TD9300
SPECIFICATIONS

Preliminary Datasheet

Optimised data reliability, Benefit from data and voice PMR

Designed for telemetry and data communications, Tait DMR offers a secure and reliable machine to machine data terminal based on the DMR Tier 3 trunking standard.

The TD9300 terminal has multiple data interfaces and the intelligence to simplify wide area DMR based connectivity, integrate quickly and transparently support data communications.

KEY FEATURES

- Future proof multi-mode terminal (DMR Tier 3 & Wi-Fi)
- Designed for SCADA communications, simplifies integration into SCADA networks
- Full adherence to DMR standards, providing choice and interoperability
- Automatic selection of DMR data services to maximise throughput and manage voice and data services
- Flexible interfacing. Wide input voltage range and adjustable high power RF output, serial and Ethernet interfaces for legacy and modern data terminal interfacing
- Engineered for use in demanding environments

FEATURES AND BENEFITS

Improve efficiency

- Monitor and control devices via long range DMR, less travel, site visits
- Central diagnosis of faults enabling optimum resource deployments.
- Secure, manage and maintain single voice & data PMR network

Designed to perform in demanding environments

- Tough die-cast metal chassis for protection in all environmental extremes
- Protection and fold back mechanisms limit occurrences of hardware failure, service restored after fault cleared
- Flexible mounting systems, DIN rail in both vertical and horizontal, on a 19 inch rack tray or wall mounted

Security

- Encryption protects data (128 bit AES and 56 bit DES)
- Terminals must both register and be authenticated to access the network
- Stun and revive to disable devices

Remote monitoring

- Extensive outstation diagnostics:
  - Temperature
  - Signal (RSSI & BER and MER)
  - Antenna fault
  - Input voltage
  - Telemetry status

Standards based interface protocols

- Support for industry standard protocols:
  - DNP3 TCP/IP and UDP/IP
  - DNP3 Serial
  - IEC60870-5-101 and -104
- Eliminates costly proprietary protocol integration and support

Applications

- Control of SCADA IED/RTU equipment
- SCADA for oil & gas utilities
- SCADA for control of irrigators
- Remote or hard to reach AMR
- Weather stations

Data services

- Packet data over traffic channels for telemetry, SCADA and customer specific applications
- IP data for transparent traffic channel transfers
- Control channel short data messages, location, status and text

Flexible interfaces

- Two RS232 / RS485 serial interfaces for legacy equipment connection
- Ethernet connection
- 2 digital input and 2 digital outputs to monitor and control surrounding environment, fully isolated.
- Wi-Fi access point for local access, re-configuration or upgrades

Backed up by our proven radio network expertise, the TD9300 is part of the Tait DMR solution portfolio that consists of terminals, infrastructure, applications, services and integration with third party interfaces to ensure that your organization can reap all the benefits of the spectrally-efficient DMR standard in a mission critical environment.

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GENERAL

Power	8-30VDC @ 3.5A (25W output power) Standby: <90mA @ 24VDC
Dimensions	(WxDxH) 195mm x 150 mm x 85 mm
Operating temperature	-22°F to 140°F (-30°C to 60°C)
Water and dust protection	IP52
Frequency stability	±0.5ppm (-22°F to 140°F/-30°C to 60°C)
Channels	VHF, UHF, 700/800 MHz 12.5kHz spacing 2.5/3.125/5/6.25kHz increment/channel step
Weight lb (kg)	2.1lb
Mounting	DIN rail in both vertical and horizontal configurations, on a 19 inch rack tray or wall mounted
ESD rating	+/-4kV contact discharge and +/-8kV air discharge
Air interface standard	DMR: ETSI TS 102 361
Altitude	4570 meters (15000 feet) Mil-Std-810F 500.4, Proc2
Humidity	95% Relative Humidity thru Temp Cycle. IEC 60068-2-30
Vibration	3 Axis, Sine sweep 10-60Hz TIA_EIA 603B, 3.3.4.3
Indicators	5 status LEDs: Tx, Rx, Active, Fault, Service (trunking)
Packet Data	½ Rate, ¾ Rate, Full rate, Single Slot
Wi-Fi access point	Standard: IEEE 802.11b and g Encryption: WEP, WPA and WPA2 Authentication: Extensible Authentication Protocol (EAP)

TRANSMITTER

	VHF 136-174MHz	UHF 400-470MHz	762-870MHz
Output power	25W: 25W, 12.5W, 5W, 1W	25W: 25W, 12W, 5W, 1W	30/35W
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% @ 25˚C 12W 75% @ 25˚C 25W 65% @ 25˚C	25% @ 60˚C 20% @ 60˚C 15% @ 50˚**C**	

RECEIVER

	VHF 136-174MHz	UHF 400-470MHz	762-870MHz
Sensitivity (DMR) 5% BER	-119dBm (0.25µV)	-119dBm (0.25µV)	-119dBm (0.25µV)
Intermodulation rejection (EIA603D)	76dB	75dB	75dB
Intermodulation rejection (ETS 300)	70dB	70dB	70dB
Spurious response rejection (DMR) (ETS 300-113)	70dB	70dB	70dB
FM hum and noise (Analog)	12.5kHz: -40dB	12.5kHz: -40dB	12.5kHz: -40dB
Conducted spurious emissions	-57dBm	-57dBm	-57dBm
Selectivity (Analog) EIA603D (2 Tone)	12.5kHz: 52dB	12.5kHz: 50dB	12.5kHz: 50dB
Selectivity (Analog) ETS 300-086	12.5kHz: 62dB	12.5kHz: 60dB	12.5kHz: 60dB

REGULATORY DATA

	USA	Canada	Europe	Australia/New Zealand
VHF (136-174MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295
UHF (400-470MHz)	CFR 47	RSS-119	EN300-086, EN300-113, EN300-219 EN301-489, EN60950	AS/NZS4295 AS/NZS4365*
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.

* Tait cannot guarantee full performance to the published specifications when the radio is operating at frequencies outside the specified range.

For further information please check with your nearest Tait office or authorized dealer.

Tait Limited facilities are certified for ISO9001:2008 (Quality Management System), ISO14001:2004 (Environmental Management System) and ISO18001:2007 (Occupational Health and Safety Management System) for aspects associated with the design, manufacture and distribution of radio communications and control equipment, systems and services. In addition, all our Regional Head Offices are certified to ISO9001:2008

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BS 18001 Certified

Environment ISO 14001

Quality ISO 9001