ICR-2734 Libratum
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
- Optional WiFi 802.11n
- 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)

Introduction

Ruggedized for industrial use with the most popular interfaces that include 2× Ethernet 10/100 ports with two independent LANs/IP addresses, 1× USB 2.0 host port, and 2× plate-covered SIM card holders for automatic failover to an alternate service provider. 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, verifying router integrity to provide a trusted solution as a response to increasing cybersecurity demands. 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 the well-known Linux-based Advantech´s operating system, ICR-OS's existing Router App library with apps already developed to enhance specific router functionalities, including industrial protocol conversions, dynamic protocols, and support of IoT platforms such as MS Azure, Cumulocity, and others.

Popular use cases in industrial and non-industrial environments include camera connection (streets/highways/parking etc.), various industrial automation and industry 4.0 applications, 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 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.

Order Codes

Model no. - Order Codes	REGION	2× Ethernet 10/100 Mbps	2× SIM	1× DIV 1× ANT	WiFi	1× USB Host 2.0	Metal Case	Plastic Case	Accessories	S1 Router
ICR-2734	EMEA*	✓	✓	✓		✓	✓			
ICR-2734P	EMEA*	✓	✓	✓		✓		✓		
ICR-2734A01	EMEA*	✓	✓	✓		✓	✓		✓ EU Power Supply	
ICR-2734PA01	EMEA*	✓	✓	✓		✓		✓	✓ EU Power Supply	
ICR-2734A02	EMEA*	✓	✓	✓		✓	✓		✓ UK Power Supply	
ICR-2734PA02	EMEA*	✓	✓	✓		✓		✓	✓ UK Power Supply	
ICR-2734W	EMEA*	✓	✓	✓	✓	✓	✓			
ICR-2734WP	EMEA*	✓	✓	✓	✓	✓		✓		
ICR-2734WA01	EMEA*	✓	✓	✓	✓	✓	✓		✓ EU Power Supply	
ICR-2734WPA01	EMEA*	✓	✓	✓	✓	✓		✓	✓ EU Power Supply	
ICR-2734WA02	EMEA*	✓	✓	✓	✓	✓	✓		✓ UK Power Supply	
ICR-2734WPA02	EMEA*	✓	✓	✓	✓	✓		✓	✓ UK Power Supply	
ICR-2734-S1	EMEA*	✓	✓	✓		✓	✓			✓
ICR-2734A01-S1	EMEA*	✓	✓	✓		✓	✓		✓ EU Power Supply	✓
ICR-2734WA01-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

All product specifications are subject to change without notice.

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
Supercap*	Last-gasp Supercapacitor
Interfaces	
Ethernet	2× Ethernet, RJ45, 10/100 Mbps, Isolation 1.5 kV
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 2.3 W / Average 4 W / Peak 7.7 W
Sleep Mode	Yes, 3 mW
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %
IP Cover	IP30

Physical Characteristics

Dimensions (without DIN holder)	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: 260 g Plastic Case: 200 g

WiFi - ICR-2734Wxxxx

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 301 893, EN 300 328
EMC	EN 301 489-1, EN 301 489-17, 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
Safety	IEC 62368-1, IEEE 802.3
Cybersecurity	EN 18031-1
Transportation	E-mark (not applicable to WiFi option ICR-2734Wxxx)
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-2734A01-S1, ICR-2734WA01-S1)

Accessories

Part Number	Description	Included in the package						Sold Separately
		ICR-2734(-S1) ICR-2734W	ICR-2734P ICR-2734WP	ICR-2734A01(-S1) ICR-2734WA01(-S1)	ICR-2734PA01 ICR-2734WPA01	ICR-2734A02 ICR-2734WA02	ICR-2734PA02 ICR-2734WPA02	
BB-CON-WR2	2-pin PWR connector	✓	✓	✓ (Mounted on PSU)	✓ (Mounted on PSU)	✓ (Mounted on PSU)	✓ (Mounted on PSU)	✓
BB-SBD40	DIN clip	✓		✓		✓		✓
BB-SBD40P	DIN clip		✓		✓		✓	✓
BB-KD-ETH	Ethernet cross cable			✓	✓	✓	✓	✓
OPT1-RPS-1212-EU	Power Supply, 12V/1A, Open wires, EU plug			✓ (Mounted PWR connector)	✓ (Mounted PWR connector)			✓
OPT1-RPS-1212-UK	Power Supply, 12V/1A, Open wires, UK plug					✓ (Mounted PWR connector)	✓ (Mounted PWR connector)	✓
OPT1-ANT-WFT-06	Antenna Wi-Fi, Terminal			ICR-2734WA01(-S1)	ICR-2734WPA01	ICR-2734WA02	ICR-2734WPA02	✓
ANT-LTE5G-025	Antenna 5G/LTE, Terminal			✓ 2 pcs	✓ 2 pcs	✓ 2 pcs	✓ 2 pcs	✓

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

Views

FRONT VIEWS
METAL VERSION

PLASTIC VERSION

| LED Indicators | 2× Covered SIM | WiFi Antenna connector | ETH 10/100 connectors | RESET button |

DIV, ANT antenna connector | USB Host connector | PWR connector

| LED Indicators | 2× Covered SIM | WiFi Antenna connector | ETH 10/100 connectors | RESET button |

DIV, ANT antenna connector | USB Host connector | PWR connector

REAR VIEWS

Ground clamp
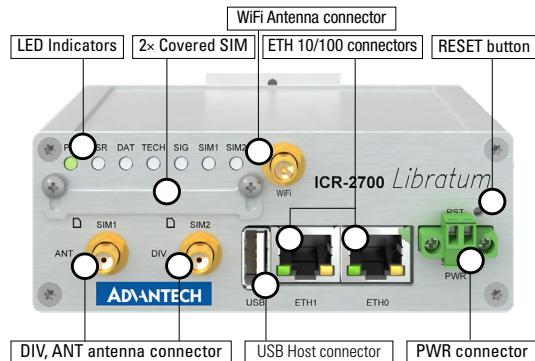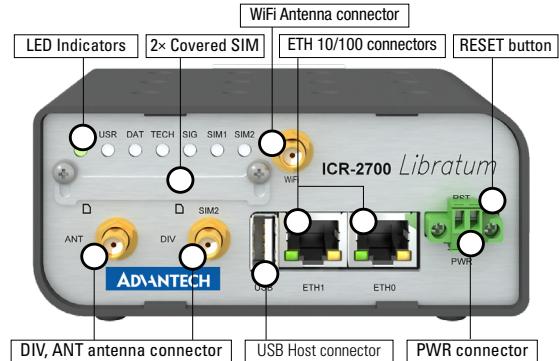
DIN Holder
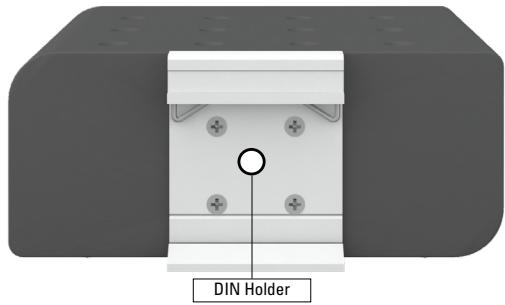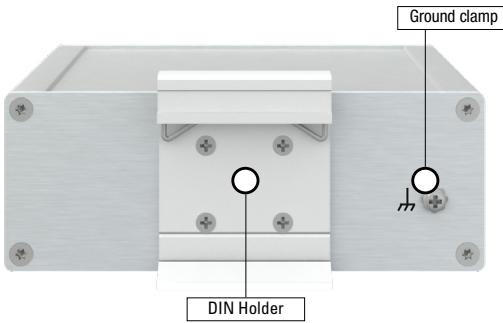
DIN Holder

## Dimensions - Technical Drawing

Metal version with DIN holder

Unit: mm
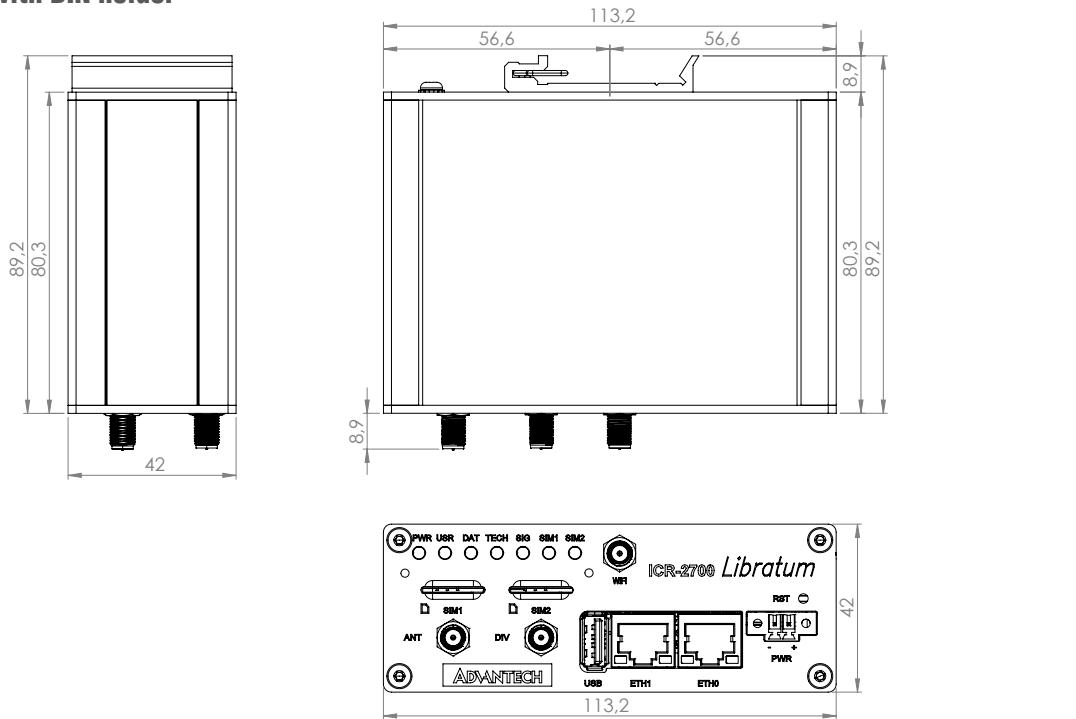
Plastic version with DIN holder