SIMREX Corporation
DataMover™ ESS-ODU Package

902-928 MHz
Frequency Hopping
Spread Spectrum
Wireless IP/Ethernet
Connectivity

UNLICENSED
wireless
DATA

RADIO FEATURES

- Simultaneously Handles Multiple Protocols/Applications/Users –over one radio or over one network
- Remotes have both Ethernet & Serial interfaces – allowing migration of existing serial devices to IP networks
- Industrial Grade Performance – UL Class 1 Div 2* & Extended temperature range for extreme environments
- Industrial Grade IP/Ethernet
- Long Range – Up to 30 miles (LOS)
- High Speed – Up to 512 Kbps
- Secure – Multiple security levels; preventing eavesdropping and unauthorized access
- License free - Deploy immediately
- Plug and Play Connectivity – configuration requires virtually no setup
- SIMREX D-View advanced SNMP management system - for

  simplified troubleshooting and

  network operation

Antenna/Enclosure

- Professional mounting kit that allows both wall and pole installation and both azimuth and elevation control
- Built to ETSI requirements to withstand all electrical and environmental issues

Applications

- Long range wireless Ethernet
- Gateway for serial/legacy networksand/or devices to IP network
- Video and/or Voice-over-IP
- Portable network access for vehicle based operation

SIMREX..Global wireless solutions. Unlicensed Wireless Data

For almost 2 decades, SIMREX Corporation's wireless products have been providing wireless networking solutions with applications in SCADA, telemetry, telecommunications, mobile data and online transaction markets. SIMREX Corporation provides licensed and unlicensed solutions, installed worldwide.

Product Overview

The SIMREX DataMover™ ESS is a long-range, high-speed, industrial, wireless IP/Ethernet solution. It allows customers to bring business information over Ethernet or a serial gateway and onto IP based networks. This includes mission-critical, revenue-generating data from fixed assets such as oil and gas wells, compressor stations, pipelines, fluidstorage tanks and utility meters. It also enables portable network access for vehicle based operation. The SIMREX DataMover ESS is available in three configurations: Access Point/Remote Dual Gateway, provides both serial and Ethernet connectivity, and is configurable by the customer as either an access point or a dualgateway. Remote Serial Gateway, provides two serial ports with data encapsulation over UDP or TCP. Remote Ethernet Bridge, provides Ethernet connectivity to multiple devices. The SIMREX DataMover ESS uses advanced 900 MHz FHSS technology for license-free operation in the 902-928 MHz ISM band. It is capable of up to 30 mile range (line-of-sight) and up to 512 kbps over-the-air data rate communications. This product is available for use in Class I, Division 2, Groups A, B, C & D hazardous locations.*

Why Consider a DataMover ESS Solution?

Longest range industrial product in its class. Providing lowest cost of ownership.

Secure wireless operation with multiple layers of protection, including 900 MHz FHSS physical layer and 128-bit data encryption.

Flexible. The SIMREX DataMover ESS supports multiple users connecting to multiple applications via multiple protocols on the same SIMREX DataMover ESS or the same network - simultaneously!

Future proof. We use open standards architecture design, and upgradeable firmware to ensure customer investment protection over the long-term.

SIMREX D-View Network Management System is based on a platform independent Java application. It is application independent with a centralized SNMP server and integrates with multiple vendor platforms.

Radio General

Data Rate	512/256 Kbps user configurable air link 1,200-115,200 bps serial ports
Frequency Band	902-928 MHz ISM band
Spreading Mode	Frequency Hopping Spread Spectrum
Coverage Range	Up to 30 mi. (50 Km.)

Radio Specific

Carrier Power	0.1 to 1 watt (20 to 30 dBm)
Output impedance	50 Ohms
Occupied Bandwidth	316.5 kHz
Modulation	CPFSK (Continuous Phase FSK)
Receiver Sensitivity	-92 dBm @ 512 Kbps with 10-6 BER -99 dBm @ 256 Kbps with 10-6 BER
Configurations	Access Point/Remote Dual Gateway Serial and Ethernet Remote Serial Gateway Serial only Remote Ethernet Bridge Ethernet only (with multidrop capability)

Radio Physical Interface

Ethernet	10BaseT, RJ-45
Serial	RS-232/V.24, DB-9F, DCE RS-232/V.24, DB-9M, DTE
Antenna	TNC connector (female)
LEDs	Lan, Com1, Com2, Power, Link

Radio Protocols

Wireless	CSMA/CA Wireless Protocol with Collision Avoidance
Ethernet	IEEE 802.3 Spanning Tree (Bridging) IP (DHCP, ICMP, UDP, TCP, ARP)
Serial	PPP Encapsulation over IP for serial async multidrop protocols including Modbus, DNP.3, DF1, BSAP.
Management	HTTP (embedded web server), TELNET, local console, SNMPv1/v2/v3, MIB II, Enterprise MIB SYSLOG SIMREX D-View NMS

Agency Approvals

FCC Part 15.247
UL/CSA Class 1 Div. 2* (UL 508, UL 1604)
IC

* The transceiver is not acceptable as a stand-alone unit for use in hazardous locations described above. It must either be mounted within another piece of equipment, which is certified for hazardous locations, or installed within guidelines, or conditions,of approval, as set forth by the approving agencies.

Radio Environmental

Temperature	-30°C to +60°C (-22°F to +140°F)
Humidity	95% at 40°C (104°F) non-condensing
Input Power	10.5-30 Vdc (13.8 Vdc nominal)
Current Consumption	Rx: 2.8 W from 10.5 to 24 Vdc Rx: 3.5 W from 24.5 to 30 Vdc Tx: 8 W from 10.5 to 24 Vdc Tx: 9 W from 24.5 to 30 Vdc

Integrated Antenna Specifications

Size	305 x 305 x 70 mm (max internal space) 12 x 12 x 2.76 in
Antenna Size	305x305mm (min) / 450x450mm (max) 12 x 12in (min) / 17.75 x 17.75in (max)
Antenna Gain	9 dBi Standard (10 dBi option)
Enclosure Weight	2.2Kg (without antenna) 4.85 lbs
Components Weight	1 Kg (max) 2.2 lbs
Connectors (Options)	RJ45, N-TYPE,
Enclosure Material	Aluminum
Fasteners	Stainless Steel
Heat Dissipation	20W max
External Color	RAL 9002
Mounting	Both wall and pole mount [see detail drawing]
AZ/EL control	Both
Pole Size	1¾ - 3" ø
Temperature	-55°C to 71°C
Vibration	IEC 60721 3-4 4M% Random
Shock Mechanical	IEC 60721 3-4 4M5
Humidity	100%
Water Tightness	IEC 529 / IP67
Solar Radiation	ASTM G53 1000h
Ice Load	25mm radial
Salt Fog	IEC 68-2-11 Ka 500 hours
Wind Load (Survival):	
Front Thrust	47 Kg 103 lbs
Side Thrust	6 Kg 13 lbs

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