ERSI-485

RS-485 Serial Interface, Full Duplex

Installation Guide

This guide covers the Echoflex serial bi-directional antenna. Three models are available: ERSI-485-UW at 902 MHz, ERSI-485-YW at 868 MHz and ERSI-485JW at 928 MHz.

Package Contents:

ERSI-485*W (with integrated 1m cable terminated with an RJ45 jack)
This installation guide.

Overview

The ERSI-485 enables any host controller or system with a serial RS485 interface to communicate with EnOcean wireless devices with only the addition of a software driver or middleware software on the host side.

The ERSI-485 communicates with the host using EnOcean Serial Protocol V3 (ESP3). The cable has an molded RJ45 jack that is shared for both power input and for providing the communications link to the host. An external power supply in the range 5-24VDC can be used to power the device. Full-duplex RS485/RS422 signaling is used for the host-to-ERSI-485 link.

The ERSI-485 is intended for indoor use only.

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Interface Operation

The ERSI-485 communicates with the host using EnOcean Serial Protocol V3 (ESP3) which is freely accessible and available on EnOcean's website.

see www.enocean.com/en/knowledge-base/ for protocol download

Installing the RS-485

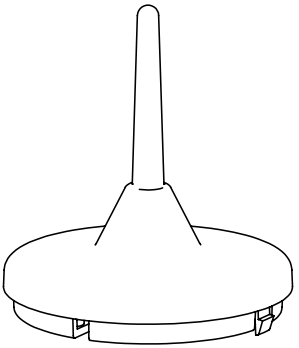
Maximizing radio coverage of the space should be considered when selecting a mounting location.

Standard CAT5 male/male straight through cables can be used for flexibility of mounting location.

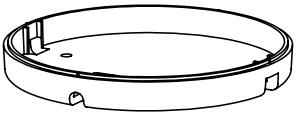
The Antenna is intended to be mounted on the ceiling with screws (# 8 or smaller) or double sided tape (screw/tape not supplied).

Attach the mounting plate.

Line up the release tabs on the antenna body to the inserts on the mounting plate and press fit.



Release tab



Mounting plate
insert for release tab

Refer to the tables below for range considerations with building materials that reduce the radio signal power.

Material	Attenuation
Wood	0 - 10%
Plaster	0 - 10%
Glass	0 - 10%
Brick	5 - 35%
MDF	5 - 35%
Ferroconcrete	10 - 90%
Metal	90 - 100%
Aluminum	90 - 100%

Material	Radio Range-typical
Line of sight:	80’ (24m) office spaces
Line of sight:	330’ (100m)open halls
Plasterboard:	80’ (24m) through 3 walls
Brick:	33’ (10m) through 1 wall
FerroConcrete:	33’ (10m) through 1 wall
Ceiling / Floor:	not recommended

CAT-5 / RJ45 connector pin-out

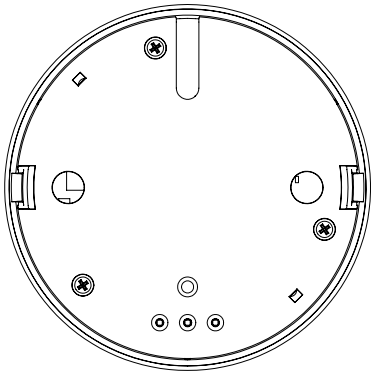
Pin-out with signal designations of the antenna side.

1: TX + (white/orange wire)
2: TX - (orange wire)
3: RX + (white/green wire)
4: Power 5-24VDC (blue wire)
5: Power Ground (white/blue wire)
6: RX - (green wire)
7: Power Ground (white/brown wire)
8: RS485 Ground (brown wire); internally connected to Power ground on the antenna side.

Diagnostic LEDs

Three diagnostic LEDs are located on the bottom of the antenna (not visible during normal operation).

The Transmit and Receive LEDs indicate activity over the serial bus.



FCC and IC Certifications

Contains FCC ID: SZV-STM300U

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(I.) this device may not cause harmful interference and

(ii.) this device must accept any interference received, including interference that may cause undesired operation.

Contains IC: 5713A-STM300U

Japanese Type Approval (928 MHz)

ARIB STD-T108

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