Industrial Cellular Routers & Gateways

ICR-2501

Entry-Level Wired Router

Features

- 4× Ethernet 10/100 Mbps (3+1 RJ45)
- 1× DI, 1× DO
- Wide operational temperature range
- Wall and DIN mount options
- Linux-based OS & SW customization
- Optional WiFi 802.11n

Vertrieb durch AMC
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Introduction

ICR-2501 is the ruggedized LAN router for industrial use wherever managing and optimizing network traffic or securing communication without wireless cellular capability on board is required. It keeps compact dimensions, configuration possibilities, and full operating system compatibility with Advantech cellular routers including support of software platforms WebAccess/VPN and WebAccess/DMP. Optional built-in WiFi 802.11 ac/b/g/n with AP, Client, and Multirole modes are available as PN ICR-2501W.

ICR-2501 hosts a reliable CPU delivering sufficient performance for most of today´s applications. Broad software customization possibilities for users are incorporated directly in ICR-OS core (Advantech Linux-based operating system) or by using an additional RouterApp library with apps already developed to enhance specific router functionalities including industrial protocol conversions, dynamic protocols, and support of IoT platforms such as MS Azure, Cumulocity, and others.

The router is equipped with four Ethernet ports while three are switched and one is separated. All 3× ETH0 and 1× ETH1 ports may be independently configurable as LAN or WAN interfaces. The router provides diagnostic functions which include automatic monitoring of the wired connections, automatic restart in case of connection losses, and a hardware watchdog that monitors the router status. Configurable via a secure web interface allows users to configure and manage ICR-2501 from remote locations. ICR-2501 supports real-time data encryption and establishing of VPN tunnels using IPsec, WireGuard, OpenVPN, GRE, etc.

ICR-OS WebAccess/VPN RouterApp

C++ python™ WebAccess/DMP

Model no. - Order Codes		REGION	4× Ethernet 10/100 Mbps	1× I/O	WiFi
	ICR-2501	GLOBAL*	✓	✓	
	ICR-2501W	GLOBAL*	✓	✓	✓

*- Importer/operator needs to check locale legislation (standards, national approvals etc.) and compare with standards available for product if possible to operate the router in target region legally

All product specifications are subject to change without notice.

ADVANTECH iAutomation Premier Partner

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Specifications

System	
CPU	ARM926EJ-S, 600 MHz
Memory	RAM - 128 MB NOR Flash - 64 MB (12 MB for Router Apps, 2 MB for customer data)
Watchdog	HW Watchdog
RTC	Battery backup RTC
Interfaces	
Ethernet	4× Ethernet (3+1), RJ45, 10/100 Mbps, 1.5 kV
I / O	1× Digital Input (48V / 0.5 mA) 1× Digital Output (Open Drain, 48 V / 100 mA) (6-pin terminal block together with PWR)
Reset Button	Reboot / Factory reset
LED Indicators	System, Input, Output, User, ETH

Environmental	
Power Supply	9 – 48 V DC (6-pin terminal block together with I/O)
Consuption	ICR-2501: Idle 2.2 W / Average 2.6 W / Maximum 4.1 W ICR-2501W: Idle 2.5 W / Average 2.9 W / Maximum 6 W
Operating Temperature	-40 to +75 °C
Storage Temperature	-40 to +85 °C
Humidity	5 to 95 %, non-condensing
IP Cover	IP30
Physical Characteristics	
Dimensions	130 mm x 95 mm x 25 mm
Enclosure	Metal Case, Grounding Screw
Mounting	Wall mount, DIN Rail mount
Weight	ICR-2501: 355 g ICR-2501W: 365 g

WiFi - ICR-2501W	
Antenna	1× R-SMA connector
Standards	IEEE802.11 ac/a/b/g/n 2.4 GHz / 5 GHz
Security	WEP, TKIP, AES, WPA, WPA2, WPA3 802.1X
Modes	Access Point (up to 8 clients), Station, Multirole STA & AP

Standards & Regulations	
Radio	EN 300 328, EN 301 893
EMC	EN 301 491-1, EN 301 489-17, EN 610000-6-2, EN 610000-6-3, EN 55032, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6
Safety	IEC 62368-1
National	CE, UKCA
Mechanical	EN 60529, EN 60068-2-27, EN 60068-2-64
Climatic	EN 60068-2-2, EN 60068-2-1, EN 60068-2-14, EN 60068-2-78
Environmental	REACH, RoHS3, WEEE

Accessories

Part Number	Description	Included in the package
CON-ICR2-6-PWR	6-pin PWR / IO connector	✓
	Wall mount kit	✓
	Quick Start Guide	✓
BB-DIN-ICR32	DIN Clip	
BB-KD-ETH	Ethernet cross cable, lenght 1.5m	
OPT1-ANT-WFT-06	Antenna Wi-Fi - ICR-2501W only	
RPS-ICR2-EU	Power Supply, ICR2, 12V/1A, 6-pin, EU plug	
RPS-ICR2-UK	Power Supply, ICR2, 12V/1A, 6-pin, UK plug	
RPS-ICR2-US	Power Supply, ICR2, 12V/1A, 6-pin, US plug	

*For more Antenna accessories visit www.advantech.com

Irrtum und Änderungen vorbehalten – auch ohne vorherige Ankündigung. Verwendete Hardware- und Softwarebezeichnungen, Marken sowie Firmennamen können eingetragene Warenzeichen sein und unterliegen somit den gesetzlichen Bestimmungen. / Information in this document is subject to change without prior notice. The software and hardware designations or brand names used in this text are in most cases trademarks or registered trademarks of their respective companies and are thus subject to law.

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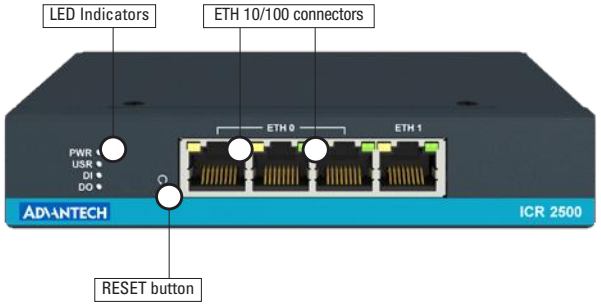
Software	
Operating System	ICR-OS (Linux based)
SW Customization	Router App
Application Development	Open Linux, *Python, BASH, C/C++
Industrial Protocols and IoT	*DF1, *DNP3, *MQTT, *LWM2M
Networking Features and Protocols	DHCP, NAT/PAT, SSH, VRRP, PPPoE, SNMP, SMTP, Dynamic DNS client, DNS proxy, VLAN, 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+, *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, Timer, Power) 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

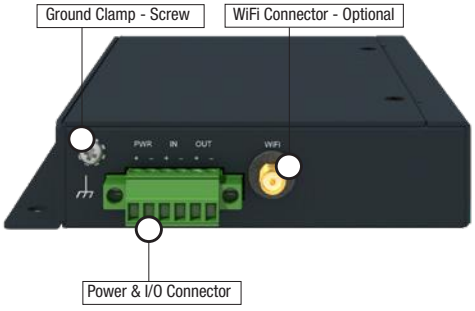
*Functionality is available with installed Router App

Views

FRONT VIEW

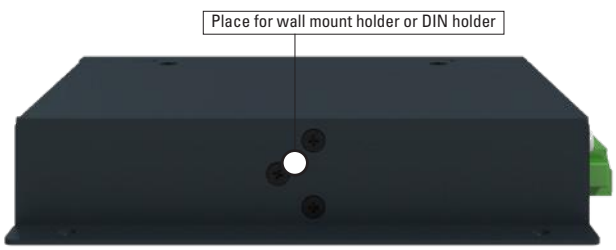


LEFT SIDE VIEW



RIGHT SIDE VIEW

REAR VIEW



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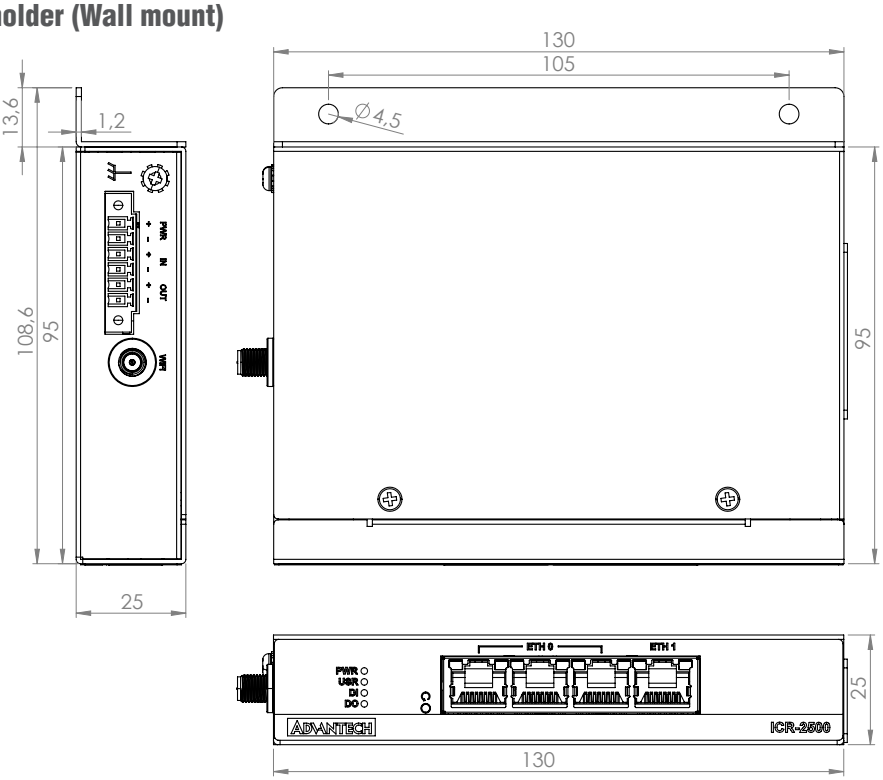
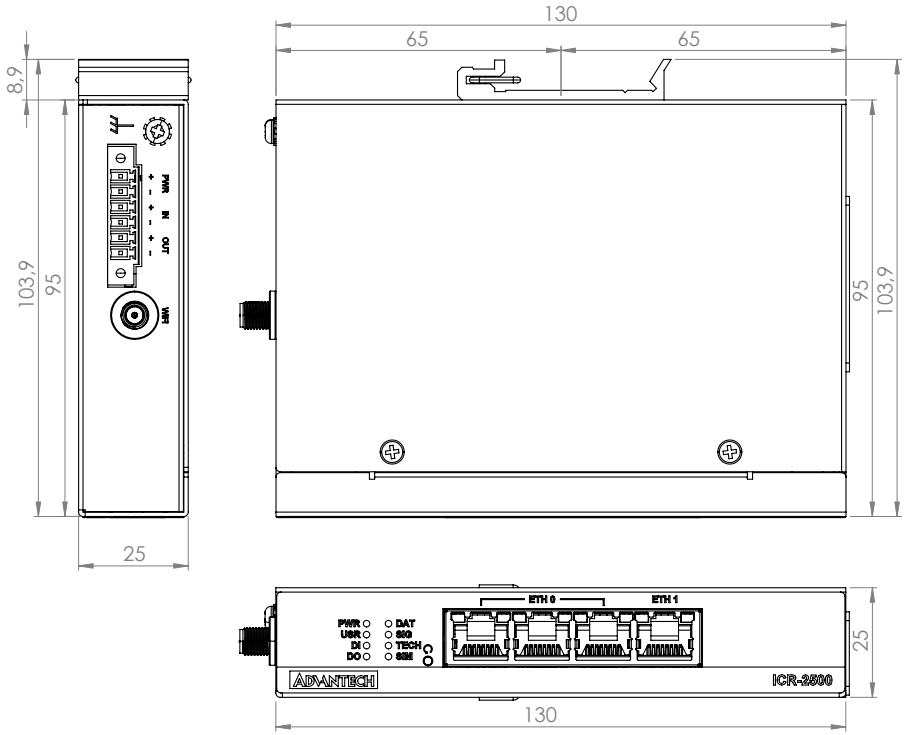
Dimensions - Technical Drawing

Unit: mm

Version with L holder (Wall mount)



Version with DIN holder (*Optional Accessories)



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