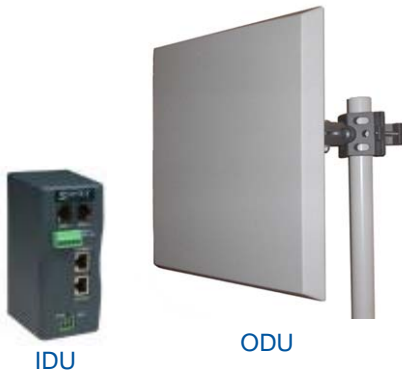


# WIDEBAND+SERIAL wireless PERFORMANCE

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

<b>Serial Interface</b>	(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)
<b>Modem Control</b>	DTR, DSR
<b>Flow Control</b>	Hardware: CTS/RTS Software: XON/XOFF
<b>Network Interface</b>	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
<b>LEDs</b>	TX/RX activity per serial Link/Activity per Ethernet port Power/System OK
<b>Isolation</b>	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
<b>Dimensions</b>	125 x 57 x 90 mm (4.85 x 2.25 x 3.45 in), terminal blocks included
<b>Weight</b>	0.22 kg (0.48 lb)

### ODU Specifications

<b>Data Rates</b>	1.5 - 18 Mbps (7 steps)
<b>Power Requirements</b>	Active Ethernet POE (18 VDC) External: Autosense 100/240 VAC; 50/60 Hz
<b>Regulation</b>	FCC Part 15.247 IC RS210
<b>RF Information</b>	
<b>Frequency Band</b>	902 - 928 MHz
<b>Radio Type</b>	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  
PHONE (480) 926-6069

MANUFACTURING & SERVICE  
1223 WILLIAM ST.  
BUFFALO, NEW YORK 14206 USA  
PHONE (716) 206-0174  
FAX (716)-852.1223

WWW.SIMREX.COM

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

2131015