DIGI TRANSPORT® WR44 RR

Rugged, all-in-one cellular router with 3G/4G Gobi GSM/CDMA and GPS.
Designed for use on-board rail vehicles.

Digi TransPort WR44 RR is a rugged enterprise-class cellular router designed for rail environments. Its rail industry ratings, versatility, security features and performance make it ideal for applications such as Positive Train Control (PTC), wayside device communications and on-board passenger Internet access.

Digi TransPort WR44 RR provides a reliable primary high speed cellular network connection or can act as a secure backup connection to the existing railroad network. It features a flexible communications design with 3G/4G multicarrier GSM/CDMA cellular, plus integrated Wi-Fi b/g/n; a/n access point,
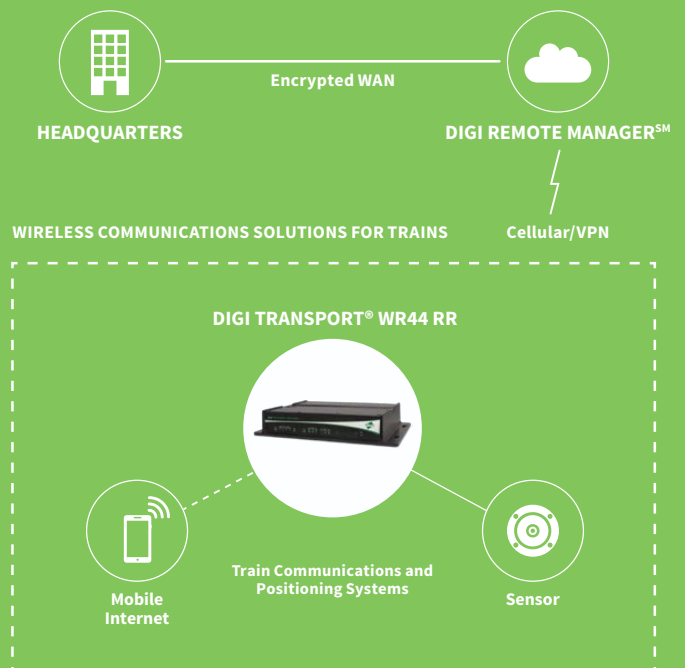
serial and 4-port Ethernet switch. It also features full on-board train certifications, including AREMA C/H and EN50155. Communications interfaces include hardened connectors, including M12 for Ethernet and serial, as well as TNC connectors for antenna connections.

Digi management solutions provide easy setup, configuration and maintenance of large installations of remote Digi TransPort devices. Digi Remote Manager℠ offers web-based device management for remote Digi cellular routers and gateways.

BENEFITS

– Heavy-duty enclosure and connectors designed for shock and high vibration environments

– Enterprise-class routing, VPN and firewall capabilities

– Optional integrated 802.11 b/g/n; a/n Wi-Fi access point

– Dual SIM for carrier redundancy

– Cellular to Wi-Fi autoswitch

– Full on-board train certs including AREMA C/H and EN50155

– Digi remote management software for easy setup, configuration and maintenance

APPLICATION EXAMPLE

HEADQUARTERS

Encrypted WAN

DIGI REMOTE MANAGER℠

WIRELESS COMMUNICATIONS SOLUTIONS FOR TRAINS

Cellular/VPN

DIGI TRANSPORT® WR44 RR

Mobile Internet

Train Communications and Positioning Systems

Sensor

RELATED PRODUCTS

Digi TransPort® WR11

Digi TransPort® WR21

Digi TransPort® WR44 R

Accessories

Digi Remote Manager℠

SPECIFICATIONS	Digi TransPort® WR44 RR
WIRELESS INTERFACES	
WWAN**	
LTE - EMEA (L1)	800/850/900/1800/1900/2100/2600 MHz; 3G fall back to 850/900/1900/2100 MHz and 2G fall back to 850/900/1800/1900 MHz; Transfer rate (max): 50 Mbps up, 100 Mbps down
LTE - NORTH AMERICA (L5)	Software defined multi-carrier (Verizon, AT&T, and Sprint) 700/850/1700(AWS)/1900 MHz; 2G/3G GSM fall back to 850/900/1700AWS/1800/1900/2100 MHz; 2G/3G CDMA fall back to 800/1900 MHz; Transfer rate (max): 50 Mbps up, 100 Mbps down, Verizon Private Network, DMNR and PNTM Approved
HSPA+ (U9)	850/900/1700 (AWS)/1900/2100 MHz; Transfer rate (max): 5.76 Mbps Up, 21 Mbps down
CONNECTOR	2 x 50 Ω TNC (Center pin: female)
SIM SLOTS	2, Mini-SIM (2FF)
SIM SECURITY	SIM slot cover plate
WI-FI*	
STANDARD	802.11 b/g/n; a/n
MODES	Access point, Client and support for multiple SSID
TRANSMIT POWER	17 dBm ± 2 dBm
RECEIVE SENSITIVITY	54 Mbps OFDM, 10% PER, -70 dBm, 11 Mbps CCK, 8% PER, -83.5 dBm
SECURITY	Open or shared key authentication; WEP (64- and 128-bit) encryption; WPA/WPA2 with RADIUS (WPA Enterprise and pre-shared keys)
CONNECTORS	2 x 50 Ω RP-TNC (Center pin: male)
GPS*	
CHANNELS	50
SENSITIVITY	-163 dB
PROTOCOL	NMEA 0183 V2.3 sentence output; +3.3 VDC active antenna drive; NMEA stream to local serial port or over TCP/IP
NAVIGATION	Galileo ready
AUGMENTATION	SBAS
COLD START	< 27 seconds TTFF (90%)
HORIZONTAL ACCURACY	< 2.5 meters (90%)
VELOCITY ACCURACY	0.1m/s
CONNECTOR	1 x 50 Ω RP-TNC (Center pin: male)
ADDITIONAL FEATURES	Send GPS via UDP/IP, TCP/IP (up to two destinations) or serial; Customize and/or send data using Python; GPS status query; Time source capable
WIRED INTERFACES	
SERIAL	
PORTS	1
STANDARD	RS-232
ASYNC/SYNC	Async
DTE/DCE	DCE
SIGNAL SUPPORT	TXD, RXD, RTS, CTS, GND
FLOW CONTROL	Software (XON/XOFF), Hardware supported
COM PORT REDIRECTOR	RealPort®
CONNECTOR	5-pin A-coded M12 female
ETHERNET	
PORTS	4
STANDARD/PHYSICAL LAYER	IEEE 802.3; 10/100 Base-T
DATA RATE/MODE/INTERFACE	10/100 Mbit/s; Full or Half duplex; Auto MDI/MDIX
CONNECTOR	Option of 4-pin D-coded M12 female or 8-pin; A-coded M12 female

* Optional hardware. Lead time and/or minimum order quantity may apply. Contact Digi Sales for details.

** Transfer rates are network operator dependent.

DIGI

WIRED INTERFACES (CONTINUED)

I/O

DIGITAL I/O	Input 4 - 28 VDC / Output: 28 VDC 50 mA max
CONNECTOR	4-pin A-coded M12 Male (2 pins are used for I/O; the other 2 pins are used for DC Power)

MANAGEMENT

REMOTE MANAGEMENT	Digi Remote Manager℠ (cloud based); SNMP v1/v2c/v3 (user installed/managed)
LOCAL MANAGEMENT	Web Interface (HTTP/HTTPS); CLI (Telnet, SSH, SMS, Serial port)
MANAGEMENT/ TROUBLESHOOTING TOOLS	FTP, SFTP, SCP, Protocol Analyzer with PCAP for Wireshark, Event Logging with Syslog and SMTP, NTP/SNTP
PROGRAMMING TOOLS/ ENVIRONMENTS	Python, DIA, Digi ESP™
MEMORY	128 MB NAND Flash/64 MB DDR2 SDRAM

POWER

INPUT	9 – 36 VDC
CONSUMPTION	15W max, 8.5W typical
CONNECTOR	4-pin A-coded M12 male (2 pins are used for power; the other 2 pins are used for I/O)
DC POWER CORD*	4-pin A-coded M12 female to bare wire
DC POWER SUPPLY*	(P/N: 76000917) 100W, 24 VDC output, 67-143 VDC input, EN50155 compliant; (P/N: 76000918) 400W, 14.2 VDC output, 40–100 VDC input, EN50155 and S-5702 compliant

PHYSICAL

DIMENSIONS (L X W X H)	11.5 in x 6.65 in x 2.05 in (29.2 cm x 16.9 cm x 5.2 cm)
WEIGHT	5.7 lbs (2.6 kg)
STATUS LEDS	Power, LAN, Wi-Fi, Serial, WWAN (Link, Act, SIM), Signal Strength
MATERIAL/RATING****	Aluminium Alloy/ IP54
MOUNTING	4x mounting slots on the unit's flange

ENVIRONMENTAL

OPERATING TEMPERATURE ***	-40° C to +70° C
STORAGE TEMPERATURE	-40° C to +85° C
RELATIVE HUMIDITY	0% to 95% (non-condensing) @ 25° C
ETHERNET ISOLATION	2 kV RMS
SERIAL PORT PROTECTION (ESD)	10 kV
CONFORMAL COATING	Available upon request

APPROVALS

GSM/UMTS	PTCRB, NAPRD.03, GCF-CC, R&TTE, EN 301 511
CDMA/EV-DO	CDG TIA/EIA-690, CDG TIA/EIA-98-E
CELLULAR CARRIERS	Certified by most major carriers.
SAFETY	UL 60950, CSA 22.2 No. 60950, EN60950
EMISSIONS/IMMUNITY	CE, FCC Part 15 Class B, AS/NZS CISPR 22, EN55024, EN55022 Class B
INDUSTRY	AAR S-5702, EN50155, AREMA C & H

WARRANTY

PRODUCT WARRANTY	3 years

* Optional hardware. Lead time and/or minimum order quantity may apply. Contact Digi Sales for details.

*** Reduced cellular performance may occur outside of -20° C to +60° C. Standard temperature power supplies may reduce temperature range.

****The enclosure rating is self-declared and has not been formally verified by an independent lab.

‡ Product specifications for operating temperature updated on February 5, 2015 and applies to current versions of the product currently in the field.

ENTERPRISE SOFTWARE	DESCRIPTION
PROTOCOLS	HTTP, HTTPS, FTP, SFTP, SSL, SMTP, SNMP (v1/v2c/v3), SSH, Telnet and CLI for web management; remote management via Digi Remote Manager; SMS management, protocol analyzer, ability to capture PCAP for use with Wireshark; DynDNS, Dynamic DNS client compatible with BIND9/No-IP/DynDNS
SECURITY/VPN	IP filtering, Stateful inspection firewall with scripting, address and port translation; VPN: IPSec with IKEv1, IKEv2, NAT Traversal; SSL, SSLv2, FIPS 197, Open VPN client and server; PPTP, L2TP; VPN Tunnels: 5 included. Cryptology: SHA-1, MD5, RSA; Encryption: DES, 3DES and AES up to 256-bit (CBC mode for IPsec); Authentication: RADIUS, TACACS+, SCEP for X.509 certificates; Content Filtering (via 3rd party); MAC Address Filtering; VLAN support
ROUTING/FAILOVER	IP pass-through; NAT, NAPT with IP Port Forwarding; Ethernet Bridging; GRE; Multicast Routing; Routing Protocols: PPP, PPPoE, RIP (v1, v2) OSPF, SRI, BGP, iGMP routing (multicast); RSTP (Rapid Spanning Tree Protocol); IP Failover: VRRP, VRRP+TM; Automatic failover/ failback to second GSM network/Standby APN
OTHER PROTOCOLS	DHCP; Dynamic DNS client compatible with BIND9/No-IP/DynDNS; QoS via TOS/DSCP/WRED

DIGI REMOTE MANAGER^{SM}
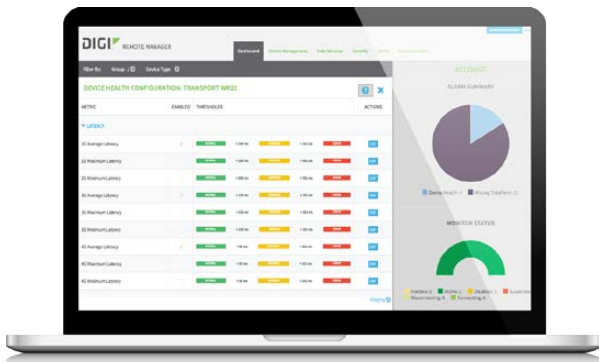
CAPABILITIES

– Centralized management of remote devices over 3G/4G LTE

– Define standard configurations and automatically monitor individual devices for PCI security compliance

– Report and alert on performance statistics, including connection history, signal quality, latency, data usage and packet loss

– No servers or applications to operate and maintain

– Complete tasks for your entire device network in minutes

– Edit configurations and update firmware for your individual devices or groups

– Monitor the status and location of your remote device via a web browser

– Active or deactivate cellular lines and monitor data to ensure you never incur overage charges

INFRASTRUCTURE

– Hosted in multiple commercial-grade SAS 70 certified facilities in North America and Europe

– Superior availability, operating to 99.9% or greater

– Open APIs available to support application development

SECURITY

– Certified SSAE-16 and ISO27001 facilities

– Member of the Cloud Security Alliance

– Over 175 Security Controls in place to protect your data

– Enables compliance with security frameworks like PCI, HIPAA, NIST and more

– Earned SkyHigh's Cloud Trust Program highest ranking of Enterprise-Ready

PRODUCT IMAGES
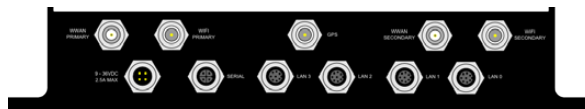
PART NUMBERS	DESCRIPTION
WR44-U9G4-NE1-MD	Digi TransPort WR44 RR - Cellular (HSPA+ Global), 4-Port Ethernet (4-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included (International)
WR44-U9G8-NE1-MD	Digi TransPort WR44 RR - Cellular (HSPA+ Global), 4-Port Ethernet (8-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included (International)
WR44-L1G4-NE1-MD	Digi TransPort WR44 RR - Cellular (4G LTE International), 4-Port Ethernet (4-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included (International)
WR44-L1G8-NE1-MD	Digi TransPort WR44 RR - Cellular (4G LTE International), 4-Port Ethernet (8-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included (International)
WR44-L5G4-NE1-MD	Digi TransPort WR44 RR - Cellular (4G LTE Multi-Carrier Software Defined, North America), 4-Port Ethernet (4-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included
WR44-L5G8-NE1-MD	Digi TransPort WR44 RR - Cellular (4G LTE Multi-Carrier Software Defined, North America), 4-Port Ethernet (8-wire), Serial (1 RS-232 Port), GPS, Wi-Fi, Antennas not included