



TD9300 DMR

TIER 3 CAPABLE DATA TERMINAL

RUGGED, SECURE M2M SCADA DATA COMMUNICATIONS

KEY FEATURES

Delivers Machine-to-Machine (M2M) SCADA communications

Integrates rapidly into existing systems

Increases efficiencies while reducing cost with remote device monitoring and control

Designed for reliable performance in harsh environments

Full adherence to DMR standards

The Harris TD9300 Machine-to-Machine DMR terminal provides secure and reliable telemetry and data communications. Equipped with multiple interfaces, this Tier 3 solution rapidly integrates into existing systems, providing businesses with a simplified path to wide-area connectivity.

The TD9300 supports advanced IP-based data services when used with a Supervisory Control and Data Acquisition Gateway (SCADA). Ideal for distribution, oil and gas utilities and controlling irrigation systems, the terminal delivers significant cost reductions and efficiencies. Users now have just one network to design, manage and maintain. Site visit travel is reduced and issues are identified faster through remote monitoring and control of devices via long-range DMR.

Engineered for continuous performance in demanding environments with a die-cast metal chassis, the terminal's protection and failback mechanisms also limit hardware failure. Data security is assured through authentication and AES 256-bit encryption.

With full adherence to DMR standards, the TD9300 is interoperable with other radio systems and is designed for future multi-bearer connectivity through Wi-Fi and public or private cellular systems.



FEATURES AND BENEFITS

Improve efficiency

- Monitor and control devices via long range DMR, reduce travel and site visits
- Centralized, standards based network management
- Design, manage and maintain a single voice and data radio network

Designed to perform in demanding environments

- Tough die-cast metal chassis protects in demanding environmental conditions
- Protection and fold back mechanisms limit hardware failures, automatically restore service after fault cleared
- Flexible mounting systems, DIN rail in both vertical and horizontal, on a 19 inch rack tray or wall mounted

Security

- AES 256-bit data encryption
- Key management via web pages
- Terminals must both register and be authenticated to access the network
- Stun and revive to disable devices

Remote site monitoring

- Extensive outstation diagnostics:
 - Temperature
 - Signal (RSSI, BER and MER)
 - Antenna fault
 - Input voltage
 - Telemetry equipment status
- Over-the-Air (OTA) configuration of SCADA interface parameters

Standards based interface protocols

- Industry standard protocols:
 - DNP3 over IP/serial
 - IEC60870-5-101 and -104
- Network Time Protocol (NTP)
- Internet Control Message Protocol (ICMP)
- Eliminates costly proprietary protocol integration and support

Applications

- SCADA for distribution utilities
- SCADA for oil and gas utilities
- SCADA for control of irrigators

Data services

- Packet data over traffic channels for telemetry, SCADA and customer specific applications
- Native and Transparent IP data interface operation
- Control channel short data messages, location, status and text

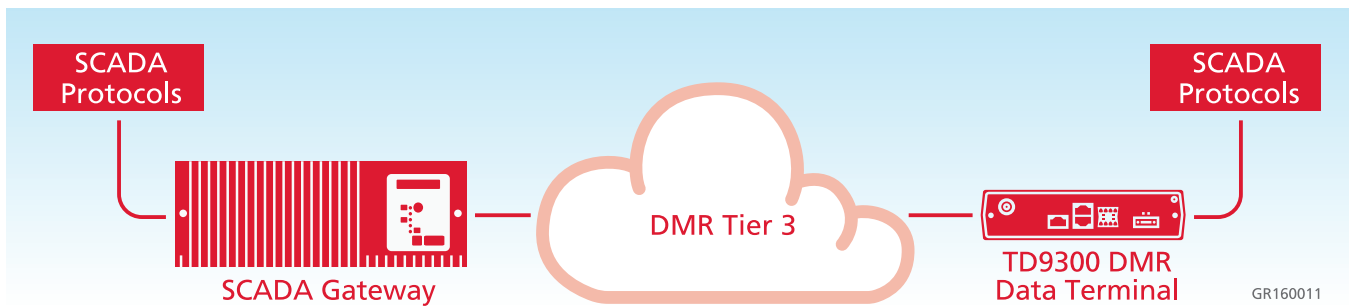
Flexible interfaces

- Two RS232/RS485 serial interfaces for legacy equipment connection
- 10/100 Mbps Ethernet connection
- 2 digital input and 2 digital outputs to monitor and control surrounding environment, fully isolated

Multi-bearer expansion*

- Wi-Fi access point for local access, re-configuration or upgrades
- Internal PCI Express Mini (PEM) card support, enabling plug in private or public cellular standards

* Future product release.



The TD9300, in conjunction with a SCADA Gateway and DMR Tier 3 network, offers advanced data communications services for wireless networks.

SPECIFICATIONS FOR: TD9300 DMR - TIER 3 CAPABLE DATA TERMINAL

GENERAL			
Frequency Stability	±0.5ppm (-22°F to 140°F/-30°C to 60°C)		
Dimensions (H x W x D)	2.4in x 7.1in x 6.2in (61mm x 180mm x 156mm)		
Weight - lb (kg)	2.1lb (1.9kg)		
Channel Spacing	12.5kHz		
Mounting	DIN rail clip or panel mount bracket		
Frequency Increment/Channel Step	2.5/3.125/5/6.25kHz		
Operating Temperature	-22°F to 140°F (-30°C to 60°C)		
Water and Dust Protection	IP40 (in all orientations) IP50 (connectors facing down)		
ESD Rating	+/-4kV contact discharge and +/-8kV air discharge		
Power Supply	DC: 9-36VDC		
Air Interface Standard	DMR: ETSI TS 102 361		
Packet Data	½ rate, ¾ rate, full rate, single slot		
Indicators	5 status LEDs: PWR, RTU, DMR, 1, 2		
General Purpose Input/Output (GPIO)	Input: Opto-isolated (50VDC max)/Output: Isolated (100mA @ 50VDC)		
TRANSMITTER			
	VHF	UHF	700/800MHz
Frequency Ranges	136-174MHz	400-470MHz	762-870MHz
Output Power	25W, 12.5W, 5W, 1W	25W, 12W, 5W, 1W	30W, 35W
FM Hum and Noise (Analog):	12.5kHz: -40dB	12.5kHz: 40dB	12.5kHz: 40dB
Adjacent Channel Power - Static (DMR): ETS 300-113	12.5kHz: 60dB	12.5kHz: 60dB	12.5kHz: 60dB
Conducted/Radiated Emissions	25W: -36dBm 50W: -20dBm	25W: -36dBm 40W: -20dBm	25W: -36dBm 40W: -20dBm
Duty Cycle	5W: 80% @ 77°F (+25°C) 12W: 75% @ 77°F (+25°C) 25W: 65% @ 77°F (+25°C)	5W: 25% @ 140°F (+60°C) 12W: 20% @ 140°F (+60°C) 25W: 15% @ 140°F (+60°C)	—
TX POWER CONSUMPTION			
	24VDC		
Tx Standby	<125mA		
Tx @ 25W	4.5A (2A average for single slot Tx)		
RECEIVER			
	VHF	UHF	700/800MHz
Frequency Ranges	136-174MHz	400-470MHz	762-870MHz
Sensitivity (DMR) 5% BER	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)
Selectivity:			
Analog (EIA-603D) 2-Tone	12.5kHz: 52dB	12.5kHz: 50dB	12.5kHz: 50dB
Analog (ETS-300-086)	12.5kHz: 62dB	12.5kHz: 60dB	12.5kHz: 60dB
Intermodulation Rejection	76dB (EIA-603D) 70dB (ETS-300)	75dB (EIA-603D) 70dB (ETS-300)	75dB (EIA-603D) 70dB (ETS-300)
Spurious Response Rejection (DMR)	70dB (ETS-300-113)	70dB (ETS-300-113)	70dB (ETS-300-113)
FM Hum and Noise (Analog)	12.5kHz: -40dB	12.5kHz: -40dB	12.5kHz: -40dB
Conducted Spurious Emissions	-57dBm	-57dBm	-57dBm

MILITARY STANDARD 810G

Applicable MIL-STD Method	Parameters	Method	Procedure
Altitude	15000 feet (4570 meters)	500.5	2
Humidity	95% relative humidity through temperature cycle	507.5	2
Vibration	3 axis, random vibration	514.6	1
Shock	3 axis, 40g shock pulse	516.6	1

REGULATORY DATA

	USA	Canada	Europe ²	Australia/New Zealand ²
VHF (136-174MHz)	CFR 47	RSS-119	EN300-113, EN301-489, EN60950	AS/NZS4768
UHF (400-470MHz)	CFR 47	RSS-119	EN300-113, EN301-489, EN60950	AS/NZS4768
700/800MHz	CFR 47	RSS-119	NA	NA

Specifications are subject to change without notice and shall not form part of any contract. They are issued for guidance purposes only. All specifications shown are typical.

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