ICR-2436

Entry-Level 4G Router

Features

- Global LTE coverage with 3G fallback
- Full support for QCI-70 Quality of Service (3GPP Release 12)
- Private LTE frequency bands 42, 43, 48 (CBRS)
- 2× SIM for redundancy
- 2× Ethernet 10/100 Mbps
- 1× RS232, 1× RS485
- 1× DI, 1× DO
- Wall and DIN mount options
- Linux based OS & SW customization

RoHS COMPLIANT 2002/95/EC CE

Introduction

Industrial cellular router ICR-2436 is designed for communication in both public and private LTE networks (frequency spectrum 3500-3700 MHz - B42, B43, B48-CBRS). Private LTE provides complete control and guaranteed coverage for companies operating mission critical industrial applications. The high speed LTE connectivity is ideal for enterprise applications such as smart factory and smart city focusing on Industry 4.0.

The router is equipped with two independently configurable Ethernet ports (LAN or WAN), 1× serial port RS232, 1× RS485, and with digital I/O connectivity (1× DI, 1× DO). 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.

Router is based on ICR-OS operation system. Open Linux platform enable wide possibilities of programming customer SW applications in Python, C/C++. Router supports uploading of RouterApps (User modules) that would extend standard firmware functionalities. Existing app library ready for free download by customer contains already developed software apps to enhance specific router functionality including industrial protocol conversions, support of IoT platforms such as MS Azure, Cumulocity, ThingWorx and a lot more.

ICR-OS   **WebAccess/VPN**   **RouterApp**

C++   **python™**   **WebAccess/DMP**

Order Codes

Model no. - Order Codes		REGION	2× Ethernet 10/100 Mbps	RS232 RS485	I/O	2× ANT	2× SIM
	ICR-2436	GLOBAL*	✓	✓	✓	✓	✓

* Router is compatible with cellular networks in the indicated region. Importer/operator needs to check locale legislation (standards, national Telecom approvals etc.) and compare with standards available for product if possible to operate the router in target region legally.

Specifications

System	
CPU	ARM926EJ-S, 600 MHz
Memory	RAM - 128 MB NOR Flash - 64 MB (12 MB for Router Apps, 2 MB for customer data)
Watchdog	HW Watchdog
RTC	Battery backup RTC

Interfaces	
Ethernet	2× Ethernet (1+1), RJ45, 10/100 Mbps
Serial Lines	1× RS232 (Tx, Rx, GND, RTS, CTS) 1× RS485 (A(-), B(+), GND) (7-pin terminal block)
I / O	1× Digital Input (48 V / 0.5 mA) 1× Digital Output (Open Drain, 48 V / 100 mA) (6-pin terminal block together with PWR)
Reset Button	Reboot / Factory reset
LED Indicators	System, Signal strength, Data activity, SIM1/SIM2 status, Mobile technology, Input, Output, User, ETH

Environmental	
Power Supply	9 – 48 V DC (6-pin terminal block together with I/O)
Consuption	Idle 1.9 W / Average 2.6 W / Maximum 2.8 W
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %
IP Cover	IP30

Physical Characteristics	
Dimensions	103 mm × 95 mm × 25 mm
Enclosure	Metal Case, Grounding Screw
Mounting	Wall mount, * Optional DIN Rail mount
Weight	345 g

Cellular Interface	
SIM Slots	2× SIM (Micro SIM – 3FF)
Antennas	2× SMA connector (2× ANT)
LTE Parameters	Supported FDD frequencies: B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B66, B71 Supported TDD frequencies: B38, B39, B40, B41, B42, B43, B46, B48 Transfer rate: 75 Mbps (DL), 50 Mbps (UL)
HSPA+/UMTS Parameters	Supported frequencies: B1, B2, B4, B5, B8, B9, B19 Transfer rate: 42 Mbps (DL), 5.76 Mbps (UL)
QCI	Full support for QCI-70 Quality of Service (3GPP Release 12)

Standards & Regulations	
Radio	EN 301 908-1, EN 301 908-2, EN 301 908-13
EMC	EN 301 489-1, EN 301 489-19 , EN 301 489-52, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
Safety	EN 62 368-1, IEEE 802.3
National	CE, UKCA
Mechanical	EN 60529
Climatic	EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-2-30
Environmental	REACH, RoHS3, WEEE
Cellular Module Approvals*	Regulatory: CE, GCF, FCC/IC, PTCRB, AU IC-Tick Carrier: AT&T, T-Mobile US, Verizon, Telstra, NTT DOCOMO

*Approvals are valid for the integrated cellular module inside the router only. Cellular module approvals are not always applicable for the whole router – see "Standards and Regulations" chart for complete router approvals available.

Accessories

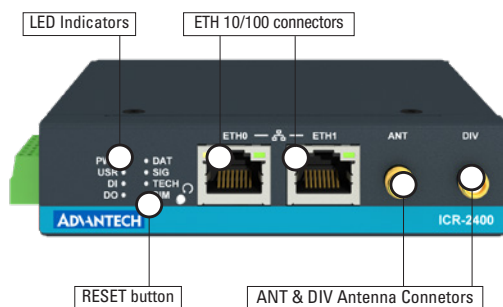| Part Number	Description	Included in the package
CON-ICR2-6-PWR	6-pin PWR / IO connector	✔
CON-ICR2-7-SER	7-pin Serial connector	✔
	Wall mount kit	✔
	Quick Start Guide	✔
BB-DIN-ICR32	DIN Clip	
BB-KD-ETH	Ethernet cross cable, lenght 1.5m	
ANT-LTE5G-025	Antenna 5G/LTE, Terminal, SMA-M	
RPS-ICR2-EU	Power Supply, ICR2, 12V/1A, 6-pin, EU plug	
RPS-ICR2-US	Power Supply, ICR2, 12V/1A, 6-pin, US plug	
ACC-KIT-ICR2-001	ICR-2000 family accessory kit 2× LTE ANT, Power Supply, ETH cable	

*For more Antenna accessories visit www.advantech.com

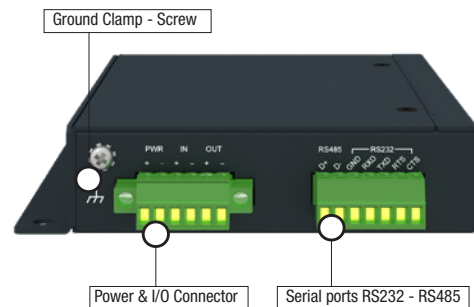| Software	
Operating System	ICR-OS (Linux based)
SW Customization	Router App (User Modules)
Application Development	Open Linux, *Python, BASH, C/C++
Industrial Protocols and IoT	*Modbus RTU/TCP gateway, *IEC 60870-5-101 to 104 gateway, *DF1, *DNP3, *MQTT, *LWM2M
Networking Features and Protocols	DHCP, NAT/PAT, SSH, VRRP, PPPoE, SNMP, SMTP, Dynamic DNS client, DNS proxy, VLAN, QoS, *DMVPN, NTP Client/Server, *Routing protocols RIP, BGP, OSPF, IS-IS, NHRP, Backup Routes, Port Forwarding, Host Port Routing, Ethernet Bridging, Load Balancing, IPv6 Dual Stack
Security	HTTPS, SSH, SFTP, DMZ, Firewall (IP Filtering, MAC address filtering, Inbound and outbound Port filtering) VPN Tunneling – WireGuard, OpenVPN, *EasyVPN, IPsec with IKEv1 and IKEv2, GRE, L2TP, PPTP Authentication – RADIUS, TACACS+, 2FA, *SCEP Encryption – DES, 3DES, AES, RSA, MD5, SHA
Firmware Management	Automatic firmware updates – server, locally via LAN or remotely via WAN
Diagnostic/Log	Status – Signal Strength, Data Usage One CLICK report – Current Configuration, Factory Identification, Routing Table Log – System Log, Reboot Log, Kernel Log Remote Diagnostics (via SSH)
Event Engine	StartUp script & Up/Down script (Own rules based on Digital Inputs, Network Parameters, Data Usage, Timer) Report Types: SMS, email, SNMP Trap
Configuration	Web server, SSH, Four configuration switchable profiles, Automatic configuration update from server, Backup & Restore configuration
Advanced Software Tools	WebAccess/DMP – Remote Device Provisioning, Monitoring & Management Platform WebAccess/VPN – Advanced Secure Networking Platform

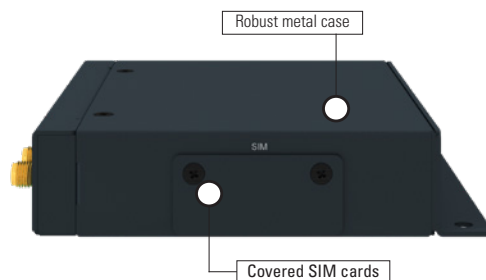*Functionality is available with installed Router App (User Module)
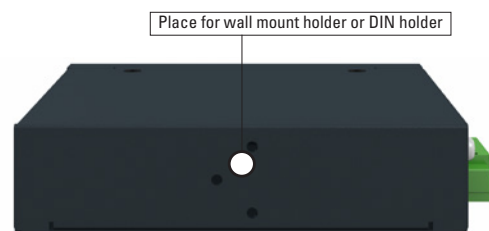
Views

FRONT VIEW

LED Indicators
ETH 10/100 connectors
RESET button
ANT & DIV Antenna Connetors

LEFT SIDE VIEW

Ground Clamp - Screw
Power & I/O Connector
Serial ports RS232 - RS485

RIGHT SIDE VIEW

Robust metal case
Covered SIM cards

REAR VIEW

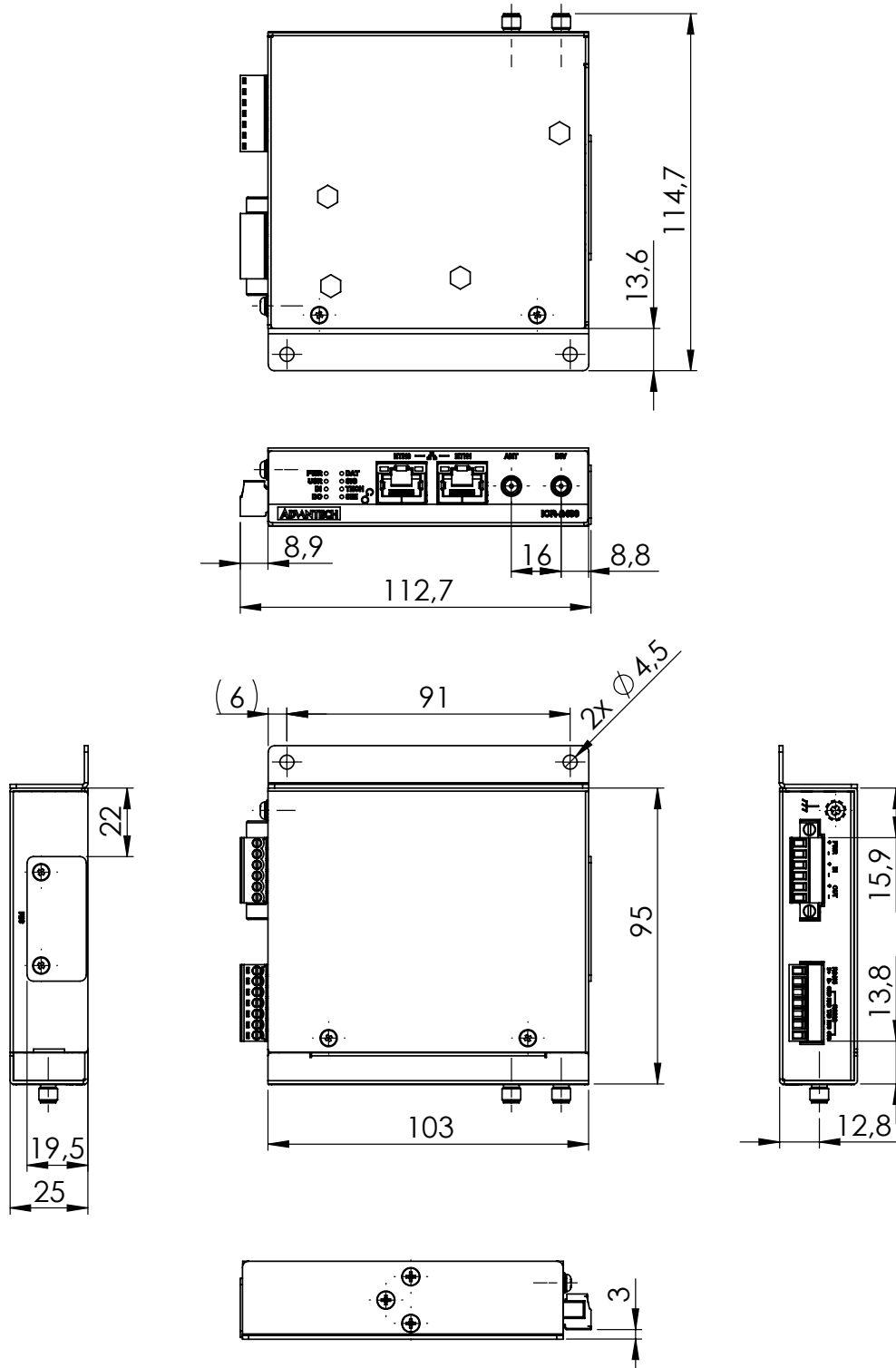Place for wall mount holder or DIN holder

Dimensions - Technical Drawing

Version with L holder (Wall mount)

Unit: mm

Dimensions - Technical Drawing

Version with DIN holder (*Optional Accessories)