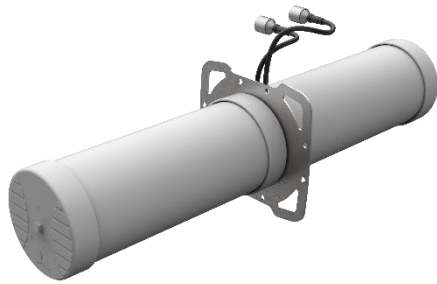


ANTENNAS | Heli-22 SERIES

DUAL FREQUENCY BI-DIRECTIONAL MINE & TUNNEL ANTENNA

BI-DIRECTIONAL 2400–2500 MHZ & 5000–6000 MHZ CIRCULAR POLARISED ANTENNA



- **Circular Polarised HELI antenna provides enhanced signal propagation and connection stability within a tunnel.**
- **Left Hand Circular (LHC) & Right Hand Circular (RHC) Polarised options available**
- **Bi-directional – radiates in both directions in a tunnel**
- **Ruggedized & water ingress protected**
- **Ideal for Mining & Tunnel M2M and IoT deployments**

Product Overview

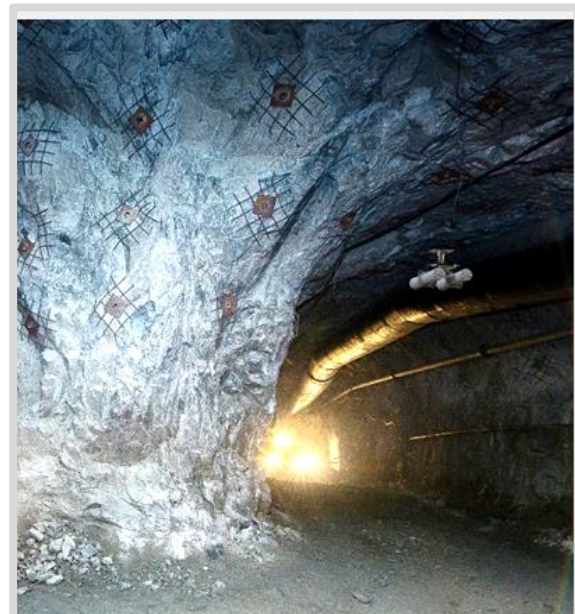
The HELI-22 forms part of a series of Mini-HELI antennas. These antennas are only mini in size relative to their bigger brothers, the HELI-3, HELI-4 & HELI-8, but offer medium to high gain, which makes these antennas ideal for mining tunnels where IoT/M2M connectivity is deployed and can also be used for coverage into the stopes. The HELI-22 is a set of dual 2.4GHz and 5GHz antennas, radiating in both directions (i.e. bi-directional), which make them ideal for the coverage of both 2.5GHz and 5GHz in mining and other type of tunnels. These antennas are typically used for the deployment of IoT within the tunnel to provide telemetry and mine automation. These antennas are available in both Left Hand Circular (LHC) & Right Hand Circular (RHC) polarised antenna elements to provide optimal decorrelation within a MIMO deployment, resulting in the best of the two worlds; decorrelation due to the polarisation differences and also spatial diversity to enhance MIMO performance and RF reliability to service the most severe connectivity within a demanding mining tunnel. The dualband WiFi connection propagates around tunnel bends in a non-Line of Sight scenario and provides immunity to many of the WiFi signal disrupting objects such as trains and drilling machinery which appear to obscure the tunnel.

Features

- Dual Port 2.4GHz and 5GHz antenna.
- This antenna is especially designed for mining and other types of tunnels.
- Bi-directional – radiates in both directions in a tunnel.
- Left & Right Hand Circular Polarised available (for MIMO).
- Intrinsically safe version available on request

Application Areas

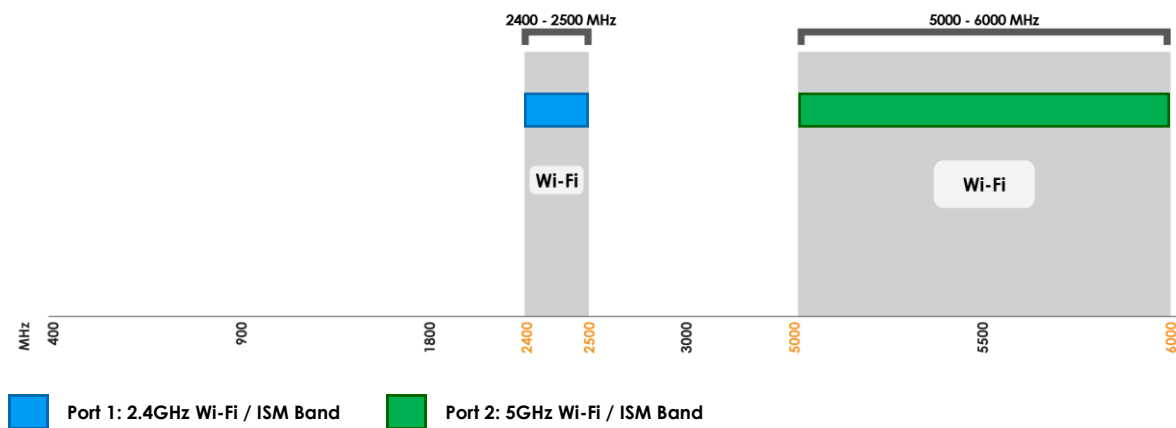
- Supplementing fibre /cable networks "Hotspots" to areas to enhance mobility or extend networks to inaccessible areas such as mines and tunnels.
- Underground telemetry and automation.
- Creating of complete underground in tunnel wide data networks and internet/LTE connectivity.
- Seamless connection to personnel using cellular phones and smart devices and tablets.





Frequency Bands

The Heli-22 is a wide-band antenna that works from 2400 – 2500 & 5000 - 6000 MHz



Antenna Overview

		
Port	1	2
Frequency Bands	2400 MHz - 2500 MHz	5000 MHz - 6000 MHz
Peak Gain	12 dBi	8 dBi
Coax Cable Type	RG-58	RG-58
Coax Cable Length	350mm	350mm
Connector Type	N-Type Male	N-Type Male

Electrical Specifications

Frequency bands:	2400 MHz - 2500 MHz 5000 MHz - 6000 MHz
Gain (max):	12 dBi for 2400 MHz – 2500 MHz 8 dBi for 5000 MHz - 6000 MHz
VSWR:	<2:1
Feed power handling:	30 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Circular Polarised (LHC or RHC)
Coax cable loss:	1.96 dB /m
DC short:	Yes

Coax Cable & Connector Type

Cable length:	350 mm
Coax cable type:	RG 58
Connector type:	N-Type (Male)

**The coax cable & connector is factory mounted to the antenna*

Product Box Contents

Antenna:	A-HELI-0022-V1-01
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Ordering Information (for Right Hand Circular)

Commercial name:	HELI-22
Order product code:	A-HELI-0022-V1-02
EAN number:	6009880915521

Ordering Information (for Left Hand Circular)

Commercial name:	HELI-22
Order product code:	A-HELI-0022-V1-02
EAN number:	6009880915538

Mechanical Specifications

Product dimensions	± 600 mm x 178 mm
Packaged dimensions:	630mm x 200mm x 200mm
Weight:	1.90 kg
Packaged weight:	2.5 kg
Radome material:	PVC
Radome colour:	Grey
Mounting Type:	Ceiling mounted

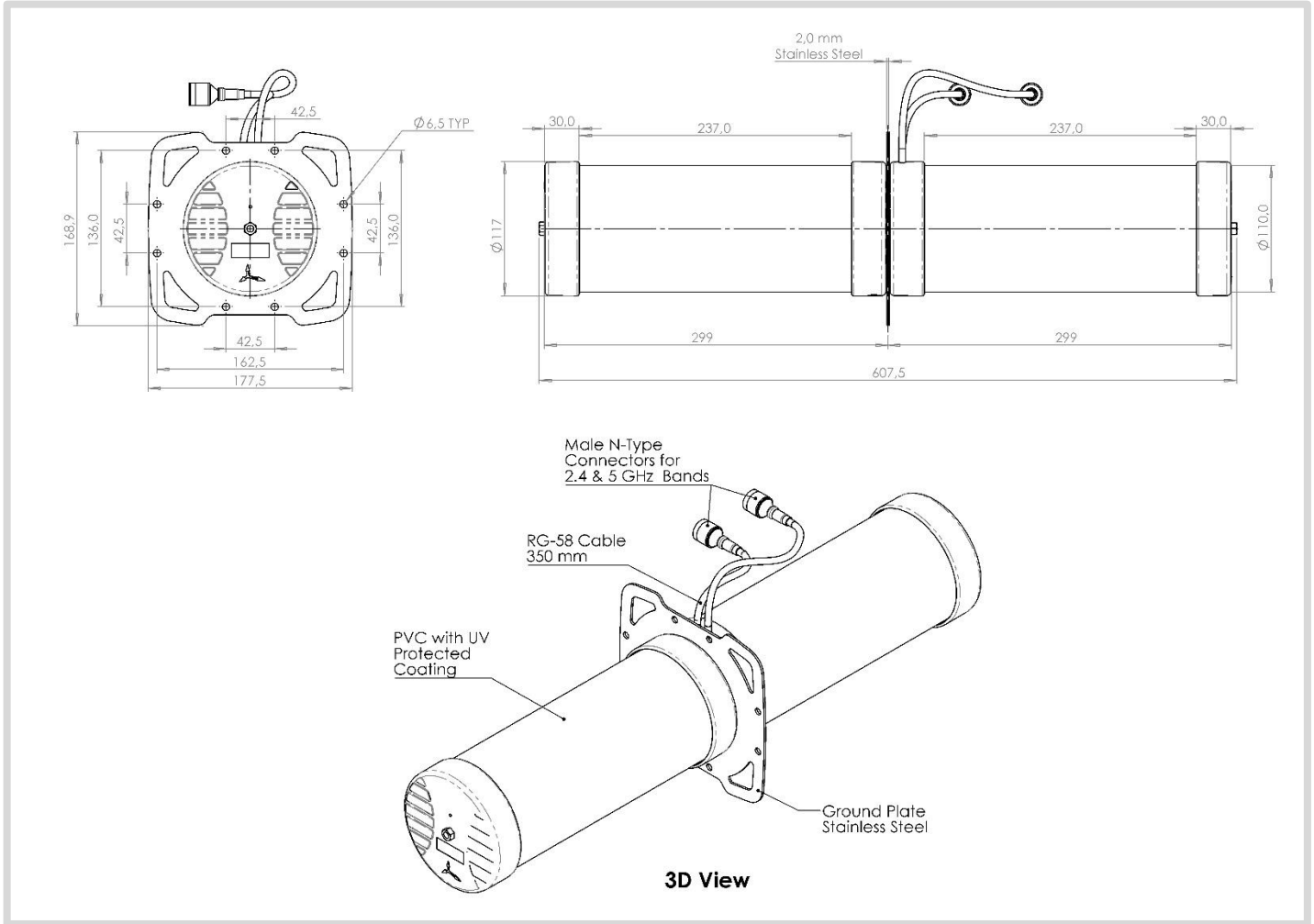
Environmental Specifications, Certification & Approvals

Wind Survival:	<120 km/h
Temperature Range (Operating):	-40°C to +70°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 65
Salt Spray:	MIL-STD 810F/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +70°C
Flammability Rating:	UL 94-HB
Impact resistance:	IK 08

Product Safety & Environmental: Complies with CE, EN, CSA, RoHS and IEC standards



Technical Drawings



Contact Poynting

Poynting Antennas (Pty) Ltd - Head Office

Unit 4, N1 Industrial Park
Landmarks Avenue,
Samrand, 0157
South Africa

Phone: +27 (0) 12 657 0050

E-mail: sales@poynting.co.za

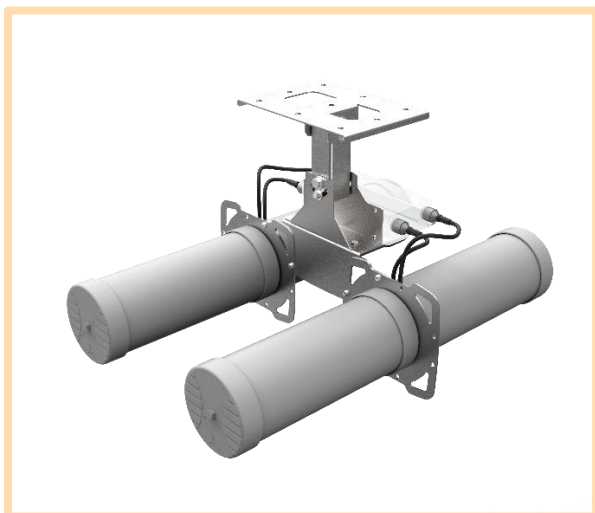
Poynting Europe

Regus Business Center Neue Messe Riem
Kronstadter Straße 4
81677 München
Germany

Phone: +49 89 208026538

E-mail: sales-europe@poynting.tech

Mounting Options



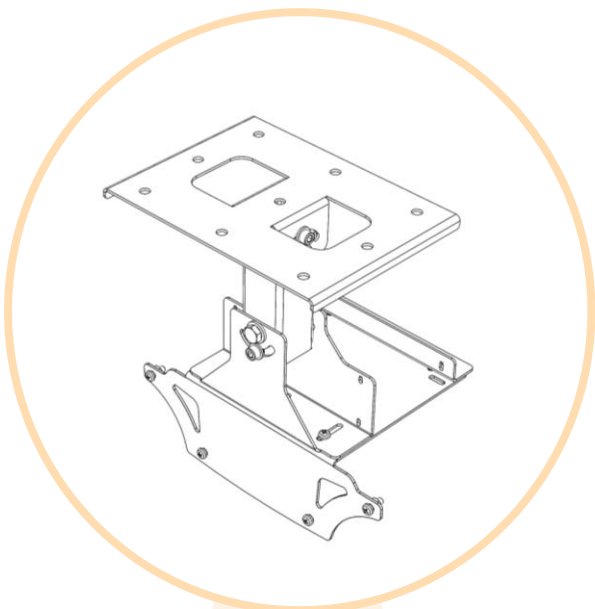
Ceiling Mount

Multi directional swivel bracket for ceiling mount, uses....

Ceiling Mount system uses the following optional accessories:

A – BRKT – 045 -V1 - 01

Additional Accessories



A – BRKT – 045 -V1 - 01

Ceiling mounting bracket for holding Heli -22 Right hand and Left hand circular polarized antennas.

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