Cellular Routers & Gateways
for Industrial IoT & Enhanced Networking

- 5G / 4G LTE connectivity
- Key features overview
- Networking capabilities
- Management software
- Case studies

Newly 2024 updated

ADVANTECH
Enabling an Intelligent Planet

www.advantech.com

Cellular Routers & Gateways

5G / 4G LTE / 3G HSPA+ / UMTS / EDGE / GPRS

Flexible, effective and secure networking

Advantech routers enhanced functionality incorporates self-diagnostics and an HW watchdog to ensure secure and consistent operation and ultra-reliable wireless connections. With multi-SIM card holders and automatic failover routers provide wireless redundancy for critical applications along with SMS/email messaging and control capability for remote alerts and reset. They support the most commonly used LAN/WAN network protocols. The goal is flexibility, effectiveness, and security in a large variety of applications.

Advantech routers are based ICR-OS operating system (Linux Kernel) that combines the simplicity of a web-based configuration with the flexibility of an open platform that allows the development of custom configuration scripts and RouterApps (software User Modules). ICR-OS serves also as a gate for router integration into additional monitoring and security software platforms – WebAccess/DMP, WebAcces/VPN. Those platforms enhance router security of communication, remote management, and hardware/software monitoring while increasing significantly user comfort and stability in operated networks.

Networking

- DHCP: automatic IP addressing in LAN network
- NAT/PAT: IP address and port translation
- VRRP: virtual backup router function
- DynDNS client: access to the dynamic IP address
- VLAN 802.1Q: virtual LAN
- QoS: quality of service
- PPPoE Bridge: PPP over Ethernet Bridge mode
- NTP client, NTP server: time synchronization
- Dynamic routing protocols: BGP, OSPF, RIP, IS-IS, NHRP
- MODBUS RTU/TCP gateway and mapping: convert data from RTU to TCP/IP format
- Backup routes: back up of the primary connection with alternative connections to the Internet (mobile network) or enabling Multiple WANs mode
- Dual stack IPv4 and IPv6 support
- Load balancing: the weight for every router interface can be set

Multiple SIM for carrier failover

- Back-up by switching between up to 2 independent mobile carriers according to router model
- Switch when data limit is exceeded, when roaming is detected or by any other programmable option
- Embedded SIM optional

VPN Tunneling & Security

- IPSec, OpenVPN, PPTP, L2TP, EasyVPN, GRE, WireGuard
- Authentication by certificates, shared keys, name/password, RADIUS, 2FA
- HTTPS, SSH, SFTP, DMZ
- Firewall: filtering of addresses, ports, protocols
- TPM 2.0 secure chip for selected models
- PCI DSS compliance

Remote Router Supervision & Mass Network Management

- HTTP/HTTPS, Telnet/SSH for local and remote configuration and firmware updates via WAN, locale configuration and firmware updates via LAN
- Schedule automatic configuration and firmware updates from your FTP/HTTP servers, Backup & Restore configuration
- Up to 4 independent configuration profiles can be stored and remotely switched using scripts, SMS messages, I/O, etc.
- Additional management, monitoring and security software platforms WebAccess/DMP2, WebAccess/VPN and R-SeeNet

Feature and platforms overview

Hardware Platform v4		5G & LTE Advanced High Speed Routers	Quad-Core CPU 1.2 GHz RAM 1024 MB 5 × 10/100/1000 Ethernet, PoE, SFP, RS232, RS485, CAN, GPS, I/O, WIFI	supported - 838 MB space
Hardware Platform v4i		5G & LTE Advanced High Speed Routers	Quad-Core CPU 1.6 GHz RAM 1024 MB 2 × 10/100/1000 Ethernet, RS232, RS485, GNSS, I/O, WIFI	supported - 3.35 GB space
Hardware Platform v3		4G Powerful Routers	CPU 1 GHz RAM 512 MB 2 - 5 × 10/100 Ethernet, PoE, RS232, RS485, GPS, I/O, WIFI, Bluetooth	supported - 128 MB or 838 MB space according to model specification
Hardware Platform v2i		4G Entry Level Industrial Routers	CPU 600 MHz RAM 128 MB 1 - 4 × 10/100 Ethernet, RS232, RS485, I/O	supported - 12 MB space or 838 MB space according to model specification
Hardware Platform v1		4G Connectivity Gateways	2 × 10/100/1000 Ethernet, RS232, RS485, I/O	supported - 80 MB space

WebAccess/DMP **WebAccess/VPN**

Diagnostics

- Status – Signal Strength, Data Usage, Detailed Long Term Statistics
- One CLICK report – Current Configuration,Factory Identification, Routing Table
- Log – System Log, Reboot Log, Kernel Log
- SNMP: router diagnostics, communication with I/O
- LED indication: signal strength, connection status, ports, customer's application LED

Event Engine and SMS & E-mail Info

- StartUp script & Up/Down script: possibility to customize rules based on digital inputs status, network parameters, data usage, timer, power, device temperature etc.
- Information about status, connection or disconnection and many other parameters
- SMS control: on/off connection, switching SIM, router profile, I/O
- SMS communication: AT commands (RS232 and TCP/IP), I/O or HTTP
- SNMP traps

Application Development

Based on Linux Kernel Advantech cellular routers & gateways combines the simplicity of a web-based configuration with the flexibility of an open platform that allows the development of custom configuration scripts and RouterApps (software User Modules).

- Open Linux, BASH
- Python, C/C++
- Node-RED
- Docker Containers

ICR-4400

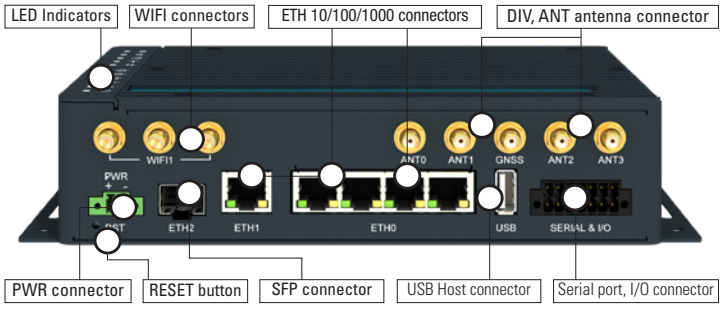
5G & LTE Advanced High Speed Routers

- 5G NR and 4G/LTE-A Cat.12 options
- Quad-core CPU with 1 GB RAM
- 2× SIM, Embedded SIM Ready, TPM 2.0
- 5× Gigabit Ethernet (Optional 4 × PoE + PSE)
- SFP cage for SFP modules up to 10 Gbps
- GNSS Receiver, Micro SD Card
- RS232, RS485, CAN BUS, 2× DI, 2× DO, USB Host
- Optional 2×2 WiFi 802.11ac
- Robust metal cover with wall and DIN mount options
- Wide operational temperature range

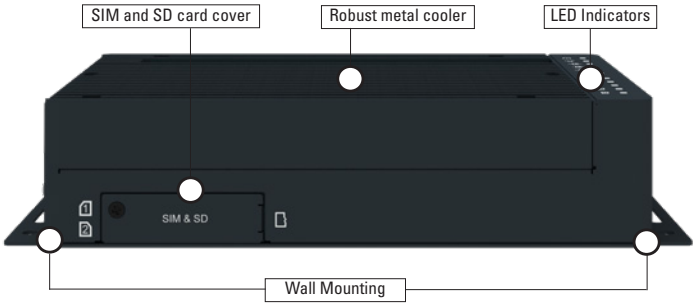
Introducing the **ICR-4400** - powerful industrial router and IoT gateway seamlessly merging advanced router features with IoT gateways in a single robust design. Tailored for edge intelligence, it offers versatile connectivity options, including Ethernet, USB, microSD, serial lines, CAN Bus, SFP cage, I/Os, GNSS, and optional WIFI. Ideal for high-speed, low-latency connectivity in global IoT, industrial, and security applications
Powered by ICR-OS Linux, the router ensures a wide array of standard and enhanced networking features.
With a secure web interface and remote configuration, multiple profiles, automatic firmware updates and customizable software environments make the **ICR-4400** dynamic edge computing gateway. Explore flexibility with standard web config, Linux scripts, AT commands, and Router Apps (User Modules) available for download directly in the router web interface.

Designed for rugged environments, the **ICR-4400** operates in temperatures from -40 to +75 °C and accepting a voltage range of 9 V DC to 48 V DC. Cellular router models feature dual SIM readers and support an optional Embedded SIM in a form of MFF2 chip (MFF2 chip needs to be delivered by customer) or plastic 2FF miniSIM. Encased in a durable metal housing it offers easy management through WebAccess/DMP simplifying mass deployments.
The **ICR-4400** series comprises of 5G models (**ICR-4453, ICR-4461**) and LTE Advanced Cat.12 model (**ICR-4434**). Available also as the non-cellular model **ICR-4401**. Technology and components used makes the platform perfect for secure and scalable deployments with a wide and diverse hardware connectivity needs from traffic and security cameras to LAN networks, industrial systems, and self-service terminals.

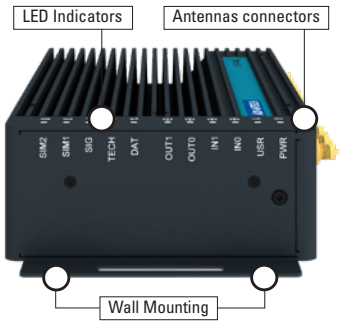
FRONT VIEW



REAR VIEW



LEFT SIDE VIEW



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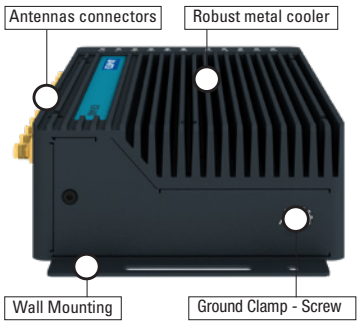


ICR-4100/4200 NEW

5G & LTE Advanced High Speed Routers

- 5G NR and 4G/LTE-A Cat.6 options
- Quad-core CPU with 1 GB RAM
- 2 × SIM, eSIM Ready, TPM 2.0
- 2 × Gigabit Ethernet, 1.5 kV isolation
- GNSS Receiver, Micro SD Card
- RS232, RS485, 4 × DI, 2 × DO, USB Host 3
- Robust metal cover with wall and DIN mount options
- Wide operational temperature range
- Optional Tri-Band WIFI 6
- Extra large space for Router Apps and customer data 3.35 GB

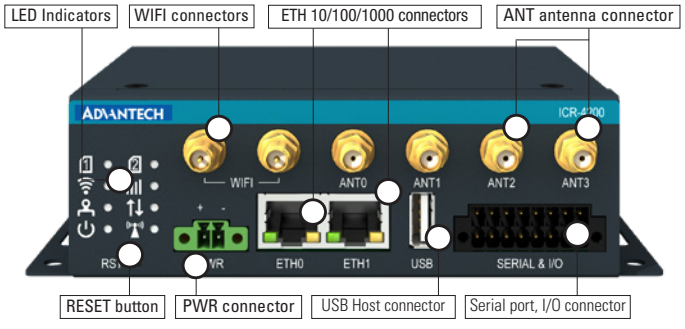
Introducing the **ICR-4100/4200** – the ultimate solution for global industrial applications providing swift data transfer, low latency, and robust network connectivity in 5G or 4G/LTE Advanced Cat.6 networks. Built on a strong hardware platform and 3.35 GB space for applications, the **ICR-4100/4200** represents superior performance and high value for user. Equipped with two Gigabit Ethernet ports, USB 3.0, GNSS receiver, dual SIM readers and added optional flexibility containing dual serial ports, digital inputs/outputs, and WIFI 6 (2×2 MIMO) it offers necessary versatility wide pool of applications. TPM 2.0 and Tamper Button ensuring the integrity and safety of data transmission in critical infrastructure environments.

The **ICR-4100/4200** series prioritizes user-friendly interface enabling remote configuration and management.

With support for multiple profiles, automatic firmware updates, and customizable software options businesses can tailor routers to specific needs seamlessly integrating the device into existing or new systems. Effortless management is further streamlined with WebAccess/DMP, comprehensive tool simplifying network scalability and maintenance of routers.

ICR-4100/4200 router family represents a significant advancement in industrial networking – offering gigabit Ethernet speed, low latency, and high network availability. Combining powerful performance, robust security and easy management is **ICR-4100/4200** router family the perfect solution for demanding industrial applications in verticals like energy, video surveillance, machine building, kiosks/self machines, transportation, smart cities and many more.

FRONT VIEW



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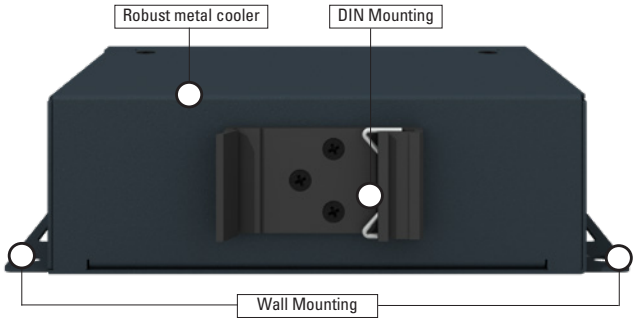
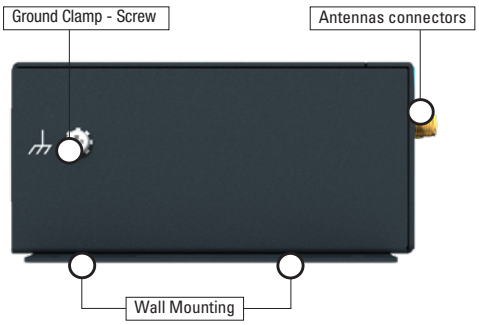


LEFT SIDE VIEW



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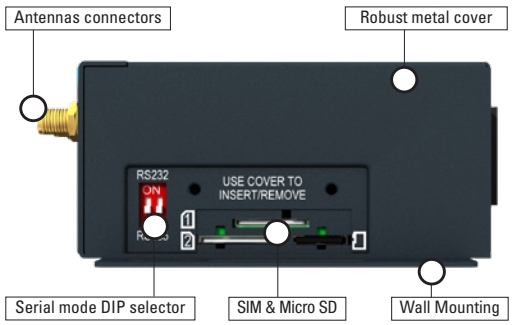


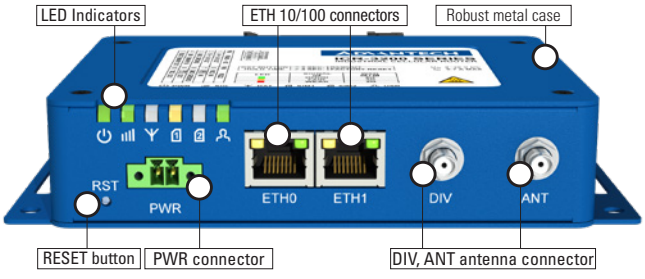
ICR-3200

4G Powerful Routers - ICR-3200 & SmartFlex

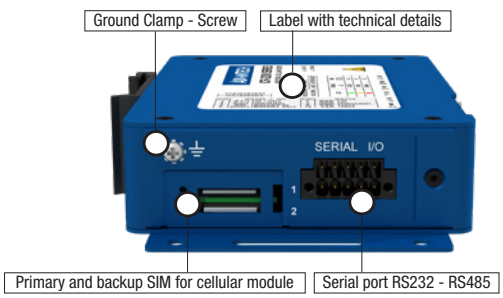
- 4G LTE Cat.4, Cat. M1 VPN Gateway for Industrial IoT applications
- Powerful CPU with 1.3 GB storage to host SW applications
- 2× SIM with cover, Embedded SIM ready
- 2× Ethernet 10/100, 1× RS232, 1× RS485 and I/O
- Optional WIFI 802.11ac using MIMO technology
- Optional Bluetooth v5.1 (class 1)
- Optional GNSS receiver
- Robust metal cover with DIN and Wall mount options
- Operational temperature range from -40 °C to +75 °C
- Backup real time clock, sleep mode & Power ignition

Introducing the **ICR-3200** – perfect industrial solution for connecting IP or serial devices to 4G/LTE cellular networks. Ideal for diverse applications like kiosks, industrial PCs, HMIs, CCTV monitoring and more.
With LTE Cat.4 speeds up to 150 Mbps download and 50 Mbps upload it meets high-data demand needs of the current systems. Available also as LTE Cat M1/NB IoT version specifically to IoT and M2M applications. **ICR-3200** providing two Ethernet 10/100 ports, RS232/RS485 serial ports, digital I/O connectivity, backup real-time clock, sleep mode support and dual SIM. Optionally GNSS, WIFI, and Bluetooth v5.1 (class 1 configurable via Node-RED). The router supports VPN tunnel set up using various protocols including IPsec, OpenVPN, WireGuard etc. to ensure safe communications.
The **ICR-3200** places intelligence at the network edge with an extremely powerful Cortex A8 CPU and 1.3 GB for customer data and applications. **ICR-3200** supports WebAccess/DMP configuration and monitoring tool and WebAccess/VPN.

ICR-3200
FRONT VIEW



LEFT VIEW



SmartFlex

4G Powerful Routers

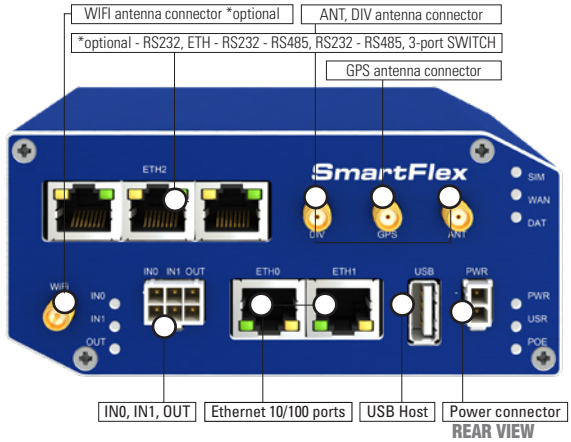
- Powerful CPU to support high demand customer applications
- Extended operational temperature range from -40 °C to +75 °C
- 10-60 V DC, reverse polarity voltage protection
- Flexible port options for SmartFlex router family
- Twin cellular module capability for SmartMotion router family
- GPS and GLONASS support
- MicroSD card holder
- Low power mode for solar and battery power applications
- PoE PD, PoE PSE, In/Out, USB Host
- Advanced security features (VPN, firewall etc.)

Introducing the **SmartFlex SR30x/31x** – industrial versatile routers and IoT gateways for connecting IP or serial devices via cellular network. Operating in 4G/LTE Cat. 4 networks routers provide secure connectivity for devices and LANs.A secure web interface allows users to configure and manage routers from remote locations.

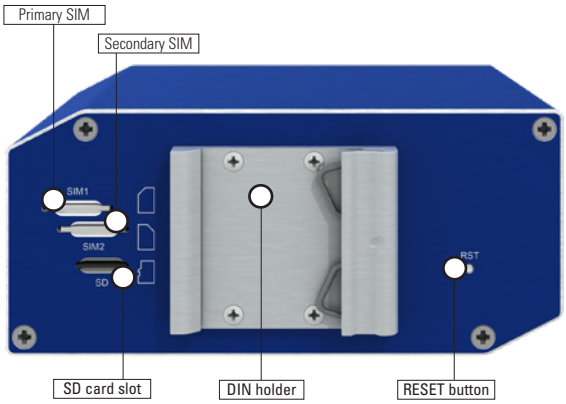
The **SmartFlex** standard hardware configuration includes 2× Ethernet 10/100 ports with 2 independent LANs/IP addresses, 1× USB 2.0 host port, 1× microSD card holder, 2× SIM cardholders for automatic failover to an alternate service provider/providers, 2× binary inputs (I/O), 1× binary output (I/O) and onboard GPS. Optionally available industrial grade WIFI or POE PSE/PD support on Ethernet ports.

For **SmartFlex** there are available optional hardware boards that extend port flexibility for additional Ethernet, RS232 and RS485 interfaces – take a look at the website for current options. The series is powered by Linux based ICR-OS routers and is supported by WebAccess/DMP and WebAcces/VPN.

SMARTFLEX
FRONT VIEW



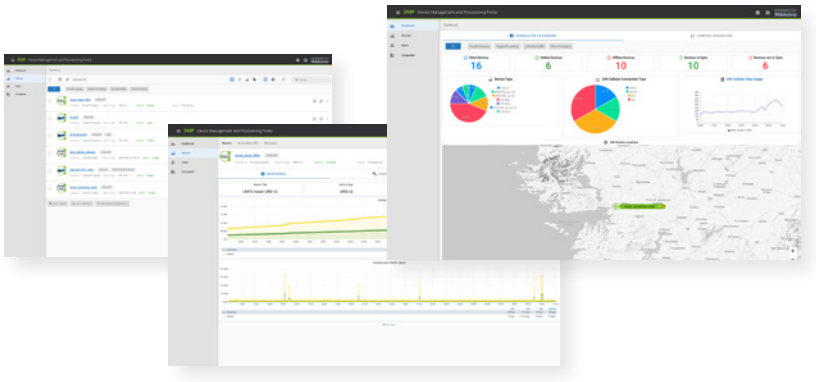
REAR VIEW



WebAccess/DMP

Remote device provisioning, monitoring and management platform.

- Performance at Scale
- Extensible Architecture
- AssureAuth PKI
- Multi Tenancy
- AssureSync Configuration Management
- Secure Device Health Monitoring
- Built for Interoperability
- Fully API Enabled



WebAccess/DMP helps you manage and configure large numbers of routers remotely, without needing to touch them physically. It creates a virtual copy of each router, lets you design custom dashboards to monitor them, and sends alerts when something goes wrong. You can also group routers under different companies and set fine-grained permissions for users. Everything is secure with two-factor authentication and PKI encryption. Think of **WebAccess/DMP** as a central command center for your router fleet!

Zero Touch Deployment
Facilitating remote configuration deployment without the need for physical interaction. Users can pre-configure settings, waiting for the router to come online. Upon connectivity, WADMP automatically deploys the specified configuration and ensures its maintenance.

Digital Twin Model
Every device has its virtual counterpart within the application. This enables continuous monitoring and management of real and virtual devices configured identically.

Customizable and Versatile Dashboard
Users have the freedom to design dashboards to align with their specific requirements. The dashboard's information scope and visual appearance are highly flexible, offering nearly limitless combinations.

Multi-Dashboard
Users can create multiple dashboards, each with its unique design. The flexibility extends to copying, editing, and arranging these dashboards as per the user's preference.

Auditing
All user and device activities are meticulously recorded and easily accessible for review. These include various categories of actions such as Alerts, API usage, Bootstrap, Billing, Configuration Profiles, Company operations, Device management, Fields, Management Server activities, User actions, and Views.

Alerts
Users can employ any available monitoring or configuration parameter as a trigger for alerts. These alerts can be set up for individual devices or all devices associated with a company. Parameters like the frequency of rule checks, critical repetition, device count, and cooldown periods can be customized. The alerts can be directed through emails or multiple endpoints.

Multi-Tenancy
Hierarchical relationships allow parent companies to have child companies under their umbrella. This structure can extend to multiple levels without limitations.

Fine-Grained Permission Control
Users can belong to none, one, or multiple companies, each with distinct permissions. These permissions vary depending on whether the user is part of a child or parent company.

Configuration Profile Management
Creation and assignment of configuration profiles to individual or multiple devices are simplified. These profiles encompass details like Firmware (FW) versions, FW configurations, RouterApp lists, and associated configurations. Compare configuration profiles to identify differences.

Monitoring Customization
Users can also selectively choose parameters for monitoring based on their preferences, helping to save data by only collecting data for parameters that are of interest to the user.

Geographical Mapping
For routers equipped with GPS modules, the application offers the capability to display their geographical positions on a map within the dashboard. User can easily identify a location of a router in case of need.

Ping Tools
Monitor the health of your critical systems with unlimited ping capabilities, displaying real-time status and latency on a clear, intuitive dashboard. Catch network issues before they impact you, ensuring seamless uptime and optimal performance.

PKI for Mutual Authorization
Our application employs PKI (Public Key Infrastructure) for mutual authorization between routers and the application. This robust security measure ensures the integrity and security of communication between devices and the system.

Two-Factor Authentication (2FA)
For added security, users can implement Two-Factor Authentication (2FA) to enhance the authentication process and protect user accounts.

Efficient Data Handling
The application facilitates the export of router parameter tables to CSV files, enabling adjustments and subsequent importation back into the system.

ICR-2800
ICR-2700 Libratum

4G Entry Level Industrial Routers

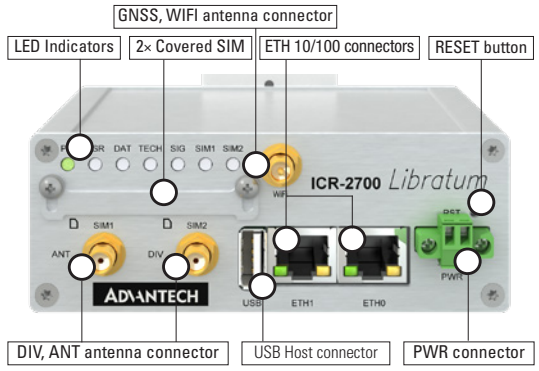
- LTE Cat.4 with 3G/2G fallback
- 1.3 GB eMMC storage to host customer SW applications
- 2× SIM with cover, Embedded SIM ready, GNSS (ICR-2800 only)
- Optional 2× Serial RS232/RS485 (ICR-2800 only)
- 2× Ethernet 10/100, USB Host 2.0
- Optional WIFI 802.11n
- Optional Metal or Plastic case
- DIN Rail mounting
- Wide operational temperature range
- Backup real time clock, Sleep mode

Introducing the **ICR-2700 Libratum** and **ICR-2800** – advanced successors to Advantech's LR77v2 industrial cellular routers. Building on success of their predecessors they are 1:1 compatible in a housing shape simplifying transition of already deployed older routers.

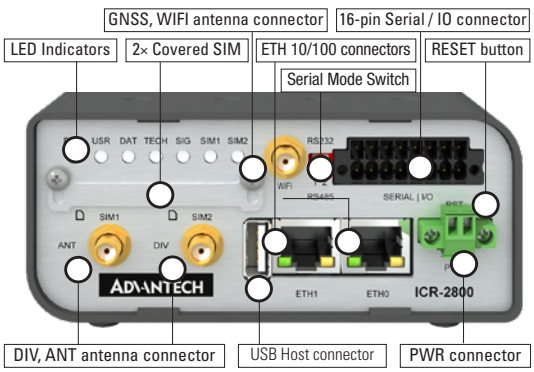
4G/LTE Cat.4 routers bring enhanced features and stronger CPU. Also 1.3 GB memory for customer applications and data that turns this platform capabilities into a more complete IoT industrial gateway operating at the network edge. For locale connection customer can use Ethernet 10/100 ports, USB Host 2.0 and WIFI, with **ICR-2800** also configurable serial interfaces RS232/RS485 and digital I/O´s.

Running on Linux based ICR-OS these routers offer a secure web interface for remote configuration and management. Real-time data encryption and VPN tunneling using IPsec, WireGuard, OpenVPN and other technologies. Installation is simple whether in individual or in mass deployments thanks to WebAccess/DMP. The router supports also WebAccess/VPN platform.

ICR-2700
FRONT VIEW, METAL VERSION



ICR-2800
FRONT VIEW, PLASTIC VERSION



ICR-2600
ICR-2500

4G Entry Level Industrial Routers

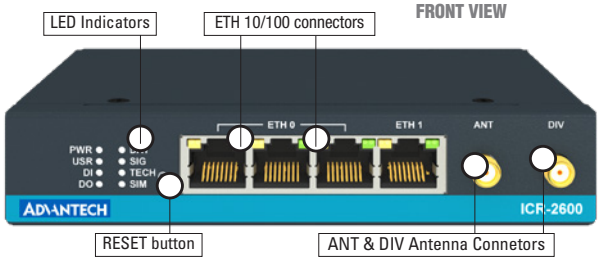
- LTE Cat.4 with 3G/2G fallback
- 2× SIM for redundancy
- 4× Ethernet 10/100 Mbps (3+1 RJ45)
- Optional 1× RS232, 1× RS485
- 1× DI, 1× DO
- Wide operational temperature range
- Wall and DIN mount options
- Linux based OS & SW customization
- Optional WIFI 802.11n

Introducing the **ICR-2600** and **ICR-2500** – entry level but very complete industrial cellular 4G/LTE routers with 4× Ethernet 10/100 ports for connection and 2 SIM card holders to provide backup of the cellular connection. They are designed for wireless cellular communication in 4G/LTE Cat. 4 networks. There is also possible to take advantage of digital I/O, WIFI ac,a,b,g,n and in case of **ICR-2600** one RS232 and one RS485 serial port.

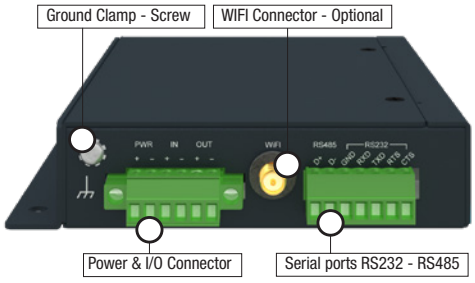
Routers prioritize secure communication and supporting VPN in common standards like IPsec, OpenVPN etc. Diagnostic functions include automatic monitoring, restart on connection loss and hardware watchdog. Operated on Linux based ICR-OS the routers enable custom programming in C/C++ or Python for skilled developers/operators.

There is also possible to benefit from the existing RouterApp library with ready-to-use software developed to enhance specific router functionalities including industrial protocol conversions. Routers are supported by WebAccess/DMP and WebAccess/VPN.

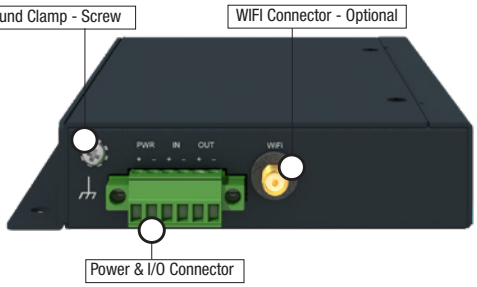
ICR-2600/2500
FRONT VIEW



ICR-2600
LEFT VIEW



ICR-2500
LEFT VIEW



ICR-2400
ICR-2000

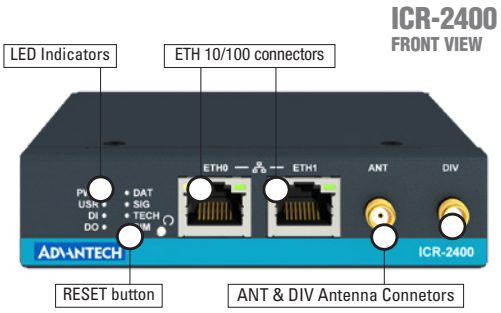
4G Entry Level Industrial Routers

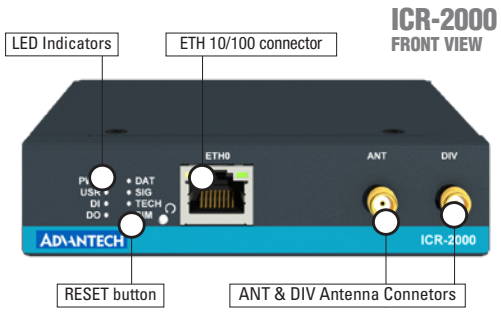
- LTE Cat.4 with 3G/2G fallback
- LTE 450 options
- up to 2× SIM for redundancy
- up to 2× Ethernet 10/100 Mbps
- Optional 1× RS232, 1× RS485
- 1× DI, 1× DO
- Wide operational temperature range
- Wall and DIN mount options
- Linux based OS & SW customization
- Optional WIFI 802.11n

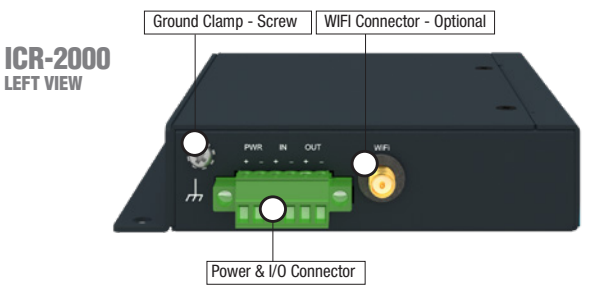
Introducing the **ICR-2400** and **ICR-2000** – entry level but very complete industrial cellular 4G/LTE routers with 2× Ethernet 10/100 ports and 2 SIM card holders (**ICR-2400**) and 1× Ethernet 10/100 and 1× SIM card holder (**ICR-2000**). Based on the model there are supported following 4G/LTE technologies: Cat.4, Cat-M/NB-IoT and 450 MHz. Routers support digital I/O, WIFI ac,a,b,g,n and in case of **ICR-2400** one RS232 and one RS485 serial port too.

Routers prioritize secure communication and supporting VPN in common standards like IPsec, OpenVPN etc. Diagnostic functions include automatic monitoring, restart on connection loss and hardware watchdog. Operated on Linux based ICR-OS the routers enable custom programming in C/C++ or Python for skilled developers/operators.

There is also possible to benefit from the existing RouterApp library with ready-to-use software developed to enhance specific router functionalities including industrial protocol conversions. Routers are supported by WebAccess/DMP and WebAccess/VPN.







ICR-1600 NEW

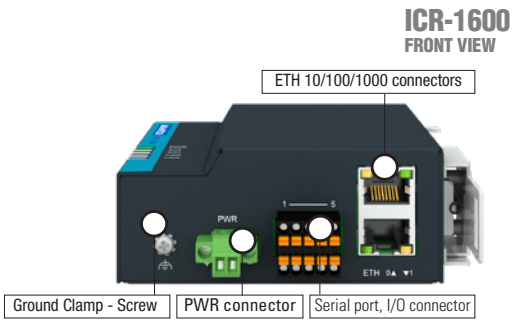
4G Connectivity Gateway

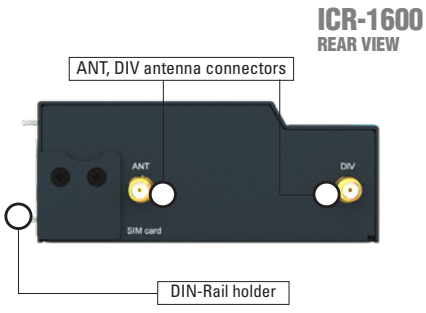
- LTE Cat.4 with 3G/2G fallback
- 2× SIM for redundancy
- 2× Ethernet 10/100/1000 Mbps
- Wide operational temperature range
- Wall and DIN mount options
- Linux based OS & SW customization
- 1× RS232 + 1× RS485 + 1× DI +1× DO
- Compact and ruggedized design

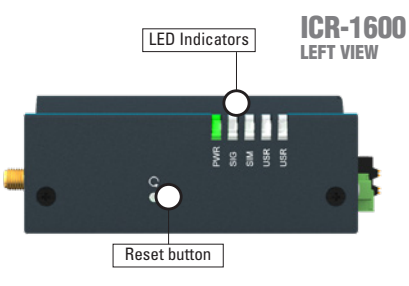
Introducing the **ICR-1642** – router designed for wireless communication to enable connection of IP devices and serial buses to a cellular network. The router serve well for industrial M2M and IoT applications including kiosks, industrial PCs, HMIs, traffic controllers, meters, UPS systems, and a lot more.

Powered by cellular module working on LTE Cat. 4 technology hosting two Gigabit Ethernet ports, digital I/O (1× DI, 1× DO) plus serial (1× RS232 + 1× RS485) ports. VPN tunneling feature provide various protocols to ensure safe communication. Broad diagnostic options include automatic observing of the wireless and wired connections, automatic restart and hardware watchdog monitoring router status.

The connectivity gateway 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 selected RouterApps (security, protocol conversion) that would extend standard firmware functionalities.







TRANSPORTATION — SYDNEY FERRIES

Region: AUS
Product: ICR-3200
Application: Real-time monitoring of position Sydney Ferries

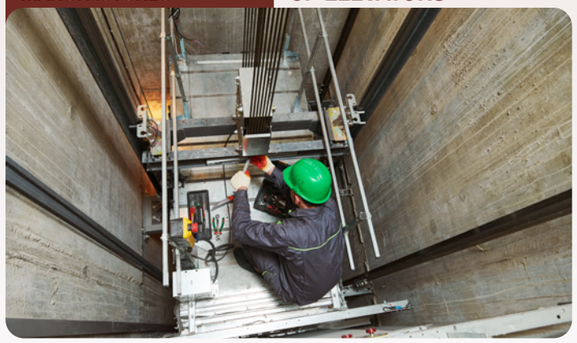
- Multicast support - PIM-SM
- GPS functionality - NMEA reporting
- Functionality IPtables
- VPN Functionality
- **R-*SEE*NET** monitoring SW

ENERGY — POWER DISTRIBUTION MANAGEMENT

Region: EMEA
Product: ICR-3200, SmartFlex, SmartMotion
Application: SCADA connectivity for power distribution company

- Scalable LTE routers in terms of interfaces with the same SW environment
- Centralized management tool **WebAccess/DMP**
- IEC101/104 protocol conversion provided by LTE router
- Compatibility with current SNMP monitoring system Zabbix
- Two IPsec VPN connections to two geographically separated firewalls due to redundancy
- Support SCEP (Simple Certificate Enrollment Protocol) as a key part of robust cyber security

INDUSTRIAL EQUIPMENT MANUFACTURES — MONITORING OF ELEVATORS



Region: NAM
Product: ICR-3211B - 4G LTE Cat. M1, **WebAccess/VPN**
Application: Remote monitoring of lifts using LTE Cat. M1 cellulars routers

- Capability addresses the challenge of getting a reliable cell signal in basements and other in-building locations
- The built-in supercapacitor provides enough power for a "last gasp" message to be sent when the main power is lost
- The ICR-3211B supports the required software development tool Python3 Cloud Monitoring needed for integration with its own web-based applications

E-MOBILITY — ELECTRIC CAR CHARGING STATIONS

Region: EMEA
Product: SmartFlex
Appli cation: Cellular connection for car charging stations

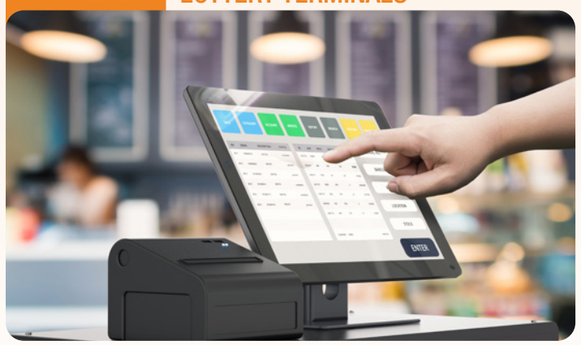
- SD card holder on router device
- Galvanically isolated Ethernet and serial ports RS232/RS485
- Open platform to host third party software
- Wide temperature range
- Over voltage protection

HEALTH CARE — MEDICAL DEVICE CONNECTIVITY

Region: NAM
Product: SmartFlex
Application: Surgical Machine, remote monitoring/control

- Multiple communication interface built-in
- Global cellular connectivity
- Use of global roaming SIM card
- Custom made RouterApp

TRANSACTION MANAGEMENT — 3G/4G CONNECTION FOR LOTTERY TERMINALS



Region: EMEA
Product: ICR-2500, LR77 v2 Libratum
Application: On-line transactional networks for national lotteries

- Dual SIM failover capability
- Support of Multicast
- DMVPN / GRE tunnels support
- Automatic mass update of configuration and firmware update
- Management and monitoring **WebAccess/DMP**

AUTOMATION — MONITORING OF BOILER SYSTEM

Region: ASIA
Product: SmartStart
Application: Monitoring of boiler system in hospitals, hotels and campuses enviroments

- Node-RED support
- Network edge data processing
- Dashboard Display for remote monitoring
- Alarm notification

SECURITY — SECURING OF AIRSPACE

Region: NAM, EMEA
Product: SmartFlex
Application: Secures the World's Airspace with multi-edge computing

- PoE PSE powering of connected camera
- SmartFlex's on-board WIFI provides a local connection for on-site technicians
- Serial interface RS232
- **WebAccess/VPN**

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RouterApp ICR-OS WebAccess/VPN WebAccess/DMP

Cumulocity Connect to Innovate deviceWISE by Telit Azure Node-RED

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