Specification	Data
Job Name	
Type	
Catalog #	
Comments	

Order #	Description
ANT-ORS-5.1	Stubby Right Angle Outdoor
ANT-OSS-5.1	Stubby Straight Outdoor
ANT-ORB-1.5-1	Right Angle Outdoor
ANT-OSB-1.5-1	Straight Outdoor

Product Overview

Quality antennas are a critical element for proper wireless communications. This product overview list the FCC approved 2.4Ghz antennas that can be used in outdoor and indoor environments. We recommend the use of the outdoor rated antenna in both indoor and outdoor applications due to conditions that can occur in an indoor facility as with industrial applications.

Note: The end user assumes responsibility if they choose to use a different antenna type or antenna gain. This could violate FCC Part 15 guidelines and Synapse's FCC certification.

The stubby antennas are monopole in design, please read the section on monopole antenna installation on Page 2.

KEY FEATURES:

- Internal O-Ring
- UV Protection
- RoHS Compliant Product

Antenna	Connector	Environmental	Length
ANT-ORS-5.1	RP-SMA	Fully Weatherized	17.1 x 25.6 mm
ANT-OSS-5.1	RP-SMA	Fully Weatherized	7.8 x 27.0 mm
ANT-ORB-1.5-1	RP-SMA	IP65 Ingress Protection	18.2 x 128.05 mm
ANT-OSB-1.5-1	RP-SMA	IP65 Ingress Protection	10.0 x 130.09 mm

Electrical specifications

Typical free space performance

Antenna Type	Frequency Range GHz	Center Frequency	Average Gain dBi	Impedance	Operating Temperature	Antenna Construction
Stubby	2.36 – 2.60	2.45 GHz	-5.0	50Ω	-40 to +90°C	Monopole *
Long	2.40 – 2.50	2.50 GHz	1.5	50 Ω	-40 to +85°C	Dipole

* Monopole Antenna Guidance is outlined on Page 2.

INSTALLATION INSTRUCTIONS:

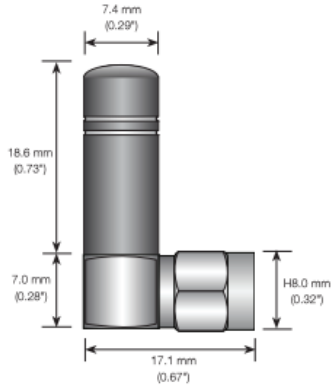
* Monopole antennas require an associated ground plane counterpoise for proper RF operation. The size and location of the ground plane relative to the antenna will affect the overall performance of the antenna in the final design. When attaching a monopole antenna to a metal luminaire, removing paint or protective coating where the bulkhead makes contact to the luminaire is sufficient for good RF connectivity. When used in conjunction with a ground plane smaller than that used to tune the antenna, the center frequency typically will shift higher in frequency and the bandwidth will decrease. The proximity of other circuit elements and packaging near the antenna will also affect the final performance. For further discussion and guidance contact Synapse Customer Support.

Antenna connection:

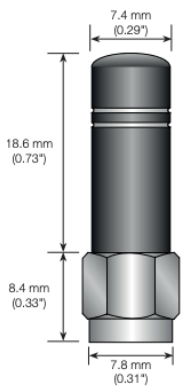
1. When attaching the antenna touch a grounded surface to dissipate any static. Avoid touching the center pin of the RF bulkhead to prevent static damage to the radio. Screw on the antenna hand tight. Tighten the antenna an additional ¼ turn. The ¼ turn compresses the internal O-Ring sufficiently to prevent water ingress. Any additional tightening will be detrimental to the RF connectivity. Over tightening the antenna will fracture the RF pin in the bulkhead, creating poor RF link quality.
2. Orient antenna direction pointing straight up or straight down for maximum RF connectivity.

MECHANICAL DRAWINGS:

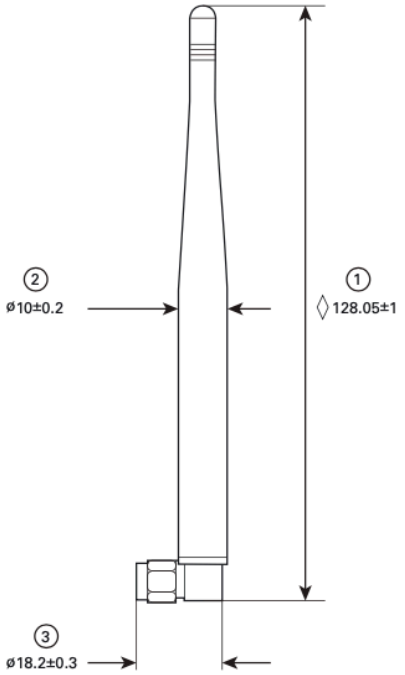
ANT-ORS-5.1



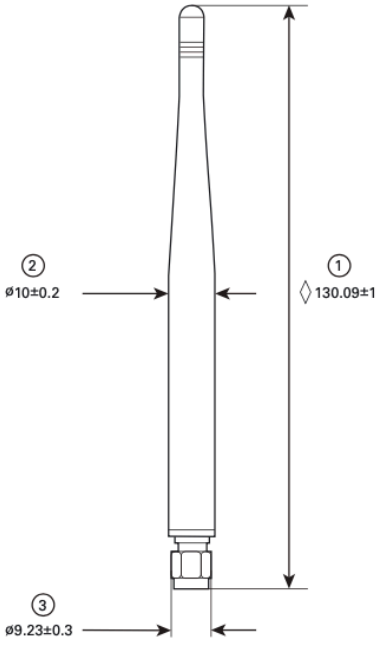
ANT-OSS-5.1



ANT-ORB-1.5-1



ANT-OSB-1.5-1



SIMPLYSNAP ANTENNAS