ICR-2834

Industrial 4G Router & IoT Gateway

- LTE Cat.4 with 3G/2G fallback
- 1.3 GB eMMC storage to host customer SW applications
- 2× SIM with cover
- 2× Ethernet 10/100
- 2× Serial RS232/RS485
- Optional WiFi 802.11n
- Optional GNSS receiver
- USB Host 2.0
- Optional Metal or Plastic case
- DIN Rail mounting
- Wide operational temperature range
- Backup real time clock
- Sleep mode
- Security based on IEC 62443-4-2 level 1 (S1 Router only)

Project based customization: Last-gasp Supercapacitor, TPM 2.0, Chip SIM (MFF2)

RoHS COMPLIANT 2002/95/EC CE UKCA

Introduction

Ruggedized for industrial use providing industry popular interfaces 2 × Ethernet 10/100 ports with two independent LANs/IP addresses, 1× USB 2.0 host port, 2× serial ports RS232/RS485 independently selectable by DIP switch, 2× plate covered SIM card holders for automatic failover to an alternate service provider, 4× binary inputs (I/O), 2× binary outputs (I/O) and onboard GNSS receiver for device positioning and time synchronization. Optional built-in WiFi 802.11 ac,a,b,g,n with AP, Client, and Multirole modes are available.

On a project-based agreement, we can optionally add a TPM 2.0 chip (Trusted Platform Module) onboard. Cybersecurity resilience would also be increased by producing this router under a specific PN as S1 Router in compliance with the requirements of IEC 62443-4-2 SL1 (Level 1).

The router is powered by Linux-based Advantech´s operating system ICR-OS supporting standard and advanced networking features. The 1.3 GB eMMC available storage for customers offers a real open development platform for Industrial IoT applications. Advantech's existing Router App library with apps already developed to enhance specific router functionalities includes industrial protocol conversions, dynamic protocols, and support of IoT platforms such as MS Azure, Cumulocity, and others.

Popular use cases include PLC connection and various industrial automation and industry 4.0 applications, camera connection (streets/highways/parking, etc.), mobile signs and warning systems, wind turbines and solar power stations connection, measuring and monitoring systems in transportation, remote access for maintenance staff or electricity, gas or petrol distribution.

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.

RouterApp   ICR-OS   WebAccess/DMP   python   C++   Linux

Order Codes

Model no. - Order Codes	REGION	2× Ethernet 10/100 Mbps	2× SIM	1× DIV 1× ANT	GNSS	WiFi	1× USBHost 2.0	2× Serial RS232/RS485	Metal Case	Plastic Case	Accessories	S1 Router
ICR-2834G	EMEA*	✓	✓	✓	✓		✓	✓	✓			
ICR-2834GP	EMEA*	✓	✓	✓	✓		✓	✓		✓		
ICR-2834GA01	EMEA*	✓	✓	✓	✓		✓	✓	✓		✓ EU Power Supply	
ICR-2834GPA01	EMEA*	✓	✓	✓	✓		✓	✓		✓	✓ EU Power Supply	
ICR-2834GA02	EMEA*	✓	✓	✓	✓		✓	✓	✓		✓ UK Power Supply	
ICR-2834GPA02	EMEA*	✓	✓	✓	✓		✓	✓		✓	✓ UK Power Supply	
ICR-2834W	EMEA*	✓	✓	✓		✓	✓	✓	✓			
ICR-2834WP	EMEA*	✓	✓	✓		✓	✓	✓		✓		
ICR-2834WA01	EMEA*	✓	✓	✓		✓	✓	✓	✓		✓ EU Power Supply	
ICR-2834WPA01	EMEA*	✓	✓	✓		✓	✓	✓		✓	✓ EU Power Supply	
ICR-2834WA02	EMEA*	✓	✓	✓		✓	✓	✓	✓		✓ UK Power Supply	
ICR-2834WPA02	EMEA*	✓	✓	✓		✓	✓	✓		✓	✓ UK Power Supply	
ICR-2834GA01-S1	EMEA*	✓	✓	✓	✓		✓	✓	✓		✓ EU Power Supply	✓
ICR-2834WA01-S1	EMEA*	✓	✓	✓		✓	✓	✓	✓		✓ EU Power Supply	✓

* - 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

ADVANTECH Industrial Cellular Gateways & Routers

All product specifications are subject to change without notice.   Last updated: 22-Jul-2025

Specifications

System	
CPU	ARM926EJ-S, 600 MHz
Memory	RAM - 128 MB eMMC - 4096 MB (838 MB for Router Apps, 512 MB for customer data)
Watchdog	HW Watchdog
RTC	Battery backup RTC
TPM*	Trusted Platform Module (TPM) 2.0 (project based customization)
Supercap*	Last-gasp Supercapacitor (project based customization)

Interfaces	
Ethernet	2× Ethernet, RJ45, 10/100 Mbps, Isolation 1.5 kV
Serial Lines	2× RS232/RS485 independently selectable by DIP switch RS232 (Tx, Rx, GND, RTS, CTS), RS485 (A(-), B(+), GND), 16-pin terminal block (no isolation)
I / O	4× Digital Input (48 V / 3 mA consumption) 2× Digital Output (Open Drain, 48 V / 500 mA) 16-pin terminal block (no isolation)
USB	1× USB 2.0 Host Connector
Reset Button	Reboot / Factory reset
LED Indicators	System, Signal strength, Data activity, SIM1, SIM2, 2G/3G/4G technology, User, ETH

* Project based customization

Environmental	
Power Supply	9 – 48 V DC (2-pin terminal block)
Consuption	Idle 1.9 W / Average 3.5 W / Maximum 7.4 W
Sleep Mode	Yes, 6 mW
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %
IP Cover	IP30

Physical Characteristics	
Dimensions	Metal Case: 42 × 80.3 × 113.2 mm Plastic Case: 51.4 × 83.8 × 117 mm
Enclosure	Metal Case with grounding screw or Plastic Case
Mounting	DIN-Rail
Weight	Metal Case: 300 g Plastic Case: 240 g

GNSS - ICR-2834Gxxx	
Antenna	1× SMA connector, active (50 mA)
Systems	GPS, GLONASS, BeiDou, Galileo
Protocol	NMEA 0183
Ac Time-to-First-Fix	Warm start: 28 s, Cold 32 s

WiFi - ICR-2834Wxxxx	
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

Cellular Interface	
SIM Slots	2× SIM (Mini SIM – 2FF) with cover, *1× Chip SIM (MFF2)
Antennas	2× SMA connector (1× Main, 1× Diversity)
LTE Parameters	Supported FDD frequencies: B1 (2100 MHz), B3 (1800 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28 (700 MHz) Transfer rate: 150 Mbps (DL), 50 Mbps (UL)
HSPA+/UMTS Parameters	Supported frequencies: B1 (2100 MHz), B3 (1800 MHz), B8 (900 MHz) Transfer rate: 14.4 Mbps (DL), 5.76 Mbps (UL)
EDGE/GPRS Parameters	Supported frequencies: B2 (1900 MHz), B3 (1800 MHz), B5 (850 MHz), B8 (900 MHz) Transfer rate: 237 kbps (DL), 237 kbps (UL)

Standards & Regulations	
Radio	EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 908-13, EN 303 413, EN 301 893, EN 300 328
EMC	EN 301 489-1, EN 301 489-17, 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, IEC 61000-6-2, IEC 61000-6-3, EN 55032
Safety	EN 62368-1, IEEE 802.3
Cybersecurity	EN 18031-1
Transportation	E8
National	CE, UKCA
Mechanical	EN 60529, EN 60068-2-27, EN 60068-2-64
Climatic	EN 60068-2-1, EN 60068-2-2, EN 60068-2-14, EN 60068-2-30
Environmental	REACH, RoHS3, WEEE

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 S1 Routers only: Compliance with IEC 62443-4-2 SL1 (level 1), Secure Boot, Encrypted firmware image, Read-only filesystem, Integrity check, Advanced Intrusion Detection Environment (AIDE)
Firmware Management	Automatic firmware updates – server, locally via LAN or remotely via WAN Over-the-Air cellular module firmware updates
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, Power, Device Temperature) Report Types: SMS, *email, *SNMP Trap, *Event notificator
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, VPN & Management Platform

*Functionality is available with the installed Router App   **Functionality may be limited for S1 Router (ICR-2834xA01-S1)
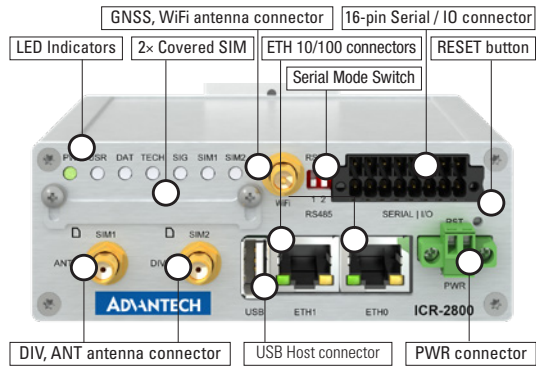
Accessories

Part Number	Description	ICR-2834 ICR-2834W	ICR-2834P ICR-2834WP	ICR-2834GA01(-S1) ICR-2834WA01(-S1)	ICR-2834PA01 ICR-2834WPA01	ICR-2834GA02 ICR-2834WA02	ICR-2834PA02 ICR-2834WPA02	Sold Separately
				Included in the package				
BB-CON-WR2	2-pin PWR connector	✓	✓	✓	✓	✓	✓	✓
CON-ICR28-16	16-pin Serial / IO connector	✓	✓	✓	✓	✓	✓	✓
BB-SBD40	DIN clip	✓		✓		✓		✓
BB-SBD40P	DIN clip		✓		✓		✓	✓
BB-KD-ETH	Ethernet cross cable			✓	✓	✓	✓	✓
BB-RPS-v2-WR2-EU	Wall mount Power supply, 12V/1A, EU plug			✓	✓			✓
BB-RPS-v2-WR2-UK	Wall mount Power supply, 12V/1A, UK plug					✓	✓	✓
BB-RPS-v2-WR2-US	Wall mount Power supply, 12V/1A, US plug							✓
ANT-LTE5G-025	Antenna 5G/LTE, Terminal			✓2 pcs	✓2 pcs	✓2 pcs	✓2 pcs	✓
OPT1-ANT-WFT-06	Antenna Wi-Fi, Terminal			ICR-2834WA01(-S1)	ICR-2834WPA01	ICR-2834WA02	ICR-2834WPA02	✓

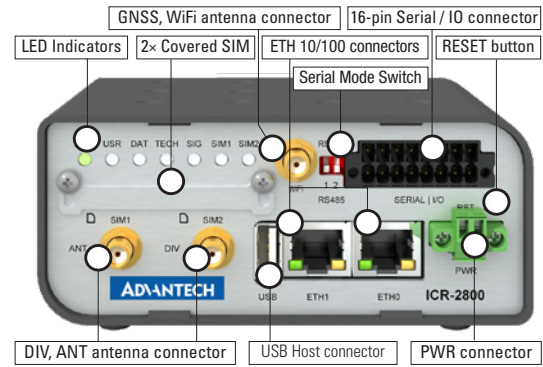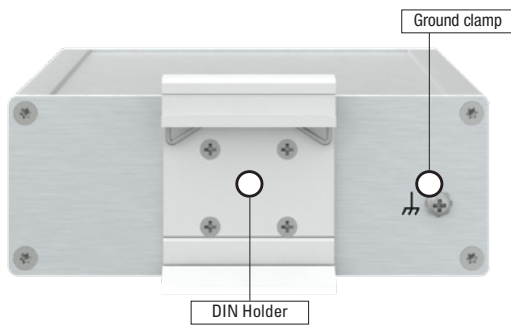For more accessories (Antennas, Power Supplies) visit www.advantech.com
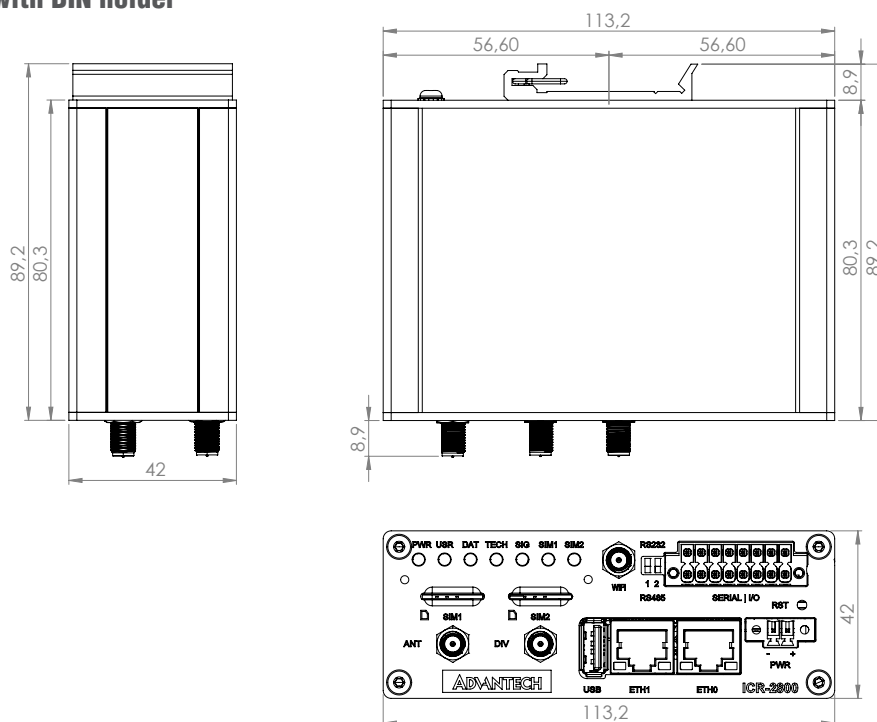
Views

FRONT VIEWS
METAL VERSION

- LED Indicators
- 2× Covered SIM
- GNSS, WiFi antenna connector
- ETH 10/100 connectors
- Serial Mode Switch
- 16-pin Serial / IO connector
- RESET button
- DIV, ANT antenna connector
- USB Host connector
- PWR connector

PLASTIC VERSION

- LED Indicators
- 2× Covered SIM
- GNSS, WiFi antenna connector
- ETH 10/100 connectors
- Serial Mode Switch
- 16-pin Serial / IO connector
- RESET button
- DIV, ANT antenna connector
- USB Host connector
- PWR connector

REAR VIEWS

- Ground clamp
- DIN Holder

- DIN Holder

Dimensions - Technical Drawing

Metal version with DIN holder

Plastic version with DIN holder