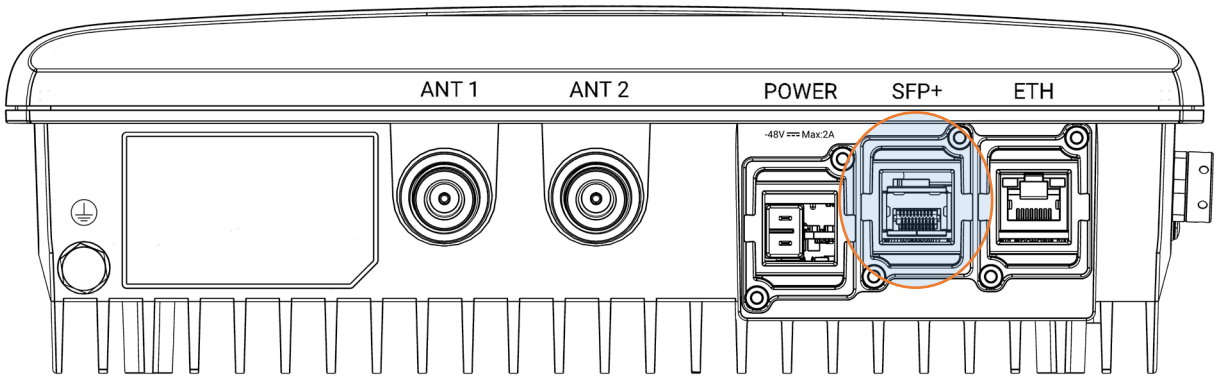

2. Connect the antenna cables to ANT 1 and ANT 2

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3. Tighten the antenna cables according to the cable supplier specifications

## 3.6 Optical cabling and handling

1. Remove dust cap from SFP+



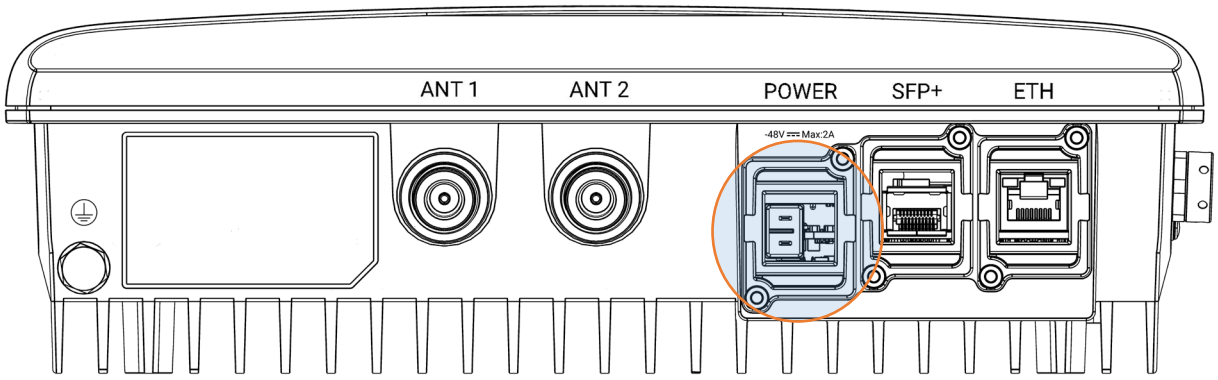

2. Assemble the OCTIS Optical Connector as per the instructions with the connector, clean the optical cable before inserting it into the SFP

3. Insert the assembled OCTIS Optical Connector in the SFP+ port on the radio

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# 3.7 Power cabling

1. Remove dust cap from POWER




2. Assemble OCTIS Power Connector with the power cable as per the instructions with the connector.

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

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# 4. ER2025 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<br>NET<br>STAT | | | | |
| Unit is booting up and initializing PTP sync.<br>Sync state is “synchronizing” | STAT | NET | PWR | | |
| Unit is fully booted and initializing PTP sync.<br>Sync state is “synchronizing” | STAT | PWR<br>NET | | | |
| Unit is ready for operation and synced with PTP source.<br>Sync state is “synchronized” | STAT | PWR | NET | | |
| Unit lost sync source, still synced.<br>Sync state is “holdover” | STAT | PWR | | NET | |
| Unit has no valid sync source.<br>Sync state is “free” | STAT | PWR | | | NET |

*Table 4 Description of LED indicators*

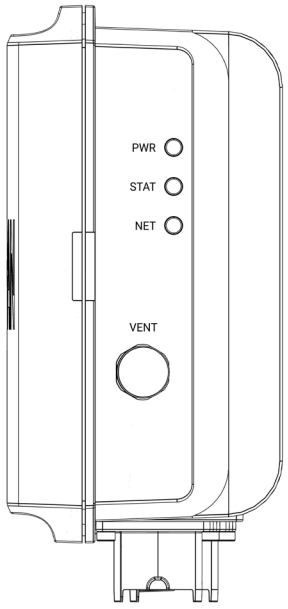



*Figure 3 Side of radio with LEDs*

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