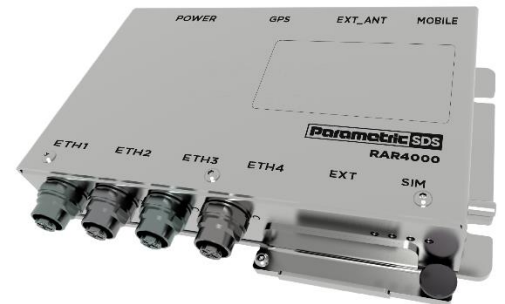


RAR4000 Series

Mobile Vehicle Edge Computer with Image Processor, Neural Network Accelerator and managed Gigabit Ethernet Switch

Small, efficient, fully monitored and resilient - RAR4000 edge computers with router capability are used wherever fast algorithms are required for real-time control or alarming with low heat and in confined spaces. All RAR4000 devices include a managed Gigabit Ethernet switch with port-based VLAN. The high-performance GNSS module always provides an accurate position and the globally deployable LTE modem ensures stable data transmission. High-security remote access, fleet management capabilities and software container infrastructure make software integration simple and fast.

RAR4000 units can be integrated into the Parametric SDS RET measurement system in a WiFi Mesh to carry out AI based optimization or control tasks. They can also be used as standalone computers with router functionalities and a specific software container for user applications.



GENERIC FEATURES

- EN50155 compliant hardware and software
- E1 automotive Type Approval
- Very power efficient fanless design
- Fully supervised hardware
- Compact enclosure 105 x 170 x 34mm
- Power Supply Variants 18-75V or 36-160V
- Ignition pin for low power functionality
- Voltages/Current/Power monitoring
- Quad Quad Arm Cortex™-A53 1.6GHz CPU
- 800MHz ARM Cortex™ - M7 Realtime Processor
- 4GB RAM / 32GB Flash Memory
- LTE Class 4 modem
- Integrated High Performance GPS/GNSS
- WiFi / WiFi Mesh networking (Option)
- Linux Operating System
- LXC or Docker Software Container Architecture for Applications
- Security Hardened and configurable Firewall
- Supercap backed Real Time Clock

APPLICATIONS

- Railway or Vehicle Monitoring
- Video transcoding and streaming
- Energy Optimization
- Driver Supervision
- Generic Edge Computing Tasks

DATA INTERFACES

- Integrated managed 4 Port Gigabit Ethernet Switch
- 4 Gigabit Ethernet Interfaces (WAN) M12 8 Pin X-Coded
- LTE Class 4 Mobile Connectivity
- GPS / GNSS
- WiFi / WiFi Mesh (Option)
- SIM Card Slot for Modem / eSIM Option
- Vibration proof SD-Card Slot
- USB-C serial console with protection
- M.2 Slot for Modem Upgrade or Memory
- Color coded FAKRA or SMA antenna connectors

RELIABILITY

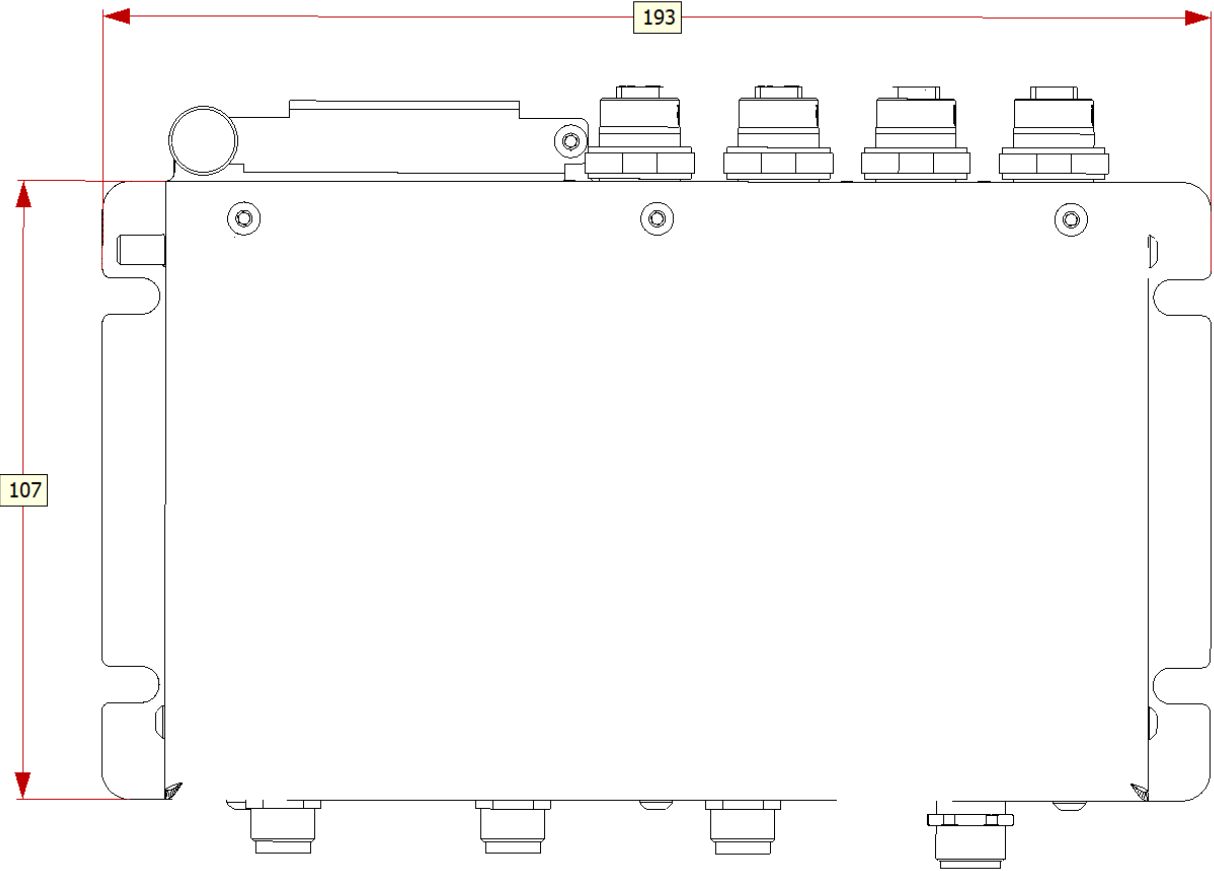
- EN50155 compliant, ultra rugged build
- 2 * Redundant Power Supplies
- Conformal coated PCBs
- Supercap Power Backup with Alarming in case of Voltage Drops
- Complete system monitoring by specific supervision MCU
- Hardware + Software Watchdog
- Power Monitoring and alarming by Supervision MCU

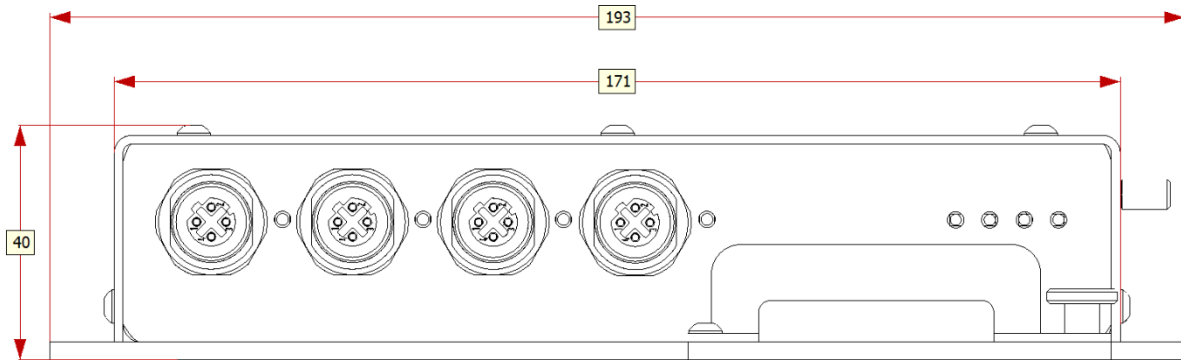
SPECIFICATIONS

Spec	Min	Nom	Max	Unit
Supply Voltage (EN50155)	24		110*	V
Power Consumption			9	W
Weight		960		grams
Operating temperature range	-40		70	°C
Storage temperature range	-40		85	°C
Humidity (non-condensing)			90	%

*) Depending on variant

PHYSICAL DIMENSIONS





ORDERING INFORMATION

	RAR420v*	RAR421v	RAR430v	RAR431v
FAKRA Antenna Connectors	X		X	
SMA Antenna Connectors		X		X
Wifi Mesh	-	-	X	X
Product Lifecycle	New	New	New	New

* v = Nominal Input voltage

v=1	24-48V
v=3	70-110V

COMPLIANCE

Environmental	EN50155:2017 EN61373:2010 (Category 1, class B, all three axis) EN60068-2-1/2/6/27/30/31 EN60529:1992+A2:2013, IP40
EMC	EN50155:2017 EN61000-4-2-6 EN55022:2006 + A2:2010 ETSI EN301 489-1/ -19/ -52 (EMC testing LTE modems and GNSS)
Electrical Safety	EN 62368-1:2014 +AC:2015 +A11:2017
RED	ETSI EN301 511 (Spurious Emissions GSM900/1800) ETSI EN301 908-1: V11.1.1, -2: V11.1.2, -13: V11.1.2 (Spurious Emissions LTE Band: 1,3,8,20;
Fire behaviour	EN45545-2:2013 +A1:2015 (HL 1-3)
Hazardous Materials	RoHS (2011/65/EU) EN IEC 63000:2018


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 AND SERVICES

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

DISCLAIMER

We make every effort to keep our data sheets and specifications complete and accurate. However, we cannot guarantee that they are completely error-free and therefore accept no responsibility for any errors, omissions or consequences arising from the information contained in this document or any other document supplied with the equipment described herein. Parametric GmbH reserves the right to make changes to its products or specifications at any time without notice.

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