Manage this device with **Digi Remote Manager**

# 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

### APPLICATION EXAMPLE



MANAGED SERVICE PROVIDER — DIGI REMOTE MANAGER® — CENTRAL APPLICATION

3G/4G/LTE

DIGI WR31

Traffic Controller Monitor

Industrial Controller

Meter

PLC

Security Camera

### RELATED PRODUCTS



**Digi WR21**     **Digi WR44 R**     **Digi Connect® Sensor+**     **Accessories**     **Digi Remote Manager®**

| 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) <br> 3G HSPA+: 800/850/900/1700/2100 MHz <br> Transfer rate (max): 300 Mbps down, 50 Mbps up <br> 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) <br> 3G HSPA+: 850/900/AWS/1800/1900/2100 MHz <br> Transfer rate (max): 300 Mbps down, 50 Mbps up <br> 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) <br> 3G HSPA+: 850/1900 MHz <br> 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) <br> HSPA: 900/2100 MHz <br> EDGE: 900/1800 MHz <br> 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) <br> HSPA+: 900/2100 MHz <br> EDGE: 900/1800 MHz <br> Transfer rate (max): 100 Mbps down, 50 Mbps up |
| **CDMA EV-DO 450 MHZ - EMEA (D5)** | 3G EVDO Rev B: 450 MHz <br> 2G 1XRTT: 450 MHz <br> 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 <br> Acquisition Time Hot Start 1 s; Warm Start 29 s; Cold Start 32 s <br> 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, visit www.digi.com/resources/certifications for latest cellular certifications |
| **SAFETY** | Hazardous locations: ANSI/ISA-12.12.01-2015, CAN/CSA C22.2 NO.213-15<br>Ordinary locations: UL 60950-1, 2nd Edition, 2014-10-14; UL 62368: 2014, 2nd Edition<br>ATEX standards: Protection method ⟨Ex⟩ I 3 G Ex nA IIC T4 Gc<br>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** | HTTPS, FTP, SFTP, TLS 1.2, 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; TLS 1.2, 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, NAPT 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



5 inches
(12.7 cm)

3.5 inches (8.9 cm)

2 in (5.1 cm)
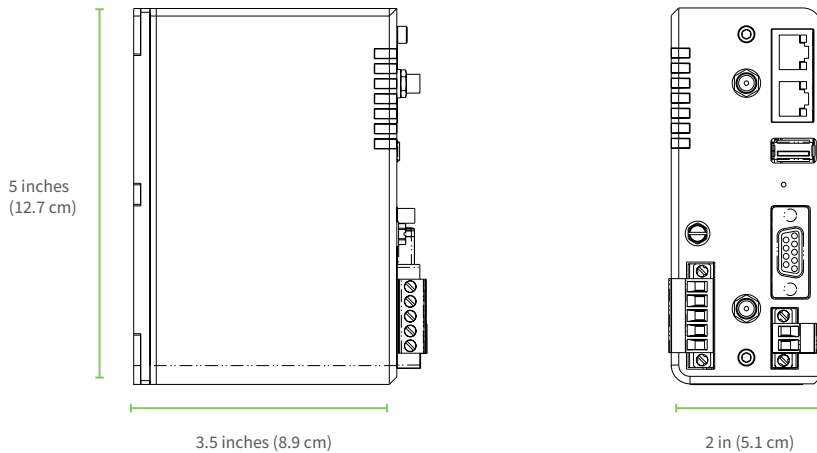
# DIGI REMOTE MANAGER®
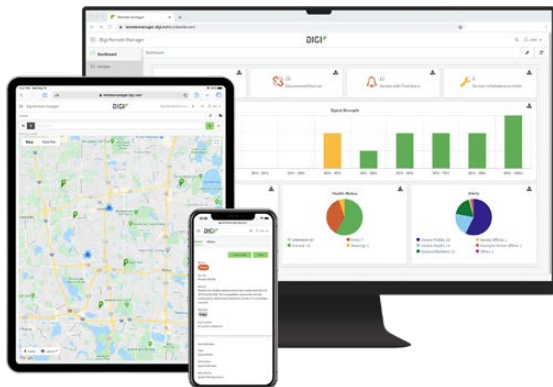


Digi Remote Manager is the technology platform that brings networks to the next level, allowing networks — and the people who manage them — to work smarter. With Digi Remote Manager you can transform a multitude of dispersed IoT devices into a dynamic, intelligent network. Now you can easily deploy, 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 |

# FOR MORE INFORMATION
# PLEASE VISIT DIGI.COM

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