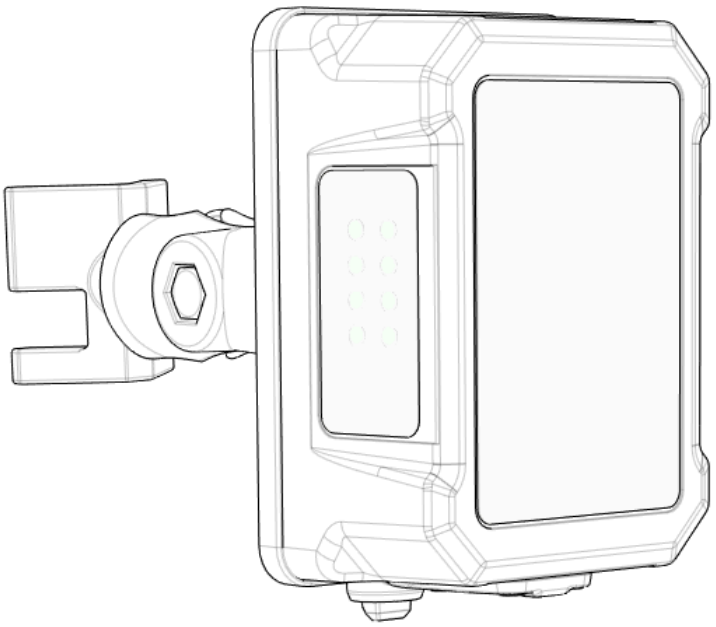
TECHNICAL MANUAL

TR1

10064 Transceiver



Revibe Energy AB 2025 ver.25.4.1

INTRODUCTION

The **TR1 (10064)** is a Power-over-Ethernet (PoE) transceiver specifically engineered for wireless communication with the ANURA VS family of sensors. TR1 enables the Anura system to establish and manage connections with up to eight VS1 sensors per unit.

Ethernet cabling allows for data transmission over distances of up to 100 meters.

PACKAGE CONTENTS

Name:	Part no:
TR1 transceiver	10064
RAM Strap Hose Clamp	40006
RAM Double socket arm	40007
RAM Ball adapter with AMPS Plate	40008

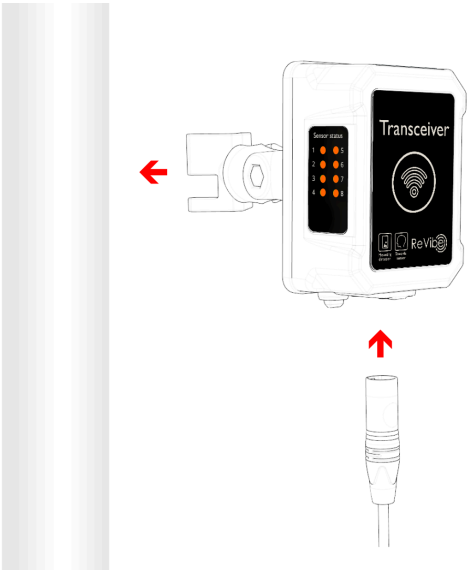
INSTALLATION

1. Mount the Transceiver(s)

Use the included RAM mounts to secure the transceiver(s) in desired locations. Line of sight to the VS1 sensor nodes greatly improves signal strength (RSSI).

2. Connect Transceiver(s)

Use the provided RJ45 to Neutrik etherCON cables to connect the transceiver(s) to the available PoE ports on the base hub. Eight orange LEDs on the transceiver indicate power and readiness on startup.

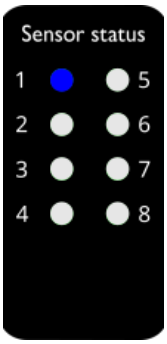


Transceiver with RAM mount installed, fixate the RAM mount to a structure (e.g. pole or railing) Connect the Neutrik etherCON to the connector situated in the bottom of the transceiver. An audible click indicates that the connector is secure.

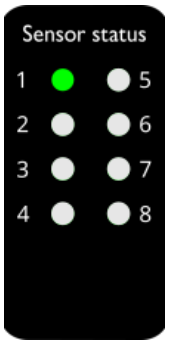
3. Connection Indication Transceiver(s)

a. A blue LED on the TR1 indicates that a connection to a VS1 unit is being initiated.
b. A solid green LED indicates that connection to the VS1 is established.
c. A blinking green LED indicates data is transmitted from the VS1 sensor unit.

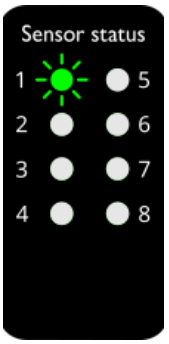
a.



b.



c.



4. Testing the installation

Observe the *Sensor status* LEDs on the side of the TR1 unit, they should be green for the sensor slots that are in use and blink when data is transmitted from each sensor.

TROUBLESHOOTING

For issues related to your internet connection, check with the relevant vendor.

TR1

- Make sure the TR1 is plugged into a powered PoE port on the Ethernet switch, otherwise it will not receive power.

Network

- If you can't reach TR1 devices through the Ethernet switch, check to see that the switch's configuration is as you expect.
- Ensure the network supports DHCP.

Sensors

- Make sure the sensors are within range for the TR1 to reach them. Check the *Sensor status* LEDs on the side of the TR! unit, and that the LEDs for the used sensor slots are green.
- Make sure you haven't gotten two sensors mixed up: Check which physical sensor has which BLE address, and which BLE address has been registered to which slot.
- If a sensor is behaving in an unexpected way, you can see if the health data for that sensor indicates any issues.

FIRMWARE UPDATES

The TR1 supports upgrades using the Ethernet connection, firmware updates can be performed through the API or SDK,

PRODUCT CARE

To ensure the longevity and optimal performance of TR1, please follow these care instructions:

General use:

Do not drop, throw, or subject the product to excessive force, as this could damage the plastic casing, aluminum plate, or internal components.

Cleaning:

Use a soft, damp cloth to gently clean the plastic casing and aluminum bottom plate. Avoid abrasive materials or harsh cleaning agents, as they may scratch the surfaces or damage the finish.

SUPPORT, WARRANTY & RMA ASSISTANCE

For help with product support, warranty claims, or initiating an RMA (Return Merchandise Authorization), our website provides all the resources needed.

https://revibeenergy.com/

RECYCLING

Disposal of Electrical and Electronic Equipment
This product is marked with the crossed-out wheelie bin symbol to indicate that it must not be disposed of as general household waste. Instead, it should be taken to an appropriate collection point for recycling electrical and electronic equipment. Proper disposal helps prevent potential harm to the environment and human health and promotes the sustainable reuse of materials. For more detailed information on disposal and recycling, please contact your local authorities or the retailer where the product was purchased.

TR1 TECHNICAL SPECIFICATIONS

Power supply:

PoE, supporting IEEE 802af.

Typical Power consumption:

1.2 W

Enclosure material:

Bottom plate: Hard anodized (type III) aluminum alloy.
Casing: PA6, Black.

Ingress protection:

IP65

Typical weight:

560g.

Dimensions: (excluding mounting accessories.)

140x98x60 (height x width x depth)

Operating Temperature:

-40°C to +80°C

Storage Temperature:

-40°C to +80°C (-40°F to +140°F)

Relative humidity:

0 to 95%, non-condensing

Mounting interface:

3x Pot magnets / Universal AMPS 4 hole pattern, 30x38mm.

Input connections:

PoE, IEEE 802 af.
10/100 Ethernet on RJ45, Neutrik etherCON CAT6a required for IP65.
Network Connections 10/100/BASE-T Ethernet on CAT6a: up to 100m

Wireless Communication:

2.4GHz

Connections:

Up to 8

Tx Power:

Typ. 0 dBm

Rx Sensitivity:

-98 dBm

Data Rates:

1 Mbps

Max data throughput:

4 sensors
Sample rate (Hz): 1024
Sample length (seconds): 5
Number of samples: 5120
Snippet interval (seconds): 60

Frequency:

2.400 to 2.483 GHz

Antenna Gain:

Typ. 6dBi

Time synchronization offset:

Typ. <5 µs

Expected product lifetime:

>5 years

ACCESSORIES

Cables:

Ethernet RJ45-NEUTRIK EtherCON CAT6a 10m
Ethernet RJ45-NEUTRIK EtherCON CAT6a 30m
Ethernet RJ45-NEUTRIK EtherCON CAT6a 60m

Mounting:

Transceiver side

4 hole 2" x 1,7" square base (included)

Extension arm

3” arm (included)

Rail side

Hose Clamp Base (1-2.1”) (included)
Tough-Claw™ Large Clamp Base (1-2.2”) (additional)

TESTING STANDARDS & COMPLIANCE

TR1 (10064) has successfully met all following international standards.

Environmental Testing

IEC 60068-2-1 / IEC 60068-2-2 – Verified the product's ability to withstand extreme temperatures:

- **IEC 60068-2-1**: Cold test to confirm functionality at low temperatures.
- **IEC 60068-2-2**: Dry heat test to ensure performance in high-temperature environments.

Corrosion Resistance

ISO 21207:2015 – Simulated harsh environmental conditions through cyclic corrosion tests, evaluating long-term durability.

Humidity & Temperature Cycling

IEC 60068-2-30 – Exposed the product to alternating high humidity and temperature variations to assess reliability in humid conditions.

Ingress Protection (IP) Ratings

IEC 60529 – IP65 – Evaluated the product's resistance to dust and water:

- **IP65**: Protection against dust ingress and low-pressure water jets.

CONTACT

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