

Rugged Computer

COMPACT RSL Rugged Series

Industrial rugged PC with Intel® Atom™ Elkhart Lake processor (x6000)



image similar

RPC/COMPACT82 - RSL

This fanless rugged computer RSL82 is based on the Intel® Atom™ Elkhart Lake (EHL) processor technology, using the new 10nm "Tremont" architecture, it offers a wide range of interface options. The robust and uncompromising industrial design allows the implementation in the most demanding applications and guarantees long term availability.

- Multi-core Intel® Atom™ processor
- Protection class IP67
- Shock and vibration resistant
- Designed for 24/7 continuous operation



Product Highlights

- Ultra rugged with sealed housing
- Each LAN interface has its own dedicated NIC
- Power Ignition controller
- Maintenance free & long term availability
- Hardware Watchdog
- Trusted platform module (TPM 2.0)
- UEFI Secure Boot
- Temperature supervision
- Persistent Flash BIOS
- Fanless, no moving parts

Product Features

- Intel® Atom™ Elkhart Lake, up to 4 cores
- 16GB LPDDR4 RAM
- Modular product design, wide range of expansion options
- Socket for CFast storage card (up to 480GB)
- Gbit Ethernet, CAN-FD, USB 3.1, RS232
- Digital I/Os
- Optional LTE, GNSS & WiFi extensions
- Rugged M12 connectors
- Rugged aluminum housing
- Protection class IP67

Industries / Applications

- Heavy Industry
- Agriculture
- Transportation
- Construction
- Mining vehicles
- Automated guided vehicles (AGV)
- Outdoor applications

Order Code RPC/RSL82J19-A154E¹

Processor / Performance		
Intel® Atom™ x6425RE - Quad core 1.9GHz clock 16GB RAM		•
Intel® Atom™ x6414RE - Quad core 1.5GHz clock 4GB RAM		on request
Memory / Storage		
L2 cache		1.5MB
4267MT/s LPDDR4x RAM soldered on board		16GB
Internal eMMC		32GB
CFast socket with latching retainer ²		1
MicroSD Card socket ²		1
Features		
Real time clock (RTC) with battery backup		CR2477N
Hardware Watchdog & Temperature supervisor		•
Intelligent power management (Ignition controller)		•
TPM 2.0 according to ISO/IEC11889		•
UEFI Secure Boot key material must be provided by customer		•
Inertial measurement unit STMicroelectronics ISM330DHCXTR (Please see user documentation for more detailed information and maximum sampling rate)		•
Communication Interfaces		
DisplayPort 1.4 (4096 x 2160 @ 60Hz) behind the front cover		1
USB version 3.1 behind the front cover	(Type A)	2
Ethernet 10/100/1000 BASE-T (1x Intel® GbE 1x Intel® I210-IT)	(1x M12 female, 8P x-coded)	2
CAN 2.0A/B & CAN FD (PEAK FPGA chip, SJA1000 compatible) active/passive, isolated	(1x M12 female, 8P a-coded)	2
Serial RS232 non isolated	(M12 male, 8P a-coded)	1
Digital I/O module, 24/36VDC - Galvanic isolation 1500Vrms (process to Logic) current sourcing output / current sinking inputs (Mating plug type Weidmüller B2CF 3.5/10/180F SN BK)	(M12 male, 8P a-coded)	4 inputs, 2 outputs
Mini PCIe socket ²		1
Buzzer		•
Wireless connectivity		
4G LTE Cat-13 (3G fallback) Sierra Wireless EM7590 - M2M only!	(2x SMA)	•
Dual nano SIM slot for cellular modules for 4G module		•
GNSS module u-blox NEO-M9V Module	(1x SMA)	•
High precision GNSS module (with IMU, RTK) u-blox ZED-F9P/R	(1x SMA) ⁵	on request
Wireless LAN (Wi-Fi 6) 802.11ac/a/b/g/n/ax Intel, Bluetooth 5.2 Module Intel Wireless- AX210	(2x RP-SMA)	•
Technical Data		
Exterior Dimensions [mm] (housing incl. mounting plate)		w276 x h58 x d210
Dimensions [mm] (housing, excl. mounting)		w276 x h58 x d162
Net weight [gram]		~3500
Non-isolated input voltage, with ignition controller function, reverse polarity protected	(M12 4P male a-coded)	8.4 ... 45VDC
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~17
Environmental Conditions		
Operating temperature		-40°C ... +70°C
Non operating temperature (Recommended storage temperature 20°C .. 25°C)		-40°C ... +85°C
Ingress protection standard according to EN60529		IP40
Conformal coating ⁵		on request
UNECE-R10 certified (E-mark)		on request
Shock EN60068-2-27 / EN61373		•
Vibration EN60068-2-64 / EN61373		•
EMI-Conformity EN50121-3-2 / EN301489-1		•
Safety (according to EN62368-1)		designed to meet
MTBF @ 25°C according to Telcordia SR-332, Environment GM, excluding CFast and optional interfaces		tbd

¹ Please contact factory for minimum order quantities

³ Multiband antenna needed (GNSS L1 band and L2/E5b/B2l bands). Example u-Blox type ANN-MB

⁴ Depending on installation situation and interface connection. Please see user documentation.

² Internal connector

⁵ on all possible components (excl. Connectors and wireless devices)

Product specifications subject to change without notice. | All data is for information purposes only and not guaranteed for legal purposes. Information in this data sheet has been carefully checked and is believed to be accurate. However, no responsibility is assumed for inaccuracies. Please refer to the user documentation for additional product specification.

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Version 1.0 | July 2023

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Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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