

# MDS™ iNET 300

## Wireless IP/Ethernet Connectivity



### LAN Extension | Ethernet and Serial

The MDS™ iNET 300 is a long-range, high-speed, industrial wireless IP/Ethernet solution that allows customers to bring information over an Ethernet or 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, fluid storage tanks and utility meters. It also enables mobile network access for vehicle based operation.

MDS iNET 300 is available in three configurations:

- **Access Point/Remote Dual Gateway**  
Access Point/Remote Dual Gateway provides both serial and Ethernet connectivity, and is configurable by the customer as either an access point or a dual gateway.
- **Remote Serial Gateway**  
Remote Serial Gateway provides two serial ports with data encapsulation over UDP or TCP.
- **Remote Ethernet Bridge**  
Remote Ethernet Bridge provides Ethernet connectivity to multiple devices.

MDS iNET 300 uses advanced technology for operation in the 336-343 MHz band. It is capable of up to 60 mile range (line-of-sight) and up to 512 kbps over-the-air data rate communications. The iNET 300 allows for an ideal balance between speed and range. For more information on range and speed capabilities, please see the specifications on the following page.

### Applications

- Long-range wireless Ethernet
- Video and Voice-over-IP (VoIP)
- Mobile network access for vehicle based operation
- Gateway for serial and legacy networks to an IP network

### Industrially Hardened

- Extended temperature range for extreme environments from -30°C to +60°C (-22°F to +140°F)
- Industrial grade IP/Ethernet

### Application Flexibility

- Simultaneously handles multiple protocols, applications and users over one radio
- Remotes have Ethernet and serial ports, allowing migration of existing serial devices to IP networks
- Long-range (up to 60 miles) and high-speed (up to 512 kbps)

### Reliable & Scalable

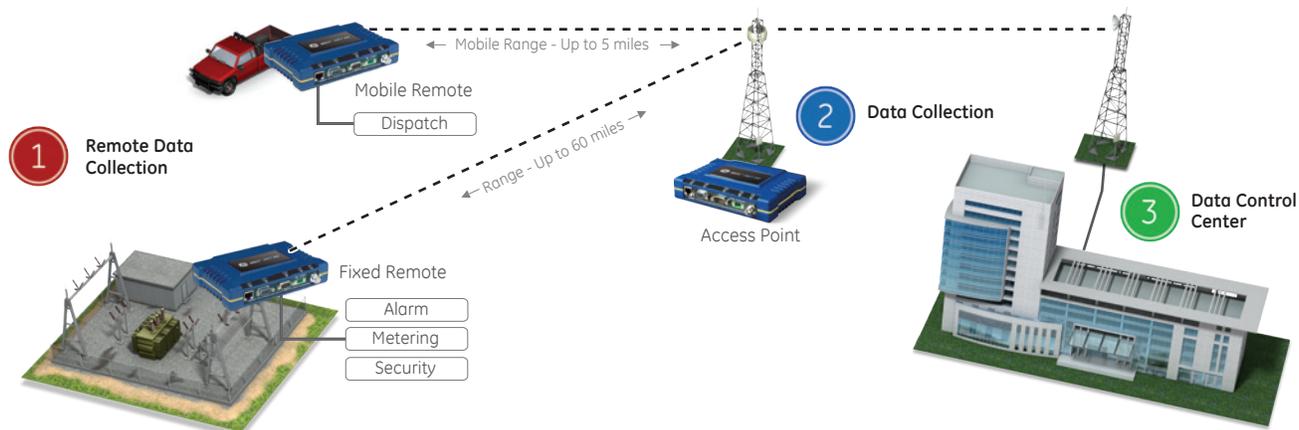
- Point-to-Multipoint, two-way communications
- Adheres to open standards and interfaces with external devices, enabling old and new technologies to communicate
- Plug and play connectivity requires virtually no setup and configuration

### Secure

- 300 MHz physical layer security and 128-bit encryption
- Multiple security levels prevent eavesdropping and unauthorized access
- Advanced Network Management Software provides secure, simplified troubleshooting and network operation



## iNET 300 Application Advantages



### Mobile Applications

- iNET 300 can be used to communicate with vehicles over a service area
- Remote radios handoff between multiple access point locations
- iNET 300 provides IP/Ethernet and serial data communications

### Protocol Communications

- iNET 300 supports multiple protocols including Modbus, Modbus TCP, DF1
- Provides IP/Ethernet and serial communication to SCADA hosts and HMI's
- Accommodates multiple protocols for diverse devices on the same IP/Ethernet network

### Speed and Range

- One megabit is adequate for most data applications, and in some cases for video transmissions
- The 15 mile fixed typical transmission range of iNET 300 covers the most common distances without sacrificing usable speed

## Specifications

GENERAL		
Data Rate	512/256 Kbps user configurable air link 1,200-115,200 bps serial ports	
Frequency band	336-343 MHz band	
Spreading mode	FHSS	
Range (256 kbps)	Typical Fixed Range	15 miles
	Maximum Fixed Range	60 miles
	Typical Mobile Range (parked)	5 miles
	Typical Mobile Range (moving)	3 miles
Range (512 kbps)	Typical Fixed Range	8 miles
	Maximum Fixed Range	15 miles
RADIO		
System gain	150 dB @ 256 Kbps; 140 dB @ 512 Kbps	
Carrier power	0.1 to 5 watts (20 to 37 dBm)	
Output impedance	50 Ohms	
Occupied bandwidth	316.5 kHz	
Modulation	CPFSK (Continuous Phase FSK)	
RECEIVER SENSITIVITY (WITH 10 <sup>-6</sup> BER)		
512 Kbps	-97 dBm	
256 Kbps	-101 dBm	
CONFIGURATIONS		
Access Point/Remote	Serial and Ethernet	
Dual Gateway		
Remote Serial Gateway	Serial only	
Remote Ethernet Bridge	Ethernet only (with multidrop capability)	
PHYSICAL INTERFACE		
Ethernet	10BaseT, RJ-45	
SERIAL		
COM1	RS-232/V.24, DB-9F, DCE	
COM2	RS-232/V.24, DB-9M, DTE	
Antenna	TNC connector (female)	
LEDs	Lan, Com1, Com2, Power, Link	
PROTOCOLS		
Wireless	CSMA/CA with Collision Avoidance	
Ethernet	IEEE 802.3, Spanning Tree (Bridging), IGMP, IP (DHCP, ICMP, UDP, TCP, ARP)	
Serial	PPP, Encapsulation over IP (tunneling) for serial async multidrop protocols including Modbus, DNP3, DF1, BSAP	

MANAGEMENT	
HTTP (embedded web server), TELNET, local console	
SNMPv1/v2/v3, MIB II, Enterprise MIB	
SYSLOG	
MDS NETview MS®	
ENVIRONMENTAL	
Temperature	-30°C to +60°C (-22°F to +140°F)
Humidity	95% at 40°C (104°F) non-condensing
ELECTRICAL	
Input Power	10-16 Vdc (13.8 Vdc nominal)
Current Consumption	TBD
MECHANICAL	
Case	(Board)
Dimensions	3.15 H x 19.5 W x 11.2 D cm. (1.25 H x 7.5 W x 4.5 D in.)
Weight	908 g (2 lb.)
Mounting options	TBD
P21 OPTION	
Case	Steel (rack mountable 2U)
Dimensions	8.9 H x 48.3 W x 35.6 D cm. (3.5 H x 19 W x 14 D in.)
Weight	7.6 kg, (14.7 lbs) with transceivers

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