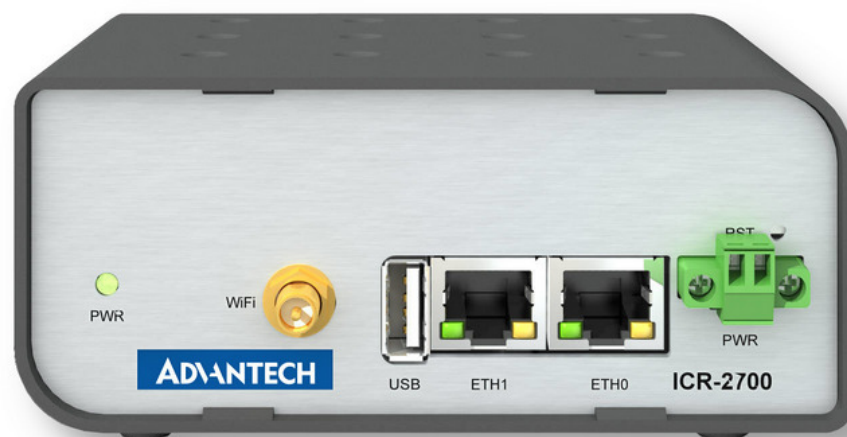


Hardware Manual

Industrial Cellular Router

ICR-2701



© 2026 Advantech Czech s.r.o. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photography, recording, or any information storage and retrieval system, without prior written consent. Information in this manual is subject to change without notice and does not represent a commitment by Advantech.

Advantech Czech s.r.o. shall not be liable for any incidental or consequential damages arising from the use, performance, or furnishing of this manual.

All brand names used in this manual are registered trademarks of their respective owners. The use of trademarks or other designations in this publication is for reference purposes only and does not imply endorsement by the trademark holder.

Used symbols



Important

Important — Indicates a risk to personal safety or potential damage to the router. Follow these instructions precisely to prevent injury or equipment damage.



Warning

Warning — Highlights conditions that may cause malfunction, loss of data, or unexpected behavior in specific situations. Read carefully before proceeding.



Info

Info — Provides helpful tips, context, or references that improve understanding but are not strictly required to complete the task.

Contents

1. Product Overview	1
1.1 Document Contents	1
1.2 Product Introduction	2
1.3 Hardware Overview	3
1.4 Order Codes	4
1.5 Product Revisions	4
1.6 Package Contents and Accessories	5
1.7 Product Dimensions	6
1.8 Mounting Recommendations	8
1.9 DIN Rail Mounting	9
1.10 Product Label	10
1.11 First Use	11
2. Hardware Functionality	12
2.1 Antennas	12
2.2 Ethernet Interfaces	12
2.3 Power Supply	13
2.4 Low Power Mode	14
2.5 USB Port	14
2.6 LED Status Indication	15
2.7 Reset Functions	15
3. Technical Specifications	16
3.1 Basic Technical Parameters	16
3.2 Standards and Regulations	17
3.3 Type Testing and Environmental Conditions	18
3.4 Parameters of Wi-Fi	19
3.5 System Configuration	20
Appendix A: Troubleshooting	21
Appendix B: Customer Support	23
Appendix C: Regulatory & Safety Information	24
Appendix D: Related Documents	26

List of Figures

english

1	Hardware overview of the router	3
2	Metal box – top, side and front view	6
3	Plastic box – top, side and front view	7
4	Position of the DIN rail clip	9
5	Removing the router from the DIN rail	9
6	Product label	10
7	Ethernet RJ45 connector	12
8	Power supply connection	13
9	Grounding screw position	13
10	USB connector pinout	14
11	Resetting the router	15

List of Tables

english

1	Hardware overview of the router	3
2	Order code overview	4
3	HW revision history	4
4	Package contents	5
5	Ethernet connector pinout	12
6	Power connector pinout	13
7	USB connector pinout	14
8	LED status indication	15
9	Basic technical parameters	16
10	Standards and regulations	17
11	Type testing and environmental conditions	18
12	Technical parameters of Wi-Fi	19
13	System configuration	20

1. Product Overview

1.1 Document Contents

Info

This Hardware Manual is applicable to both standard (non-S1) and **S1 Router** versions of the Advantech ICR-2701 router.

Standard (non-S1) router models provide users with extensive configuration capabilities, where the overall security level is determined by the user's specific setup. In contrast, **S1 Router** models feature a more focused set of configuration options designed to meet stringent security requirements. S1 Routers are identifiable by the **-S1** suffix in their part number.

This manual provides comprehensive hardware information for Advantech ICR-2701 routers, covering the following key areas:

- **Product Overview** – Includes essential product details such as ordering codes, product revision history, package contents, physical dimensions, and mounting instructions.
- **Hardware Functionality** – Offers a detailed description of all hardware components, including SIM card slots, antenna connectors, Ethernet ports, power supply options, LED status indicators, reset button functionalities, and other physical interfaces.
- **First Use** – Provides step-by-step instructions for the initial setup and basic operation of the router.
- **Technical Specifications** – Lists key technical parameters, applicable standards and regulatory compliance information, results of type tests, cellular module specifications, and detailed interface parameters.

1.2 Product Introduction

Industrial router ICR-2701 is **LAN Router & Edge Computing Gateway** focused on the global market.

The router, which may have a **metal** or **plastic** box, is equipped with two independently configurable **Ethernet ports**, with one **USB 2.0** host interface and with **LEDs for status** indication. The router can be equipped with a **dual-band Wi-Fi module**, but this must be part of the initial configuration – it cannot be assembled to the router at some point in the future.

The router supports the **Low Power Mode** and **hardware watchdog**, which monitors the router status and performs an automatic restart if required.

The router supports the creation of **VPN tunnels** using multiple protocols to ensure secure communications. Comprehensive diagnostic functions are provided, including automatic monitoring of both wireless and wired connections. In the event of connection loss, the router automatically restarts, and a hardware watchdog continuously monitors the device's operational status.

The open Linux-based platform offers extensive possibilities for developing custom software applications in **Python** and **C/C++**. The router is fully compatible with the Advantech app library **Router Apps** (formerly *User modules*), which contains a variety of applications designed to enhance specific router functionality—such as industrial protocol conversion and integration with IoT platforms including **MS Azure**, **Cumulocity**, **ThingWorx**, and others.

Automatic upgrades are supported for both configuration and firmware via a central management server, ensuring the router consistently runs the latest features and security updates.

This model is fully compatible with [WebAccess/DMP](#), Advantech's powerful, flexible, and secure remote device management platform. WebAccess/DMP enables comprehensive remote management, monitoring, and troubleshooting of network devices without the need for on-site access. The platform supports features such as VPN management, digital twin functionality, customizable dashboards, multi-tenancy, and strict security controls including PKI, two-factor authentication, auditing, permission management, and alerts. Note: Support for the *WebAccess/DMP* platform is limited for **S1 Router** versions.

Examples of possible applications

- mobile office
- security system
- remote monitoring
- vending and dispatcher machines

1.3 Hardware Overview

The router case preview is shown in Figure 1. A short description of hardware parts of the router is listed in Table 1, including the links to the chapters with a detailed description. For a router in a plastic box, the description of the components is similar.

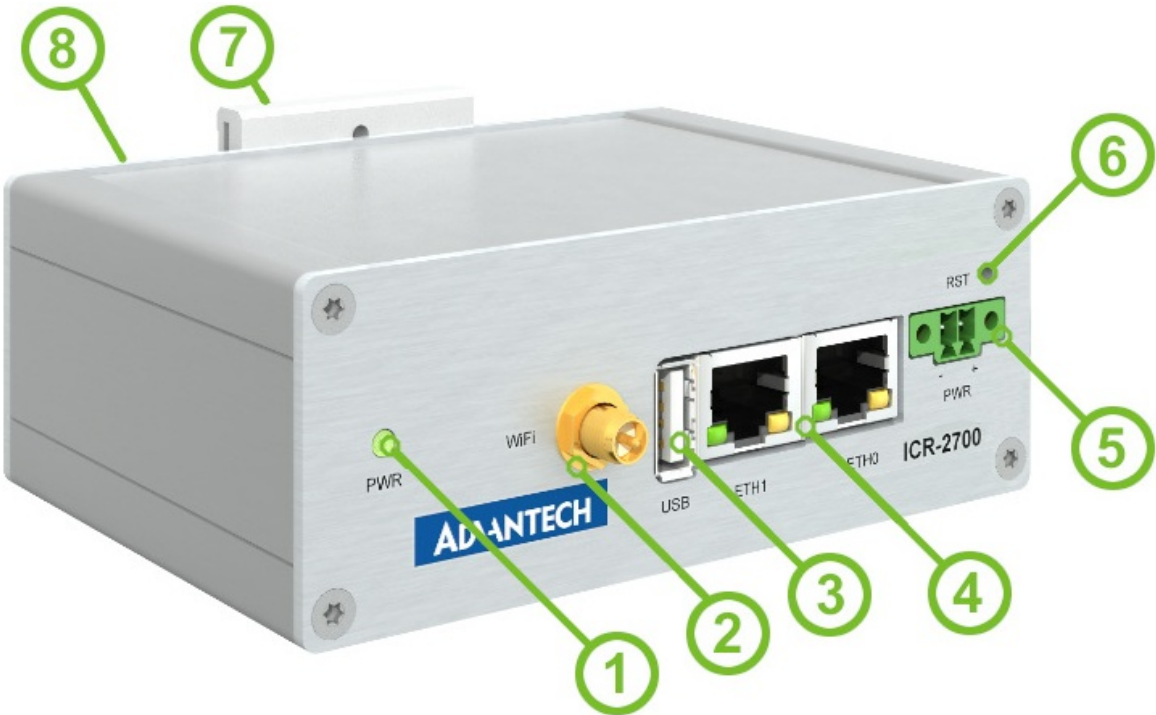


Figure 1: Hardware overview of the router

#	Item	Type	Description
1	LED	-	Status LED indication; see Chapter 2.6.
2	Wi-Fi	RP-SMA female	Wi-Fi antenna connector; see Chapter 2.1 for more information and Chapter 3.4 for Wi-Fi parameters.
3	USB	USB-A	USB-A type socket connector; see Chapter 2.5.
4	ETH	RJ45	100 MB Ethernet connection for the first and second LAN; see Chapter 2.2.
5	PWR	2-pin	Power supply socket; see Chapter 2.3.
6	RST	-	Button to reboot the router; see Chapter 2.7.
7	DIN clip	-	DIN rail clip, included as standard accessories; see Chapter 1.9.
8	GND	M3	Pay attention to proper grounding of model with metal box; see Chapter 2.3.

Table 1: Hardware overview of the router

1.4 Order Codes

Order code	Configuration
ICR-2701	metal box, ETH0, ETH1, USB
ICR-2701P	plastic box , ETH0, ETH1, USB
ICR-2701A01	metal box, ETH0, ETH1, USB, accessories with Ethernet cable, two cellular antennas, and EU power supply
ICR-2701PA01	plastic box , ETH0, ETH1, USB, accessories with Ethernet cable, two cellular antennas, and EU power supply
ICR-2701A02	metal box, ETH0, ETH1, USB, accessories with Ethernet cable, two cellular antennas, and UK power supply
ICR-2701PA02	plastic box , ETH0, ETH1, USB, accessories with Ethernet cable, two cellular antennas, and UK power supply
ICR-2701W	metal box, ETH0, ETH1, USB, dual-band Wi-Fi
ICR-2701WP	plastic box , ETH0, ETH1, USB, dual-band Wi-Fi
ICR-2701WA01	metal box, ETH0, ETH1, USB, dual-band Wi-Fi , accessories with Ethernet cable, two cellular with one Wi-Fi antennas, and EU power supply
ICR-2701WPA01	plastic box , ETH0, ETH1, USB, dual-band Wi-Fi , accessories with Ethernet cable, two cellular with one Wi-Fi antennas, and EU power supply
ICR-2701WA02	metal box, ETH0, ETH1, USB, dual-band Wi-Fi , accessories with Ethernet cable, two cellular with one Wi-Fi antennas, and UK power supply
ICR-2701WPA02	plastic box , ETH0, ETH1, USB, dual-band Wi-Fi , accessories with Ethernet cable, two cellular with one Wi-Fi antennas, and UK power supply
ICR-.....-S1..	The -S1 prefix indicates that the product is designed for the S1 Router platform. This platform ensures compliance with strict security requirements. For more details, refer to the S1 version of the configuration manual [1] .

Table 2: Order code overview

1.5 Product Revisions

For the product revision history of the entire product platform, refer to the table below. Please note that some revisions may not be available for certain order codes. The revision number is printed on both the packaging and product labels.

The router GUI can also display the product revision under *Status* → *General* → *System Information* → *Product Revision*. Please note that the default revision (Rev. 1.0) may not be available here.

Rev.#	Description
1.0	Initial version (revision number not printed on the labels).
2.0	Wi-Fi support added to the mainboard; see PCN-2023-10 for details.
2.1	Not released for this model.

Table 3: HW revision history

1.6 Package Contents and Accessories

Table 4 refers to router package contents and other accessories, which depend on the order code; see Chapter 1.4. You can order an accessory separately; use the order code mentioned.

Description	Figure	Q'ty
Router in metal or plastic box		1 pc
DIN rail clip with screws (screws differ for metal and plastic versions)		1 set
2-pin terminal block for power supply (deployed on the router)		1 pc
Printed <i>Quick Start Guide Leaflet</i>		1 pc
Ethernet cross cable of length 1.5 m. Order code: <i>BB-KD-ETH</i>		0 / 1 pc
Wi-Fi Antenna (RP-SMA male). Order code: <i>BB-AW-A2458G-FSRPK</i>		0 / 1 pc
Wall mount power supply, 12V/1A with EU plug. Order code: <i>BB-RPS-v2-EU</i>		0 / 1 pc
Wall mount power supply, 12V/1A with UK plug. Order code: <i>BB-RPS-v2-UK</i>		0 / 1 pc
Wall mount power supply, 12V/1A with US plug. Order code: <i>BB-RPS-v2-US</i>		0 / 1 pc

Table 4: Package contents

1.7 Product Dimensions

For the dimensions of the product in metal and plastic boxes see the figures below. Note that all sizes are measured in millimeters.

Variant with Metal Box

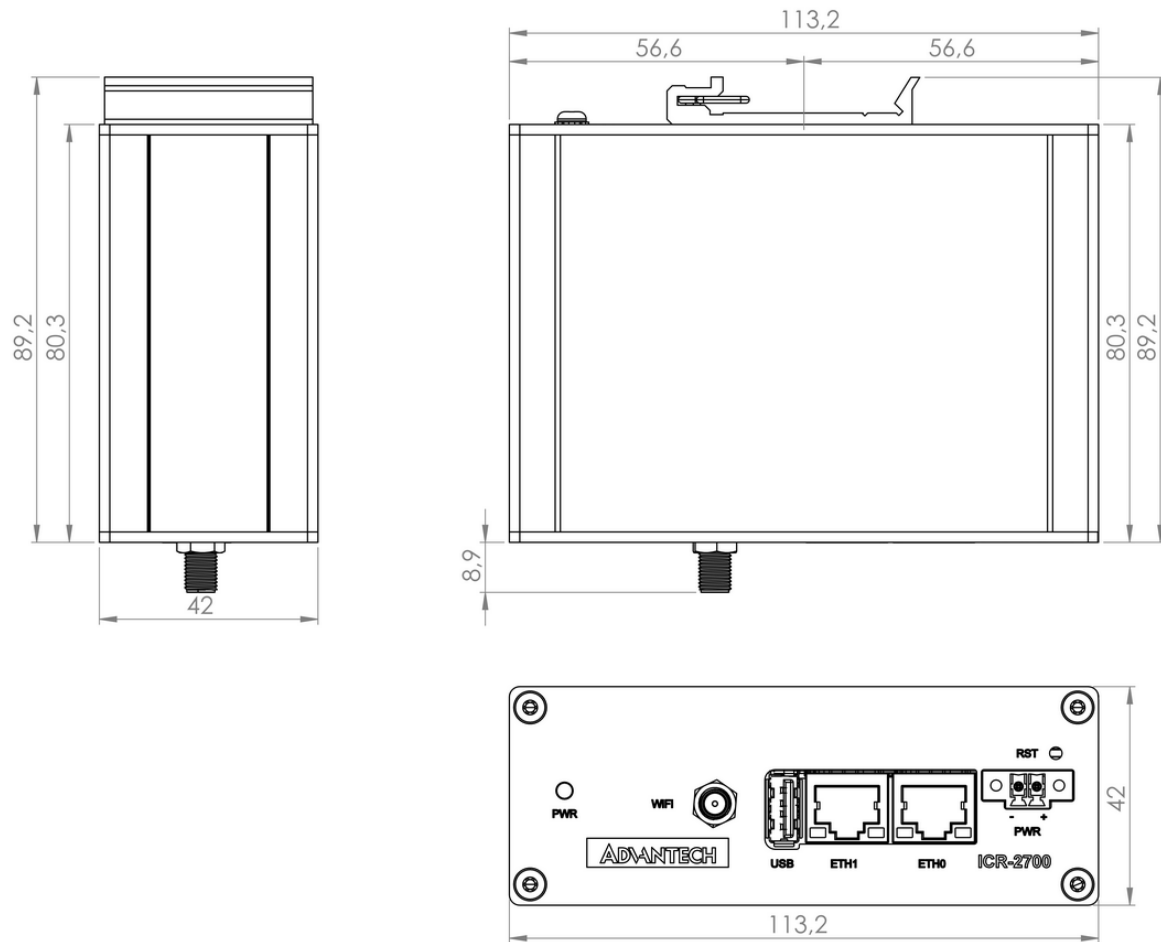


Figure 2: Metal box – top, side and front view

Variant with Plastic Box

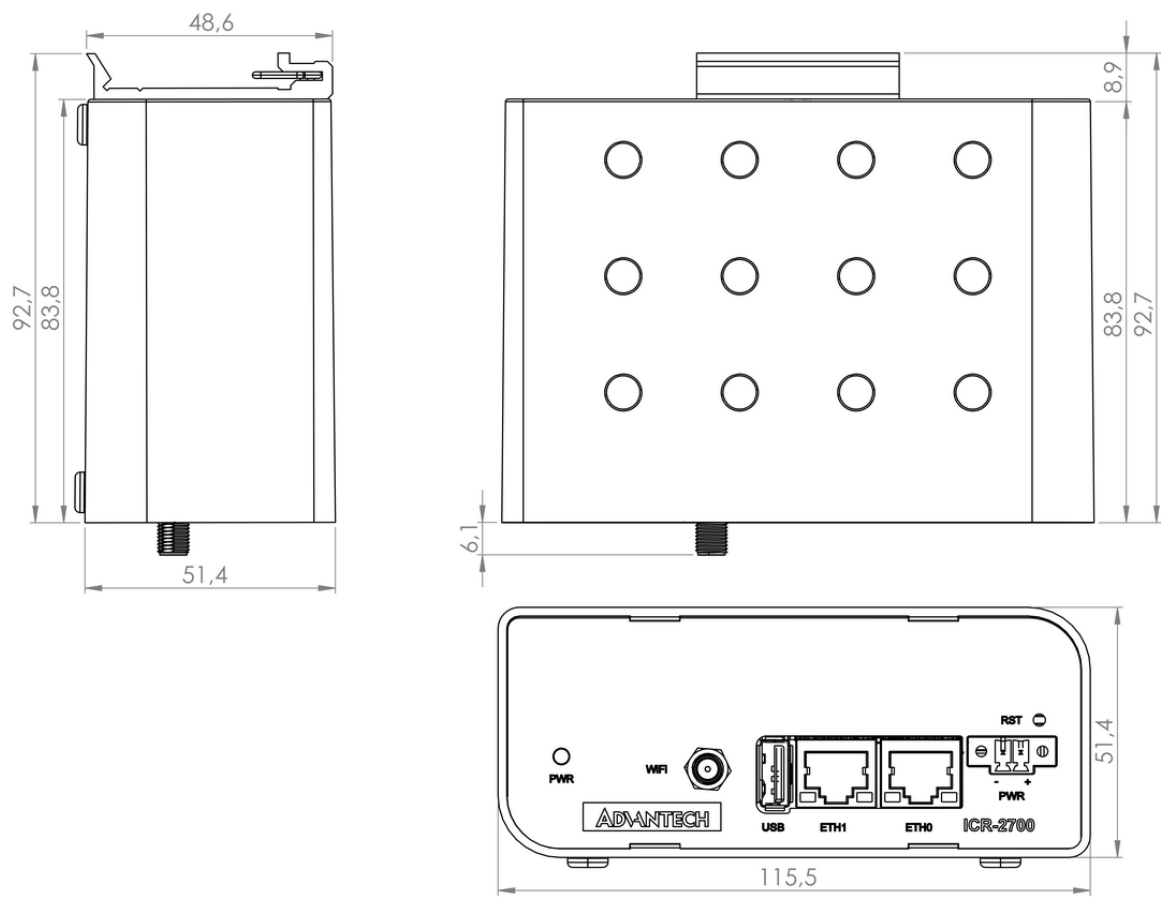


Figure 3: Plastic box – top, side and front view

1.8 Mounting Recommendations

The router can be placed:

- on a flat surface,
- on a DIN rail EN 60715 with the metal DIN rail clip (see Chapter 1.9)

For most applications with a built-in router within a switchboard, it is possible to recognize two kinds of environments:

- A non-public, industry environment of low voltage with high interference,
- a public environment of low voltage and without high interference.

For both of these environments, it is possible to mount the router to a switchboard, after which there is no need to have examination immunity or issues in connection with EMC according to EN 61439-1:2011.

Warning

In compliance with the EN 61439-1:2011 specification, it is necessary to observe the following assembly instructions for a router attached to a switchboard:

- For whip antennas it is recommended to observe a minimum distance of 6 cm from cables and metal surfaces on every side in order to avoid interference. When using an external antenna separate from the switchboard it is necessary to fit a lightning conductor.
- When mounting a router on sheet-steel we recommend using a cable antenna.
- For all cables, we recommend to bind the bunch, and for this we recommend:
 - The length of the bunch (the combination of power supply and data cables) should be a maximum 1.5 m. If the length of data cables exceeds 1.5 m or if the cable is leading towards the switchboard, we recommend installing surge protectors.
 - Data cables must not have a reticular tension of ~ 230 V/50 Hz or ~ 120 V/60 Hz.
- Sufficient space must be left between each connector for the handling of cables,
- To ensure the correct functioning of the router we recommend the use of an earth-bonding distribution frame for the grounding of the grounding screw, see Chapter 2.3.

1.9 DIN Rail Mounting

The DIN rail clip is suitable for a DIN rail according to EN 60715 standard only. There are four possible positions of the clip as shown in Figure 4.

Info

The DIN rail clip is the same for the metal and plastic router box. It just differs by the screws used.

Warning

When mounting the DIN rail clip, tighten the screws with max. torque of 0.4 Nm.

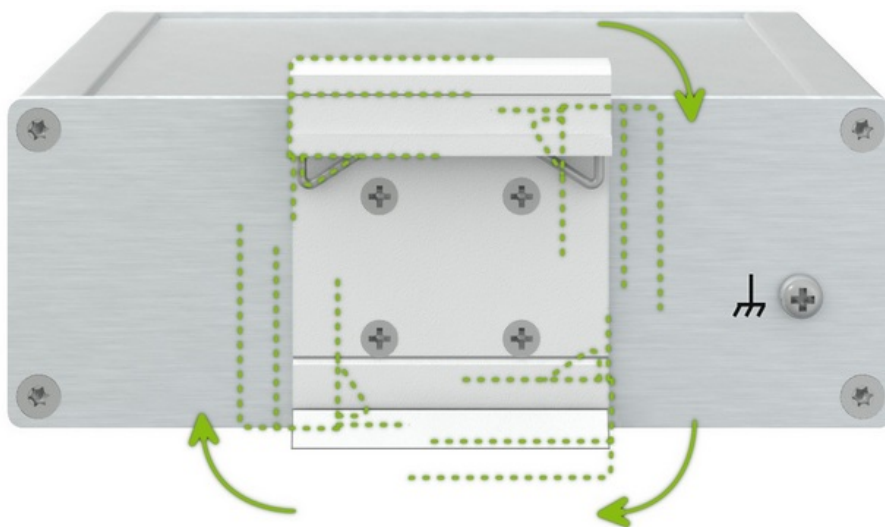


Figure 4: Position of the DIN rail clip

To remove the router from the DIN rail it is necessary to lightly push down the router so that the bottom part of the DIN rail clip hitched to the DIN rail get out of this rail and then fold out the bottom part of the router away from the DIN rail, see Figure 5.

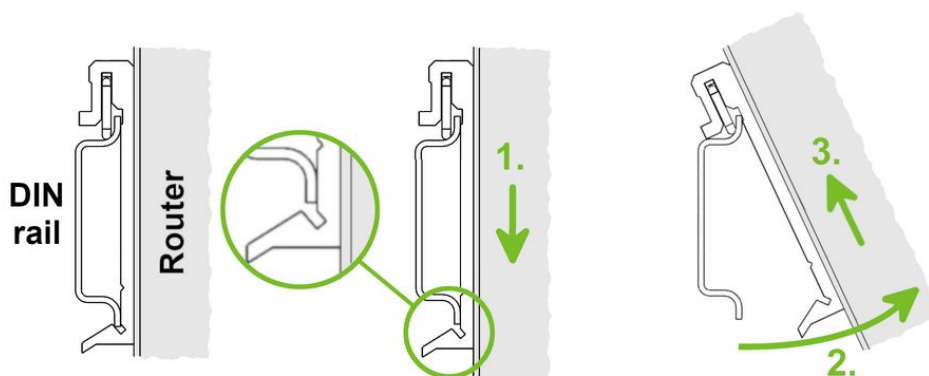


Figure 5: Removing the router from the DIN rail

1.10 Product Label

The figure below shows an example of the product labels with all the information printed on them.



Figure 6: Product label

1.11 First Use

You can perform the initial configuration of the router using a web browser on your PC. This interface enables router monitoring, configuration, and administration.

Warning

- 
- Before putting the router into operation, ensure that all components required for running your applications are connected. Refer to Chapter [1.3 Hardware Overview](#) for an overview of the hardware.
 - This device utilizes radio frequency bands that may be subject to specific usage restrictions in certain European Union countries (e.g., indoor use only). Please refer to [Appendix C](#) for detailed regulatory information before operation.

The procedure for connecting to a new router is described in the *Configuration Manual* [1], Chapter *Getting Started* → *Configuration Environments* → *Web Interface Initial Setup*. This manual also provides detailed descriptions and examples of router configuration using the web interface.

2. Hardware Functionality

See Chapter 1.3 for an overview of the product’s hardware, along with links to chapters offering detailed explanations.

2.1 Antennas

If the router is Wi-Fi equipped, connect the Wi-Fi antenna to the Wi-Fi RP-SMA female connector on the front panel.



Info

Recommended tightening moment for screwing the Wi-Fi antennas to the SMA female connectors is 0.9 Nm.

2.2 Ethernet Interfaces

The router is equipped with one or more RJ45 Ethernet ports for wired network connections. The pinout for the standard 10/100 Ethernet connector is detailed below.

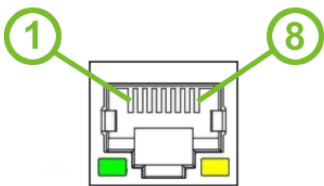


Figure 7: Ethernet RJ45 connector

Pin	Signal	Description
1	Tx+	Transmit Data+
2	Tx-	Transmit Data-
3	Rx+	Receive Data+
4	—	Not Connected
5	—	Not Connected
6	Rx-	Receive Data-
7	—	Not Connected
8	—	Not Connected

Table 5: Ethernet connector pinout



Info

The Ethernet ports provide an isolation barrier of 1500 V from the router’s ground.

2.3 Power Supply

A two-pin terminal connector (pitch 3.5 mm) is utilized to power the router. The corresponding connector is included as a standard accessory with the router.

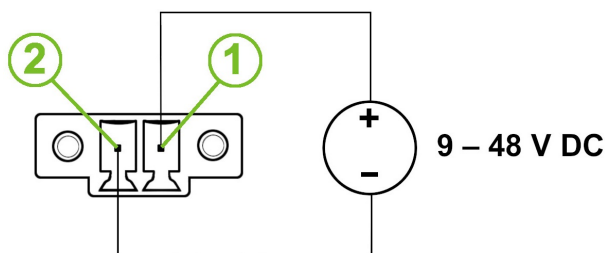


Figure 8: Power supply connection

Pin	Signal mark	Description
1	PWR(+)	Positive pole of DC supply voltage (+9 to +48 V DC)
2	PWR(-)	Negative pole of DC supply voltage

Table 6: Power connector pinout

The required power supply voltage for the router ranges between +9 V and +48 V DC. Refer to the connection scheme in Figure 8 for proper setup. The router is equipped with built-in protection against reversed polarity, functioning without signaling. To guarantee correct operation, the power source must be capable of providing a sufficient amount of energy, as detailed in the consumption section of Chapter 3.1.

Warning

Unit has to be supplied by a power supply specified as a Limited Power Source (LPS) or CEC/NEC Class 2 source of supply.

All metal parts, including the box, are interconnected with the negative pole of the power supply (common pole). If recommended for the installation environment, protect the router by properly grounding it using the grounding screw, as depicted in Figure 9. The maximum tightening torque for the grounding screw is 0.6 Nm.

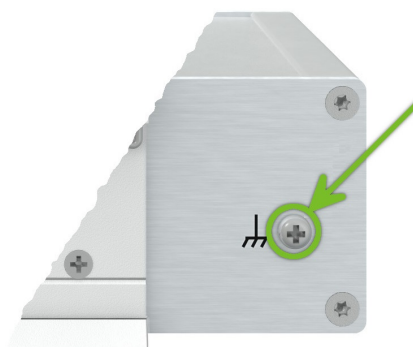


Figure 9: Grounding screw position

2.4 Low Power Mode

Warning

In applications requiring low power consumption (such as solar power - not 7/24 mode) is strictly recommended to use LPM mode prior to powering down the entire router.

LPM (Low Power Mode) is a router mode where the router is in sleep mode with minimal power consumption; see Chapter 3.1 for the LPM consumption. The router can be woken up from this mode after a predetermined period of time. Putting the router into LPM mode can be done using the `lpm` command, see [Command Line Interface](#) application note for more details.

2.5 USB Port

The router is equipped with a single USB 2.0 host port featuring a USB-A type socket. The pinout details of the USB socket are illustrated in Figure 10 and further described in Table 7.

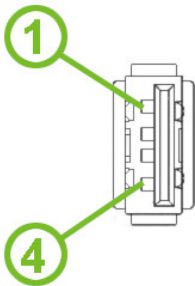


Figure 10: USB connector pinout

Pin 1	Signal Mark	Description	Data Flow Direction
1	+5 V	Positive pole of 5 V DC supply voltage, 0.5 A	
2	USB Data -	USB data signal (negative pole)	Input/Output
3	USB Data +	USB data signal (positive pole)	Input/Output
4	GND	Negative pole of DC supply voltage	

Table 7: USB connector pinout

For detailed USB port configuration options, refer to the configuration manual [1], Chapter *Configuration* → *USB Port*.

2.6 LED Status Indication

There are LED indicators on the front panel of the router to provide router status information. Moreover, ETH connector, has two additional LEDs providing information about the port status.

Caption	Color	State	Description
PWR	Green	On	The router is booting up.
	Green	Blinking	The router booted up and is ready.
	Green	Fast blinking	The router firmware is being updated.
ETH0	Green	On	Selected 100 Mbps bit rate
ETH1	Green	Off	Selected 10 Mbps bit rate
ETH0	Orange	On	The network cable is connected.
ETH1	Orange	Blinking	Data transmission
	Orange	Off	The network cable is not connected.

Table 8: LED status indication

2.7 Reset Functions

The *RST* button has multiple functions. For more details, refer to the configuration manual [1], Chapter *Introduction* → *Device* → *Reset*.

Info

Use a narrow screwdriver or a small tool to press the *RST* button.

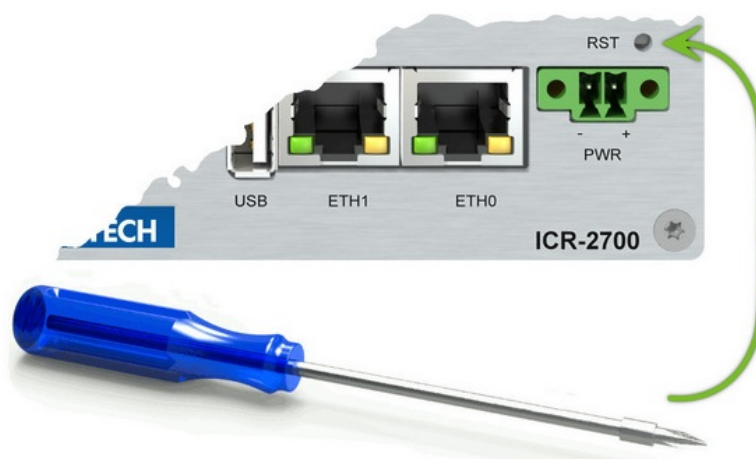


Figure 11: Resetting the router

3. Technical Specifications

3.1 Basic Technical Parameters

Parameter	Conditions	Description
Temperature range	Operating Storage	-40 °C to +75 °C -40 °C to +85 °C
Humidity	Operating Storage	5 to 95 % relative humidity non condensing 5 to 95 % relative humidity non condensing
Altitude	Operating	2000 m / 70 kPa
Degree of protection		IP30
Supply voltage		9 to 48 V DC
Battery for RTC		CR1225
Consumption for non-Wi-Fi (Wi-Fi) version	Idle Average Maximum LPM mode	1.4 W (1.8 W) 1.4 W (1.9 W) 5.3 W (5.8 W) 3 mW
Dimensions of device w/o clip		113,2 × 80,3 × 42 mm (metal box) 117 × 83,8 × 51,4 mm (plastic box)
DIN rail clip specification		DIN 35 mm, EN 60715
Weight		230 g (metal box) 170 g (plastic box)

Table 9: Basic technical parameters

3.2 Standards and Regulations

The router complies with the following standards and regulations:

Parameter	Description
Radio	ETSI EN 301 893, ETSI EN 300 328
EMC	ETSI EN 301 489-1, ETSI EN 301 489-17, EN 55032, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-6-2, EN 61000-6-3
Safety	EN IEC 62368-1, EN IEC 62311, IEEE 802.3
Transportation	E-Mark (E8) homologation number: 10R-06 13493 ¹
Cybersecurity	EN 18031-1
National	CE, UKCA compliant
Environmental	REACH, RoHS3 and WEEE compliant

Table 10: Standards and regulations

¹Not applicable to Wi-Fi models.

3.3 Type Testing and Environmental Conditions

Phenomena	Test	Description	Test levels
ESD	EN 61000-4-2	Enclosure	CD ± 6 kV, L3 AD ± 8 kV, L3
RF field AM modulated	EN 61000-4-3	Enclosure	20 V/m, 80 MHz – 1 GHz, LX 10 V/m, 1 GHz – 6 GHz, L3
Fast transient	EN 61000-4-4	DC ETH - FTP AC/DC	± 1 kV, 5/50Tr/Th ns, 100 kHz, L2 ± 1 kV, 5/50Tr/Th ns, 100 kHz, L3 ± 2 kV, 5/50Tr/Th ns, 100 kHz, L3
Surge	EN 61000-4-5	DC ETH AC/DC	± 1 kV, 1,2/50(8/20) Tr/Th us L2 ± 1 kV, 1,2/50(8/20) Tr/Th us L2 ± 2 kV, 1,2/50(8/20) Tr/Th us L3
RF conducted	EN 61000-4-6	DC ETH AC/DC	10V,0.15-80MHz,80% AM(1kHz),L3 10V,0.15-80MHz,80% AM(1kHz),L3 10V,0.15-80MHz,80% AM(1kHz),L3
Dips & interruptions	EN 61000-4-11	AC/DC	dip 0% 0,5cycle, 0% 1 cycle, 70% 25 cycles, interruption 0% 250 cycles
Radiated emission	EN 55032	Enclosure DC ETH AC/DC	Cl. B,30MHz-1GHz,1GHz-6GHz Class B, 150 kHz – 30 MHz Class B, 150 kHz – 30 MHz Class B, 150 kHz – 30 MHz

Table 11: Type testing and environmental conditions

3.4 Parameters of Wi-Fi

Warning

The 5 GHz Wi-Fi interface operates in frequency bands (specifically 5150–5350 MHz) that are restricted to **indoor use only** in certain EU member states. Please refer to [Appendix C](#) for detailed regulatory information.

Parameter	Description
Supported Standards	IEEE 802.11a/b/g/n/ac, 2.4 GHz & 5 GHz
Antenna Connector	1x RP-SMA Input impedance: 50 Ω
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: Max. 72 Mbps @ 20 MHz channel 802.11n: Max. 150 Mbps @ 40 MHz channel
Frequency Ranges	2.4 GHz ISM Bands 2.412-2.472 GHz 5.15-5.25 GHz (FCC UNII-low band) for US/Canada and EU 5.25-5.35 GHz (FCC UNII-middle band) for US/Canada and EU 5.47-5.725 GHz for EU 5.725-5.825 GHz (FCC UNII-high band) for US/Canada
Modulation	DSSS, OFDM, DBPSK, DQPSK, CCK, 16-QAM, 64-QAM
2.4 GHz Channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
5 GHz Channels	36, 38, 40, 42, 44, 46, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165
Type of Device	Access point (AP) (up to 8 clients) Station (STA) Multirole (STA&AP)
Security – Standards	WPA, WPA2, WPA3, 802.1X
Security – Encryption	WEP, TKIP, AES
TX Power ¹	Max. 18 dBm @ 2.4 GHz Max. 15 dBm @ 5 GHz

Table 12: Technical parameters of Wi-Fi

¹The maximum transmit power is determined by the *Country* setting in the router's GUI; for more details, please refer to the *Configuration Manual*.

3.5 System Configuration

The main parameters of the system are listed in Table 13.

Parameter	Description
CPU architecture	32-bit ARM926EJ-S
CPU frequency	600 MHz
CPU power	4,72 DMIPS/MHz
Flash memory	4 MB of NOR 4 096 MB of eMMC • 838 MB for Router Apps • 512 MB for customer data • The remaining space is reserved for the system.
RAM size	128 MB
Watchdog	HW Watchdog
RTC	Battery Backup RTC
TPM ¹	Trusted Platform Module (TPM) 2.0

Table 13: System configuration

¹Not assembled by default, for a dedicated customer order only.

Appendix A: Troubleshooting

Warning

If you cannot connect to the router from your PC, your network card may be configured in such a way that it is not possible to connect to the router. Take one or more of the following steps in order to solve the problem:

- Make sure your PC's network card is configured to obtain the IP address from the DHCP server (by default the DHCP server is running in the router).
- Connect the router to the PC via Switch.
- Connect the router to the PC, start the router first and then start the PC after the router's initialization.

Ethernet connection fails or is not establishing.

- It is possible to turn auto negotiation off and set a rate and duplex manually on the Ethernet interface of the router. Available on "LAN Configuration" page in the router.

I cannot connect from the Internet to the device behind the router. I have NAT enabled.

- The device's gateway has to be configured so it points to the router.

I can't access my Web server placed behind the router over NAT.

- The remote HTTP access to the router has to be disabled on "NAT Configuration" page in the router. Also enable "Send all remaining incoming packets to default server" feature and fill in the IP address of your Web server. On the Web server, the default gateway has to be the IP address of the router.

DynDNS doesn't work.

- If the same IP address is recorded in your canonic name as a dynamically assigned address, it means that the provider is using NAT or a firewall.
- You can verify NAT using ping to your server with static address and then compare with router's IP address.
- You can verify a Firewall by accessing remotely to the router's Web interface.
- The operator may not provide the address of DNS server and without DNS server's address it is impossible to connect to the dyndns.org server. The following messages will be shown in the System Log:
 - DynDNS daemon started
 - Error resolving hostname: no such file or directory
 - Connect to DynDNS server failed

L2TP or IPSec isn't establishing.

- Check the "System Log" page for error messages.

IPSec tunnel establishes but the communication does not run.

- Probably there are bad routing rules defined in the connected devices, or the default gateway.

Is the router Cisco compatible? Can I use the Cisco configuration?

- No, the Firmware in the router (ICR-OS) is based on Linux with BusyBox. Thus the Cisco configuration cannot be used. But network connections are defined by standards so connecting the router to the Cisco or other networking devices is possible and will be compatible.

FTP or SFTP does not work

- FTP will work on v2 routers only. You can use SFTP on all routers to transfer files to/from the router. If having troubles with FTP on v2 routers, make sure you have FTP enabled: "Configuration" section, "Services", "FTP". Then you can connect with any client on port 21 with name and password same as for the Web interface. If having troubles with SFTP, make sure you have SSH enabled: "Configuration" section, "Services", "SSH". Then you can connect with any client on port 22 with name and password same as for the Web interface.

How can I connect to the router's command line? (SSH, Telnet)

- You can use SSH on all routers or Telnet on v2 routers only. SSH is enabled by default, but you can verify in Web interface in "Configuration" section, "Services", "SSH". Then connect with any SSH client on port 22 of the router. User and password is the same as for the Web interface. Telnet on v2 routers can be enabled here: "Configuration" section, "Services", "Telnet".

Appendix B: Customer Support

Customer Support for Europe

Advantech Czech s.r.o.

Sokolska 71
562 04, Usti nad Orlici
Czech Republic

Phone: +353 91 792444
Fax: +353 91 792445
E-mail: iiotcustomerservice@advantech.eu
Web: www.advantech.com

Customer Support for NAM

Advantech North America

707 Dayton Road
Ottawa, IL 61350 USA

Phone: +1-800-346-3119 (Monday – Friday, 7 a.m. to 5:30 p.m. CST)
Fax: +1-815-433-5109
E-mail: support.iiot.ana@advantech.com
Web: www.advantech.com

Customer Support for Asia

Phone: +886-2-2792-7818 #1299 (Monday – Friday, 9 a.m. to 5:30 p.m. UTC+8)
Fax: +886-2-2794-7327
E-mail: icg.support@advantech.com.tw
Web: www.advantech.com

Appendix C: Regulatory & Safety Information

Safety Notices

For your safety and proper operation of the device, please observe the following instructions:

- The router must comply with all applicable international, national, and local regulations, including any specific restrictions concerning its use in designated applications and environments.
- To avoid personal injury or damage to the device, use only accessories that are approved or supplied by the manufacturer. Unauthorized modifications or the use of non-approved accessories may damage the router, violate regulations, and void the warranty.
- Do not attempt to open the router enclosure under any circumstances.

Important

This equipment is not suitable for use by or near young children.

- Always ensure that the power supply voltage does not exceed 48 V DC.
- Do not expose the router to harsh environmental conditions. Protect it from dust, moisture, and excessive temperatures.
- Use only routers with proper certifications and markings in areas containing flammable or explosive materials (such as gas stations, chemical plants, or locations with explosives). In these environments, always follow the applicable restrictions regarding the use of radio devices.
- When traveling by airplane, always switch off the router. Using the router on board may endanger flight safety, interfere with mobile networks, and violate local regulations. Non-compliance can result in suspension or cancellation of telecommunications services or legal penalties.
- Take special care when operating the router in close proximity to personal medical devices such as cardiac pacemakers or hearing aids. If in doubt, consult the manufacturer of the medical device or your physician.
- This device may cause interference if used near television sets, radio receivers, or personal computers.
- Maintain a minimum separation distance of at least 20 cm between the router and the human body during operation.
- It is strongly recommended to regularly back up all critical configuration data stored in the router's memory.
- **Specific Usage Restrictions for 5 GHz Wi-Fi:** This device operates in the 5150–5350 MHz frequency band, which is restricted to **indoor use only** within the European Union, EFTA countries, and Northern Ireland. Outdoor use in this frequency band is prohibited to prevent harmful interference with other radio services.

	AT	BE	BG	CY	CZ	DE	DK	EE	EL	ES	FI
	FR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL
	PT	RO	SE	SI	SK	IS	LI	NO	CH	TR	UK

Product Disposal Instructions

The WEEE directive (Waste Electrical and Electronic Equipment: 2012/19/EU) ensures the environmentally responsible recycling and recovery of electronic products. This device contains high-quality materials and components suitable for recycling. At the end of its life, **do not dispose of this product with ordinary commercial waste**. The router also contains a battery. Remove the battery before disposing of the device, and ensure the battery is disposed of separately and in accordance with local regulations. For detailed information on product and battery disposal, consult your supplier's terms and conditions.

Appendix D: Related Documents

[1] *ICR-2[78]00 Configuration Manual*, resp. *ICR-2[78]00 S1 Configuration Manual* (see *Documents to download* → *Manuals* section)

[EP] Product-related documents and applications can be obtained on **Engineering Portal** at <https://icr.advantech.com/download> address.



We, Advantech Czech s.r.o., declare that the radio equipment narrated in this user's manual complies with Directive **2014/53/EU** (WiFi version) and with the essential requirements and other relevant provisions of Directives **2014/30/EU** and **2014/35/EU** (non-WiFi version).



We, Advantech Czech s.r.o., declare that the radio equipment narrated in this user's manual complies with Radio Equipment Regulations 2017 (**S.I. 2017 No. 1206**) and with the Electromagnetic Compatibility Regulations 2016 (**S.I. 2016 No. 1091** and **S.I. 2016 No. 1101**).

The full text of the EU Declaration of Conformity is available at the following internet address:
icr.advantech.com/doc