

ANTENNAS | EPNT-7 SERIES

X-POLARISED, OMNI-DIRECTIONAL, 4X4 DUAL-BAND WI-FI CPE

2400 – 2500 MHz, 5000 – 6000 MHz; 7.5dBi



- A rugged outdoor antenna-integrated enclosure for compact router modules, such as the Rajant Cardinal, enabling a CPE solution
- Short RF cables are used, minimizing signal loss
- 4x4 MIMO dual-band 2.4 GHz and 5 - 6 GHz Wi-Fi antennas
- Supports IEEE 802.11 b/g/n/ac/ax (Wi-Fi 4/5/6) standards
- Powder-coated cast aluminium base for heat dissipation and vibration-resistant cable strain reliefs
- LED status window for easy on-site diagnostics
- Rugged IP69K/IK08 rated housing for harsh industrial environments



Mining



Tunnelling



Rural/Farm



Industrial

APPLICATION AREAS

Product Overview

The EPNT-7, developed by Poynting Antennas, is a robust 4x4 MIMO dual-band Wi-Fi antenna enclosure designed to enhance wireless performance in demanding environments. It features four dual-band antennas covering the 2.4 GHz and 5–6 GHz bands, delivering up to 3.5 dBi gain on 2.4 GHz and up to 7.5 dBi gain on 5 to 6 GHz with excellent omni-directional pattern control.

The enclosure is purpose-built to integrate compact router modules such as the Rajant Cardinal, transforming it into a mobile Wi-Fi CPE ideal for high-noise, high-vibration applications such as mining, agriculture, and logistics. The EPNT-7 can accommodate routers up to the size of 108 x 73.5 x 20 mm³. The powder-coated cast aluminium base effectively dissipates heat, while strain reliefs protect cables against mechanical stress and vibration. Additional features include a transparent LED status window for easy monitoring of your router and a rugged IP69K/IK08-rated housing for durability in harsh conditions.

Features

- 4x4 MIMO dual-band antennas for reliable, high-performance Wi-Fi across 2.4 and 5 to 6 GHz bands
- Integrated housing for compact router modules, enabling a compact, mobile CPE solution.
- Rugged design with powder-coated cast aluminium base, IP69/IK08 ratings, and vibration-resistant cable reliefs.
- LED status window for quick and easy router diagnostics
- Mounting options include surface, magnetic and pole mount

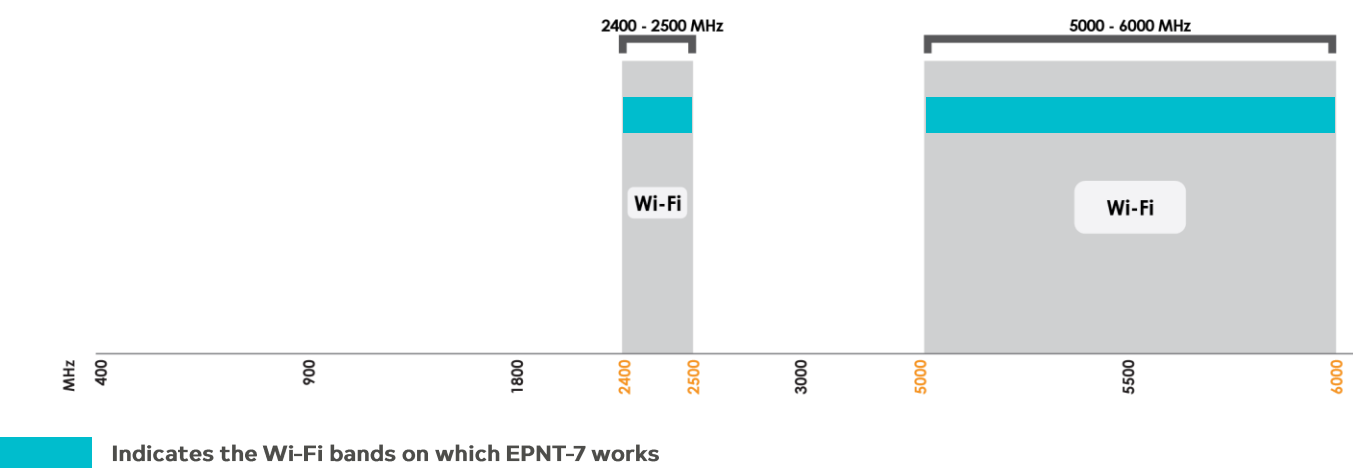
Application Areas

- **Surface and underground mining** – Reliable connectivity for vehicles and equipment in high-vibration environments.
- **Agriculture** – Wireless backhauls for smart farming machinery
- **Ports and harbours** – Mobile Wi-Fi solutions for logistics vehicles and infrastructure monitoring
- **Industrial warehousing** – Connectivity for automated systems, remote sensors, and mobile assets.



Frequency Bands

The EPNT-7 is an omni-directional antenna that works from 2400 – 2500 MHz and 5000– 6000 MHz



Antenna Derivatives

Product Order Code (SKU)	A-EPNT-0007-V1-01	A-EPNT-0007-V1-02
Wi-Fi Ports	4	4
GPS Port	N/A	1
Connector Type	Internal: Wi-Fi: SMA (M) External: RJ-45 Passthrough Gland	Internal: Wi-Fi: SMA (M) GPS: USB External: RJ-45 Passthrough Gland
SISO / MIMO	4x4 MIMO	4x4 MIMO
Frequency Bands	2400 – 2500 MHz 5000 – 6000 MHz	2400 – 2500 MHz 5000 – 6000 MHz
Polarisation	Cross Polarized (Linear Vertical & Horizontal)	Cross Polarized (Linear Vertical & Horizontal)
Peak Gain	7.5 dBi	7.5 dBi
Coax Cable Type	Internal: RTK-031	Internal: RTK-031
Coax Cable Length	0.22m	0.22m
Weight	0.50 Kg	0.55 Kg
Packaged Weight	2.50 Kg	2.55 Kg
EAN	6009710929711	6009710929735

Electrical Specifications – Wi-Fi

Frequency Bands:	2400 – 2500 MHz
	5000 – 6000 MHz
Gain (Max):	3.5dBi @ 2400 – 2500 MHz
	7.5dBi @ 5000 – 6000 MHz
VSWR:	≤1.5:1 across 95% of the bands
Feed Power Handling:	10 W
Input Impedance:	50 Ohm (nominal)
Polarisation:	Cross Polarised (Linear Vertical & Horizontal)
Coax Cable Loss:	0.92 dB/m @ 2400 MHz
	1.65 dB/m @ 5800 MHz
DC Short:	Yes

Electrical Specifications – USB GNSS (Optional)

Frequency Bands:	GPS L1: 1575.42 MHz
	GLONASS L1: 1602 MHz
	GALILEO E1: 1575.42 MHz
	BeiDou B1: 1561.098 MHz
	QZSS L1: 1575.42 MHz
	SBAS L1: 1575.42 MHz
Power Consumption:	Max. 25mA_@ 3.3 V
Sensitivity:	-167 dBm
Power Supply:	3.0 – 5.0 V
Connector:	USB Type-A

Product Box Contents

Antenna:	EPNT-7
Mounting Type:	Surface and Magnet Mount Kit
Base Kit:	Router Mount kit

Mechanical Specifications

Product Dimensions:	275.1 mm x 134 mm x 114.7 mm
Maximum Router Dimensions:	108 mm x 73.5 mm x 20 mm
Packaged Dimensions:	331.4 mm x 154.1 mm x 134 mm
Radome Material:	UV Stable ASA
Base Material:	Grey Powder-Coated Cast Aluminium
Radome Colour:	Grey (Pantone 429C)
Mounting Type:	Surface Mount, Magnetic Mount & Pole Mount

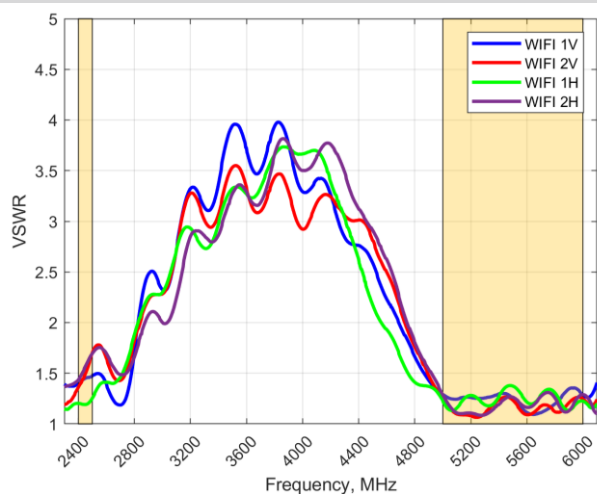
Environmental Specifications, Certification & Approvals

Wind Survival:	≤160 km/h
Temperature Range (Operating):	-40°C to +80°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 69K
Salt Spray:	MIL-STD 810G/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +80°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 08
Product Safety & Environmental:	Complies with CE and RoHS standards



Antenna Performance Plots

VSWR



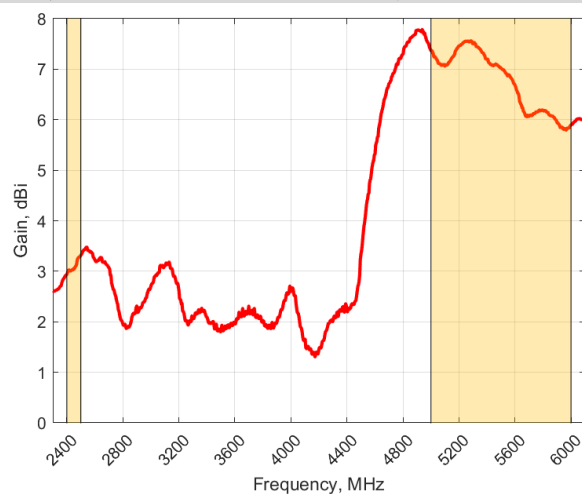
Voltage Standing Wave Ratio (VSWR)*

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The EPNT-7 delivers superior performance across all bands with a VSWR of $\leq 1.5:1$ across 95% of the bands.

*VSWR measured at the port

GAIN (EXCLUDING CABLE LOSS)



Gain in dBi

7.5dBi is the peak gain across all bands from 2400 – 2500 MHz and 5000 – 6000 MHz

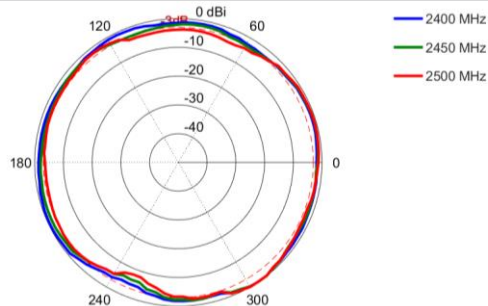
Gain @ 2400 – 2500 MHz: 3.5 dBi

Gain @ 5000 – 6000 MHz: 7.5 dBi

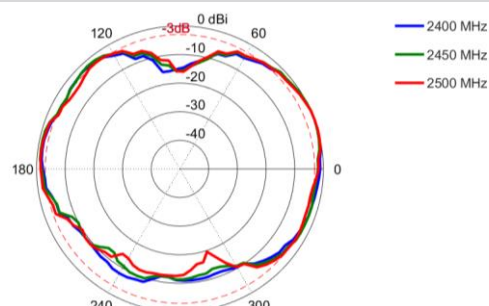
*Antenna gain measured with polarisation aligned standard antenna

Radiation Patterns

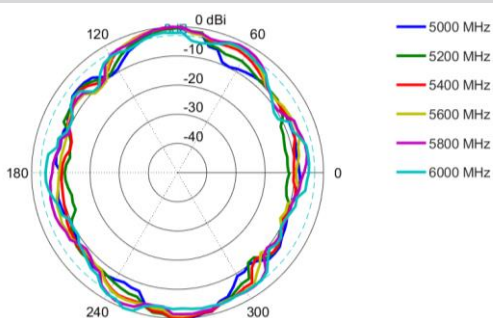
Azimuth: 2400 – 2500 MHz



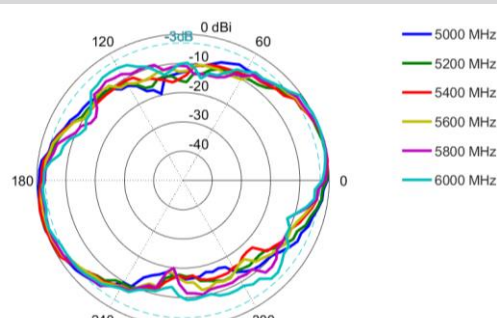
Elevation: 2400 – 2500 MHz



Azimuth: 5000 – 6000 MHz

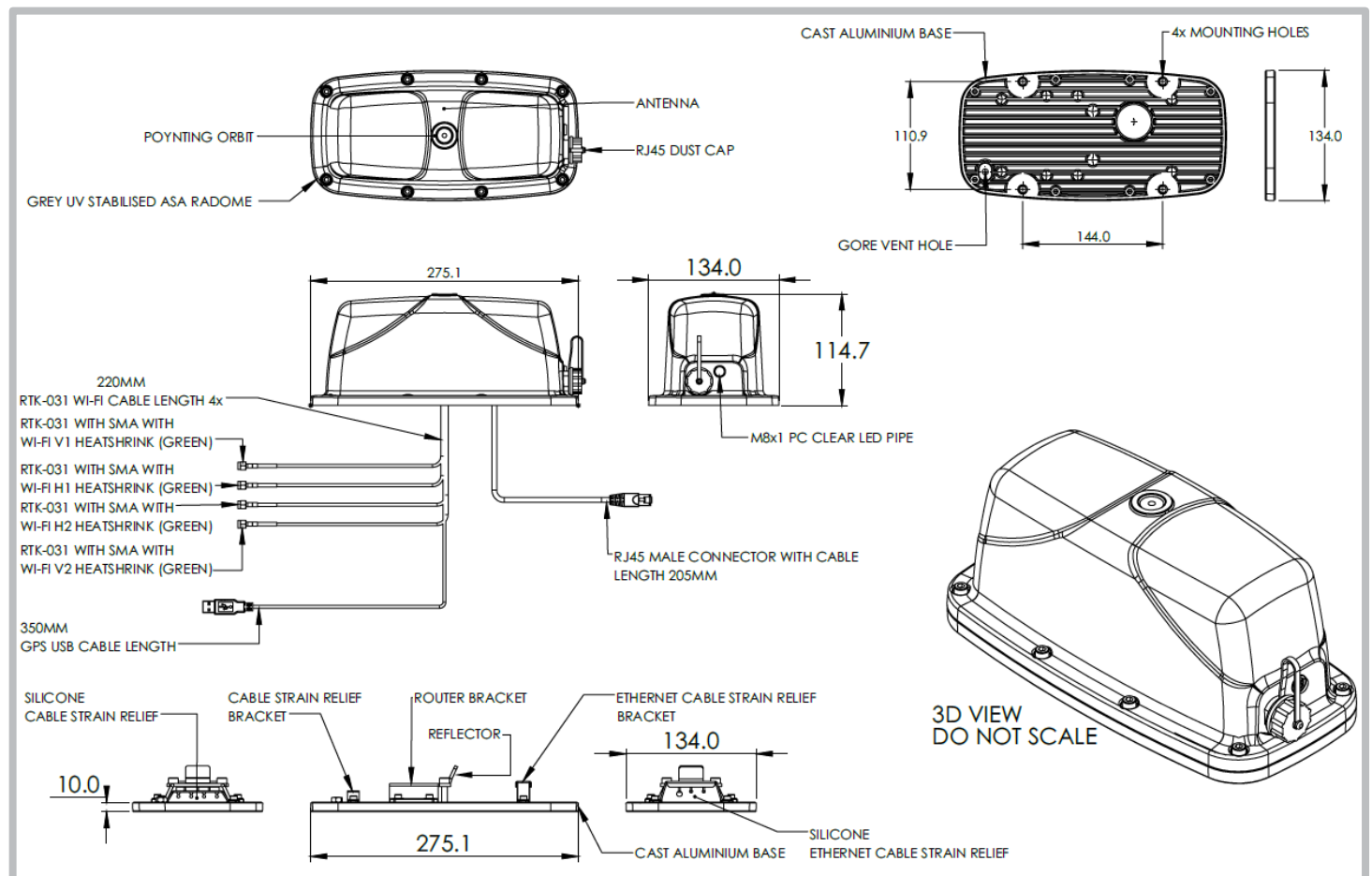
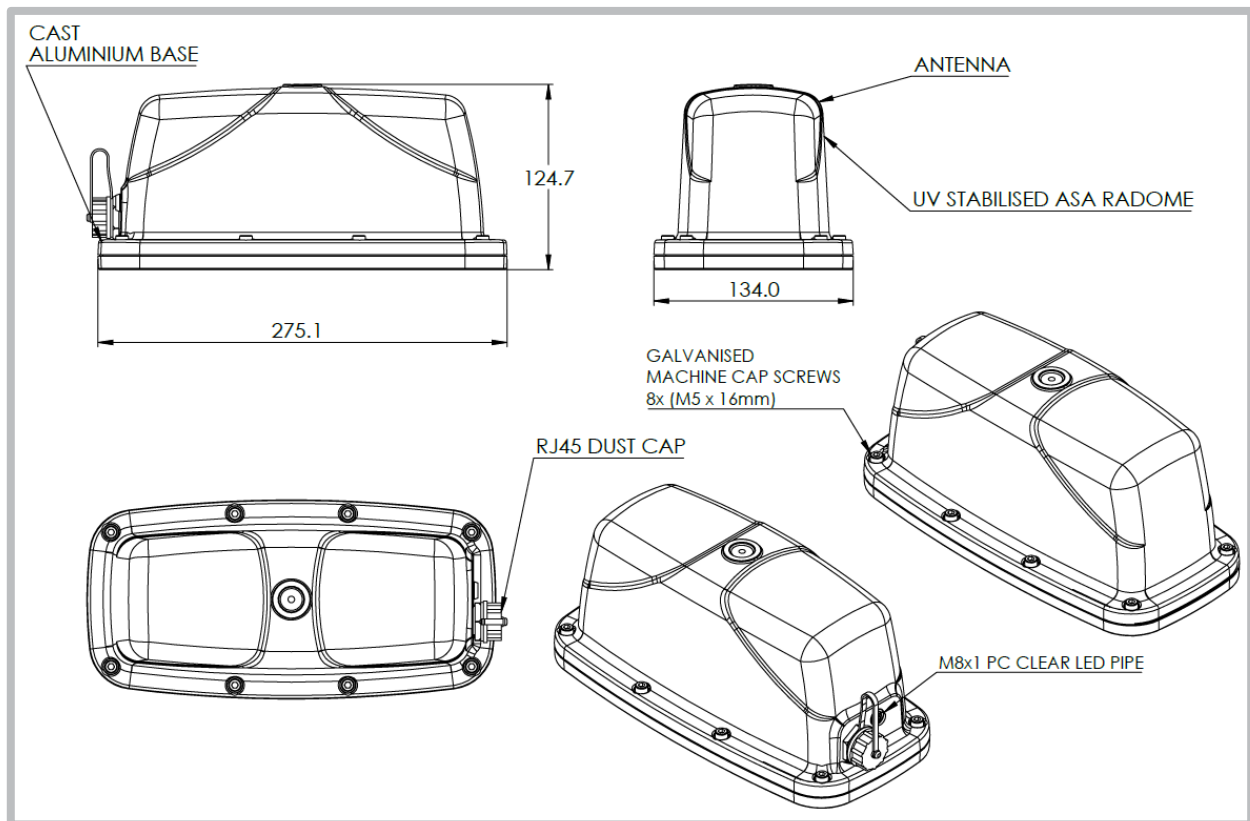


Elevation: 5000 – 6000 MHz

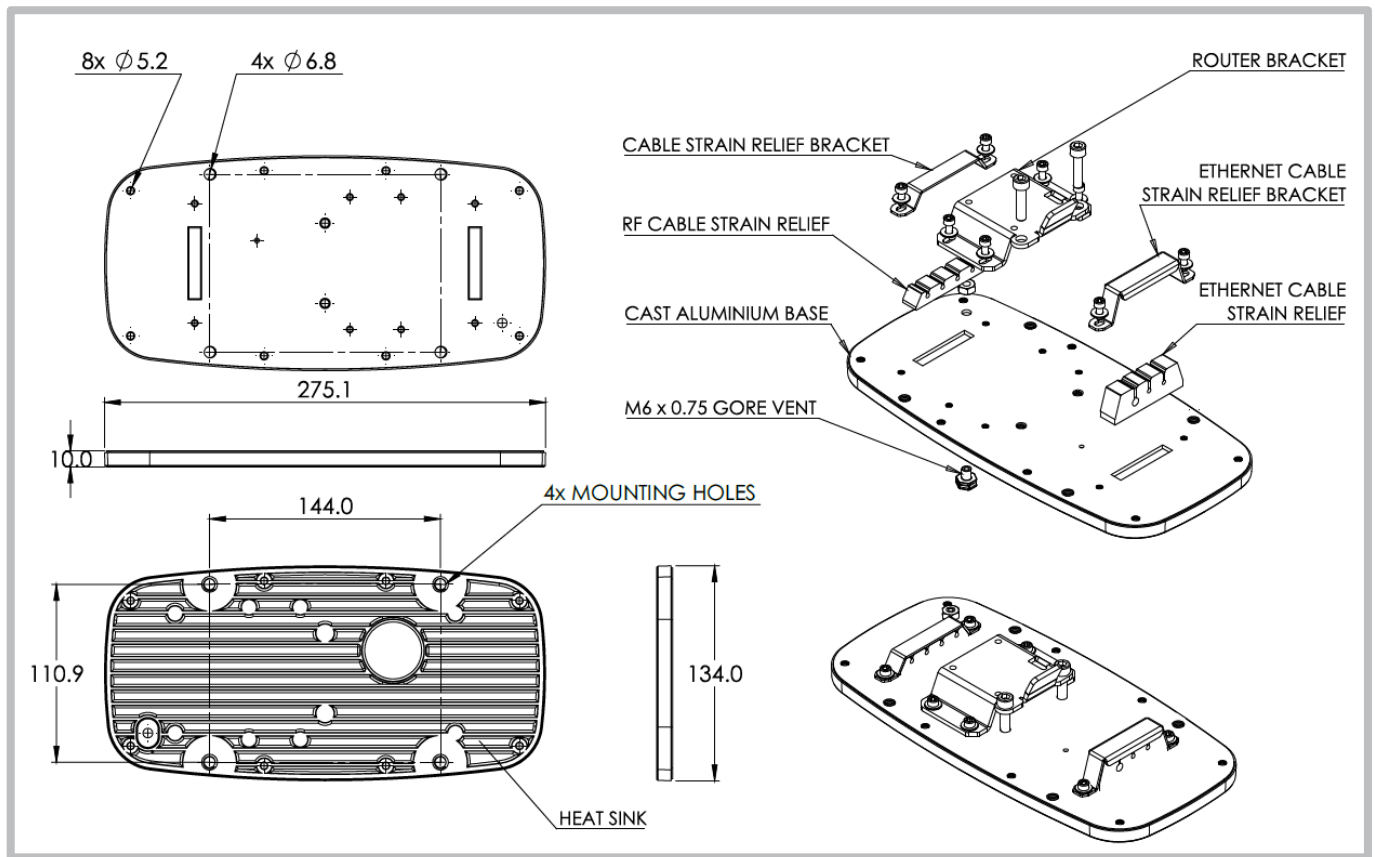


Technical Drawings

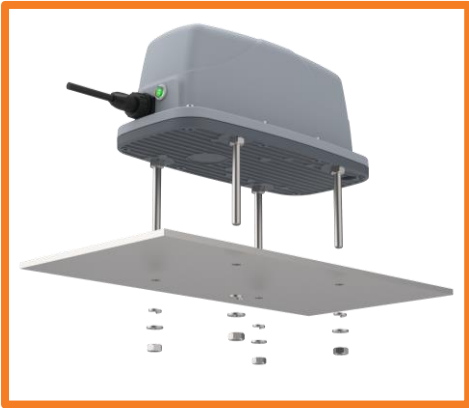
Antenna Enclosure Dimensions



Inside the Enclosure



Mounting Options



Surface Mount

Surface mounting using the provided M8 Fasteners



Magnet Mount

Magnet mounting using the provided magnet kit.



Pole Mount (Optional)

Pole mounting using the Bracket kit (BRKT-094)

Note: The A-BRKT-094-V1-01 is not provided and can be purchased separately.

Additional Accessories

See accessories technical specifications on www.poynting.tech.

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