Virtual Fiber™ Outdoor Wireless TCP/IP Transport

CONNECT

Wireless Rugged Remote Terminal

The RDL-3000 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 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

CONNECT SPECIFICATIONS

Max Tx Power	OW-ER/IWS: +30 dBm[1] (Max combined tx power, MIMO mode/ frequency band specific)
Max EIRP	OW:

Band (MHz)	EIRP* (dBm)	Antenna Gain (dBi)
5000	44[1]	19
2500/3000	41[1]	15
2100	44/48[1]	14/18
UHF	34[1]	8

*Max combined tx power, MIMO mode/frequency band specific

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

Compliance

Safety: IEC, EN, and UL/CSA 60950

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

5.8 GHz[1]: IC RSS-210, FCC Part-15, EN 302 502

5.4 GHz[1]: IC RSS-210, FCC Part-15, ETSI EN 301 893

5.2 GHz[1]: IC RSS-210, FCC Part-15

4.9 GHz[1]: IC RSS-111, FCC Part-90

3.65-3.70 GHz[1]: IC RSS-197, FCC Part 90Z

3.5 GHz[1]: IC RSS-192

3.3-3.8 GHz[1]: EN 302 326-2

2.6 GHz[1]: EN 302-544

2.4 GHz[1]: IC RSS-210, EN 300-328, FCC Part 15C[2]

2.496-2.690 GHz[1]: FCC Part 27

2.3 GHz[1]: IC RSS-195

2.1 GHz[1] (2.025-2.110 GHz[1], 2.200-2.290 GHz[1]) ITU-R F.1098

600 MHz[1]: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

RoHS Compliant

Physical Attributes

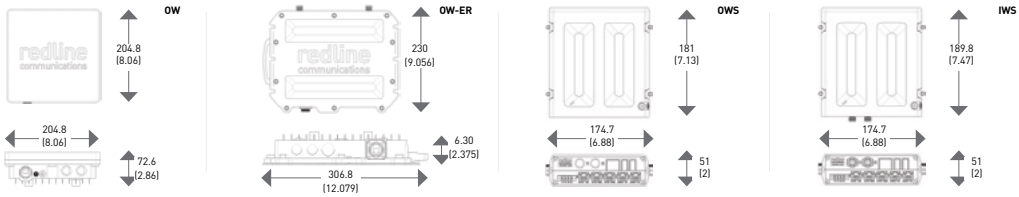
Dimensions and Weight

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 x13 x 2 in)/.0.45 kg (1.0 lb)
IWS: 174.7 x 181 x 51 mm (6.88 x13 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

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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