RAJANT

SPEC SHEET

BreadCrumb® ES1–2450IS

Portable Wireless Mesh Network Node

The Rajant ES1–2450IS is an outdoor rated Kinetic Mesh network device intended for use in Hazardous Locations (HazLoc) with the following regional classifications:

a. North American classification: Class I, Division 1 / Zone 1 (gases); Class II, Division 1 (dusts); and Zone 21 (dusts, for U.S. only).

b. ATEX / IECEx classification: Zone 1 (gases), Methane (gases), and Zone 21 (dusts).

BreadCrumb ES1–2450IS Features

- Combines Kinetic Mesh backhaul, Wi-Fi access and layer2 switching across interfaces in a single device
- Outdoor rated: -40°C to 60°C temperature range; IP66 and IP68; Stainless steel pole mounting kit and wall mounting kit
- Rajant's patented[1] InstaMesh® networking software enables the network to quickly adapt to rapidly deployed and constantly moving network elements
- 2.4 GHz and 5 GHz radio frequencies supporting a wide variety of applications
- Lightweight, portable, 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 mobile, high-bandwidth nodes
- Integrated Wi-Fi Access Point service for compatibility with millions of commercial off-the-shelf (COTS) client devices

Model	Description
ES1–2450IS	ES1 with (1) 2.4 GHz, 1x1 SISO, 150 Mbps and (1) 5 GHz, 2x2 MIMO, 300 Mbps transceivers. Available in aluminum enclosure (SWA) and stainless steel enclosure (SWS) versions.

Wireless	2.4 GHz	5 GHz
Antenna Connector	(1) Type N (female)	(2) Type N (female)
Frequency[2]	2402 – 2482 MHz	U-NII-1: 5150 – 5250 MHz U-NII-2A: 5250 – 5350 MHz U-NII-2C: 5470 – 5725 MHz U-NII-3: 5725 – 5850 MHz
Modulation	DSSS, CCK, OFDM	OFDM
Max. Physical Layer Data Rate	150 Mbps (throughput varies)	300 Mbps (throughput varies)
Max. RF Transmit Power[3]	14 dBm ± 2 dB	13 dBm ± 2 dB

[1] U.S. Patent 8341289B2

[2] Channel, frequency and bandwidth options vary based upon regional and local regulations and certifications.

[3] RF transmit power is governed by local regulations and varies by frequency.

Network & Security	
Network Functionality	VLAN and QoS support; Access Point; Bridge; Gateway; DHCP; NAT and Port Forwarding; Automatic Protocol Tunneling (APT).

Power	
Input Voltage	9 — 30 VDC, dedicated terminals or Passive PoE

Input/Output	
Ethernet	(1) 10/100/1000 Mbps IEEE 802.3, RJ-45, auto MDI/MDIX
LED	Status LED

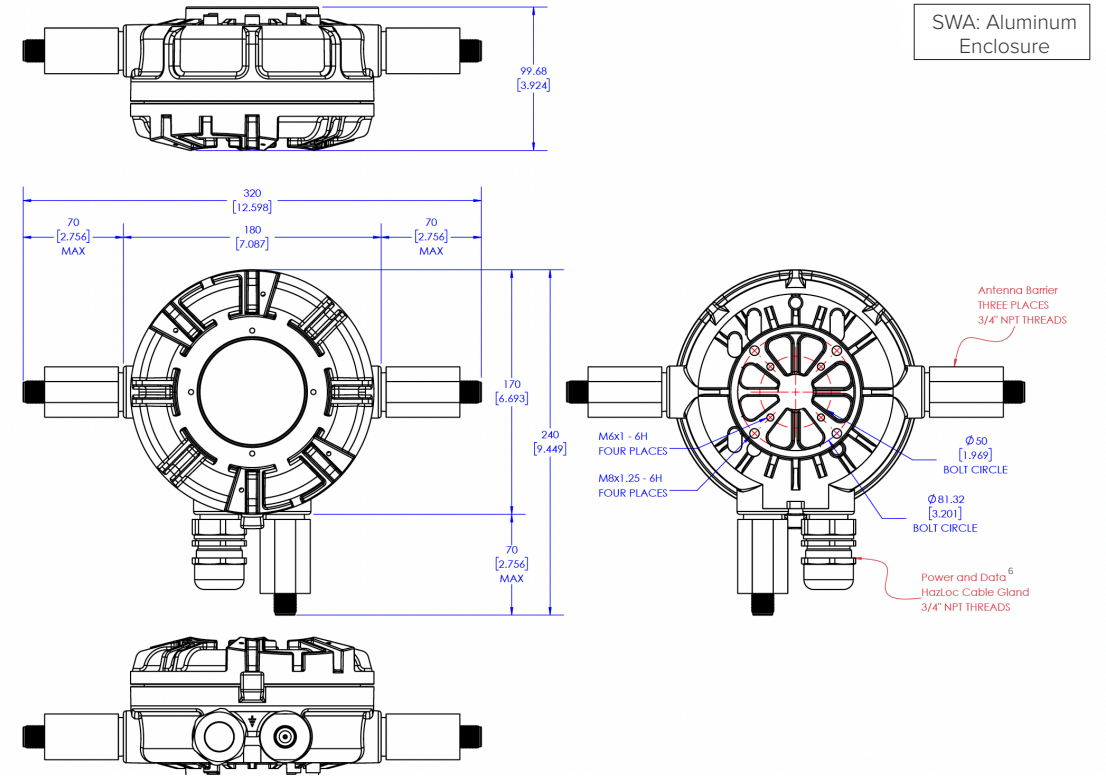
Physical	
Construction	SWA: Aluminum enclosure SWS: Stainless steel enclosure
Dimensions	See drawings on page 3
Weight	With aluminum enclosure (SWA): 3.54 kg (7.8 lbs) With stainless steel enclosure (SWS): 5.7 kg (12.6 lbs)
Temperature[4]	Ambient (operating): -40°C to 60°C (-40°F to 140°F) Storage: -40°C to 85°C (-40°F to 185°F)
Enclosure[5]	IP66 and IP68
Wireless Certification	FCC (US) IC (Canada)

Physical cont.	
Safety Certification	North America SWA and SWS: • Class I, Division 1, Groups B, C and D • Class II, Division 1, Groups E, F and G • Class I, Zone 1, Groups IIB+H2 (for U.S. only) • Zone 21, Groups IIIC (for U.S. only) (-40°C ≤ Ta ≤ +60°C) • Enclosure type ratings: 1, 4 and 4X ATEX / IECEx SWA and SWS: • II 2G Ex db IIC T6 Gb • II 2D Ex tb IIIC T80°C Db SWS only: • I M2 Ex db I Mb
Compliance	• Electrostatic discharge (ESD) immunity testing compliant to EN 61000-4-2 • Electrical fast transient (EFT) / burst immunity testing compliant to EN 61000-4-4 • Surge immunity testing compliant to EN 61000-4-5

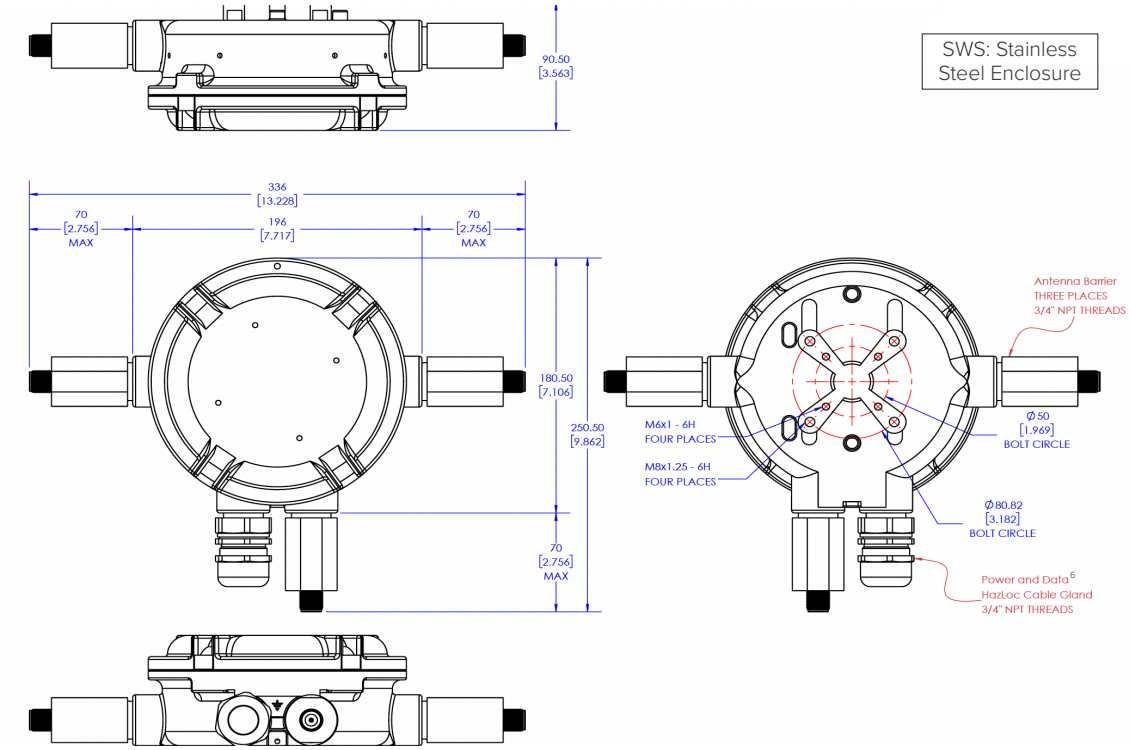
[4] Maximum ambient (operating) temperature may be positively or negatively influenced by power consumption, environmental and configuration factors such as but not limited to air flow, crypto encoding settings, transmit power settings and transmit duty cycle.

[5] To maintain the IP66 and IP68 rating for the enclosure, the ES1–2450IS must use an Ethernet and power cable gland of the same ingress protection rating. Excessive shock and vibration, temperature extremes or fluctuations may void the manufacturer's warranty.

Product Drawings



[6] Power and Data HazLoc Cable Gland is not included with the product.



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