

SIMREX Corporation DM ESS-III-900-ODU-12.5

DataMover Wideband+Serial with Integrated Panel Antenna

WIDEBAND+SERIAL wireless PERFORMANCE

900 MHz Frequency
Up to 13 Mbps Data Rate
Watertight and Weatherproof
Built-in Antenna
Near Zero RF Cable Loss
50+ km/RF LOS Range



Features

- Wide Speed Data Rate - 1.5 Mbps to 13 Mbps
- Ethernet and dual serial interfaces
- Master, Remote or Repeater
- Wall/mast clamp with pan/tilt
- PoE built-in for single cable installation
- Integral 12.5 dBi Panel Antenna
- Watertight and Weatherproof (IP67)

Capability

- OFDM modulation improves non line-of-sight performance
- High TX Output Power and High RX Sensitivity
- Point-to-point, Point-to-multipoint Wireless Connectivity
- Repeater Capability

Management

- Browser, Telnet, SIMREX GUI program

Functions

- NAT/DHCP support
- Repeater mode.
- MAC address filtering (AP Mode)
IP/MAC tunneling
- Integral dual serial device server

SIMREX..Global wireless solutions. Wireless Outdoor Bridge

For more than 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 frequency solutions worldwide.

Product Overview

The DataMover ESS-III operates seamlessly in the 900 MHz frequency spectrum supporting 1.5 Mbps - 13 Mbps wireless transmission. The ODU with integral antenna eliminates exposed RF line and its sealed connections altogether. This virtually eliminates RF line loss and simplifies installation.

The DataMover ESS-III utilizes OFDM modulation as an improvement over FSK, GFSK & GMSK to significantly improve throughput in non line of sight (NLOS) conditions. The DataMover ESS-III has high TX output power and high RX sensitivity. These features can extend range and reduce the expense of equipment in the infrastructure. The narrow antenna beamwidth of 43 degrees provides significant off axis interference rejection.

To protect the security of your data, all wireless transmissions may be encrypted through WPA/WPA2 (AES-CCM, WEP, TKIP) with static key or with dynamic key from remote RADIUS server. The MAC addresses filter and IP/MAC tunneling let you select exactly which remote stations should have access to your network. VLAN tunneling is supported.

Product Benefits

- Improved link performance due to elimination of external RF cable run and it's losses.
- ODU with integral antenna eliminates exposed RF line and its sealed connections altogether. This virtually eliminates RF line loss and simplifies installation.
- Both Ethernet and dual Serial Interfaces.
- 50+ km RF LOS links are possible with margin for fading.
- High TX power and high RX sensitivity allow for a minimum number of Master radios.
- Transfer data between two buildings or multiple buildings.
- Administrators can remotely configure or manage the Master radio easily.
- Powerful data security ensures a secure network connection.
- MAC filter enhances security by insuring the identity of users connected to the client bridge.
- MASTER, REMOTE or REPEATER operation.
- Weather tight IP67 enclosure for outdoor use.
- Easy to install.

* Wireless signal rate based on over the air rates. Typical aggregate throughput is 50% to 60% of the over the air rate. Actual throughput may vary. Network conditions and environmental factors lower actual throughput rate.

** All specifications are subject to change without notice.

DATAMOVER™ ESS-III-ODU-12.5

Specifications

IDU Specifications

Serial Interface	(2) RJ45 RS232 Serial Ports 300 to 230 Kbaud 1 Screw terminal RS-422/485 interface on Serial Port 2 (2 and 4 wire support)
Modem Control	DTR, DSR
Flow Control	Hardware: CTS/RTS Software: XON/XOFF
Network Interface	2 RJ45 10Base-T/100Base-TX Ethernet ports Embedded unmanaged fully compliant 802.3u non-blocking Ethernet switch Automatic MDI/MDI-X crossover Full duplex IEEE 802.3x flow control Half-duplex back pressure flow control IEEE 802.1d spanning tree
LEDs	TX/RX activity per serial Link/Activity per Ethernet port Power/System OK
Isolation	8 KV direct contact, 15 KV air discharge, ESD protection on all serial ports (IEC 1000-4-2, IEC 61000-4-2) 2 K VAC / 2.8K VDC galvanic isolation between power input port to Ethernet ports (except chassis ground) 2 K VAC / 2.8K VDC galvanic isolation between power input port to serial ports Transient Voltage protection and ESD with max non-repetitive surge current 800 A (8/20 us) (IEC 61000-4-2) 2 K VAC / 2.8K VDC galvanic isolation between Ethernet ports (except chassis ground) 2 K VAC / 2.8K VDC galvanic isolation between Ethernet ports to serial ports 40 A (5/50 ns) EFT protection (IEC 61000-4-4), 12 A (8/20 us) lightning protection (IEC 61000-4-5) on all Ethernet ports
Dimensions	125 x 57 x 90 mm (4.85 x 2.25 x 3.45 in), terminal blocks included
Weight	0.22 kg (0.48 lb)

ODU Specifications

Data Rates	1.5 - 18 Mbps (7 steps)
Power Requirements	Active Ethernet POE (18 VDC) External: Autosense 100/240 VAC; 50/60 Hz
Regulation	FCC Part 15.247 IC RS210
RF Information	
Frequency Band	902 - 928 MHz
Radio Type	Spread Spectrum (OFDM, DMSS)

Media Access Protocol	Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) or SIMREX TDD
Modulation	Orthogonal Frequency Division Multiplexing (OFDM) DBPSK, QPSK, BPSK, 16-QAM, 64-QAM
Receive Sensitivity (Typical)	-98 dBm @ 1.5 Mbps -97 dBm @ 2.25 Mbps -92 dBm @ 4.5 Mbps -90 dBm @ 6 Mbps -87 dBm @ 9 Mbps -78 dBm @ 13 Mbps
RF Output Power:	28 dBm @ 1.5 - 4.5 Mbps 26 dBm @ 9 Mbps 24 dBm @ 13Mbps
Antenna	12.5 dBi Internal Flat Panel Directional Antenna 42 deg BW (-3 dB)
Operation Mode	Point-to-Point/ Point-to-Multipoint MASTER, REMOTE REPEATER
Interface	1x 10/100 Mbps RJ-45 LAN Port
Security	WPA2/WPA, PSK/EAP AES-CCM, WEP and TKIP Static and dynamic keys RADIUS client MAC address filtering Hide SSID in beacons DHCP Client/Server VLAN tunneling support
Power Consumption	2.7 - 4.9 Watts
Management	
Configuration	Browser, Telnet, SIMREX GUI program
Monitoring	SNMP
Firmware Upgrade	Upgrade firmware via WEB browser
Physical	12.5 dBi Antenna Version
Dimensions	15.4" (L) x 15.4" (H) x 3.4" (D) 391 mm(L) x 391 mm(H) x 85mm (D)
Weight	ODU 7 lbs (15 Kg)
Environmental	
Temperature Range	Operating: -30°C to 70°C Storage: -40°C to 80°C
Humidity	5%~95% Typical (non-condensing)

All specifications are subject to change by Simrex without prior notice

SIMREX CORPORATION

SALES & ENGINEERING

GILBERT, ARIZONA 85234 USA
PHONE (480) 926-6069
FAX (305) 675-7794
WWW.SIMREX.COM

MANUFACTURING & SERVICE

5490 BROADWAY ST.
LANCASTER, NEW YORK 14086 USA
PHONE (716) 206-0174
FAX (716)-204-0476

SIMREX Datamover products are manufactured under a quality system certified to ISO 9001. Simrex reserves the right to make changes to specifications of products described in this data sheet at any time without notice and without obligation to notify any person of such changes.

© 2009 SIMREX Corporation

2100205