



ENTERPRISE-CLASS  
CELLULAR ROUTERS  
FOR RAIL



# DIGI TRANSPORT® WR44 RR

Rugged, all-in-one cellular router with 3G/4G 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 cellular, plus integrated Wi-Fi ac/b/g/n; a/n

access point, serial and 4-port Ethernet switch. It also features full on-board train certifications, including AAR S-9401 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, gateways and third-party devices.

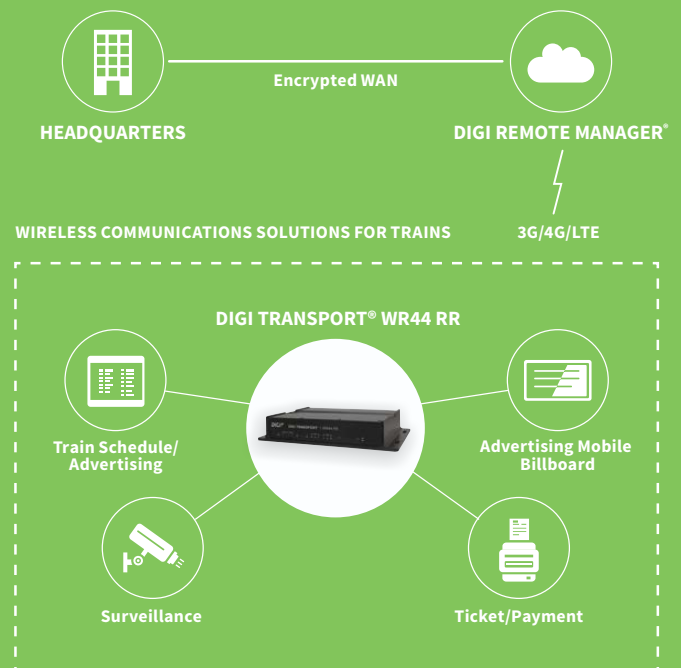
## BENEFITS

- Heavy-duty enclosure and connectors designed for shock and high vibration environments
- Enterprise-class routing, VPN and firewall capabilities
- Optional integrated 802.11 ac/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 AAR S-9401 and EN50155
- Digi Remote Manager® provides mass configuration, device management and troubleshooting tools

## RELATED PRODUCTS



## APPLICATION EXAMPLE



## SPECIFICATIONS

## Digi TransPort® WR44 RR

## WIRELESS INTERFACES

## CELLULAR\*

<b>LTE - NORTH AMERICA/EMEA (M8)</b>	LTE Advanced CAT 6: 700(B12,B13,B29)/800(B20,B26)/850(B5)/900(B8)/AWS(B4)/1800(B3)/1900(B2,B25)/2100(B1)/2300(B30)/2500(B41)/2600(B7) 3G HSPA+: 850/900/AWS/1800/1900/2100 MHz Transfer rate (max): 300 Mbps down, 150 Mbps up Approvals: PTCRB, AT&T, Verizon, Vodafone (pending)
<b>LTE - ANZ/LATAM (L9)</b>	LTE-Advanced CAT 6: 700(B28)/850(B5,B18,B19)/900(B8)/1500(B21)/1800(B3)/1900(B39)/2100(B1)/2600(B7,B38)/2300(B40)/2500(B41) 3G HSPA+: 800/850/900/1700/2100 MHz Transfer rate (max): 300 Mbps down, 150 Mbps up
<b>CONNECTOR</b>	(2) 50 Ω TNC (Center pin: female)
<b>SIM SLOTS</b>	(2) Mini-SIM (2FF)
<b>SIM SECURITY</b>	SIM slot cover plate

## WI-FI\*\*

<b>STANDARD</b>	802.11 ac/a/b/g/n 2.4/5 GHz
<b>MODES</b>	Access point, client and support for multiple SSID
<b>TRANSMIT POWER</b>	16 – 22 dBm, +/- 2 dB
<b>RECEIVE SENSITIVITY</b>	71 – 93 dBm, +/- 2dB
<b>SECURITY</b>	Open or shared key authentication; WEP (64- and 128-bit) encryption; WPA/WPA2 with RADIUS (WPA Enterprise and pre-shared keys)
<b>CONNECTORS</b>	(2) 50 Ω RP-TNC (Center pin: male)

## GPS\*\*

<b>CHANNELS</b>	50
<b>SENSITIVITY</b>	-163 dB
<b>PROTOCOL</b>	NMEA 0183 V2.3 sentence output; +3.3 VDC active antenna drive; NMEA stream to local serial port or over TCP/IP
<b>NAVIGATION</b>	Galileo ready
<b>AUGMENTATION</b>	SBAS
<b>COLD START</b>	< 27 seconds TTFF (90%)
<b>HORIZONTAL ACCURACY</b>	< 2.5 meters (90%)
<b>VELOCITY ACCURACY</b>	0.1m/s
<b>CONNECTOR</b>	(1) 50 Ω RP-TNC (Center pin: male)
<b>ADDITIONAL FEATURES</b>	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

<b>PORTS</b>	(1) 5-pin A-coded M12 female; DCE
<b>STANDARD</b>	RS-232
<b>SIGNAL SUPPORT</b>	TXD, RXD, RTS, CTS, GND
<b>FLOW CONTROL</b>	Software (XON/XOFF), hardware supported

## ETHERNET

<b>PORTS</b>	(4) 10/100 Mbps (auto-sensing)
<b>CONNECTOR</b>	Option of 4-pin D-coded M12 female or 8-pin A-coded M12 female

## I/O

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

\* Transfer rates are network operator dependent.

\*\* Optional hardware.

## SPECIFICATIONS

## Digi TransPort® WR44 RR

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
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
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	(4) mounting slots on the unit's flange
ENVIRONMENTAL	
OPERATING TEMPERATURE	-40° C to +70° C; (Reduced cellular performance may occur above +60° 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	
CELLULAR	PTCRB, NAPRD.03, GCF-CC, R&TTE, EN 301 511
CDMA/EV-DO	CDG TIA/EIA-690, CDG TIA/EIA-98-E
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	EN50155 (all variants); AAR S-9401 (select variants)
WARRANTY	
PRODUCT WARRANTY	3 years

## 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; (5) VPN tunnels (upgradable to a maximum of 200); 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; Modbus UDP/TCP to serial; X.25 including XOT, SNA/IP, TPAD and PAD; Protocol switch; Modbus bridging for connecting diverse field assets

\* Optional hardware.

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