



## CONNECT

# Wireless Rugged Remote Terminal

The RDL-3000 XP Connect series of products provides high-capacity secure reliable wireless transport for many applications. These application can vary from PTP Ethernet backhaul, or PMP data, video, voice and SCADA connections. The flexible and compact Connect series can be all-outdoor installation for sites with TCP/IP-ready devices, split architecture and all-in-cabinet solutions for sites hosting TCP/IP and/or native serial bus equipment.

### FEATURES AND BENEFITS

- Highly reliable data terminal with flexible outdoor/in-cabinet options adaptable to both TCP/IP Ethernet and serial SCADA telemetry and telecontrol equipment
- High throughput for concurrent transport of data, and M2M telemetry and telecontrol
- Durable all-weather enclosure for reliable operation in extreme temperatures and environmental conditions including hazardous zones
- Over-the-air monitoring, configuration and software keyed features enable upgrades without physical access
- Software-defined architecture enhances reliability and service lifetime

### PRODUCT COMPLEMENTS

The Connect series is fully compatible with the Redline RDL-3000 XP Ellipse base station and all wireless terminals. Redline provides a complete selection of peripherals and professional services for all your deployment needs.

### UNIFIED GLOBAL SOLUTIONS

Redline's patented UWT™ technology provides a truly unified wireless networking solution—across the spectrum, across your company and across the globe—enabling secure, reliable, high-speed connectivity to people and smart devices everywhere.



### SYSTEM AT A GLANCE

Outdoor software-defined 186.6 Mbps wireless terminal for PMP and PTP applications

Extends high speed (starting at 512 Kbps) TCP/IP transport to industrial-rated sites including hazardous zones

Kits include everything to install the system—no extra peripherals needed

Standards-based network interoperability with serial SCADA, metering, and telecontrol devices

Integrated and external antenna options

-40 to 75 °C operating range using dynamic and thermal dissipation (no moving parts)

High-grade cyber security features

Very low latency supports time-sensitive applications

Low power requirement suitable for solar applications

Certified for hazardous locations

## RDL-3000 XP CONNECT SPECIFICATIONS

<b>Max Tx Power</b>	OW-ER/IWS: +30 dBm <sup>1</sup> (Max combined tx power, MIMO mode/frequency band specific)		
<b>Max EIRP</b>	OW:	<b>Band (MHz)</b>	<b>EIRP* (dBm)</b>
		5000	44 <sup>1</sup>
		2500/3000	41 <sup>1</sup>
		2100	44/48 <sup>1</sup>
		UHF	34 <sup>1</sup>
	*Max combined tx power, MIMO mode/frequency band specific		
<b>RF Band (MHz)</b>	470-698 <sup>1,4</sup> , 2000-2300 <sup>1,4</sup> , 2300-2700 <sup>1</sup> , 3300-3800 <sup>1</sup> , 4940-5875 <sup>1</sup>		
<b>Antenna Info</b>	OW: Integrated MIMO; OW-ER/IWS: External MIMO		
<b>Capability</b>	LOS/0LOS/NLOS software-defined PMP or PTP terminal <sup>1</sup>		
<b>Wireless QoS</b>	Auto channel scanning, DFS		
<b>Transmission</b>	OFDM (orthogonal frequency-division multiplexing), TDD/TDMA 2 x 2 MIMO A/B with STBC & MRRC, high-rejection Tx/Rx filtering		
<b>Throughput</b>	Up to 186.6 Mbps <sup>1</sup> UBR		
<b>Channel Size (MHZ)</b>	0.875/1.25/1.75/2.5/3.5/5/6/7/10/12/14/20 [software selectable <sup>1</sup> ]		
<b>Modulation &amp; Coding</b>	BPSK to 256 QAM 7/8 <sup>1</sup>		
<b>Spectral Efficiency</b>	9.3 bits per second per Hertz		
<b>Channel Efficiency</b>	Up to 93%		
<b>Security</b>	Management Encryption: TLS v1.2, AES-256, SHA1, Device Authentication: ECDSA digital signature-based authentication or MAC-based mutual authentication, Data Encryption: AES-128/256 with ECDH secure key exchange (over-the-air, FIPS 197 compliant)		
<b>Network Features</b>	Transparent bridge, DHCP pass-through, 802.1Q VLAN (Q-in-Q), VLAN Whitelisting, Syslog, SNMP, spectrum analyzer		
<b>Layer 2</b>	160 Mbps aggregate <sup>1</sup>		
<b>Latency</b>	<10 ms		
<b>Processing (PPS)</b>	>280,000		
<b>MAC</b>	Dynamic and fixed frame, Fast Fusion Link Adaptation		
<b>QoS</b>	802.1p, 802.3x, CIR & PIR settings, up to 8 services per terminal		
<b>Management Interface</b>	Redline ClearView NMS, SNMP v2c/v3, HTTP/HTTPS (Web), Telnet/SSH (CLI), Management VLAN tagging, RADIUS User Authentication		
<b>Provisioning</b>	MAC-Based; Template-based <sup>1</sup> ; Automatic using Redline ClearView NMS <sup>1</sup>		
<b>Redundancy</b>	HSR, PRP or RSTP compatible		
<b>Serial Protocols</b>	OWS/IWS: MODBUS TCP, MDLC over TCP/IP		
<b>Power</b>	<17W; OW/OW-ER: Standard; IEEE 802.3at (PoE); CAT-5 cable 100 m [330 ft] max.; OWS/IWS: 10-30 VDC.		
<b>Temperature</b>	-40 to 75 °C [-40 to 167 °F] <sup>3</sup>		
<b>Connections</b>	OW: 10/100 Ethernet (RJ-45), OWS: USB, 6xRJ-45, DC Power IWS: 2xRF TNC(f), USB, 5xRJ-45, DC Power		
<b>Surge Protection</b>	OW: Built-in PoE port; OW-ER: Built-in PoE and RF ports, In-cabinet: Aluminum DIN rail, 2 kA discharge		
<b>Enclosure</b>	OW/OW-ER: IP67 (IEC 60259)		
<b>Humidity</b>	100% humidity, condensing		

## Compliance

Safety: IEC, EN, and UL/CSA 60950

EMC: EN 301 489-1, EN 301 489-17

5.8 GHz<sup>1</sup>: IC RSS-210, FCC Part-15, EN 302 502

5.4 GHz<sup>1</sup>: IC RSS-210, FCC Part-15, ETSI EN 301 893

5.2 GHz<sup>1</sup>: IC RSS-210, FCC Part-15

4.9 GHz<sup>1</sup>: IC RSS-111, FCC Part-90

3.65-3.70 GHz<sup>1</sup>: IC RSS-197, FCC Part 90Z

3.5 GHz<sup>1</sup>: IC RSS-192

3.3-3.8 GHz<sup>1</sup>: EN 302 326-2

2.6 GHz<sup>1</sup>: EN 302-544

2.4 GHz<sup>1</sup>: IC RSS-210, EN 300-328, FCC Part 15C<sup>2</sup>

2.496-2.690 GHz<sup>1</sup>: FCC Part 27

2.3 GHz<sup>1</sup>: IC RSS-195

2.1 GHz<sup>1</sup> [2.025-2.110 GHz<sup>1</sup>, 2.200-2.290 GHz<sup>1</sup>]  
ITU-R F.1098

600 MHz<sup>1</sup>: IC RSS-196, FCC Part 15H

HAZ: ATEX/IECEx: Zone 2, CSA: Class 1 Div 2

Security: FIPS-197 compliant

In-cabinet surge: IEC 61643-21,

IEC EN 61000-4-2/3/4/5/6/8, UL497B



## Physical Attributes

### Dimensions and Weight

OW (8in): 204.8 x 204.8 x 98.3 mm (8.06 x 8.06 x 3.87 in) / 2.0 kg (4.4 lbs)\*

OW (14in): 368 x 368 x 98.3 mm (14.5 x 14.5 x 3.87 in) / 3.0 kg (6.6 lbs)\*

OW (18in): 450 x 450 x 88.3 mm (17.7 x 17.7 x 3.48 in) / 3.5 kg (7.7 lbs)\*

OW-ER: 306.8 x 230 x 60.3 mm (12.079 x 9.06 x 2.375 in) / 2.7 kg (6.0 lbs)\*

OWS: 174.7 x 181 x 51 mm (6.88 x 7.13 x 2 in) / 0.45 kg (1.0 lb)

IWS: 174.7 x 181 x 51 mm (6.88 x 7.13 x 2 in) / 1.4 kg (3.0 lb)

In-cabinet Power: 111.5 x 32.5 x 137 mm (4.39 x 1.28 x 5.40 in) / 0.36 kg (0.8 lb)

In-cabinet Surge: 34 x 54 x 44 mm (1.33 x 2.13 x 1.73 in) / 0.1 kg (0.22 lb)

\* Radio only

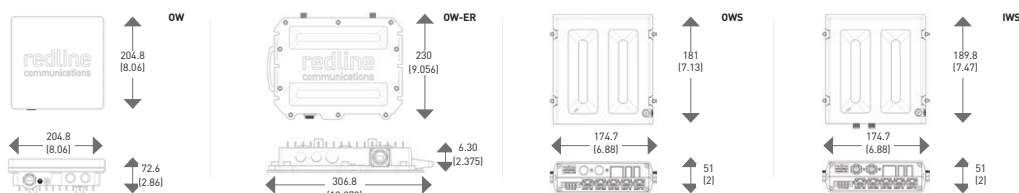
### Patent No.

US 9,468,028 B2

All specifications are subject to change without notice.

1. Availability restricted by regional regulations, model type, software version and purchased product options ; 2. Pending; 3. UHF systems only: max. 60 °C (140 °F); 4. OW/OW-ER only

## DRAWINGS



Dimensions are in millimeters (inches)

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