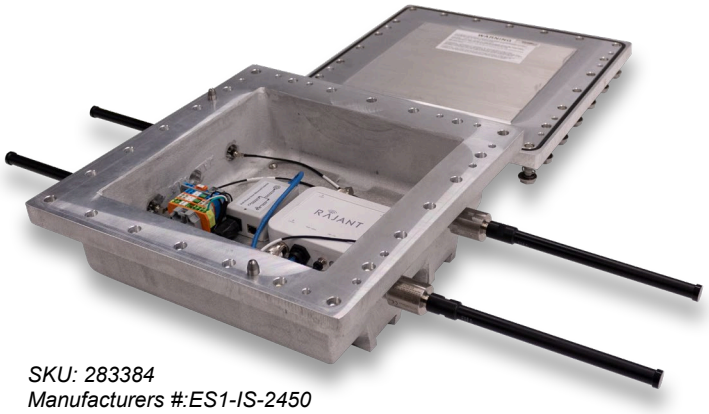
ES1-IS-2450 Hazardous Environment Enclosure



SKU: 283384
Manufacturers #:ES1-IS-2450

The Ventev ES1-IS-2450 is a Class I, Div1 and Class II, Div1 ready enclosure with the Rajant BreadCrumb® ES1 inside for use in IIoT applications in hazardous locations. This plug-n-play enclosure is ideal for establishing a highly resilient Kinetic Mesh Network in refineries, chemical plants, drilling and offshore platforms, and mining operations. It enables high security levels and support for virtually any application. The enclosure contains two transceivers with four external antenna ports, and Ethernet and Wi-Fi access point interfaces to enable data, voice, and video applications with multiple mounting options. *Every Ventev enclosure is covered by the company's 1-year warranty program.*

For more information or to purchase, contact Ventev:
800.851.4965 or sales@ventev.com.

DIMENSIONS

- Internal: 12" L x 12" W x 4" D
- External (w/o Antenna): 17" L x 17" W x 7.3" D

ES1-IS-2450 KEY FEATURES

- Explosion-proof enclosure and antenna couplers
- Total of 5, ¾" NPT tapped entries (4x for antenna couplers and 1x to bring Power in)
- Cu-free aluminum body and cover, Neoprene gasket and stainless cover bolt and aluminum hinge
- -20°C ≤ Ta ≤ +60°C
- Aluminum backplate with factory-installed Rajant ES1, power supply, AC terminal blocks, and AC disconnect

Shipped loose to prevent shipping damage:

- Qty 2 of Rajant Antenna, 2.4GHz, 5dBi, 75-100139-024
- Qty 2 of Rajant Antenna, 5.8GHz, 6dBi, 75-100139-058
- Qty 4 of Explosion-proof Antenna Couplers
- Enclosure wall mounting feet made of cast aluminum included (total 4pc)
- Power Line In - Must use proper explosion-proof conduit fitting (not included) to bring power inside the enclosure
- Antenna Coupler: Explosion-proof antenna couplers from Solexy permits the installation of non-Ex certified antennas in hazardous areas. An integrated blocking circuit prevents hazardous energy reaching the antenna if a radio, modem or AP failure occurs. Antennas may be removed and/or installed with power on. Installs with a simple wrench.

FEATURES AND BENEFITS:

- Commercial-grade network node offers reliability, performance and scalability
- Ruggedized to operate in any outdoor environment
- UL, IECEx and ATEX certifications make it deploy globally
- Listed for Class I, Division 1 & 2, Groups B, C, D; Class II, Division 1 & 2, Groups E, F, G; and Class III
- Combines Kinetic Mesh backhaul, Wi-Fi access and layer2 switching across interfaces in a single device
- Patented Rajant InstaMesh® networking software enables the network to quickly adapt to rapidly deployed and quickly or constantly moving network elements
- 2.4 GHz and 5 GHz frequencies support a wide variety of applications and environments
- For heavy industrial applications, and low power consumption
- Support for several strong cryptographic options used for data and MAC-address encryption and per-hop, per-packet authentication
- High bandwidth for data, voice, and video applications
- Scalability to hundreds of high-bandwidth fixed and mobile nodes
- Integrated Wi-Fi Access Point service for compatibility with millions of commercial off -the-shelf (COTS) client devices, such as laptops, tablets, smart phones, IP cameras, sensors, and other IP devices
- Self-configuring operation for fast and easy deployments
- Reliable, fast off-loading to Ethernet via multiple, simultaneous bridge-mode links through the Automatic Protocol Tunneling (APT) feature
- Seamless integration with current BreadCrumb® models, and backward compatible with older BreadCrumb® nodes

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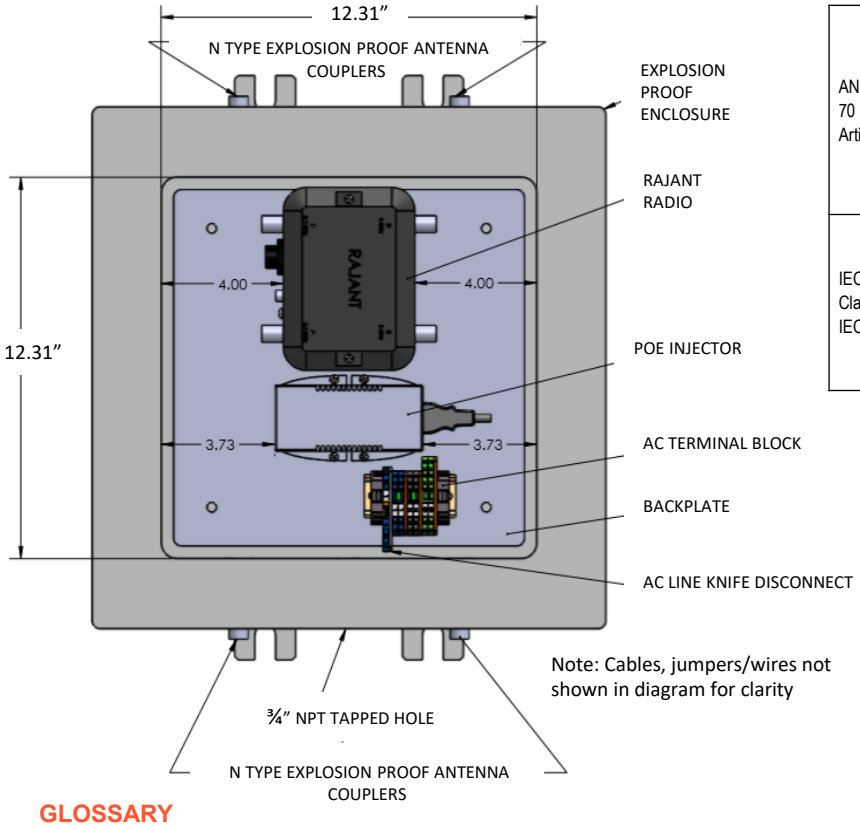

ANSI/NFPA 70 NEC Article 500		Class I, Division 1, Groups B, C, D	Class I, Division 1, Groups A, B, C, D. Class II, Division 1, Groups E, F, G	Class I, Division 2, Group: B, C, D	Class I, Division 2, Group: B, C, D Class II, Division 1, Group E, F, G
IEC Classification IEC 60079	Zone 0, Group IIC Temperature Class T4II 1 G	Zone 0 (Group IIC) and 20 (Group I) Temperature Class T4II 1 G	Zone 2, Group IIC	Zone 2 (Group IIC) and 22 (Group IIIC)	

GLOSSARY

Class: Defines the general nature (or properties) of the hazardous material in the surrounding atmosphere which may or may not be in sufficient quantities.

Class I: Locations in which flammable gases or vapors may or may not be in sufficient quantities to produce explosive or ignitable mixtures.

Class II: Locations in which combustible dusts in suspension, intermittently, or periodically) either may or may not be in sufficient quantities to produce explosive or ignitable mixtures.

Class III: Locations in which ignitable fibers may or may not be in sufficient quantities to produce explosive or ignitable mixtures.

Division: Defines the probability of the hazardous material being able to produce an explosive or ignitable mixture based upon its presence.

Division 1: indicates that the hazardous material has a high probability of producing an explosive or ignitable mixture due to it being present continuously, intermittently, or periodically or from the equipment itself under normal operating conditions.

Division 2: indicates that the hazardous material has a low probability of producing an explosive or ignitable mixture and is present only during abnormal conditions for a short period of time.

Group: Defines the type of hazardous material in the surrounding atmosphere. Groups A, B, C, and D are for gases (Class I only) while groups E, F, and G are for dusts and flyings (Class II or III).

Group A: Atmospheres containing acetylene.

Group B: Atmospheres containing a flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor whose MESG is less than 0.45 mm or MIC ratio is less than 0.40. Typical gases include hydrogen, butadiene, ethylene oxide, propylene oxide, and acrolein.

Group C: Atmospheres containing a flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor whose MESG is greater than 0.45 mm but less than or equal to 0.75 mm or MIC ratio is greater than 0.40 but less than or equal to 0.80. Typical gases include ethyl either, ethylene, acetaldehyde, and cyclopropane.

Group D: Atmospheres containing a flammable gas, flammable liquid-produced vapor, or combustible liquid-produced vapor whose MESG is greater than 0.75 mm or MIC ration is greater than 0.80. Typical gases include acetone, ammonia, benzene, butane, ethanol, gasoline, methane, natural gas, naphtha, and propane.

Group E: Atmospheres containing combustible metal dusts such as aluminum, magnesium, and their commercial alloys.

Group F: Atmospheres containing combustible carbonaceous dusts with 8% or more trapped volatiles such as carbon black, coal, or coke dust.

Group G: Atmospheres containing combustible dusts not included in Group E or Group F. Typical dusts include flour, starch, grain, wood, plastic, and chemicals