

Rugged Computer

COMPACT Rugged Series

Industrial rugged PC with Intel® Atom™ E3900 processor (Apollo Lake)



RPC/COMPACT81

This fanless Rugged COMPACT 81 generation is based on the Intel® Atom™ E3900 processor technology and offers a wide range of interface options.

The new ultra rugged housing made of tough anodized aluminum offers a IP67 / IP69 protection and has no moving parts. The robust and uncompromising industrial design allows implementation in the most demanding applications and guarantees long term availability.

- Multi-core 64-bit Intel® Atom™ processor
- Protection class IP67 / IP69
- Extended temperature range
- Shock and Vibration resistant



debian



Product Highlights

- Ultra rugged
- Sealed housing
- Maintenance free
- No moving parts / passively cooled
- Hardware watchdog
- Temperature supervision
- Long term availability (fixed BOM)
- 40°C...+85°C on component level

Product Features

- Intel® Atom™ E3900 Series
- up to 2.0GHz, up to 4 Cores
- RAM soldered on board up to 8GB
- 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, IP69

Industries / Applications

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

| Processor / Performance | | |
|--|-----------------------------------|---------------------|
| Intel® Atom™ x7-E3950 2.00GHz (Burst) 1.6GHz Clock - Quad Core 8GB RAM | | • |
| Intel® Atom™ x5-E3940 1.80GHz (Burst) 1.6GHz Clock - Quad Core 4GB RAM | | optional |
| Memory | | |
| L2 cache | | 2MB |
| RAM DDR3L 1866MT/s soldered on board | | 8GB |
| Features | | |
| Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR | | • |
| Real time clock PC compatible with battery backup Renata CR2477N (950 mAh) | | • |
| Hardware Watchdog & Temperature supervisor | | • |
| Intelligent power management (Ignition controller) | | • |
| TPM 2.0 Infineon SLB9665 | | • |
| Communication Interfaces | | |
| DisplayPort 1.4 (up to 7680 x 4320 @ 60Hz) <small>behind the front cover</small> | | 1 |
| USB version 3.1 <small>behind the front cover</small> | (Type A) | 2 |
| Ethernet 10/100/1000 Mbit (Intel I210-IT) | (M12 female, x-coded) | 2 |
| PoE+ IEEE802.3at 10/100/1000Mbit (PSE) <small>requires taller housing: w276 x h88 x d165 mm</small> | (M12 female, x-coded) | optional |
| CAN 2.0A/B & CAN FD (PEAK FPGA chip, SJA1000 compatible) active/passive, isolated | (1x M12 female, 8P a-coded) | 2 |
| Serial RS232 | (M12 male, 8P a-coded) | 1 |
| Digital I/O, 24VDC | (M12 male, 8P a-coded) | 4 inputs, 2 outputs |
| CFast socket with retention frame ² | | 1 |
| M.2 Key B socket ² | (M.2 3042 - used for LTE Module) | • |
| M.2 Key E socket ² | (M.2 2230 - used for WiFi Module) | • |
| Mini PCIe socket ² | | 1 |
| MicroSD Card socket ² | | 1 |
| Buzzer ² | | 1 |
| I2C bus ² | | 1 |
| Serial RS232 or RS422/485, isolated | | optional |
| Analog input, 16bit resolution, voltage input: -10 ... +10V / 0 ... 30V ¹ | (4 inputs) | optional |
| Analog input, 16bit resolution, current: 0-20mA ¹ | (4 inputs) | optional |
| HD Audio, Line in / out ² | | optional |
| Wireless Connectivity | | |
| Cellular 4G module (3G/2G fallback) Sierra Wireless EM7565 - M2M only! | (2x SMA) | • |
| Dual nano SIM slot for cellular modules | | • |
| Wireless LAN IEEE 802.11ac/a/b/g/n/ dual-band 2x2 MIMO Intel Wireless-AC 9260 | (2x RP-SMA) | • |
| GNSS positioning module (GPS, GLONASS, Galileo, BeiDou) u-blox NEO-M9V | (1x SMA) | • |
| High accuracy GNSS positioning module w/ RTK support u-blox ZED F9P | (1x SMA) | optional |
| Technical Data | | |
| Dimensions [mm] (housing, incl. mounting) | | w276 x h58 x d210 |
| Net weight [gram] | | ~3450 |
| Non-isolated input voltage, with ignition controller function, reverse polarity protected | (M12 male, 4P a-coded) | 8.4 ... 45VDC |
| Current consumption typ. in mA @ 24V without Add-Ins, idle | | ~500 |
| Power consumption typ. in Watt @ 24V without Add-Ins, idle | | ~12 |
| Environmental Conditions | | |
| Operating temperature ³ | | -40°C ... +70°C |
| Storage temperature | | -40°C ... +85°C |
| Ingress Protection standard EN60529 (ISO 20653) | | IP67, IP69 |
| Road vehicles (UNECE-R10 "E-mark") | | on request |
| Conformal coating ⁴ | | on request |
| Shock (designed to meet) | | EN60068-2-27 |
| Vibration (designed to meet) | | EN60068-2-64 |
| EMI-Conformity (designed to meet) | | EN55032 / EN55035 |
| Safety (designed to meet) | | EN62368-1 |
| Radio and Telecommunication (designed to meet) | | RED |
| MTBF @ 25°C according to Telcordia SR-332, Environment GB, excluding battery and optional extensions | | ~ 480 000h |

¹ Please contact factory for minimum order quantities² Internal connector³ Depending on installation situation and interface connection. Please see user documentation.⁴ 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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