



DIGI WR31

Intelligent 4G LTE router designed for critical infrastructure and industrial applications

Digi WR31 is an intelligent 4G LTE router designed for performance and reliability across a range of critical infrastructure and industrial applications. It provides a secure, reliable connection to industrial controllers, process automation equipment and smart grid assets on third party sites or remote locations. Software-defined, multi-carrier networking and global LTE and HSPA+ options make it easy to get connected. This drop-in connectivity gives operators a way to reduce downtime and service calls, and also increase revenue by bringing distributed sites online faster.

Ideal for connecting:

- Building and process automation controllers
- Smart grid assets (meters, switches, controllers)
- IP cameras and access controllers
- Remote data loggers, flow meters and sensing equipment
- Telco infrastructure
- Traffic and obstruction lighting

BENEFITS

- Global HSPA+ and 4G LTE support and certification on major carrier networks around the world
- Ethernet, serial I/O and Modbus bridging
- Extremely resilient cellular connection through Digi's patented **SureLink**[®], VRRP+ protocol and dual SIM slots
- Dedicated GNSS Receiver supporting GPS, GLONASS, BeiDou, Galileo
- License-free enterprise software: VPN, firewall, logging and authentication
- **Digi Remote Manager**[®] platform for easy setup, mass configuration and management
- Rugged enclosure, optimized for DIN rail or shelf mounting
- C1D2 and ATEX rated; NEMA TS2 temperature rated

RELATED PRODUCTS



Digi WR21



Digi WR44 R



Digi Connect[®] Sensor+

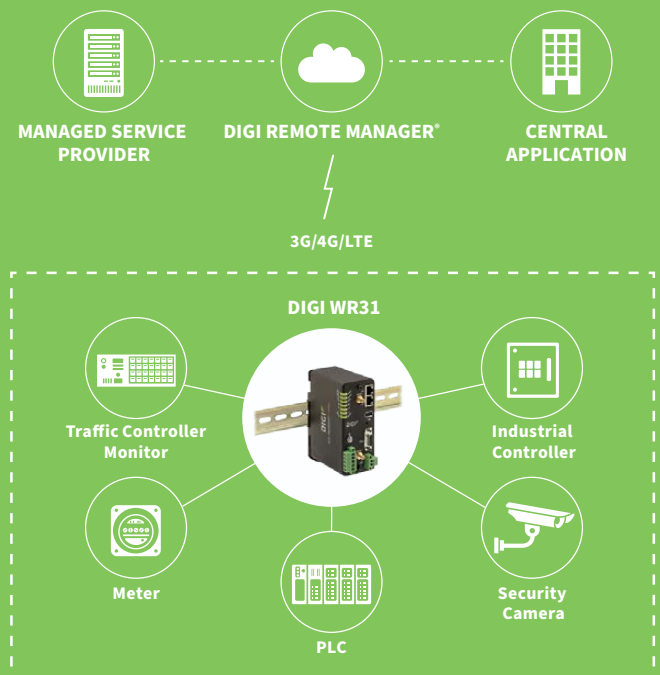


Accessories



Digi Remote Manager[®]

APPLICATION EXAMPLE



SPECIFICATIONS

Digi WR31


WIRELESS INTERFACES

CELLULAR

LTE - ANZ/LATAM (L9)	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, 50 Mbps up GNSS: 30 channels (16 GPS, 14 GLONASS) simultaneous tracking
LTE - NORTH AMERICA/EMEA (M8)	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, 50 Mbps up GNSS: 30 channels (16 GPS, 14 GLONASS) simultaneous tracking
LTE - NORTH AMERICA (M5)	LTE Cat 4: 700(B12,13)/850(B5)/AWS(B4)/1900(B2) 3G HSPA+: 850/1900 MHz Transfer rate (max): 150 Mbps down, 50 Mbps up
LTE - EMEA/APAC (M7)	LTE Cat 4: 800(B20)/900(B8)/1800(B3)/2100(B1)/2600(B7) HSPA: 900/2100 MHz EDGE: 900/1800 MHz Transfer rate (max): 150 Mbps down, 50 Mbps up
LTE 450 - EMEA/APAC (M2)	LTE Cat 3: 450(B31)/800(B20)/1800(B3)/2600 (B7) HSPA+: 900/2100 MHz EDGE: 900/1800 MHz Transfer rate (max): 100 Mbps down, 50 Mbps up
CDMA EV-DO 450 MHZ - EMEA (D5)	3G EVDO Rev B: 450 MHz 2G 1XRTT: 450 MHz Transfer rate (max): 14.7 Mbps down, 5.4 Mbps up
CONNECTORS	(2) 50 Ω SMA (center pin: female)
SIM SLOTS	(2) Mini-SIM (2FF)
SIM SECURITY	Screw-down SIM cover
GNSS (SELECT MODELS)	Protocol NMEA 0183 V3.0 Acquisition Time Hot Start 1 s; Warm Start 29 s; Cold Start 32 s Accuracy Horizontal: < 2 m (50%), < 5 m (90%); Altitude: < 4 m (50%), < 8 m (90%); Velocity: < 0.2 m/s
SOFTWARE & MANAGEMENT	
REMOTE MANAGEMENT	Digi Remote Manager® (cloud based); SNMP v1/v2c/v3 (user installed/managed)
LOCAL MANAGEMENT	WebUI (HTTP/HTTPS); CLI (Telnet, SSH, SMS)
MANAGEMENT/TROUBLESHOOTING TOOLS	FTP, SFTP, SCP; protocol analyzer with PCAP for Wireshark; event logging with Syslog and SMTP; NTP/SNTP
WIRED INTERFACES	
ETHERNET	
PORTS	(2) RJ-45; 10/100 Mbps (auto-sensing)
SERIAL	
PORTS	(1) DB-9; DCE
STANDARD	RS-232/422/485
SIGNAL SUPPORT	TXD, RXD, RTS, CTS, DTR, DCD, DSR, RI
FLOW CONTROL	Software (XON/XOFF), hardware supported
I/O	
CONNECTOR	5-pin screw down terminal block
DIGITAL	0-30 VDC, 200 mA max.; (2) I/O, software -selectable
ANALOG	(1) analog I/O; 4-20 mA or 0-10V, software selectable; 12 bit resolution
USB	
PORTS	(1) USB 2.0 Type A
PHYSICAL	
DIMENSIONS (L X W X H)	12.7 cm x 8.9 cm x 5.1 cm (5 in x 3.5 in x 2 in)
WEIGHT	.5 kg (1.1 lb.)
STATUS LEDS	Power, service, WWAN, 3x signal strength, user programmable
ENCLOSURE/RATING	Aluminum / IP30
MOUNTING	DIN rail mount included

SPECIFICATIONS

Digi WR31

POWER REQUIREMENTS	
POWER INPUT	9 – 30 VDC, 18 W min power source required
POWER CONNECTOR	Screw down removable terminal block
POWER CONSUMPTION	4 W typical (Idle); 12 W typical (Peak Tx/Rx)
ENVIRONMENTAL	
HAZARDOUS (CLASS 1 DIV 2)	Yes
OPERATING TEMPERATURE	-34° C to 74° C (-29° F to 165° F); reduced cellular performance may occur above 60° C (140° F)
STORAGE TEMPERATURE	-40° C to 85° C (-40° F to 185° F)
ETHERNET ISOLATION	1.5 kV RMS
SERIAL PORT PROTECTION (ESD)	15 kV
RELATIVE HUMIDITY	5% to 95% (non-condensing)
APPROVALS	
CELLULAR	PTCRB
SAFETY	Hazardous locations: ANSI/ISA-12.12.01-2015, CAN/CSA C22.2 NO.213-15 Ordinary locations: UL 60950-1, 2nd Edition, 2014-10-14; UL 62368: 2014, 2nd Edition ATEX standards: Protection method  3 G Ex nA IIC T4 Gc EN 60079-0:2012+A11:2013, EN 60079-15:2010, DEMKO 15 ATEX 1574X Rev. 1
IECEX STANDARDS	US/UL/ExTR17.0077/00
EMISSIONS/IMMUNITY	CE, FCC Part 15 Class B, AS/NZS CISPR 22, EN55024, EN55022 Class B
WARRANTY	
PRODUCT WARRANTY	3-year*

*Standard 3-year warranty upgradeable to 5 years with purchase of a Digi Remote Manager Premier 5-year subscription applicable to the product purchased only at the time of product purchase and with product registration at that time in Digi Remote Manager.

ENTERPRISE SOFTWARE

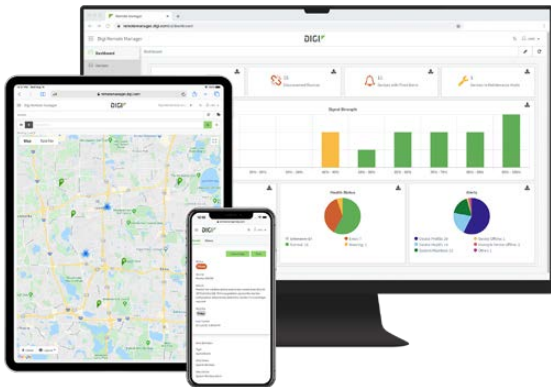
DESCRIPTION

PROTOCOL SUPPORT	HTTP, HTTPS, FTP, SFTP, SSL, SNMP, 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, SSLv3, FIPS 197, Open VPN client and server; PPTP, L2TP; (5) VPN tunnels (not upgradable); 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, NATP with IP port forwarding; Ethernet bridging; GRE; multicast routing; routing protocols: PPP, PPPoE, RIP (v1, v2) OSPF, SRI, BGP, iGMP routing (multicast); IP failover: VRRP, VRRP+TM; automatic failover/failback to second GSM network/standby APN
OTHER PROTOCOLS	DDHCP; 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

PRODUCT IMAGES



DIGI REMOTE MANAGER®



Digi Remote Manager is the technology platform that brings networks to the next level, allowing networks — and the people who manage them — to work smarter. With Digi Remote Manager you can transform a multitude of dispersed IoT devices into a dynamic, intelligent network. Now you can easily deploy, monitor and diagnose thousands of mission-critical devices from a single point of command — on your desktop, tablet or phone. All the while, its software-defined security diligently safeguards your entire Digi ecosystem.

Learn more at www.digi.com/digi-remote-manager

CAPABILITIES

- Activate, monitor and diagnose your mission-critical devices from a single point of command and control — on your desktop or mobile app
- Schedule key operations — including firmware updates and file management — on a single device or on a group of devices, keeping your network functionality up-to-date and maintaining compliance standards
- Manage edge devices out-of-band via console terminal access
- Keep tabs on device health and connectivity across device deployments of any size
- Create detailed reports and enable real-time alerts for specified conditions
- Integrate device data through open APIs to gain deeper insights and control with third-party applications
- Report and alert on performance statistics, including connection history, signal quality, latency, data usage and packet loss

INFRASTRUCTURE

- Hosted in a commercial-grade cloud server environment that meets SOC 1®, SOC 2® and SOC 3® standards
- Superior availability, operating to 99.9% or greater
- Open APIs available to support application development

SECURITY

- More than 175 security controls in place to protect your data
- Member of the Center for Internet Security® (CIS®)
- Enables compliance with security frameworks like ISO27002, HIPAA, NIST and more
- Earned Skyhigh's CloudTrust™ Program highest rating of Enterprise-Ready

PART NUMBERS	DIGI WR31
WR31-M82A-DE1-TB	Digi WR31 - 4G LTE North America/EMEA, dual Ethernet, RS-232/422/485, Class 1 Div 2 (C1D2)
WR31-L92A-DE1-TB	Digi WR31 - 4G LTE LATAM/ANZ, dual Ethernet, RS-232/422/485, ATEX
WR31-M52A-DE1-TB	Digi WR31 - 4G LTE North America, dual Ethernet, RS-232/422/485, Class 1 Div 2 (C1D2)
WR31-M72A-DE1-TB	Digi WR31 - 4G LTE EMEA/APAC, dual Ethernet, RS-232/422/485, ATEX
WR31-M22A-DE1-TB	Digi WR31 - 4G LTE EMEA/APAC (450MHz), dual Ethernet, RS-232/422/485, ATEX
WR31-D52A-DE1-TB	Digi WR31 - CDMA 450MHz, dual Ethernet, RS-232/422/485, ATEX

PART NUMBERS	ACCESSORIES*
76000926	Antenna - cellular, 3G/4G/LTE
76000954	Antenna base – SMA, 1 m, RG174
76000736	AC power supply - extd temperature, US and EU power cords to 12 VDC - 2.1 mm locking barrel plug
76000966	Mounting bracket – wall mount
76000977	Mounting bracket – DIN rail
76000826	Cable - Ethernet, RJ-45 to RJ-45, 2 m

*Sold separately, unless otherwise noted.

PART NUMBERS	DIGI REMOTE MANAGER®
DIGI-RM-STD-1YR	Digi Remote Manager Standard - 1-year subscription
DIGI-RM-PRM-1YR	Digi Remote Manager Premier - 1-year subscription
DIGI-RM-PRM-3YR	Digi Remote Manager Premier - 3-year subscription
DIGI-RM-PRM-5YR	Digi Remote Manager Premier - 5-year subscription