

# ICR-3211B

## INDUSTRIAL IoT LTE Cat M1 & NB-IoT ROUTER & GATEWAY



- + Industrial IoT LPWAN Gateway
- + Global LTE Cat.M1 & NB-IoT coverage with GSM fallback
- + Powerful CPU with 1.3 GB storage to host customer SW applications
- + 2× SIM with cover, eSIM ready
- + 2× Ethernet 10/100, 1x RS232, 1x RS485 and I/O
- + Robust metal cover with DIN and Wall mount options
- + Operational temperature range from -40 °C to +75 °C
- + Backup real time clock
- + Sleep mode & Power ignition
- + Last-gasp Supercapacitor

ICR-3211B is an industrial cellular gateway intended for the North American (NAM) and European (EMEA) markets. The ICR-3211B router is designed for wireless communication in the mobile networks that make use of traditional cellular technologies. The primary purpose of this router is its use in the Category M1 (LTE-M) as well as Narrowband Internet of Things (NB-IoT) services on the cellular LTE network.

LTE Cat M1 is a new cellular technology specifically designed for the needs of applications targeting the Internet of Things (IoT) or machine-to-machine (M2M) communications. LTE Cat M1 is a low-power wide-area (LPWA) air interface that lets you connect IoT and M2M devices with medium data rate requirements (375 kbps upload and download speeds in half duplex mode).

In addition to its two independent or switched Ethernet ports, serial ports RS232 and RS485, ICR-3211B has built-in digital I/O connectivity, backup real-time clock and sleep mode support. The device has two SIM readers protected by metallic cover for carrier failover redundancy. As an addition the router is ready to use internal eSIM.

The Last-gasp supercapacitor ensures safe sending out of information about power failure or send last processed data.

The router supports VPN tunnel creation using various protocols to ensure safe communications. The router provides diagnostic functions which include automatic monitoring of the wireless and wired connections, automatic restart in case of connection losses, and a hardware watchdog that monitors the router status.


The ICR-3211B places intelligence at the network edge with an extremely powerful Cortex A8 CPU at 1GHz, 512 MB RAM and 4 GB EMMC FLASH memory in pSLC mode for a long-lifetime and critical industrial applications. 1.3 GB of memory space is allocated for customer SW applications and data. With open Linux platform and wide possibilities of programming customer SW applications in Python, C/C++ or browser-based flow editor Node-RED the ICR-3211B offers a real open development platform for Industrial IoT applications.

The Advantech existing app library (User modules) with apps already developed to enhance specific router functionality including industrial protocol conversions and support of IoT platforms such as MS Azure, Cumulocity, ThingWorx and others are supported on the router.

ICR-3211B is easy to install using WebAccess/DMP, a full featured configuration and monitoring tool for mass deployment. The router also supports additional traffic and health monitoring software R-SeeNet.



### ORDERING INFORMATION - Antennas & Power Supplies Sold Separately

| MODEL NO. - ORDER CODES   | REGION      | 2× ETHERNET | RS232 RS485 | I/O | LTE ANT | 2× SIM | LAST-GASP |
|---|-------------|-------------|-------------|-----|---------|--------|-----------|
|  ICR-3211B | NAM<br>EMEA | ✓           | ✓           | ✓   | ✓       | ✓      | ✓         |

# ICR-3211B

## INDUSTRIAL IoT LTE Cat M1 & NB-IoT ROUTER & GATEWAY



### ACCESSORIES - INCLUDED

| DESCRIPTION           |                 |
|-----------------------|-----------------|
| Wall mount kit        |                 |
| DIN clip              | BB-DIN-ICR32    |
| Serial / IO connector | BB-CON-ICR32-10 |
| PWR connector         | BB-CON-WR2      |
| Quick Start Guide     |                 |

### ACCESSORIES - SOLD SEPARATELY

| ORDER CODE       | DESCRIPTION                             |
|------------------|---|
| BB-GA.110.101111 | Antenna LTE, Magnet Mount               |
| BB-TG.10.0113    | Antenna LTE, Terminal                   |
| BB-RPS-v2-WR2-US | Wall mount Power Supply 12V/1A, US plug |

### SPECIFICATIONS

| 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, Load Balancing, IPv6 Dual Stack |
| 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 updates from the server, locally via LAN or remotely via WAN (HTTP, HTTPS), Over-the-Air cellular module firmware updates  |
| 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, Statures   |
| Event Engine               | StartUp script & Up/Down script (Bash, Python), Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature. Report Types: SMS, email, SNMP Trap  |
| Industrial Protocols       | Modbus RTU/TCP gateway, IEC 60870-5-101 to 104 gateway, DF1, DNP3   |
| Applications Development   | Open Linux, Python, BASH, C/C++, Node-RED   |

| PORTS, LED, ANTENNAS |  |
|----------------------|--|
| 2× Ethernet          | RJ45, 10/100 Mbps  |
| 2× SIM               | Mini SIMs (2FF)  |
| LED indicators       | PWR, SIGNAL, DAT, SIM1, SIM2, USR, ETH   |
| 1× ANT               | SMA connectors   |
| 1× RS232, 1× RS485   | (10-Way Terminal block)  |
| I/O                  | 1x Digital Input (On Voltage: 2.7V to 36VDC)<br>1x Binary Output (10-Way Terminal block) |

| CPU, MEMORY  |   |
|--------------|---|
| CPU          | Cortex-A8, 1000 MHz   |
| RAM          | 512 MB  |
| Flash memory | eMMC - 4096 MB (838 MB for Router Apps, 512 MB for customer data) |

| MECHANICAL                                 |                    |
|--|--------------------|
| Metal case, Metal DIN rail, Wall mount kit | Metal              |
| Enclosure Dimensions                       | 31.2 × 94 × 129 mm |
| Weight                                     | 457 g              |

| CELLULAR MODULE PARAMETERS |  |
|----------------------------|--|
| LTE parameters             | LTE: Cat M1 / Cat NB1<br>FDD frequencies: B12, B13, B28 (700 MHz), B20 (800 MHz), B5, B18, B19, B26 (850 MHz), B8 (900 MHz), B4 (1700 MHz), B3 (1800 MHz), B2 (1900 MHz), B1 (2100 MHz)<br>TDD frequencies: B39 (1900 MHz) Cat M1 only<br>LTE bit rates: 375 Kbps (DL) / 375 Kbps (UL) |
| EDGE parameters            | Supported frequencies: 850 MHz, 900 MHz, 1800 MHz, 1900 MHz<br>EDGE bit rates: 296 Kbps (DL) / 236,8 Kbps (UL)   |
| GPRS parameters            | Supported frequencies: 850 MHz, 900 MHz, 1800 MHz, 1900 MHz<br>GPRS bit rates: 107 Kbps (DL) / 85,6 Kbps (UL)  |

# ICR-3211B

## INDUSTRIAL IoT LTE Cat M1 & NB-IoT ROUTER & GATEWAY



### SPECIFICATIONS - CONTINUED

| POWER, CONSUMPTION, ENVIRONMENTAL, IP COVER            |                                  |
|--|----------------------------------|
| Power Supply   | 9 – 36VDC (2-Way Terminal block) |
| Power Consumption - Idle / Average / Peak / Sleep Mode | 2.5 / 4 W / 11 W / 0.085 W       |
| Temperature Range – Operating / Storage                | -40 to +75 °C / -40 to +85 °C    |
| Humidity – Operating / Storage (noncondensing)         | 0 to 95 % / 0 to 95 %            |
| Cold Start   | -40 °C                           |
| Operating Altitude                                     | 2000 m / 70 kPa                  |
| Enclosure Rating                                       | IP30                             |
| Grounding screw  |                                  |

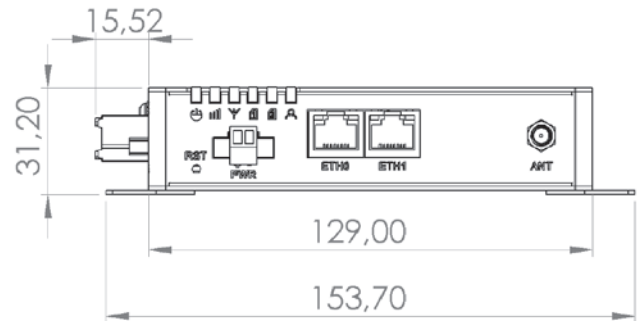
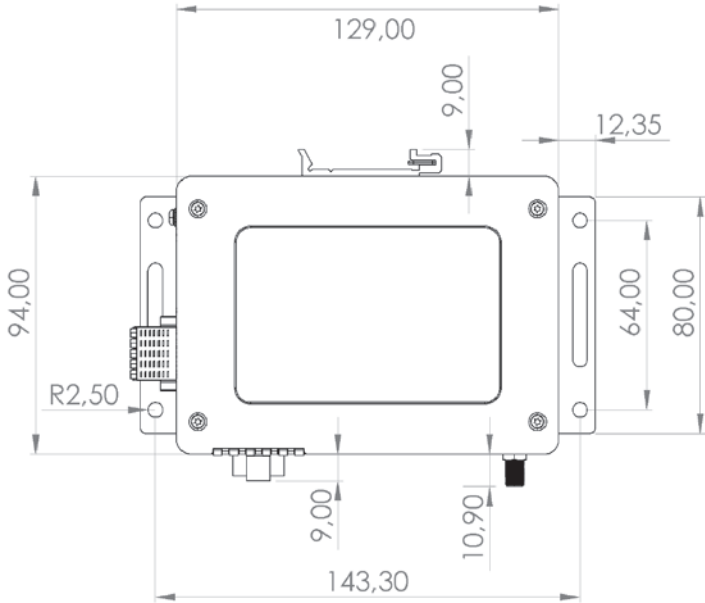
| STANDARDS AND REGULATIONS |  |
|---------------------------|--|
| Radio                     | PTCRB, EN 301 511, EN 301 908-1, EN 301 908-13, EN 303 413   |
| EMC                       | EN 301 489-1, EN 301 489-19, EN 301 489-52, EN 61000-6-2, EN 61000-6-4, FCC 15.107 Class B, FCC 15.109 Class B, IC |
| Safety                    | EN 60 950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 + AC:2011   |
| Transportation            | EN 45545-2   |
| Carrier approvals         | Verizon, AT&T  |
| National                  | FCC, IC, CE compliant  |
| Environmental             | REACH, RoHS and WEEE compliant   |

# ICR-3211B

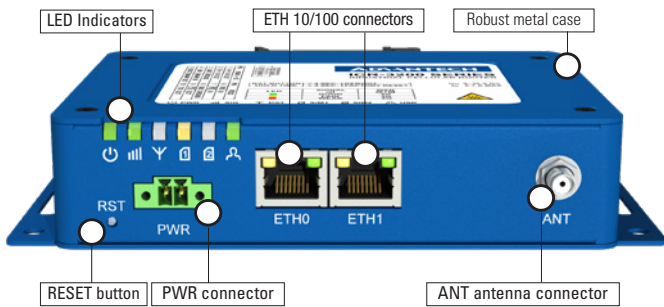
## INDUSTRIAL IoT LTE Cat M1 & NB-IoT ROUTER & GATEWAY



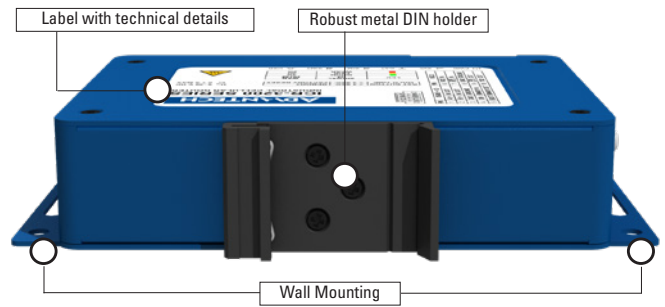
### MECHANICAL DRAWING



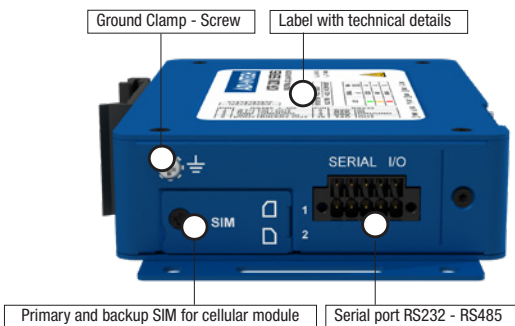
### FRONT VIEW



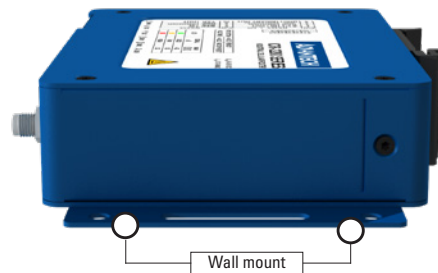
### REAR VIEW



### LEFT SIDE VIEW



### RIGHT SIDE VIEW



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Advantech:](#)

[ICR-3211B](#)