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

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

Introduction

ICR-2734 Libratum is fully compatible enhanced successor of the Advantech´s balanced-features cellular router LR77 v2 Libratum introduced in 2014. Ruggedized for industrial use and compatible in form and fit with LR77 v2 Libratum (configuration, dimensions, interfaces, accessories) ICR-2734 Libratum offers even more features and improvements such as USB port, more detailed LED indication and mainly more powerful CPU and amply of data storage to ensure long lifecycle (software updates) with broad software customization possibilities for user. On project-based agreement, we can optionally add a TPM 2.0 chip (Trusted Platform Module) onboard verifying router integrity to provide trusted solution as a response to increasing cybersecurity demands in many industrial and public sectors.

The cellular router is equipped with 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.

The router is powered by well-known Linux based Advantech´s operating system ICR-OS. A secure web interface allows users to configure and manage ICR-2734 from remote locations. ICR-2734 supports real-time data encryption and establishing of VPN tunnels using IPsec, WireGuard, OpenVPN, GRE, etc. It supports standard and advanced networking features like DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, control by SMS, and numerous other functions.

The 1.3 GB eMMC available storage for customer with an open Linux platform and the wide possibility of programming customer SW applications in Python and C/C++ ICR-2734 offers a real open development platform for Industrial IoT applications. Advantech existing Router App library (User modules) 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.

ICR-2734 is easy to install individually and in mass deployments scenarios too by using a full-featured configuration and monitoring software tool WebAccess/DMP. Safe remote VPN access to customer devices and PC´s connected to routers through Internet can be administrated by additional software WebAccess/VPN. Popular use cases in industrial and non-industrial environment includes 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. ICR-2734 Libratum is to be designed as truly universal player for a large scope of applications to serve for connection into your devices and systems whenever cellular connection available.

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

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
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

* - 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

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)

* Project-based customization

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, *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 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
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

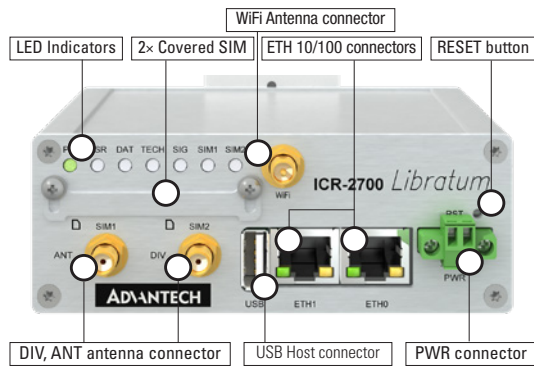*Functionality is available with installed Router App

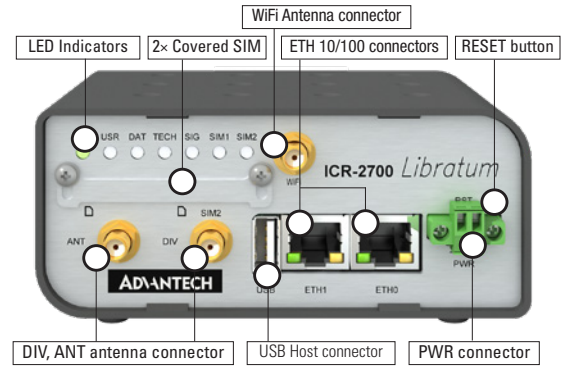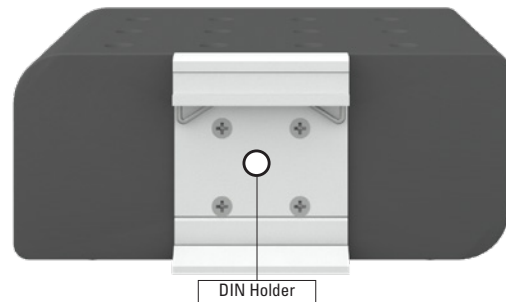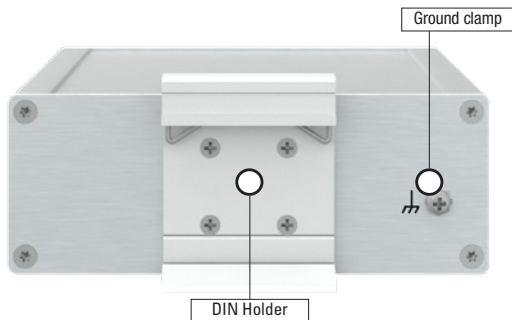| Standards & Regulations	
Radio	EN 301 511, EN 301 908-1, EN 301 908-2, EN 301 908-13, EN 301 893, EN 300 328
EMC	EN 301 489-1, EN 301 489-17, EN 301 489-52, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11, IEC 61000-6-2, IEC 61000-6-3
Safety	IEC 62368-1, IEEE 802.3
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

Views

FRONT VIEWS

METAL VERSION

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

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

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

REAR VIEWS

Ground clamp

DIN Holder

DIN Holder

Accessories

Part Number	Description	Included in the package						Sold Separately
		ICR-2734 ICR-2734W	ICR-2734P ICR-2734WP	ICR-2734A01 ICR-2734WA01	ICR-2734PA01 ICR-2734WPA01	ICR-2734A02 ICR-2734WA02	ICR-2734PA02 ICR-2734WPA02	
BB-CON-WR2	2-pin PWR 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-2734WA01	ICR-2734WPA01	ICR-2734WA02	ICR-2734WPA02	✓

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

Dimensions - Technical Drawing

Unit: mm

Metal version with DIN holder

Plastic version with DIN holder