Virtual Fiber™ Outdoor Wireless TCP/IP Transport

RDL-3000 XP

ENDURANCE XP

Explosion Proof High Speed Radio Terminal

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The explosion proof RDL-3000 Endurance™ XP is purpose built to provide safe and reliable operation in the rugged and diverse challenges of C1D1 ATEX and IECEx Zone 1 industrial environments such as oil & gas platforms and processing facilities. The heavy duty Endurance terminal reliably delivers robust high speed wireless data connectivity to hazardous areas with potentially explosive, harsh, wet, and/or corrosive atmospheres.

The patented RDL-3000 series core technology in the Endurance XP terminal meets performance requirements for any combination of real time in-field data acquisition instrumentation, automation and process control, SCADA devices, video surveillance, Wi-Fi, telephony and backhaul services.

Once installed, the Endurance XP offers full over-the-air (OTA) management, software upgrades, and functional upgrades using license key options that remove any need to declassify the area and physically open the housing.

Redline is the most deployed wireless broadband supplier in the oil & gas industry, with its Virtual Fiber™ technology currently servicing many major oil & gas corporations and fields with thousands of smart data sites.

FEATURES AND BENEFITS

The Endurance XP Zone 1 explosion proof design features a copper-free aluminum with epoxy powder paint or stainless steel 316L enclosure, built to withstand harsh and corrosive environments and high temperatures, while providing continuous connectivity for mission critical systems. The Ethernet (POE) port entry matches Hazardous Location approved gland seals and interfaces easily to UL/CSA ATEX and IECEx Zone 1 rated components including Wi-Fi and serial devices. Marine RF filters are available to mitigate interference from S-Band/X-Band radar (factory installed).

Same RDL-3000 powerful radio hardware in the Endurance XP process all received data instantly. The dynamic scheduler automatically adjusts from heavy downlink to uplink weighted applications while applying service profiles to actively manage traffic priorities and reliably deliver any combination of data, voice and video traffic.

Information is transmitted over the air up to 186Mbps at near wire-line latency and can be secured using military grade encryption and authentication.

SYSTEM AT A GLANCE

Class I, Division 1, Groups B, C, D
Class II, Groups E, F, G
Class III
Class I, Zone 1, AEx d IIB
Ex d IIB

Design-optimized for machine-to-machine communications

High throughput / low latency / extended range / non line-of-sight

Dynamic uplink/downlink rates (up to 80% uplink)

Feature-rich Quality of Service profiles

Military-grade security

Strong interference mitigation

Multi-Layer Surge Protection

Accessories

Marine RF filters
Multiple bands available (factory installed).

POWERFUL. VERSATILE. RELIABLE.

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SERVICES & SUPPORT

Redline Advanced Services are designed especially to assist customers to identify and address the complex tasks of designing, deploying and operating wireless networking projects. Available services include cell planning, managing deployment activities, maintenance, and training.

Redline is widely recognized as having one of best support programs in the wireless industry — delivering responsive customer and solution support everywhere Redline's systems are deployed.

PRODUCT SUPPORT

The Endurance XP enclosure houses an RDL-3000 radio system for deployment in multimode scenarios (PMP-SC, PMP-RT, PTP) using a variety of approved antennas.

Redline's ClearView NMS network management application provides full element and provisioning management and software upgrades. The Endurance XP product family is supplemented by a full line of hardened industrial peripherals.

ENDURANCE XP SPECIFICATIONS

System Capability	LOS/OLOS/NLOS software-defined PMP Base Station[1] or PTP terminal[1]
Wireless Transmission	OFDM (orthogonal frequency-division multiplexing) MIMO 2x2
RF Band (MHz)	2300-2700[1], 3300-3800[1], 4940-5875[1]
Channel Size	0.875/1.25/1.75/2.5/3.5/5/6/7/10/12/14/20 software selectable[1]
Data Rate	Up to 186.6 Mbps[1] UBR
Latency	<10 ms
Processing Speed	>280,000 PPS
Maximum EIRP	Based on Group designation of the Zone 1 Area
PoE Cable	Up to 91 m (300 ft)
Antenna	RF connectors for Simple Apparatus approved antennas as needed
Network Attribute	Transparent bridge, automatic link distance ranging, DHCP pass-through, 802.1Q VLAN
Modulation MAC	BPSK to 256 QAM TDMA, Dynamic ARQ (per-link), Dynamic adaptive modulation (per-link), Dynamic and fixed TDD (per link)
QoS	802.1p/Q, CIR, PIR support, Multiple service flows per terminal, Dynamic Spectrum Access & Management[1]
Over the Air Encryption	AES-256
Network Connection	10/100 Ethernet (RJ-45)
Node Authentication	MAC, ECDSA
Management	ClearView NMS, HTTP (Web) interface, SNMP v2 / v3, Telnet, HTTPS (SSL), SSH
Operating Temperature	-40 to +60 °C (-40 to 140 °F)[3]
Humidity	100% humidity, condensing

Enclosure	ATEX & IECEx Zone 1	
	Ex II 2 GD	ATEX DIRECTIVE 94/9/EC
	Ex d IIB+H2	EN60079-0:2012, EN60079-1:2007
	tb IIIC T 100 °C Db	EN60079-O:2012, EN61241-0:2006, EN61241-1:2004
	Class I, Zone 1. AEx d IIB	UL60079-0, UL60079-1
	Ex d IIB	CSA E60079-0, CSA E60079-1
	Class I, Groups B, C & D	UL1203, CSA C22.2 No. 30
	Class II, Groups E, F & G	UL1203, CSA C22.2 No. 25
	Class III	UL 1604
	IP66	IEC60529
Power	Standard IEEE 802.3at	

Compliance

5.8 GHz[1]: IC RSS-210, FCC Part 15, ETSI 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]: ETSI EN 302 326-2
2.6 GHz[1]: EN 302-544, FCC Part 27
2.4 GHz[1]: IC RSS-210, ETSI 300-328, FCC Part 15C[2]
2.3 GHz[1]: IC RSS-195

Physical Attributes

Dimensions/Weight

Aluminium - 41.5 cm x 31.5 cm x 25 cm
(16.3 in x 12.4 in x 9.8 in) - 26kg (57.3 lbs)
316L Stainless Steel - 41.5 cm x 31.5 cm x 25. 3 cm
(16.3 in x 12.4 in x 9.9 in) - 70 kg (154 lbs)

Patent No. US 9,468,028 B2

1. Availability restricted by regional regulations, model type, software version and purchased product options;

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