

RAR4 Transport/Infrastructure Wireless Computers

With 3G or 4G LTE, WiFi, GPS Receiver and 5 Port Ethernet Switch

RSR4 Wireless Computers are the ideal solution for every rolling stock or stationary application that requires a rugged wireless computer or router with fast, low power CPU and/or a powerful GPU to transcode and stream data. All RAR4 devices contain an internal, fully managed Ethernet Switch, a powerful GPS module, a mobile communication modem that can be used worldwide (different versions) and an easy to use WLAN module that can be operated in access point or client mode. The RAR platform devices contain an on-board supervision system that is external to the CPU and which constantly supervises the system. Thanks to its simple but highly stable buildup and partially redundant power supplies, the RAR4 is capable to be operated in all transport and infrastructure applications.



Figure 1: RAR4 Wireless Computer

Features

- Very efficient fanless design, Dual Core 1.0GHz CPU and NVidia GPU
- 8:1 Power supply, 9-78V (M12 A-Coded)
- 3G or 4G/LTE Modem with optional 2x2 MIMO and voice support
- WLAN Module with access point
- High Sensitivity GPS Receiver
- Managed 5 Port Ethernet Switch with 4 external ports (M12 D-Coded 4 pin).
- Digital I/Os available (optional)
- FRAM Memory for dynamic configuration and System Status storage
- Push-Push SIM Slot(s) with mountable cover
- Color coded FAKRA Standard antenna connectors
- E1 automotive Type Approval
- EN50155 compliant hardware and software
- Power Supply Backup for controlled power down in case of power outage
- Tx Temperature Range (-40-85°C)
- Compact enclosure 105 x 170 x 34mm (with adaptable mounting flanges)

Key Benefits

The RAR4 Railway/Automotive Computers are best suited for any application or system that need a dynamically configurable computer or router platform with full supervision capabilities. Users can easily run their own software applications on the device using our highly sophisticated configuration interface.

Benefit	Description
Rugged buildup	Simple buildup means insensitivity to mechanical shock and vibration. Tested above EN50155 specs
High Performance CPU	Run sophisticated applications using data transcoding or stream reception and supervision using the integrated dual code ARM CPU with powerful NVidia GPU
Low Power Design	The device can be installed in dense locations due to low heat generation
External Supervision	The CPU is constantly supervised, if anything happens with the the operating system or application, the system can be restored if necessary.
Small size	Easy to use for retrofit projects. The device can be mounted in areas with only small available space
Modern Configuration Interface	Either an internal or external application can access the complete supervision and configuration interface programmatically. Graphical user interfaces can be built very easily on top of the RESTful interface provided with all RAR devices.
Integrated Ethernet Switch	A fully managed Ethernet switch is integrated. Users do not need to use an external Switch. All switch configurations are accessible via the configuration interface.
High performance GSM Modem	With different modem type depending on standards, RAR devices can be used worldwide

Configuration Interface and System Software

PARAMETRIC provides an easy to use RESTful configuration interface to support the complete configuration handling and system supervision. Configurations can be created, downloaded and stored. For systems using dynamic configuration, we provide the possibility to store the configuration in FRAM memory, so the file system can be left read only.

Feature	Description
Configuration Handling	Create, store, backup and download configuration in JSON format
System Supervision	Get static data such as serial number, production date, as well as voltage, temperature, uptime, service status
Hardware Configuration	CPU, managed Ethernet Switch, GPS, WLAN, GSM, LEDs
Services Configuration	DNS, DHCP, SNMP, Routes, Firewall, Time, WAN, VPN, GSM

Access Control	Configuration interface access, SSH
Expandability	The configuration interface can be extended with other functions, which results in a new, custom API, depending on customer requirements

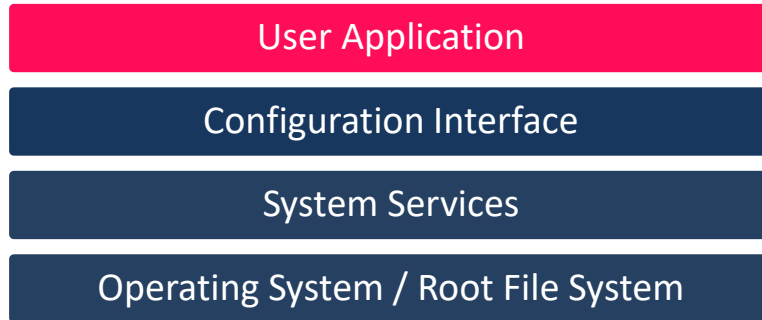


Figure 2: Software Layers

Secure Remote Access to RAR Unit and connected Devices

PARAMETRIC provides a sophisticated remote access solution along with the RAR transport computers.

The solution features a sophisticated user and domain management. System Managers can set up and manage their projects, deployments, users and units in the field using the web based M2M administration software. Users who connect to the vehicles do not need to cope with any licensing or administration.

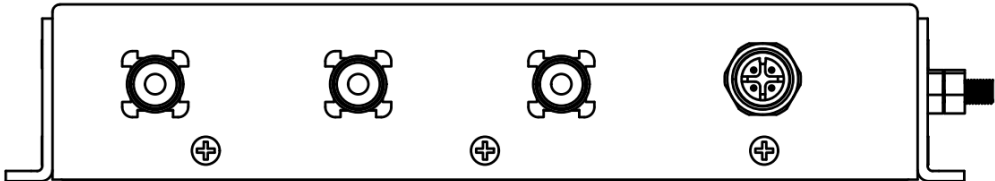
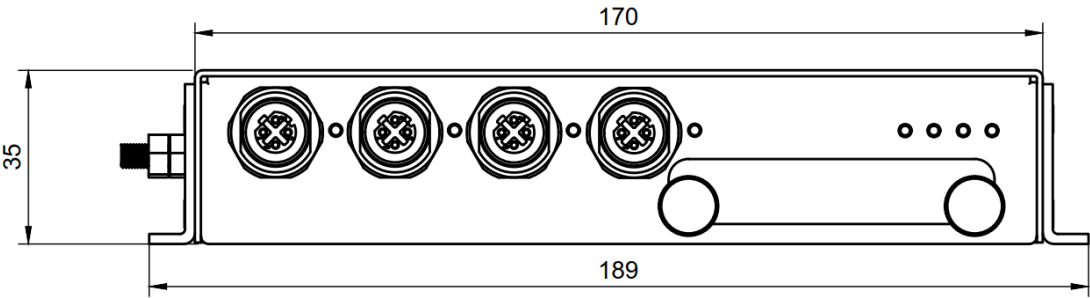
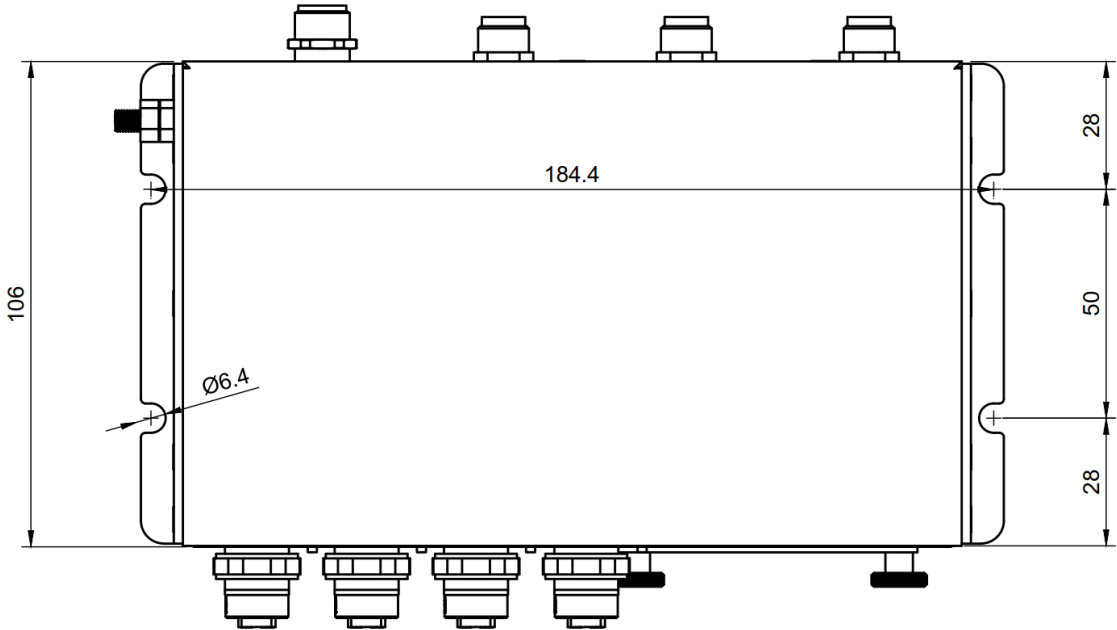
Contact us to get more information on Secure Remote Access for your RAR units.

Specifications / Ordering Information

Specification	RAR4-4-3	RAR4-3-3	RAR4-4-4
Conformity / Type Approvals	<ul style="list-style-type: none"> ▪ R&TTE, CE ▪ EN55022:2010, EN 61000-6-3:2007+A1:2012, EN 50121-3-2:2006+AC:2008 (Emission) EN55024:2010, EN 50121-3-2:2006+AC:2008 (Immunity) ▪ EN50155 Tx ▪ CEN / TS 45545 according to TS 45545-2 ▪ Automotive: E1 Type Approval 		
CPU	NVidia Tegra 2 Dual Core 1GHz	i.MX6 DL or NVidia Tegra 2	NVidia Tegra 2 Dual Core 1GHz
WWAN 3G	<ul style="list-style-type: none"> ▪ Dual Band UMTS/HSPA+ (900/2100 MHz) ▪ Dual-Band GSM (900/1800 MHz) ▪ Antenna Connector : FAKRA color coded 		

	<ul style="list-style-type: none"> ▪ Full Voice Interface 		
Full voice interface	No	Yes	Yes
WWAN 4G	Optional, please call	-	<ul style="list-style-type: none"> ▪ Penta Band LTE: 800/900/1800/2100/2600 MHz ▪ Dual-Band GSM (900/1800 MHz) ▪ Antenna connector : FAKRA
2*2 MIMO GSM	No	Yes	Yes
SIM Card Slot	1 SIM Card Slot Push/Push	1 or 2 SIM Card Slots Push/Push	1 SIM Card Slot Push/Push
Power Supply	<ul style="list-style-type: none"> • 9-78V DC • 8W max Power • Fanless operation 		
Ethernet	<ul style="list-style-type: none"> ▪ 2 or 4 * 10/100 Mbps, auto MDX, M12 connector 4 poles D-coded female ▪ Powerful managed Ethernet Switch 		
Number of available Ethernet Ports	4	3 (+1 on extension slot)	4
GPS	<ul style="list-style-type: none"> ▪ GPS/QZSS/GLONASS receiver ▪ Tracking sensitivity -161 dBm ▪ Supports active or passive antenna ▪ Antenna connector : FAKRA 		
Accelerometer for inertial navigation	No	Optional	Optional
Extension Slot	No	Yes	No
WLAN / WiFi	<ul style="list-style-type: none"> ▪ IEEE 802.11 b/g/n radio - Can be used as access point ▪ FAKRA antenna connector ▪ Symbol rate up to 72.2Mbps 		
Dimensions	170.4mm (with standard flanges 210.4mm) x 32mm x 104.8mm		
Weight	992g		
Environmental Protection	IP40		
Temperature Range	Tx -40 - 85°C (EN50155: -40-70°C and 10 Minutes at 85°C ambient temperature)		
Product Lifecycle Status	Not for new designs	New Product	Active
EOL	n/a	n/a	n/a
Last Time buy	n/a	n/a	n/a

Mechanical Specifications



Obsolescence Policy

Our platform products contain high performance subsystems which could potentially reach end-of-life status during the lifetime of units in the field. In order to ensure that we can always supply new units and provide repairs or replacements where needed, we offer obsolescence management services on request (subject to contract with customers).

All plugin software is kept hardware agnostic wherever possible.

Product Lifecycle

↓	New	This product is new and not yet in full production
	Active	Full production and no indication of EOL
	Not for new designs	Indication of EOL
	EOL	Product is at end of life, but can still be ordered until last time buy date
	Obsolete	Product cannot be ordered anymore (after last time buy date)

Support

We support our customers in integrating our products into their systems. Call us to get more information and tell us about your requirements.

Contact Information

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