

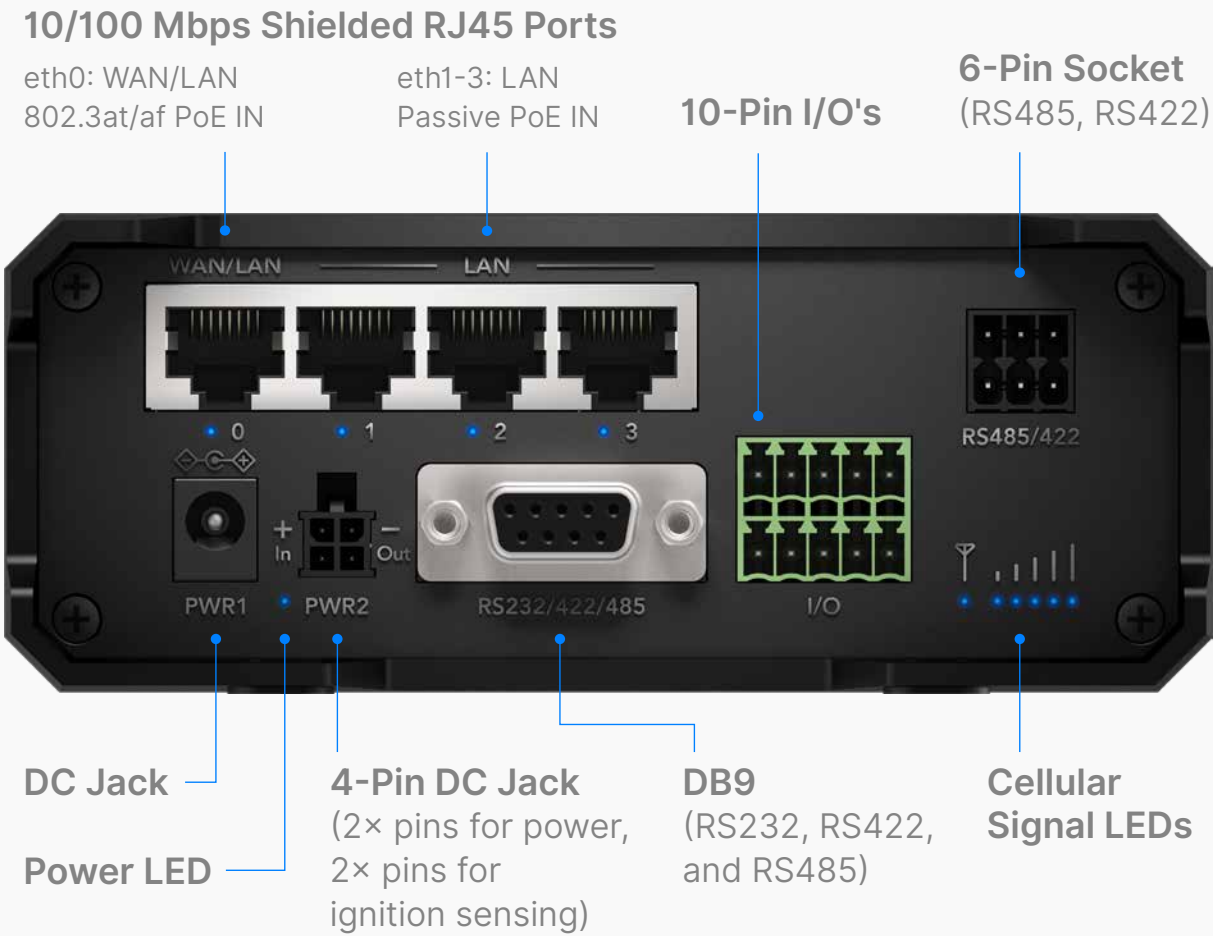
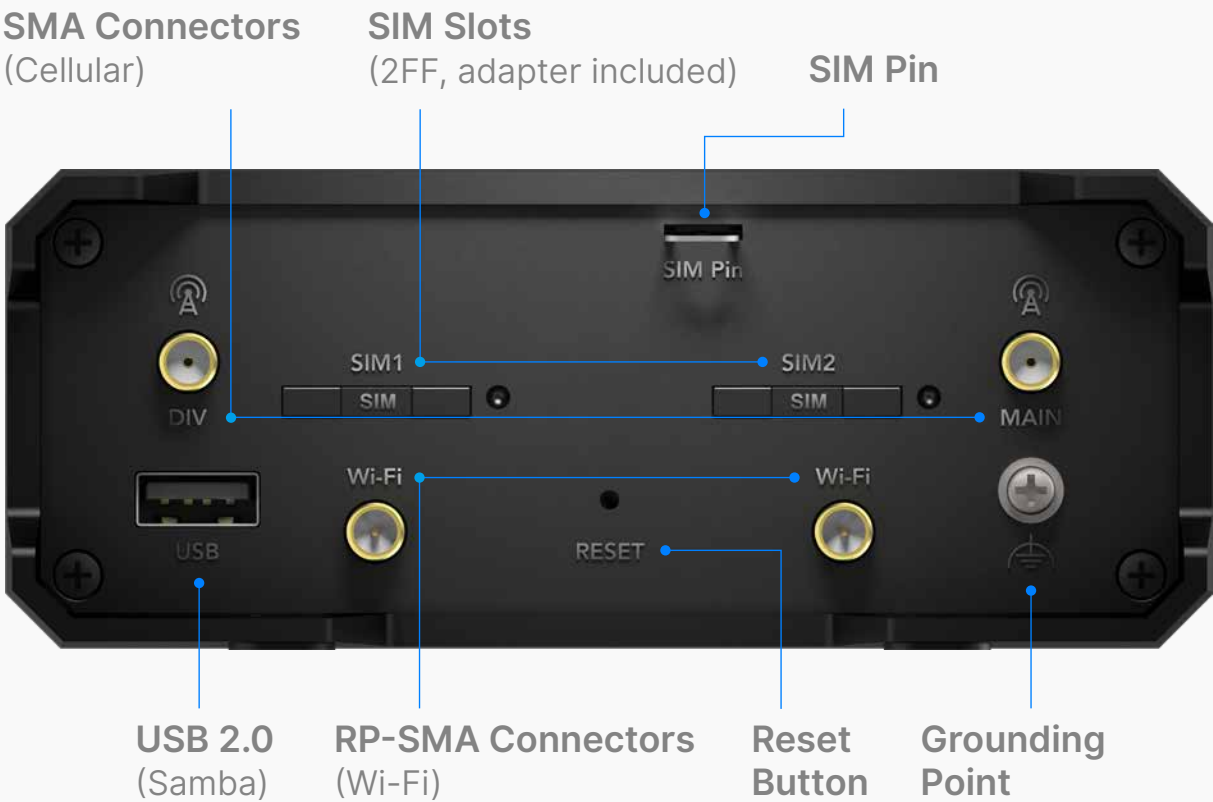
Model: IR04

4G LTE Cat. 4 Industrial Wi-Fi Router

-  4G LTE Cat.4
Dual SIM Card Slots
-  Ethernet, RS232, RS422,
RS485, USB, and I/O's
-  802.3at/af, Passive PoE
4-Pin DC with Ignition-Sensing

Datasheet





Built for Tough Environments



Transportation



Retail Enterprise



Power Grid Management



Manufacturing and Automation



Highlights

A cellular Wi-Fi router with mobile connectivity for networking in harsh conditions such as moving vehicles, manufacturing, maritime, oil & gas, and mining.

- 4G Cat. 4 with Max 150 Mbps DL
 - 802.3at/af, 24~57V Passive PoE
 - IP30, -40~75°C (-40~167°F), EN61373
 - Serial (RS232/422/485), I/O, USB
- 300 Mbps Wi-Fi
 - 2× SIM Slots
 - 4-PIN DC with Ignition Sensing
 - DIN-Rail, Wall-Mount

Package Content

- IR04
- Power Adapter
- Detachable Wi-Fi Antennas
- Detachable Cellular Antennas
- 6-PIN Connector
- 10-PIN Connector
- 4-PIN Connector
- Ethernet Cable
- SIM Adapter KIT
- Installation Guide



Hardware Specs

CPU	CPU Details	580 MHZ Single-Core, MIPS24KEC
Memory /Storage	Flash/ROM	16 MB (128 Mbit) NOR
	DDR/RAM	128 MB (1 Gbit) DDR2
Cellular	Cellular Standards	4G Cat. 4
	Cellular Antennas	2× Detachable
	Detachable Cellular Antennas Connector	SMA Female
	SIM Options	2× Mini SIM Slots (2FF)
	Available Versions	EU, US, ME, LA
	EU Version Cellular	Suitable Region
Max DL Speed		150 Mbps (LTE-FDD), 130 Mbps (LTE-TDD)
Max UL Speed		50 Mbps (LTE-FDD), 30 Mbps (LTE-TDD)
Advanced		DL 2×2 MIMO
Cellular Bands		LTE-FDD: B1/3/5/7/8/20/28
		LTE-TDD: B38/40/41
		WCDMA: B1/5/8
US Version Cellular		Suitable Region
	Max DL Speed	150 Mbps
	Max UL Speed	50 Mbps
	Advanced	DL 2×2 MIMO
	Cellular Bands	LTE-FDD: B2/4/5/12/13/14/66/71
		WCDMA: B2/4/5



Hardware Specs

LA Version Cellular	Suitable Region	Latin America, Australia, New Zealand
	Max DL Speed	150 Mbps (LTE-FDD), 130 Mbps (LTE-TDD)
	Max UL Speed	50 Mbps (LTE-FDD), 30 Mbps (LTE-TDD)
	Advanced	DL 2×2 MIMO
	Cellular Bands	LTE-FDD: B1/2/3/4/5/7/8/28/66 LTE-TDD: B40 WCDMA: B1/2/4/5/8 GSM: B2/3/5/8
ME Version Cellular	Max DL Speed	150 Mbps (LTE-FDD), 130 Mbps (LTE-TDD)
	Max UL Speed	50 Mbps (LTE-FDD), 35 Mbps (LTE-TDD)
	Advanced	DL 2×2 MIMO
	Cellular Bands	LTE-FDD: B1/3/5/7/8/20/28 LTE-TDD: B38/40/41 WCDMA: B1/8 GSM: B3/8
Wireless	2.4 GHz Wi-Fi Speed	300 Mbps
	2.4 GHz Wi-Fi Streams	2T2R (2×2 MIMO)
	Wi-Fi Antennas	2× Detachable
	Detachable Wi-Fi Antennas Connector	RP-SMA Female
	FEM or PA/LNA	2.4 GHz: 2× Internal

Wireless	Range Performance	Max: 130 m (427 ft) Tested in open-space environments with minimal interference. Actual WiFi range may vary depending on layout and wall materials. Refer to the Wall Performance specifications for placement suggestions.
	Wall Performance	One wooden walls with thickness < 10 cm (4") One concrete wall with thickness < 10 cm (4")
Interfaces	Physical Buttons	Reset Button
	10/100 Mbps RJ45 Ports	4
	Ethernet Notes	Port 1 is WAN/LAN configurable, and the rest are LAN ports
	USB Ports	1× USB 2.0
	10-PIN IO	1× Digital Dry Input (0-1.2V for state 1 1.8-3V for state 0) and GND1 1× Digital Galvanically Isolated Input (0-4V for state 0 9-30V for state 1) and GND2 1× Digital Open Collector Output (30V≐250mA) and 1× GND3 1× +V (<30V) and GND 3 for External VCC for the Digital Output 1× C & NO - Common and Normally Open contacts of the internal Non-Latching Relay respectively (Max. 24V≐4A or 40V~4A) 1× A and GND1 - ADC input. Analog voltage range: 0-24V. The input can be configured for 4-20 mA sensor protocol as current measurement (AcL)



Hardware Specs

Interfaces	Other IO	1× Ignition Sensing and GND on the 4-PIN Power Connector
	DB9	1
	DB9 Protocols	RS232
		RS422
		RS485
	6-PIN Industrial Socket	1
	6-PIN Industrial Socket Protocols	RS485
		RS422
	LED	Power
		Cellular
		Cellular Signal Strength
		Link/ACT of Each Ethernet Port
Power	Power Input	DC Jack
		PoE via Ethernet Port
		4-PIN DC
	Power Input Note	Only two PINs in the 4-PIN power ports are used for powering. The other two are used for ignition sensing.
Power	Power Methods	DC
		802.3at/af PoE
		Passive PoE
		4-PIN DC

Power	Power Methods Note	The WAN/LAN port accepts 802.3at/af PoE. The LAN ports accept Passive PoE.
	DC	12V 1A
	4-Pin DC	11-57V $\overline{=}$
	Passive PoE	24-57V, Max. 12W
	Power Adapter	Input: 100 ~ 240 V, 50/60 Hz AC
		Output: 12V 1A DC
	Max Power Consumption (W)	9.6W
	Idle Power Consumption (W)	2.8W
Reliability	Grounding Methods	Grounding Point
	EMC	EN55032 Class A
		EN55035 Class A
	EMI	FCC 47 CFR Part 15B Class A
	EMS	IEC/EN 61000-4-2, Level 4 ESD: Contact: 8kV; Air: 15kV
		IEC/EN 61000-4-3, Level 4 RS: 80 MHz to 1 GHz: 10 V/m
		IEC/EN 61000-4-4, Level 4 EFT: Power: 2kV; RJ45: 4kV
		IEC/EN 61000-4-5, Level 4 Surge: Power: DM 2kV, CM 4kV; RJ45: CM 6kV
		IEC/EN 61000-4-6, Level 3 CS: 10V
		IEC/EN 61000-4-8, Level 5 PFMF
		IEC/EN 61000-4-9, Level 5
		IEC/EN 61000-4-10, Level 5



Hardware Specs

Reliability	Power Protection	Polarity Protection
		Overvoltage Protection
		Surge Protection
	Shock	IEC 61373
	Vibration	IEC 61373
	Free Fall	IEC 60068-2-32
	Safety	IEC/EN 62368
	Ingress Protection Rating	IP30
	Environment	Operating Temperature:
		-40 °C ~ 75 °C (-40 °F ~167 °F)
		Storage Temperature:
		-40 °C ~ 75 °C (-40 °F ~167 °F)
		Operating Humidity:
		5% ~ 95% non-condensing
		Storage Humidity:
		5% ~ 95% non-condensing

Certifications	FCC, CE	
Mechanical	Casing Material	Aluminum Alloy
	Dimension	Device:
		129×114×50.6 mm
		5.08×4.49×1.99 inches
		Mounting Space:
		164×130×52 mm
		6.46×5.12×2.05 inches
	Installation	Wall-mount
DIN-Rail		



Software Specs

Wireless	Wi-Fi Standards	Wi-Fi 4
	Max Wi-Fi Modulation	64-QAM
	Max Capacity	128
	Recommended Client Upper Limit	20
	Max Wi-Fi Channel Width	40 MHz
	Wi-Fi Security	WPA/WPA2/WPA3
	Guest Network	2.4 GHz
	WPS	True (In Web Management)
General	Operation Modes	Cellular Router / Wi-Fi Router
		WISP
	Cellular APN	Band Select (Band Lock)
		Cellular Mode Select
		Data Roaming
		APN Profile
		Manual APN Profile
		MTU Value
	Cellular Mode	4G Only / 3G Only / Auto
	WAN Mode	DHCP / Static IP / PPPOE
		L2TP / PPTP
	Internet Failover Sequence	WAN / WISP
		Cellular

Network	QoS	Per-User Rate Limiting
	DHCP	Address Reservation
		DHCP Client List
		Server
	IP Versions	IPv4 / IPv6
	IPv6 Protocols	Relay
		Dynamic (SLAAC/DHCPv6)
		Static (Fixed IP)
		Passthrough
	TTL Customization	464XLAT
		MAP-E
		DS-Lite
		Extend
	IGMP	Spoof
		Custom
		IGMP Proxy
	Forwarding	IGMP Snooping
		Port Forwarding
		Port Triggering
		UPnP
		DMZ



Software Specs

Network	Firewall	SPI Firewall
		DoS Protection
		Block PING
	Application Layer Gateway	IPSec Passthrough
		L2TP Passthrough
		PPTP Passthrough
		FTP Passthrough
		TFTP Passthrough
		H323 Passthrough
		SIP Passthrough
		RTSP Passthrough
Utilities	VPN Server & VPN Client	WireGuard
		OpenVPN
		ZeroTier
		PPTP, L2TP, IPSec
	DNS Options	Manual DNS
		Rebind Protection
		Override Clients' DNS

Utilities	DNS over TLS Providers	Cloudflare
		Google
		Quad9
		Custom
Input/Output	USB Functions	Samba Server
	Wake on LAN	True
	Online Detection	True
	Status Panel	Current Input Status
		Relay Status Control
		Isolated Output Control
		Ignition Output Control
	Input Method Select	Digital Input
		Analog Input
	Digital Input Trigger	Rising
		Falling
		Both
	Analog Input Trigger	Voltage Change
		Current Change
	Input Rules	Type Select
		Delayed Execution
		Output Type
		Output State
		Revert Period
		Maintain Status after Reboot



Software Specs

Input/Output	Trigger Actions	Activate Output
		Send SMS
		SIM Switch
		Turn On Wi-Fi
		Turn Off Wi-Fi
		Reboot
	Output Schedulers	Output Type
		Target State
		Repeat
Serial	Modes	TCP Client
		TCP Server
		UDP
		Modbus TCP over Serial Gateway
Management	All Devices Management	Wi-Fi Time Schedule
		MAC Filter
		IP/MAC Binding
	Per-Devices Management	Internet On/Off
		VPN On/Off
		Online Time Schedule
		Device Rename
	Content Management	Domain Filter
		IP Filter

System	Local Control Method	Config Web Page		
		App Control		
	Remote Control Method	App Control		
		Config Page via HTTP		
		Config Page via HTTPS		
		TR069		
	Firmware Upgrade	Local Update		
		App (Over the Air)		
		Online Update		
	Diagnostic Tools	Diagnosis / Ping / Traceroute		
		NSLookup / System Log		
	Languages	English	Bengali	Catalan
		Czech	German	Greek
		Spanish	French	Hebrew
		Croatian	Hungarian	Italian
		Japanese	Khmer	Korean
		Dutch	Norwegian	Polish
		Portuguese	Romanian	Russian
		Slovak	Swedish	Thai
Turkish		Ukrainian	Vietnamese	
Simplified Chinese		Traditional Chinese		
Reliability	Timed Reboot			
	Backup and Restore			

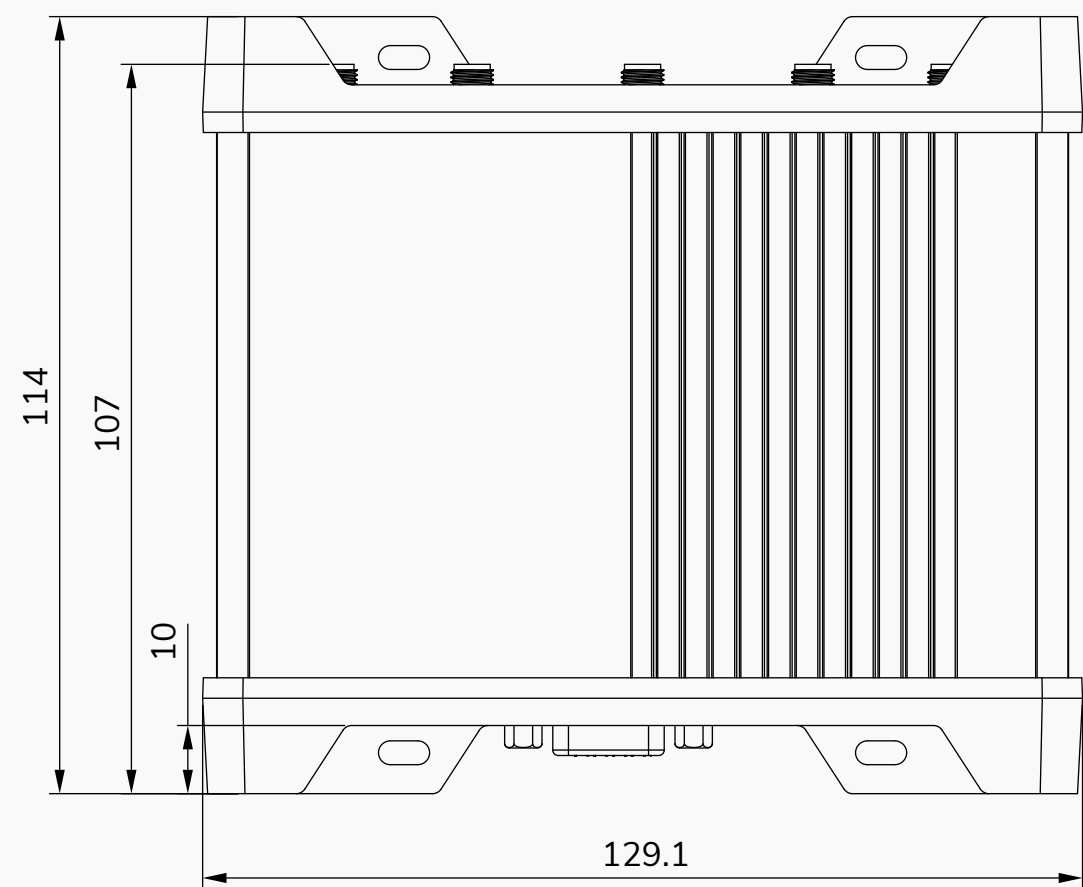


Software Specs

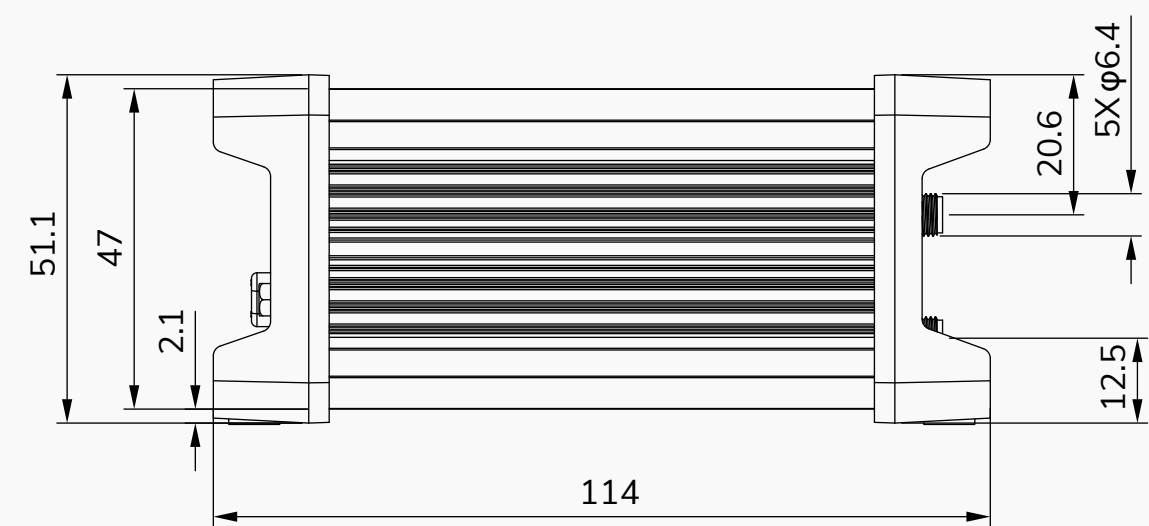
Dashboard	Panel	Internet Status
		Devices Management
		Cellular Status
		WAN Status
		LAN Status
		WISP Status
		Wi-Fi Status
		VPN Status
		DHCP Server Status
		System Version
	Charts	Cellular Speed
		Internet Speed
		WISP Speed
		Wi-Fi Speed

Spatial Measurements

TOP VIEW

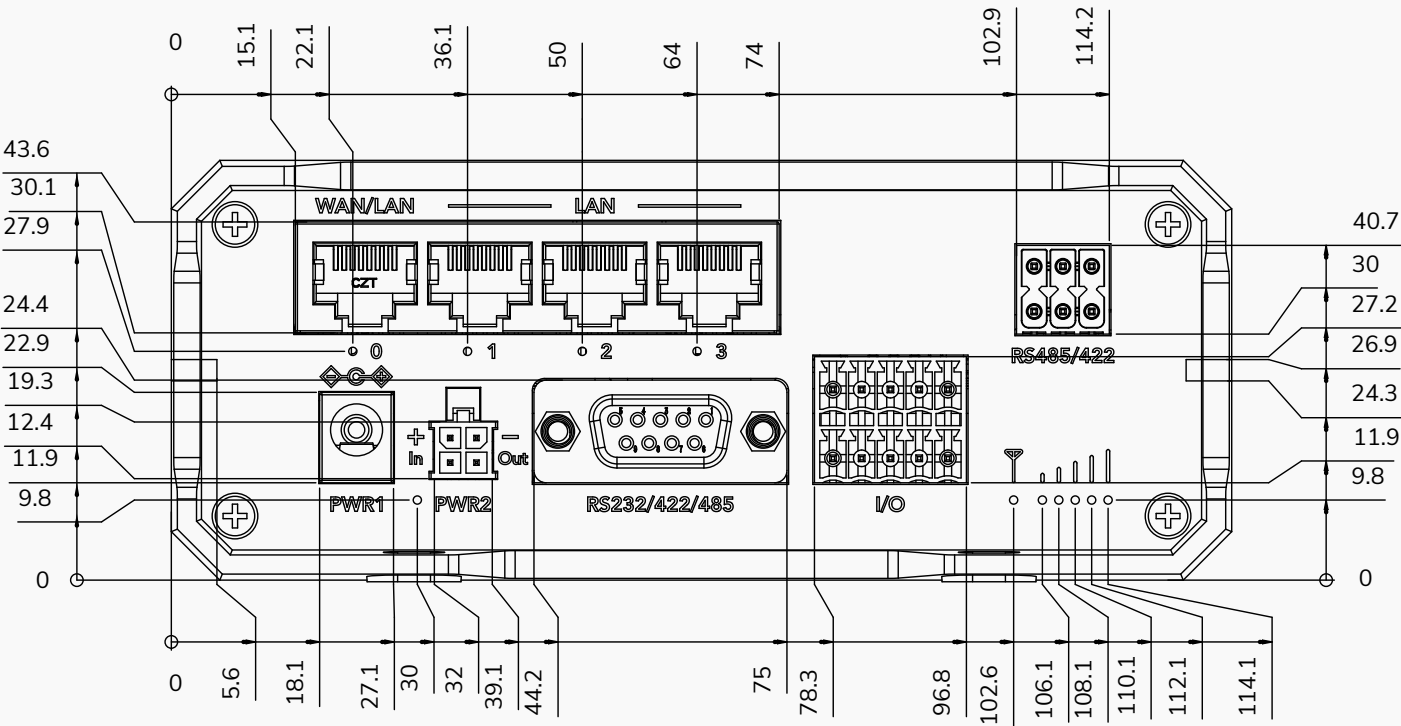


RIGHT VIEW

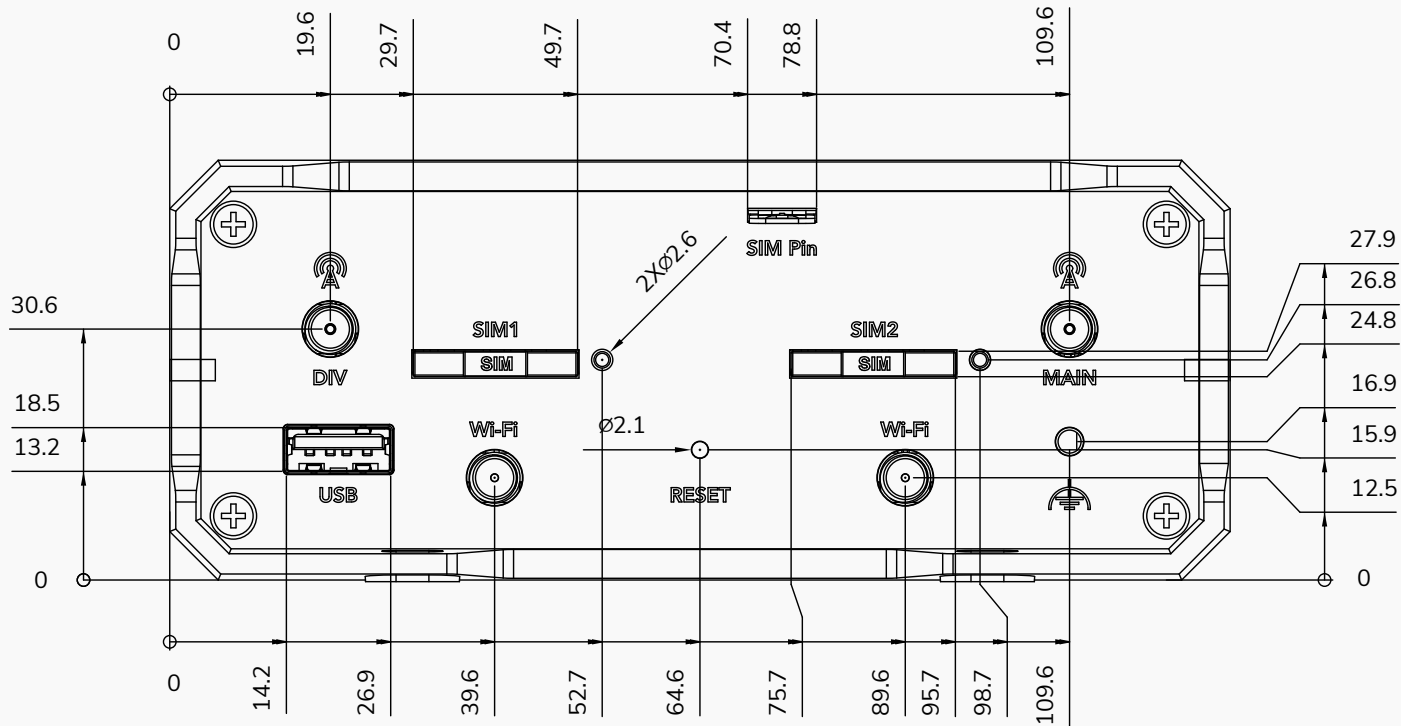


Spatial Measurements

FRONT VIEW



REAR VIEW



Spatial Measurements

