

Industrial Cellular Routers & Gateways

ICR-2701

Industrial Wired Router & IoT Gateway



- 1.3 GB eMMC storage to host customer SW applications
- 2x 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

Introduction



ICR-2701 is enhanced successor of the Advantech's LAN router platform v2 that was originally introduced in 2010. Ruggedized for industrial use keeping the same dimensions, configuration possibilities and full operating system compatibility with Advantech cellular routers including support of software platforms WebAccess/VPN and WebAccess/DMP.

ICR-2701 offers more powerful CPU and ample 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. LAN router ICR-2701 is equipped with 2x Ethernet 10/100 ports with two independent LANs/IP addresses and 1x USB 2.0 host port. 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-2701 from remote locations. ICR-2701 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, 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-2701 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-2701 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.

Using ICR-2701 in industrial and non-industrial environment bringing the key advantage in full compatibility with Advantech cellular routers where complete communication structure is unified and the same procedures and tools can be used for cellular and non-cellular part of the application as well. LAN routers are frequently used as secure LAN to WAN gateways and VPN appliances in a large scope of monitoring and data acquisition systems.



WebAccess/DMP WebAccess/VPN



Order Codes

| Model no. - Order Codes | REGION | 2x Ethernet 10/100 Mbps | WiFi | 1x USB Host 2.0 | Metal Case | Plastic Case | Accessories |
|-------------------------|--------|-------------------------|------|-----------------|------------|--------------|-------------------|
| ICR-2701 | GLOBAL | ✓ | | ✓ | ✓ | | |
| ICR-2701P | GLOBAL | ✓ | | ✓ | | ✓ | |
| ICR-2701A01 | GLOBAL | ✓ | | ✓ | ✓ | | ✓ EU Power Supply |
| ICR-2701PA01 | GLOBAL | ✓ | | ✓ | | ✓ | ✓ EU Power Supply |
| ICR-2701A02 | GLOBAL | ✓ | | ✓ | ✓ | | ✓ UK Power Supply |
| ICR-2701PA02 | GLOBAL | ✓ | | ✓ | | ✓ | ✓ UK Power Supply |
| ICR-2701W | GLOBAL | ✓ | ✓ | ✓ | ✓ | | |
| ICR-2701WP | GLOBAL | ✓ | ✓ | ✓ | | ✓ | |
| ICR-2701WA01 | GLOBAL | ✓ | ✓ | ✓ | ✓ | | ✓ EU Power Supply |
| ICR-2701WPA01 | GLOBAL | ✓ | ✓ | ✓ | | ✓ | ✓ EU Power Supply |
| ICR-2701WA02 | GLOBAL | ✓ | ✓ | ✓ | ✓ | | ✓ UK Power Supply |
| ICR-2701WPA02 | GLOBAL | ✓ | ✓ | ✓ | | ✓ | ✓ UK Power Supply |

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 | 2x Ethernet, RJ45, 10/100 Mbps, Isolation 1.5 kV |
| USB | 1x USB 2.0 Host Connector |
| Reset Button | Reboot / Factory reset |
| LED Indicators | System, ETH |

* Project based customization

| Environmental | |
|---------------------------------|--|
| Power Supply | 9 – 48 V DC (2-pin terminal block) |
| Consumption | Idle 1.8 W / Average 1.9 W / Maximum 5.8 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: 230 g Plastic Case: 170 g |

| WiFi - ICR-2701Wxxxx | |
|----------------------|---|
| Antenna | 1x R-SMA connector |
| Standards | IEEE802.11 ac/a/b/g/n 2.4 GHz / 5 GHz |
| Security | WPA, WPA2, WPA3, 802.1X |
| Modes | Access Point (up to 8 clients), Station, Multirole STA & AP |

| Software | |
|-----------------------------------|---|
| Operating System | ICR-OS (Linux based) |
| SW Customization | Router App (User Modules)* |
| 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 |
| Diagnostic/Log | Status – 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: *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 (User Module)

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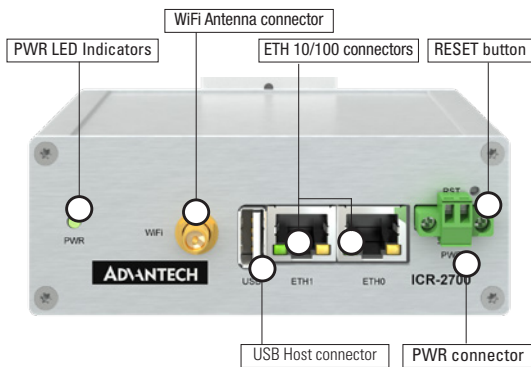
ICR-2701

| Standards & Regulations | |
|-------------------------|--|
| Radio | EN 300 328, EN 301 893 |
| EMC | EN 301 489-1, EN 301 489-17, 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 |
| 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 |

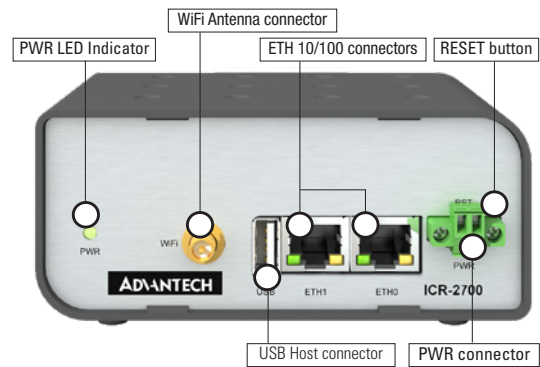
Views

FRONT VIEWS

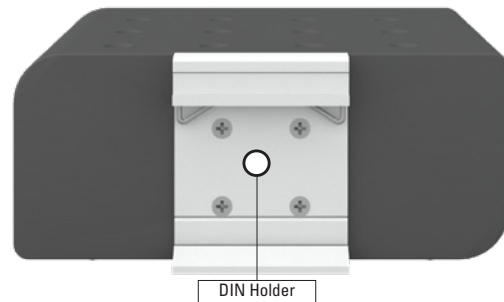
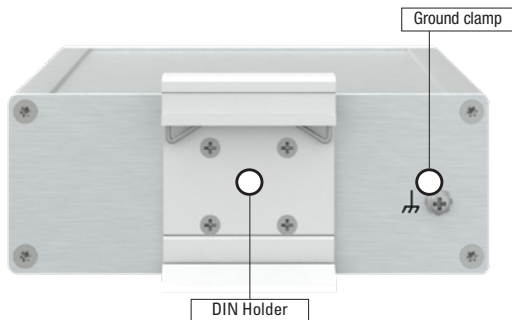
METAL VERSION



PLASTIC VERSION



REAR VIEWS



Accessories

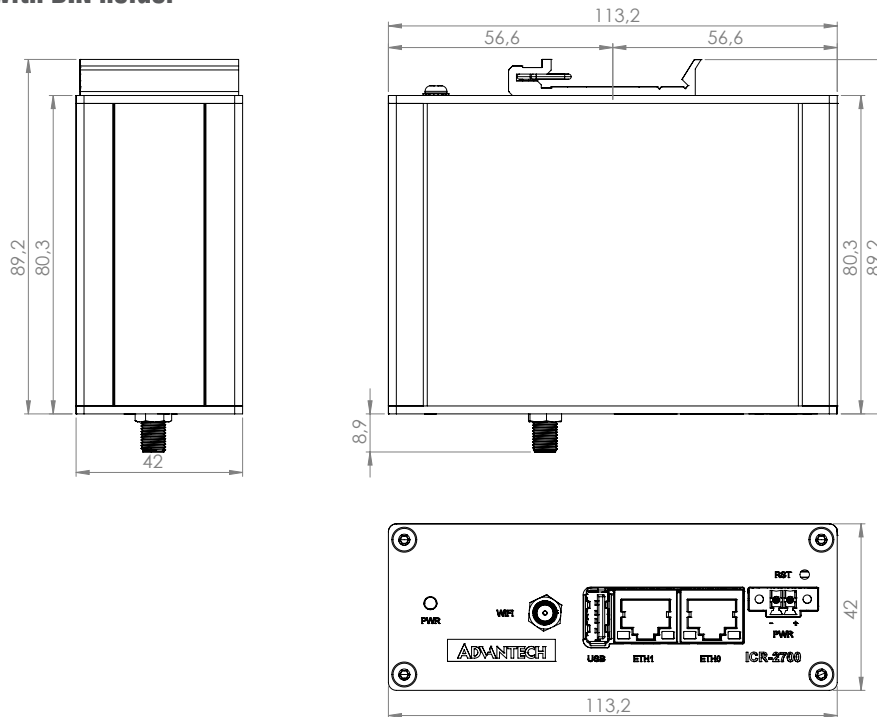
| Part Number | Description | Included in the package | | | | | | Sold Separately |
|--------------------|--|-------------------------|-------------------------|-----------------------------|-------------------------------|-----------------------------|-------------------------------|-----------------|
| | | ICR-2701 ICR-2701W | ICR-2701P ICR-2701WP | ICR-2701A01 ICR-2701WA01 | ICR-2701PA01 ICR-2701WPA01 | ICR-2701A02 ICR-2701WA02 | ICR-2701PA02 ICR-2701WPA02 | |
| 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 | | | | | | | ✓ |
| BB-AW-A2458G-FSRPK | Antenna Wi-Fi, 2.4 & 5.8 GHz | ICR-2701W | ICR-2701WP | ICR-2701WA01 | ICR-2701WPA01 | ICR-2701WA02 | ICR-2701WPA02 | ✓ |

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

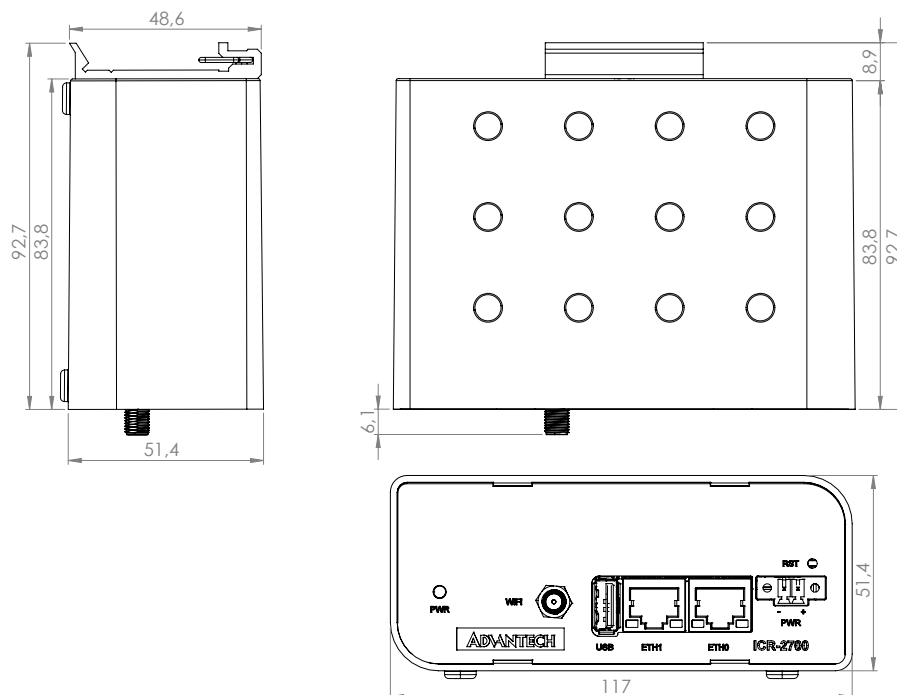
Dimensions - Technical Drawing

Metal version with DIN holder

Unit: mm



Plastic version with DIN holder



Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.



AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

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ODMĚNA ZA VĚRNOST

Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obrátu.



SERVIS ON-SITE A IN-TIME

K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.