Hardware Manual

LAN Industrial Router

ICR-3201

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Document No. MAN-0050-EN, revised on January 28, 2026.

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.

Code Example

```
Code Example - Copy-pasteable configuration snippets or CLI commands.
```

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1. Product Overview

1.1 Product Introduction

ICR-3201 is a LAN industrial router intended for the global market. This router is an ideal device for the realization of a secure connection of two local area networks (LANs). Interconnection is carried out using two ETHERNET 10/100 interfaces and secure tunnel (IPSec, OpenVPN, L2TP). The other equally important ways to use this router is to connect any device with RS232, RS485 or I/O interface to the local network (LAN).

The standard configuration includes two Ethernet 10/100 ports, serial line RS232, RS485, one binary input and one output. The router can be equipped with a 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 can be provided only in a metal casing.

Configuration of the router may be done via a password-protected Web interface. Web interface provides detailed statistics about the router's activities, signal strength, detailed system log etc. The router supports the creation of VPN tunnels using IPSec, OpenVPN and L2TP to ensure safe communication. DHCP, NAT, NAT-T, DynDNS, NTP, VRRP, backup primary connection and many other functions are supported.

The router provides diagnostic functions which include automatically monitoring the PPP connection, automatic restart in case of connection losses, Low Power Mode and a hardware watchdog that monitors the router status. The user may insert Linux scripts which are started on various actions. It is possible to create up to four different configurations for the same router. These configurations can be switched whenever necessary via Web interface or binary input status.

The router supports automatic upgrades of both its configuration and firmware, leveraging updates from a central server. This feature ensures that the router remains up-to-date with the latest enhancements and security protocols.

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.

Examples of possible applications

- fleet management
- security system
- telematic
- telemetric
- remote monitoring
- vending and dispatcher machines

1.2 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.

Figure 1: Hardware overview of the router

#	Item	Type	Description
1	LEDs	-	Status LED indication; see Chapter 2.7.
2	RST	-	Button to reboot the router or to restore the default configuration; see Chapter 2.8.
3	PWR	2-pin	Power supply 2-pin terminal socket; see Chapter 2.4.
4	ETH0, ETH1	RJ45	100 MB Ethernet connection for the firts and second LAN; see Chapter 2.3.
5	Wi-Fi	R-SMA	Two connectors for the Wi-Fi antennas. See Chapter 2.1 for more information and Chapter 3.4 for Wi-Fi parameters. The Wi-Fi2 connector can also be used for a Bluetooth antenna. See details in Chapter 2.1 nd Chapter 3.5 for bluetooth parameters.
6	DIN clip	-	DIN rail clip, included as standard accessories; see Chapter 1.10.
7	Grounding screw	M3	Pay attention to proper grounding; see Chapter 2.4.
8	SERIAL | I/O	10-pin terminal	RS232, RS485, binary inputs, and binary outputs interfaces. See Chapter 2.6 for more information.
9	Wall clips	-	Wall mounting clips, included as standard accessories; see Chapter 1.9.

Table 1: Hardware overview of the router

1.3 Product Versions

ICR-3201 router is supplied in the following versions:

Router versions	BIN	BOUT	ETH	Wi-Fi	RS232	RS485
Version without Wi-Fi	1 x	1 x	2 x		1 x	1 x
Version with Wi-Fi	1 x	1 x	2 x	1 x	1 x	1 x

Table 2: Router versions

Figure 2: Version without Wi-Fi

Figure 3: Version with Wi-Fi

1.4 Order Codes

The table below provides an overview of the order codes.

Order code	Configuration
ICR-3201	LAN router, 2x ETH, 1x BI, 1x BO
ICR-3201W	LAN router, 2x ETH, 1x BI, 1x BO, Wi-Fi

Table 3: 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).
1.1	PCBU modified to enhance immunity against surge pulses on the DC line.
2.0	PCBU and other changes; see PCN-2022-01 for details.
2.1	PCBU changes; see PCN-2023-06 for details.

Table 4: HW revision history

1.6 Package Contents

The standard set of router includes items listed in the following table:

Item#	Description	Figure	Q'ty
1	ICR-3201 or ICR-3201W router		1 pcs
2	DIN holder (screwed on the router)		1 set
3	Wall clips for wall-mounting (screwed on the router)		2 pcs
4	2-pin terminal block for power supply (deployed on the router)		1 pcs
5	10-pin terminal block for RS232, RS485 and I/O (deployed on the router)		1 pcs
6	*Quick Start Guide Leaflet*		1 pcs

Table 5: 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.

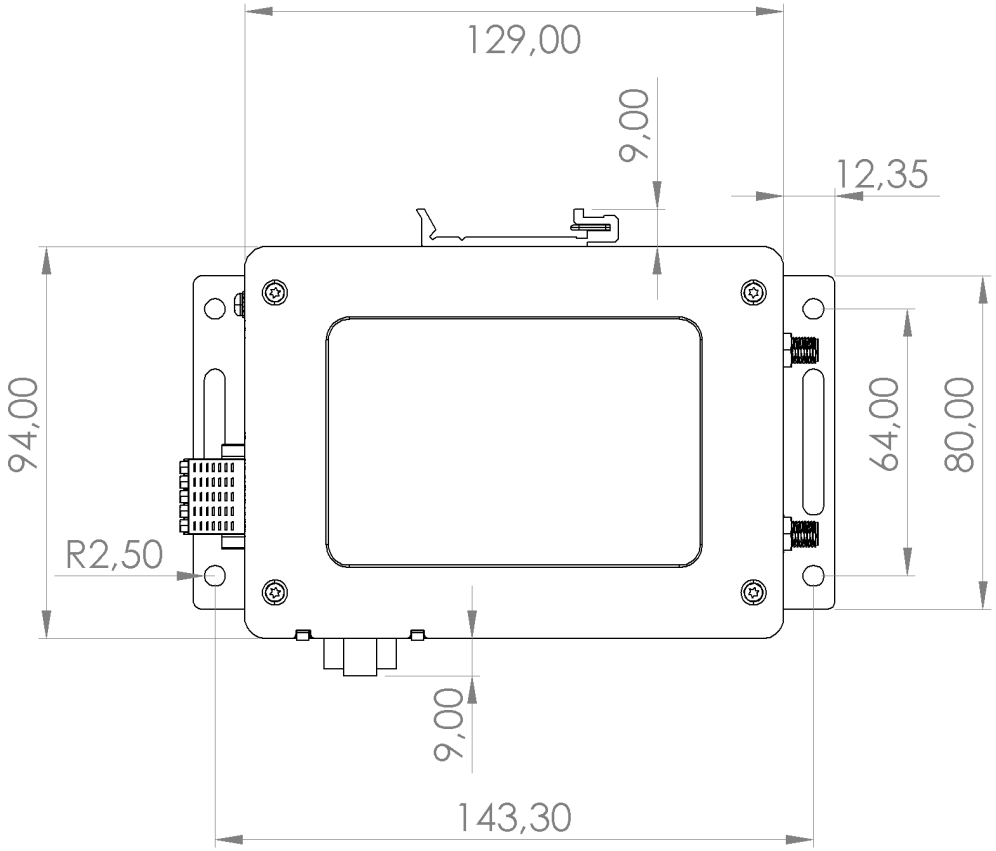

Figure 4: Basic router box dimensions

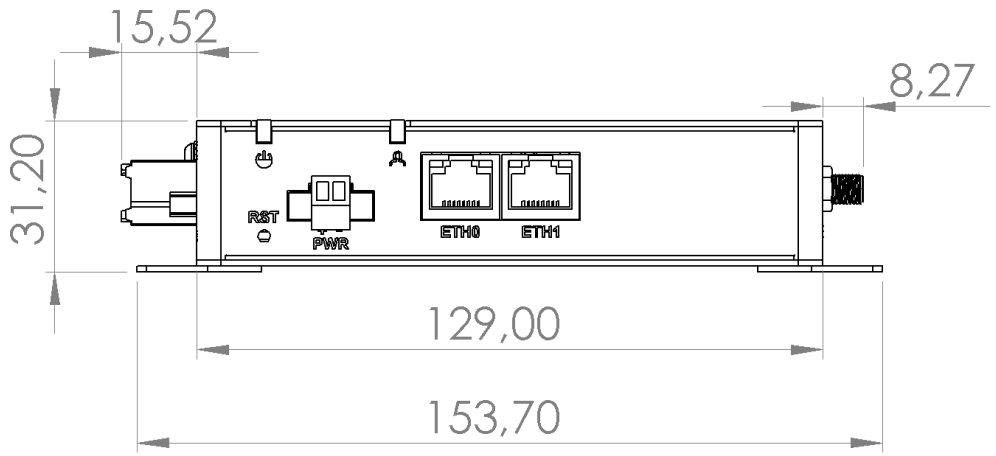

Figure 5: Basic router box dimensions

1.8 Mounting Recommendations

The router can be placed:

- on a flat surface,
- on a wall (or another surface) using the side clips,
- on a DIN rail EN 60715 with the included metal DIN rail clip.

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 $\sim$ 230 V/50 Hz or $\sim$ 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 power supply of the router, data cables and antenna within the switchboard.

1.9 Wall-Mounting

Info

The wall-mounting clip is supplied with the router as standard accessories.

The router can be screwed to a wall (or another surface) using the wall-mounting clips. Two wall-mounting clips are assembled to the router during the production and need to be roteted as shown of Figure 6. There are two wholes on the clip with a diameter of 5 millimeters. For detailed information about the mounting dimensions see Chapter 1.7.

Warning

When mounting the wall-mounting clip, tighten the screws with max. torque of 0.4 Nm.

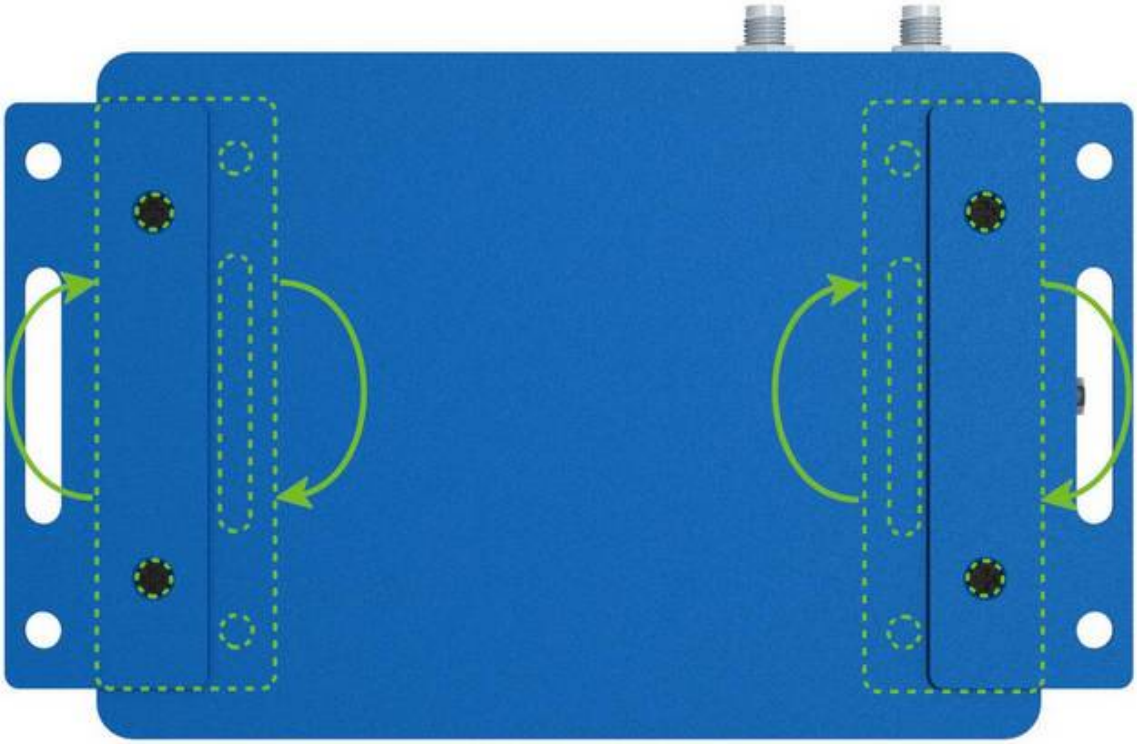

Figure 6: Rotated wall-mounting clips

1.10 DIN Rail Mounting

Info

The DIN rail clip is suitable for a DIN rail according to EN 60715 standards.

Warning

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

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.

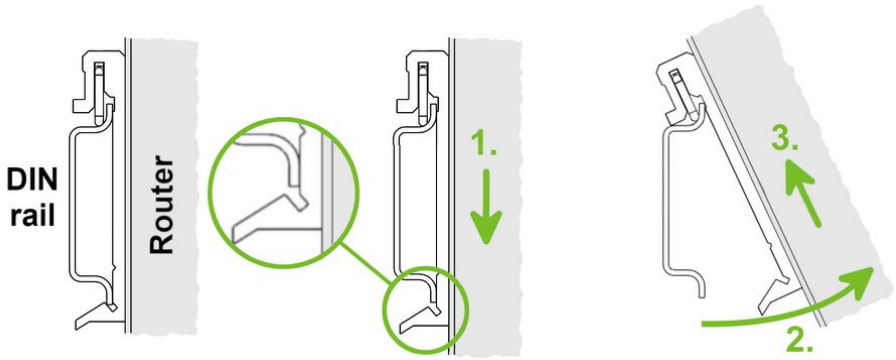

Figure 7: Removing from the DIN rail

1.11 Product Label

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

Figure 8: Product label

1.12 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 *1.2 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 1.2 for an overview of the product's hardware, along with links to chapters offering detailed explanations.

2.1 Antennas

For Wi-Fi models, connect Wi-Fi antennas to the router to *WIFI1* and *WIFI2* RP-SMA female connectors on the right panel.

Info

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

Info

To get maximum throughput when operate Wi-Fi at MIMO 2x2, two antennas with at least 25 dB isolation is recommended.

2.2 Bluetooth

The *Wi-Fi2* connector is compatible with Bluetooth antennas. For detailed Bluetooth specifications, refer to Chapter 3.5. Our router's Bluetooth functionality is divided into three main components:

1. **Kernel Support and Drivers:** Integrated from firmware version 6.2.6, this includes kernel-level Bluetooth support and necessary drivers.
2. **Bluetooth Router Application with BlueZ:** This application, featuring the BlueZ Linux Bluetooth stack, enhances the router's Bluetooth capabilities. It is not pre-installed on the router. To use this feature, download the Bluetooth Router App from our website[1] and install it manually.
3. **Node-RED Applications:** For advanced Bluetooth functionality, Node-RED and its Bluetooth node can be utilized. Like the Bluetooth Router App, *Node-RED*[2] and the *Node-RED Bluetooth Node*[3] are not pre-installed and require manual installation on the router.

[1] https://icr.advantech.com/products/software/user-modules#bluetooth
[2] https://icr.advantech.com/products/software/user-modules#node-red
[3] https://icr.advantech.com/products/software/user-modules#node-red-bluetooth-node

2.3 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.

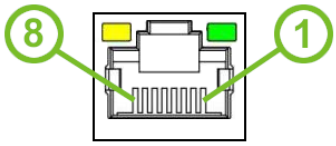

Figure 9: Ethernet RJ45 connector

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 6: Ethernet connector pinout

Info

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

2.4 Power Supply

Terminal block 3.5 mm.

Pin	Signal mark	Description
1	VCC(+)	Positive pole of DC supply voltage (+9 to +36 V DC)
2	GND(-)	Negative pole of DC supply voltage

Table 7: Connection of power connector

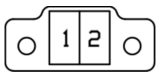

Figure 10: Power connector

Power supply for router is required between +9 V to +36 V DC supply. Protection against reversed polarity without signaling is built into the router.

Warning

- If the router is grounded, using the grounding screw, there is no protection against the reversed polarity. The negative pole of the DC power supply must be at the same voltage reference as the grounding screw. If not, a voltage difference between these two points might damage the router, and only an authorized service center can fix it.
- Unit has to be supplied by a power supply specified as a Limited Power Source (LPS) or CEC/NEC Class 2 source of supply.

For correct operation it is necessary that the power source is able to supply a peak current of 1.2 A.

Circuit example:

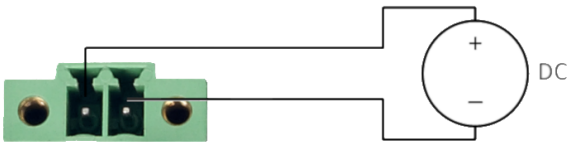

Figure 11: Power supply connection

Info

All metal parts, including the box, are connected together with the negative pole of power supply (common pole). To ground the router can be used the grounding screw located on the left panel.

2.5 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 by a signal applied to the BIN0 input or 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.

2.6 Serial Interfaces and I/O Port

The RS232 and RS485 serial interfaces together with the I/O interface are physically connected to the 10-pin panel socket. All three interfaces are not isolated from the router. The pinout of this conector is described in the tables below.

Figure 12: Serial + I/O connector

Pin	Signal mark	Description
1	B (+)	IN/OUT
2	A (-)	IN/OUT
3	GND	GROUND

Table 8: RS485 connector pinout

Info

We recommend connecting a termination resistor outside the router. Without termination resistors, signal reflections off the unterminated end of the cable can cause data corruption. Termination resistors also reduce electrical noise sensitivity due to the lower impedance.

Pin	Signal mark	Description
4	BIN	BINARY IN
5	BOUT	BINARY OUT

Table 9: Connection of I/O

Pin	Signal mark	Description
6	RXD	IN
7	CTS	IN
8	GND	GROUND
9	RTS	OUT
10	TXD	OUT

Table 10: RS232 connector pinout

The I/O user interface is designed for binary input processing and binary output control. By default, the binary output is open, so it is not grounded. The maximum binary output load is 36 V at 500 mA. The constant current supplied by the binary input is 3 mA.

The functional scheme of connection for the binary input and binary output is drawn on the picture below.

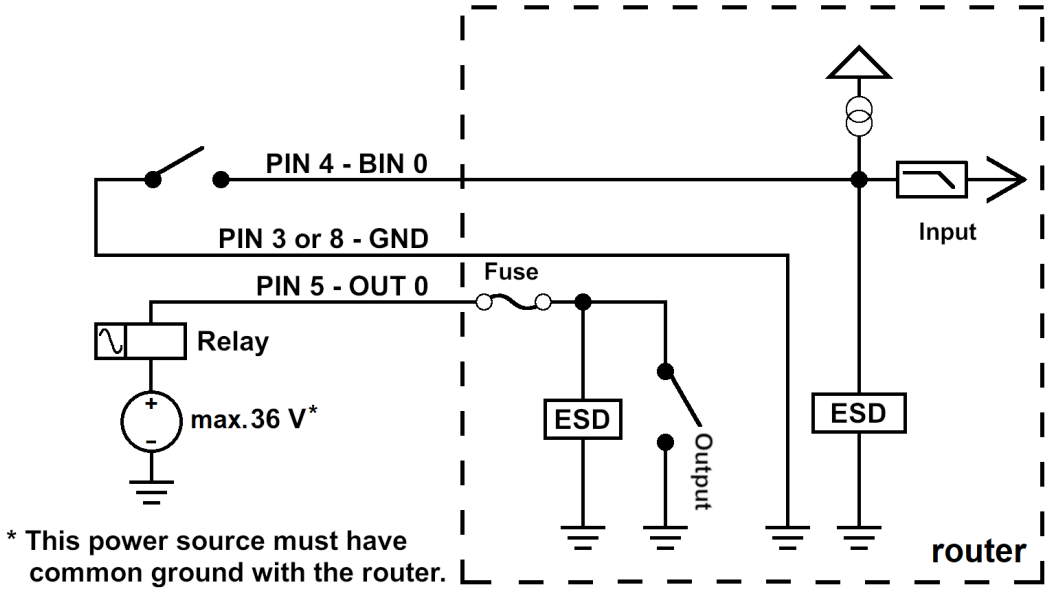

Figure 13: Functional scheme of the binary interface

2.7 LED Status Indication

There are six LED indicators on the front panel to provide router status information. Each ETH port has two additional LEDs that provide information about the port status.

	Caption	Color	State	Description
⏻	PWR	Green Green Green	On Blinking Fast blinking	Starting of the router Router is ready Updating firmware
	USR	Green	On / Blinking / Fast blinking	Function of this LED diode can be selected by user
	ETH0 ETH1	Green Green	On Off	Selected 100 Mbps Selected 10 Mbps
	ETH0 ETH1	Yellow Yellow Yellow	On Brief off blinks Off	The network cable is connected Data transmission The network cable is not connected

Table 11: LED status indication

2.8 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.

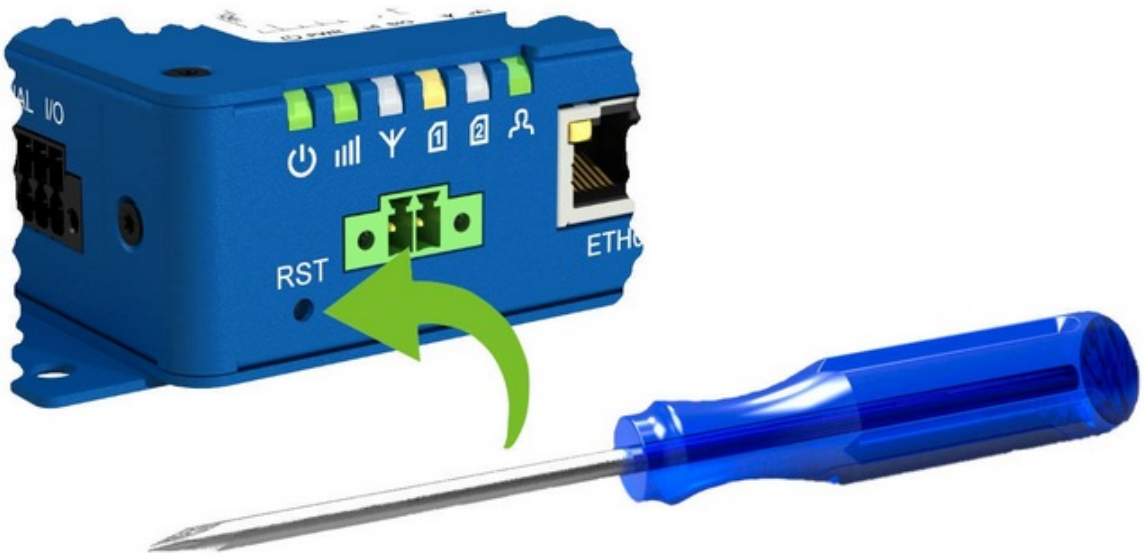

Figure 14: Resetting the router

3. Technical Parameters

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	0 to 95 % relative humidity non condensing 0 to 95 % relative humidity non condensing
Altitude	Operating	2000 m / 70 kPa
Degree of protection		IP30
Supply voltage		9 to 36 V DC
Battery for RTC		CR1225
Consumption @ 9 V	Idle Average Peak LPM mode	2.0 W 2.5 W 5.0 W 20 mW (rev. 2.x)[1]
Dimensions of device		31,2 × 94 × 129 mm
DIN rail clip dimensions		DIN 35 mm, EN 60715
Weight	Metal box	460 g for non-Wi-Fi version 480 g for Wi-Fi version

Table 12: Basic technical parameters

[1] 100 mW for product revision 1.x

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, AS/NZS CISPR 32, FCC Part 15 Subpart B, ICES-003 Issue 6, 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 / UL 62368-1, EN IEC 62311, IEEE 802.3
Transportation	E-Mark E8 homologation number: 10R – 05 10350
Railway	EN 50155 (A1, OT4, ST1, H1, Cat 1 Class B, S1, C1, L4, PD2, K2, PC2)
Cybersecurity	EN 18031-1
National	CE, UKCA, FCC, IC, RCM compliant
Environmental	REACH, RoHS3 and WEEE compliant

Table 13: Standards and regulations

3.3 Type Testing and Environmental Conditions

Phenomena	Test	Description	Test levels
ESD	EN 61000-4-2	Enclosure contact Enclosure air	± 6 kV (crit. A) ± 8 kV (crit. A)
RF field AM modulated	EN 61000-4-3	Enclosure	20 V/m (crit. A) (80 – 1000 MHz) 10 V/m (crit. A) (1 – 6 GHz)
Fast transient	EN 61000-4-4	Signal ports Power ports Ethernet ports	± 1 kV (crit. A) ± 2 kV (crit. A) ± 1 kV (crit. A)
Surge	EN 61000-4-5	Ethernet ports Power ports	± 1 kV (crit. A), shielded cab. ± 2 kV (crit. A)
RF conducted	EN 61000-4-6	All ports	10 V/m (crit. A) (0,15 – 80 MHz)
Radiated emission	EN 55032	Enclosure	Class B
Conducted emission	EN 55032	DC power ports Ethernet ports	Class B Class B
Dry heat	EN 60068-2-2 MIL-STD-810G SAE J1455	+75 °C *, 40 % rel. humidity	
Cold	EN 60068-2-1 MIL-STD-810G SAE J1455	-40 °C *	
Damp heat	EN 60068-2-78 MIL-STD-810G SAE J1455	95 % rel. humidity (+40 °C)	
Vibration	EN 60068-2-64 ed. 2 MIL-STD-810G SAE J1455	Vibration spectrum A.3 (rolling stock)	Category 1 (3 axis, 8 hours per axis)
Shock	EN 60068-2-27 ed. 2 MIL-STD-810G SAE J1455	half-sine, 50 g peak, 11 ms	

Table 14: 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
Antenna connector	2x R-SMA – 50 Ω (MIMO)
Supported Wi-Fi bands	2.412 to 2.472 GHz, 5.180 to 5.825 GHz
Standards	IEEE: 802.11b, 802.11b+g, 802.11b+g+n, 802.11a, 802.11a+n, 802.11ac
2.4 GHz supported channels	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
5 GHz supported channels	36, 40, 44, 48, 149, 153, 157, 161, 165
Type of device	Access point, Station
Security – Standards	WEP, WPA, WPA2, WPA3, 802.1X
Security – Encryption	WEP, TKIP, AES
Security – EAP Types	EAP–FAST, EAP–TLS, EAP–TTLS, PEAP–GTC, PEAP–MSCHAPv2, PEAP–TLS, LEAP
TX Power (2 chains)[1]	max. 20 dBm @ 2.4 GHz max. 23 dBm @ 5 GHz
AP maximum users	Unlimited (Wi-Fi module supports multi-role operation in STA and AP).

Table 15: Technical parameters of Wi-Fi

3.5 Parameters of Bluetooth

Item	Description
Bluetooth Standards	Bluetooth version 2.1 with Enhanced Data Rate Bluetooth 4.2 (Bluetooth Low Energy or BLE)
Features	Bluetooth 4.2 (BDR/EDR/LE), Bluetooth class 1 Adaptive Frequency Hopping (AFH) using Package Error Rate (PER)
Antenna	Shared with Wi-Fi2 R-SMA connector
Frequency Range	2.4 to 2.4835 GHz
Data Rates Supported	1 Mbps (GFSK), 2 Mbps (π/4-DQPSK), 3 Mbps (8-DPSK)
Maximum Output Power	10 dBm
Bluetooth Modulation	GFSK@ 1 Mbps Pi/4-DQPSK@ 2 Mbps 8-DPSK@ 3 Mbps
Encryption support	AES

Table 16: Technical parameters of Bluetooth

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

3.6 System Configuration

Parameter	Description
CPU	Cortex A8, 32-bit, 1 GHz 2 DMIPS per MHz
Flash memory	Available memory space 1 862 MB • 2x 256 MB – FW • 512 MB – User data storage • 838 MB – Space for Router Apps
RAM	512 MB

Table 17: System configuration

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 form 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.

✍ **Serial communication is not working.**

- Verify that the router model supports serial communications. Also verify the serial communication settings. To do so, open the router's configuration menu via the web browser, select the appropriate "Expansion Port" from "Configuration" part of the menu and verify the settings.

✍ **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-3200 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*