ICR-2631

Entry-Level 4G Router

Features

- LTE Cat.4 with 3G/2G fallback
- 2× SIM for redundancy
- 4× Ethernet 10/100 Mbps (3+1 RJ45)
- 1× RS232, 1× RS485
- 1× DI, 1× DO
- Wide operational temperature range
- Wall and DIN mount options
- Linux based OS & SW customization
- Optional WiFi 802.11n

UK CA   RoHS COMPLIANT 2002/95/EC   CE

Introduction

Industrial cellular router ICR-2631 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 4 (Cat.4) services on the cellular LTE network. The peak downlink data rate for a Category 4 is approximately 150 Mbps. Also in the uplink, LTE Category 4 provides a peak data rate of 50 Mbps. Optional built-in WiFi 802.11a,b,g,n with AP, Client and Multirole modes are available.

The router is equipped with four Ethernet ports while three are switched and one is separated. Both 3× ETH0 and 1× ETH1 ports may be independently configurable as LAN or WAN interfaces. The router is also equipped with 1× serial port RS232, 1× RS485, and 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.

With open Linux platform and wide possibilities of programming customer SW applications in Python, C/C++. The Advantech existing app library Router Apps (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, and others are supported on the router.

The router is easy to manage using WebAccess/DMP a full-featured, cloud-based platform for device management, provisioning, and monitoring. It is ideal for mass deployment and VPN management, enabling secure remote access.

ICR-OS   **WebAccess/DMP**   **RouterApp**

C++   python™   (Linux)

Order Codes

Model no. - Order Codes		REGION	4× Ethernet 10/100 Mbps	RS232 RS485	I/O	1× ANT 1× DIV	2× SIM	WiFi
	ICR-2631	EMEA	✓	✓	✓	✓	✓	
	ICR-2631W	EMEA	✓	✓	✓	✓	✓	✓

* - 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.

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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	4× Ethernet (3+1), RJ45, 10/100 Mbps, 1.5 kV
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, 2G/3G/4G technology, Input, Output, User, ETH

Environmental	
Power Supply	9 – 48 V DC (6-pin terminal block together with I/O)
Consuption	ICR-2631: Idle 2.6 W / Average 3.5 W / Maximum 5 W ICR-2631W: Idle 2.9 W / Average 4.1 W / Maximum 5.9 W
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %, non-condensing
IP Cover	IP30

Physical Characteristics	
Dimensions	130 mm × 95 mm × 25 mm
Enclosure	Metal Case, Grounding Screw
Mounting	Wall mount, * Optional DIN Rail mount
Weight	380 g

WiFi - ICR-2631W	
Antenna	1× R-SMA connector
Standards	IEEE802.11 ac/a/b/g/n 2.4 GHz / 5 GHz
Security	WEP, TKIP, AES, WPA, WPA2, WPA3, 802.1X
Modes	Access Point (up to 8 clients), Station, Multirole STA & AP

Standards & Regulations	
Radio	EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 908-13, EN 301 893, EN 300 328
EMC	EETSI EN 301 489-1, ETSI EN 301 489-17, ETSI EN 301 489-52, IEC 61000-6-2, IEC 61000-6-3, EN 61000-4-2, EN IEC 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 55032
Safety	EN 62 368-1, IEEE 802.3
Cybersecurity	EN 18031-1
Transportation	E-mark
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: GCF, CE, UKCA, NCC, RCM Carrier: Vodafone Global, Deutsche Telekom

Cellular Interface	
SIM Slots	2× SIM (Micro SIM – 3FF)
Antennas	2× SMA connector (1× ANT, 1× DIV)
LTE Parameters	Supported FDD frequencies: B1 (2100 MHz), B3 (1800 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28A (700 MHz) Supported TDD frequencies: B38 (2600 MHz), B40 (2300 MHz), B41 (2500 MHz) Transfer rate: 150 Mbps (DL), 50 Mbps (UL)
HSPA+/UMTS Parameters	Supported frequencies: B1 (2100 MHz), B8 (900 MHz) Transfer rate: 42 Mbps (DL), 5.76 Mbps (UL)
EDGE/GPRS Parameters	Supported frequencies: B3 (1800 MHz), B8 (900 MHz) Transfer rate: 296 kbps (DL), 236.8 kbps (UL)

*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

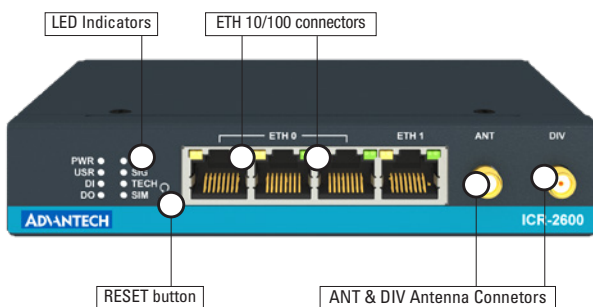| Part Number	Description	Included in the package
CON-ICR2-6-PWR	6-pin PWR / IO connector	✓
CON-ICR2-7-SER	7-pin Serial RS232, RS485 connector	✓
	Wall mount kit	✓
BB-DIN-ICR32	DIN Clip	
BB-KD-ETH	Ethernet cross cable, length 1.5m	
ANT-LTE5G-025	Antenna 5G/LTE, Terminal, SMA-M	
OPT1-ANT-WFT-06	Antenna Wi-Fi, Terminal	
OPT1-RPS-1212-EU	Power Supply, 12V/1A, Open wires, EU plug	
OPT1-RPS-1212-UK	Power Supply, 12V/1A, Open wires, UK plug	
ACC-KIT-ICR2-001	IICR-2000 family accessory kit, 2× LTE antenna, Power Supply - EU plug, ETH cable	

*For more Antenna accessories visit www.advantech.com

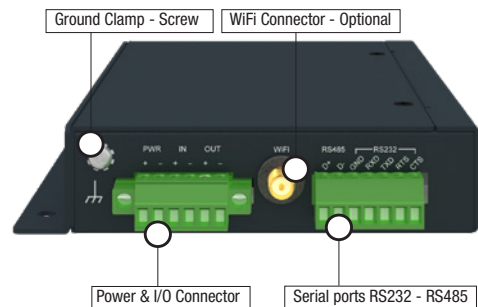| Software	
Operating System	ICR-OS (Linux based)
SW Customization	Router App
Application Development	Open Linux, *Python, BASH, C/C++
Industrial Protocols and IoT	*Modbus RTU/TCP gateway, *IEC 60870-5-101 to 104 gateway, *DF1, *DNP3, *MQTT, *LWM2M
Networking Features and Protocols	DHCP, NAT/PAT, SSH, 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, IPsec with IKEv1 and IKEv2, GRE, L2TP, PPTP Authentication – RADIUS, TACACS+, 2FA, *SCEP Encryption – DES, 3DES, AES, RSA up to 3072, Ed25519, 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 Monitoring, Management & VPN Platform https://wadmp.advantech.com/

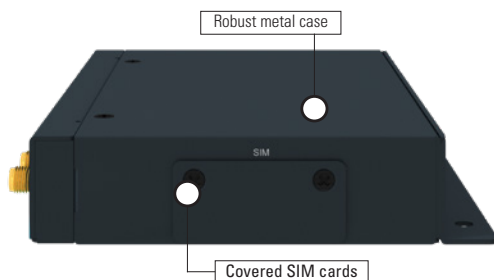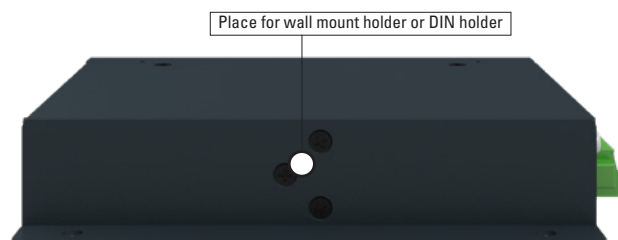*Functionality is available with installed RouterApp

Views

FRONT VIEW

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

LEFT SIDE VIEW

Ground Clamp - Screw | WiFi Connector - Optional
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

Vertrieb durch

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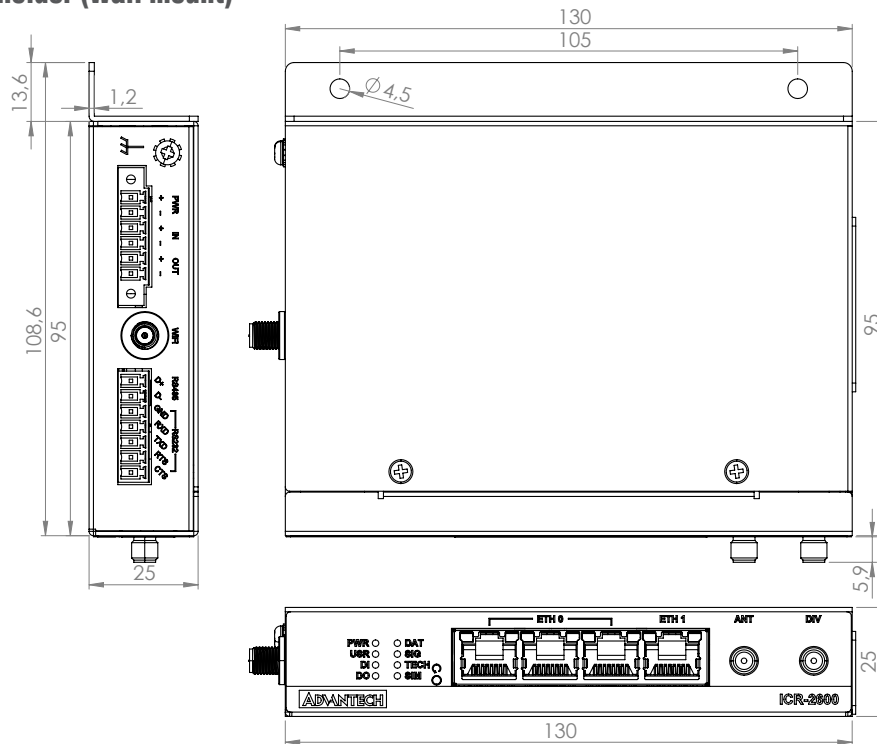
Industrial Cellular
Routers & Gateways

ICR-2631

Dimensions - Technical Drawing

Version with L holder (Wall mount)

Unit: mm

Version with DIN holder (*Optional Accessories)