

# Digi Connect<sup>®</sup> WAN GSM-R

Wireless WAN Gateway/Router for Railway

2G Wireless WAN cellular router provides wireless TCP/IP data communications via cellular GSM-R networks for railways.



## Overview

The GSM-R network, owned and operated by several European railway operators, is part of the European Rail Traffic Management System (ERTMS). It provides a secure and reliable wireless infrastructure for communication with trains, railway signal equipment, and customer information displays.

The Digi Connect WAN GSM-R utilizes the GSM-R infrastructure to provide wireless device connectivity to Ethernet networks and serial devices. Its GPRS Class 10 cellular interface provides data rates up to 240 Kbps (100-130 Kbps typical).

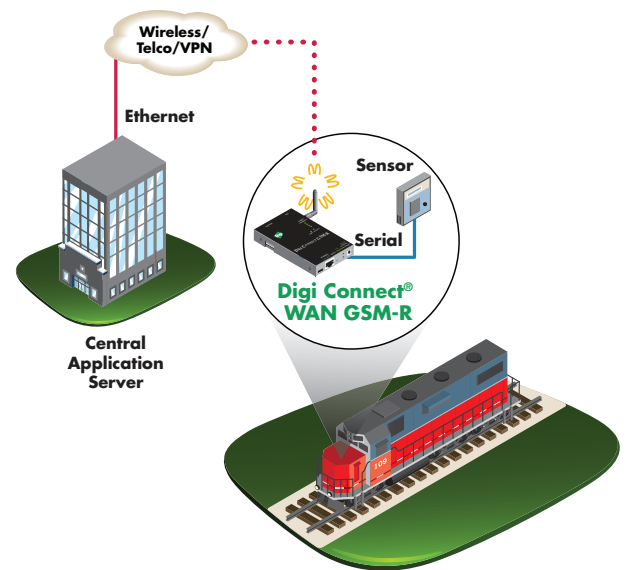
Benefits of wireless communications via the Digi Connect WAN GSM-R include instant deployment, elimination of wiring costs, elimination of problems due to wire breaks and the ability to traverse firewalls. In addition, the Digi Connect WAN GSM-R offers the flexibility to move the connection anywhere within the coverage area of the railway operator's own free-of-charge data network.

### Target Applications



Transportation

### Application Highlight



### Features/Benefits

- 2G (GSM-R) cellular router with 1 serial, 1 Ethernet port for wireless railway network connectivity
- 9-30VDC for diverse power input
- Web interface for easy centralized console configuration and statistics
- Digi Connectware<sup>®</sup> Manager enables remote management of large numbers of devices
- Unique Digi SureLink<sup>™</sup> maintains "always-on" wireless connection across unpredictable networks
- Programmable in Python for device customization



# Specifications

# Digi Connect® WAN GSM-R

## Interfaces

### Serial

Ports	1 RS-232/422/485 DB-9; Up to 230 Kbps throughput; Hardware and software flow control; Signal support for TXD, RXD, RTS, CTS, DTR, DSR, DCD
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### Ethernet

Ports	1 RJ-45 10/100 Mbps 10Base-T (auto-sensing); Full or half duplex
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### Cellular

GSM GPRS 12/EDGE 10	Fixed
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## Features

Network Protocols	UDP/TCP, DHCP
Status LEDs	Ethernet, power on, cellular link/activity, signal strength (4 bars)
Software	Device-initiated patented RealPort COM port redirector and RFC 2217; Digi SureLink "always-on" connection; Python scripting; Custom development environment
Security	SSL, SSL/TLS, SSHv2, FIPS 197
Router/Firewall Features	NAT, NAT-T (NAT traversal) VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists (IP filtering), IP pass-through, Virtual Router Redundancy Protocol (VRRP) per RFC 3768
VPN Features	IPsec with IKE/ISAKMP; Multiple tunnel support; DES, 3DES and up to 256-bit AES Encryption, Simple Certificate Enrollment Protocol (SCEP) for X.509 certificates
Management	HTTP/HTTPS, CLI or Telnet; Optional secure enterprise management via Digi Connectware Manager
Dimensions (L x W x H) and Weight	5.25 in (13.34 cm) x 3.35 in (8.51 cm) x 0.97 in (2.47 cm), 1.00 lb (0.45 kg)

## RF Features

Class	GPRS multi-slot class 10; 85 Kbps max (downlink)
Output Power	Class 4 (2W) at EGSM900; Class 1 (1W) at GSM1800
Frequency	Quadband GSM-R /EGSM 900/GSM 1800
Antenna	1 x 50 Ohm female SMA connector

## Power Requirements

Power Input	9-30 VDC
Power Supply	12VDC power supply for 0° C to 60° C (32° F to 140° F) with locking barrel connector included; Extended temperature power supply available
DC Power Consumption	Idle: 1.2W; Max: 3.4W
AC Power Consumption	Idle: 2.0W; Max: 5.8W
Surge Protection	4 kV burst (EFT) per-4-4; 2 kV surge per EN61000-4

## Environmental

Operating Temperature	-30° C to +75° C (-22° F to +167° F)
Relative Humidity	5 to 95% (non-condensing)
Ethernet Isolation	1500VAC min per IEEE 802.3/ANSI X 3.263
Serial Port Protection (ESD)	+15 kV air gap and +8 kV contact discharge per IEC 1000-4-2

## Approvals

Safety	UL 60950, CSA 22.2 No. 60950, EN60950
Emissions/Immunity	CE, FCC Part 15 Class A (FCC identifier GGL-R1902G), AS/NZS CISPR 22, EN55024, EN55022 Class A
Mobile Certifications - GSM/UMTS	PTCRB, NAPRD.03, GCF-CC, R&TTE, EN 301 511

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