

RADWIN

Alpha PRO

Data Sheet



Product overview

RADWIN Alpha PRO series is a Point-to-Point outdoor radio unit that can be used as a Point-to-Multipoint Subscriber Unit, that operates in the 5GHz band. RADWIN Alpha PRO includes a field proven air interface that ensures best-in-class link connectivity in harsh spectrum for backhaul and access as well as wireless CCTV and additional applications that require robust connectivity.

For this purpose, RADWIN Alpha PRO was designed to deliver an impressive packet switching power as well as jumbo frame support to guarantee full capacity, regardless of traffic packet size.

Enabling minimum TCO, RADWIN Alpha PRO is extremely reliable and durable, complying with IP 67 standard. The unit features a built-in GPS for TDD synchronization and can be powered by a RADWIN PoE unit or a RADWIN PoE switch. Alpha PRO uniquely facilitates a 'dying gasp' alert when local power failures occur, saving upon unnecessary maintenance efforts. The unit can also be used as a subscriber unit, with guaranteed Service Level Agreement or Best Effort Service level, enabling an initial low-cost deployment using Point-to-Point while seamlessly migrating to Point-to-MultiPoint with network growth.

Product Highlights

- » 50Mbps (upgradable up to 500Mbps) or 500Mbps
- » 4.9-6.0 GHz
- » Built-in GPS
- » 'Dying gasp' alert
- » Configurable asymmetric throughput
- » Dynamic channel bandwidth
- » 350K Packets-Per-Second
- » Supports Jumbo frames
- » Highly durable - IP 67
- » Support AES 256 encryption over the air
- » Uniform Global Part Numbering, receiving the regulatory specifications by location

Product specifications:

Configuration	
Architecture	Outdoor Unit
Wireless topology	PtP unit / PtMP Subscriber unit
Data interfaces	10/100/1000 Mbps RJ45 PoE
POE and ODU interfaces	Outdoor CAT-5e; Maximum cable length: 75m for 1000BaseT
Radio	
Max capacity	50Mbps (upgradeable with license key) or 500 Mbps Up to 250Mbps per direction
Range	Up to 80 km / 50 miles (in PtP mode) Up to 40 km / 25 miles (in PtMP mode)
Frequency Range	4900 GHz – 6090 GHz*
Channel bandwidth	Configurable: 10, 20, 40, 80 MHz *
Dynamic Channel BW selection	20/40/80 MHz
Modulation	OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)
Error correction	FEC k = 1/2, 2/3, 3/4, 5/6
Adaptive modulation and Coding	Supported
Duplex technology	TDD
Automatic channel selection	Supported upon power up
DFS	Supported *
Antenna modes	MIMO 2x2, diversity, adaptive MIMO/diversity
Dynamic Bandwidth management	Committed Information Rate (CIR) and Best Effort service level (in PtMP mode)
Nomadic mode of operation	Supported (in PtMP mode)
Max TX power	26 dBm *
Encryption	AES128
TDD synchronization	HSS Client mode (built-in GPS, HSS over Ethernet)
Uplink/Downlink allocation	Configurable: Symmetric or Asymmetric
Networking	
QoS	Packet classification to 4 priority queues according to 802.1P or Diffserv
VLAN support	802.1Q, QinQ, 4094 VLANs
MTU size	Up to 9216 bytes **
ODU management	IPv4/IPv6 dual-stack; SNMPv1, SNMPv3; HTTP/HTTPS using web browser
Dying gasp notification	Supported (for remote PtP unit)
802.1x	Supported (for PtMP mode)
Option 82	Supported (for PtMP mode)
DHCP filtering	Supported (for PtMP mode)
IGMP snooping	Supported (for PtMP mode)
PPPoE filtering	Supported (for PtMP mode)
RADIUS authorization	Supported (for PtMP mode)
RADIUS User authentication	Supported
Syslog	Supported

* May be limited by regulation - please refer to technical datasheet for a specific part number

** Depends on base station MTU size in case of PtMP operation

Physical Specification:

Mechanical		
	Connectorized Unit	Integrated unit
Dimension	19.5 (w) x 12.5 (h) x 4.0 (d) cm / 7.7" (w) x 4.9" (h) x 1.6" (d)	32.5 (w) x 32.5 (h) x 6.4 (d) cm / 12.8" (w) x 12.8" (h) x 2.5" (d)
Weight	0.5Kg / 1.1lbs	2 kg/4.41lbs
Antenna interface	2x N-type connectors	Integrated antenna
Power		
Power consumption	<13W	
Power feeding	Power provided over ODU-IDU cable	
POE nominal voltage	24-56V (POE voltage >= 55V is required for dying gasp support)	
Environmental		
Operating temperature	-35°C to 60°C / -31°F to 140°F	
Humidity	100% condensing	
Enclosure protection	EN/IEC 60529, IP67, NEMA Type 4 Enclosure	
Wind Resistance operational (integrated unit)	180Km/h	
Wind Survival (integrated unit)	216Km/h	

Antenna (for integrated product):

Integrated Antenna	
Gain	22 dBi (typical)
VSWR	2.0 : 1
3 dB Azimuth beamwidth	10° (typical)
3 dB Elevation Beamwidth	10° (typical)
Polarization	Dual Linear (Vertical and Horizontal)
Sidelobes level	-12 dB(typical)
Cross polarization	-25 dB (typical)
F/B Ratio	25 dB
Port To Port isolation	30 dB (typical)
Lightning protection	DC Grounded

Regulatory compliance:

Radio	
USA	FCC 47CFR Part 15.407
Canada	ISED RSS-247
EU	ESTI EN 301 893; ETSI EN 302 502
Israel	ETSI EN 302 502 with adaptation per Israeli MOC Type Approval
Safety	
CE/Intl'	EN/IEC 62368-1, EN/IEC 60950-22
USA	UL/CSA-C22.2 62368-1, UL/CSA-C22.2 60950-22
Canada	CSA-C22.2 62368-1, CSA-C22.2 60950-22

EMC

EU	ETSI EN 301 489-1, EN 301 489-4, 301 489-17
USA	FCC 47CFR Part 15 Subpart B, Class B
Canada	CISPR 32, ICES-003 issue 7, Class B
AS/NZS	CISPR 32, Class B

Product ordering:

Radio Units			
Product Number	Product Name	Description	Regulation
RW-2954-6250	RW2000/ODU/Alpha-PRO/F50/WW/EXT/50M	Connectorized, 50Mbps	Based location
RW-2954-62C5	RW2000/ODU/Alpha-PRO/F50/WW/EXT/500M	Connectorized, 500Mbps	Based location
RW-2954-6H50	RW2000/ODU/Alpha-PRO/F50/WW/INT/50M	Integrated, 50Mbps	Based location
RW-2954-6HC5	RW2000/ODU/Alpha-PRO/F50/WW/INT/500M	Integrated, 500Mbps	Based location

PoE units		
Part number	Product name	Part description
RW-9921-1039	POE/DC/GBE/24-57	DC input 24VDC -57VDC
RW-9921-400X	POE/AC/2.5/GBE	AC input 100VAC – 240VAC See PoE datasheet for country specific power plug

PoE switching units		
Part number	Product name	Part description
RW-7401-6006	IDU-S/HP	Managed indoor switch, 6x PoE ports, SFP/SFP+ interfaces
RW-7400-8008	IDU-SI	Managed industrial switch, 8x PoE ports, SFP/SFP+ interfaces

Package contents:

Radio unit
Pole mount bands
IP67 Cable gland
24V POE unit and AC Power cable

Datasheet information can be changed by manufacturer without prior notice