

ICR-3831

RAILWAY 4G LTE ROUTER & GATEWAY



- + 4G LTE Cat.4 Router for railway applications
- + 2× SIM with cover
- + 1× MicroSD card slot
- + 2× Ethernet 10/100 BaseTX, M12
- + Serial port 1× RS232 and I/O, 1× USB M12
- + GNSS receiver
- + Robust metal cover with wall mount options
- + Optional PoE PD
- + M12 Connectors
- + EN 50155 Certified

ICR-3831 cellular LTE Cat. 4 router & and the gateway is designed and EN 50155 certified for rolling stock applications such as railways or trams. The router is E-mark certified for road vehicle use in cars, buses and coaches.

LTE Router provides secure Internet connectivity for devices equipped serial interface and LANs via the cellular networks. With upload speeds of up to 50 Mbps and download speeds of up to 150 Mbps, ICR-3800 provides ample bandwidth, even for applications that require video and fast Internet access.

ICR-3831 is equipped with an extremely powerful Cortex A8 CPU at 1GHz, 256 MB flash memory, 512 MB RAM and 128kB M-RAM, providing full support for LTE (Long Term Evolution) speeds and railway applications.

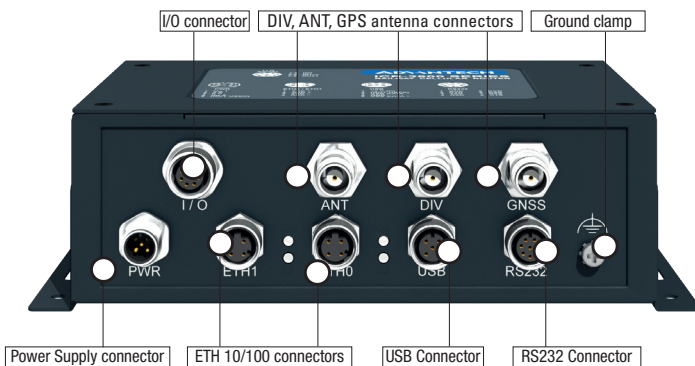
A secure Web interface allows users to configure and manage ICR-3831 cellular LTE router from remote locations. The router can also upgrade its configuration and firmware from the operator's central server, allowing for simultaneous mass reconfiguration of every router on the network. Users may insert Linux scripts and can create multiple configurations for the same router and switch from one configuration to another at any time.

Standard configuration includes 2 Ethernet ports with 2 independent LANs/IP addresses and also includes 1 USB host port, 1 microSD card holder, 2 SIM card holders for automatic failover to an alternate service provider, 2 binary inputs (I/O), 2 binary outputs (I/O), 1 RS232 port and onboard GPS. All connectors are M12 type. The router has industrial grade operating temperature range is -40 to +70 °C .

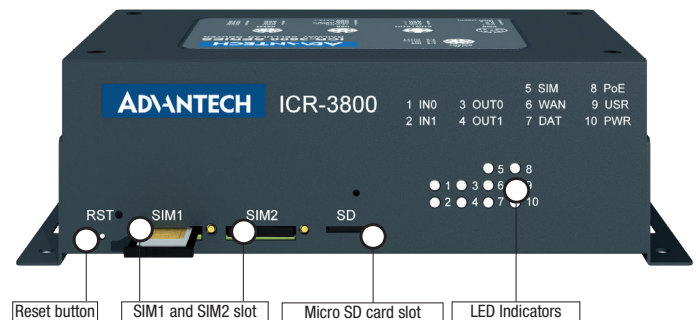
ICR-3831 supports real time data encryption and the creation of VPN tunnels using IPsec, OpenVPN and LZTP. It supports DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and numerous other functions.



We also support two monitoring platforms. Both platforms are based on a cloud solution. First one is R-SeeNet (using SNMP traps) and the new, lower cost monitoring and management platform called WebAccess/DMP.

REAR VIEW



FRONT VIEW



| MODEL NO. - ORDER CODES | REGION | EN 50155 | 2× ETHERNET | RS232 | GNSS ANT+DIV | I/O 2/2 | POE PD | USB |
|--|--------|----------|-------------|-------|--------------|---------|--------|-----|
|  ICR-3831B | EMEA | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
|  ICR-3831BD | EMEA | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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SPECIFICATIONS

| PORTS, LED, ANTENNAS | |
|----------------------|---|
| Ethernet | 2x LAN port 10/100 Base-TX, 4-pin D-coded M12 |
| SIM | 2 Mini SIMs (2FF) |
| LED indicators | INO, IN1, OUT0, OUT1, SIM, WAN, DAT, PoE, USR, Power |
| 2x ANT | TNC-F connectors - MAIN + DIV |
| 1x GPS | TNC-F connector - support active/passive antennas |
| 1x RS232 | 8-pin A-coded M12 (TXD, RXD, DCD, DTR, DSR, RTS, CTS and GND) |
| I/O | 2x opto-coupled digital Inputs (max. 60 V DC, max. 7 mA) 2x opto-coupled digital Outputs (max. 60 V AC/DC, max. 300 mA), 8-pin A-coded M12 |
| USB | 2.0 USB host, 5 pin A-coded M12 |
| SD | 1x MicroSD, SDHC up to 32 GB, SDXC from 32 GB up to 64 GB |

| CELLULAR MODULE PARAMETERS | |
|----------------------------|--|
| LTE parameters | FDD-LTE - 2100 (B1) / 1800 (B3) / 2600 (B7) / 900 (B8) / 800 (B20) |
| WCDMA parameters | WCDMA - 2100 (B1) / 900 (B8) |
| GPRS/EDGE parameters | GSM/EDGE - 1800 (B3) / 900 (B8) |

| NETWORKING | |
|---------------------------------|--|
| Network and Routing | DHCP Server, NAT/PAT, VRRP, Dynamic DNS client, DNS proxy, VLAN, QoS, DMVPN, NTP Client/ Server, IGMP, BGP, OSPF, RIP, SMTP, SMTPS, SNMP v1 / v2c / v3, Backup Routers, PPP, PPPoE, SSL, Port Forwarding, Host Port Routing, Ethernet Bridging |
| Security | HTTPS, SSH, VPN tunnels, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) |
| VPN Tunnelling | Open VPN client and server and P2P, L2TP, PPTP, GRE, EasyVPN, IPSec with IKEv1 and IKEv2 |
| Configuration | Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup configuration, Restore configuration |
| Firmware Management | Automatic firmware update from server, Locally via LAN or remotely OTA (HTTP, HTTPS), Over-the-Air cellular module update |
| Diagnostic | One CLICK report - current configuration / factory identification / system log / kernel log / reboot log / routing table, Remote diagnostics possible via SSH |
| Status | Network Status, DHCP Status, IPSec Status, Statistics history for last 60days |
| Log | System Log, Reboot Log, Kernel Log |
| Controlling and Diagnostic | SMS, SNMP v1/v2c/v3, Statuses |
| Event Engine - Supported Events | StartUp script & Up/Down script (Bash, Python), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature. Report Types: SMS, email, SNMP Trap |
| Other | Support of IPv6, Dual Stack |
| Applications Development | Open Linux, Python, BASH, C/C++, Node-RED |

| STANDARDS AND REGULATIONS - ICR3800 | |
|-------------------------------------|---|
| Radio | EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 908-13, EN 303 413 |
| EMC | EN 301 489-1, EN 301 489-19, EN 301 489-52, EN 61000-4-2 EN 61000-6-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 50121-3-2 |
| Safety | EN 60950-1 |
| Climatic | EN 60068-2-2, EN 60068-2-1, EN 60068-2-14, EN 60068-2-14, EN 60068-2-30 |
| Mechanical | EN 61373, EN 60529 |
| Transportation | EN 50155, EN 45545-1 |
| National | CE |
| Environmental | REACH, RoHS3 and WEEE compliant |

| GNSS SPECIFICATIONS | |
|---------------------------------|--|
| Antenna | 50 Ohms – active/passive |
| Protocols | NMEA 0183 v3.1 |
| Frequency | 1575.42MHz Typical |
| Sensitivity | -162 dBm |
| Tracking Sensitivity (Open sky) | Active antenna or LNA: -159 dBm Passive antenna: -156 dBm |

| POWER, CONSUMPTION, ENVIRONMENTAL, IP COVER | |
|--|---|
| Power Supply | 12 – 48V DC (5-pin A-coded M12) |
| *Optional Power over Ethernet (PoE) | PoE+ Powered Device (IEEE 802.3at, Type 2, Class 4) |
| Power Consumption | 4 to 11W |
| Temperature Range – Operating | -40 to +70 °C |
| Humidity – Operating / Storage (noncondensing) | 0 to 95 % / 0 to 95 % |
| Cold Start | -40 °C |
| Operating Altitude | 2000 m / 70 kPa |
| Enclosure Rating | IP40 |

| MECHANICAL | |
|----------------------------|----------------|
| Metal case, Wall mount kit | Metal |
| Enclosure Dimensions | 203x59x113.1mm |
| Weight | 855g |

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MECHANICAL DRAWING

