COMPACT Rugged Series

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

preliminary

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 gurantees long term availability.

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

Windows IoT

debian

CE

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

Indutries / Applications

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

		Order Code RPC/RSL81I20-A154E[1]
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) behind the front cover		1
USB version 3.1 behind the front cover	(Type A)	2
Ethernet 10/100/1000 Mbit (Intel I210-IT)	(M12 female, x-coded)	2
PoE+ IEEE802.3at 10/100/1000Mbit (PSE) requires taller housing: w276 x h88 x d165 mm	(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)	4 inputs, 2 outputs
CFast socket with retention frame [2]		1
M.2 Key B socket [2]	(M.2 3042)	1
M.2 Key E socket [2]	(M.2 2230)	1
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 EM7455 - M2M only!	(2x SMA)	optional
Dual nano SIM slot for cellular modules		optional
Wireless LAN IEEE 802.11ac/a/b/g/n/ dual-band 2x2 MIMO Sparklan WNFB-263ACNI(BT) module	(2x RP-SMA)	optional
GNSS positioning module (GPS, GLONASS, Galileo, BeiDou) u-blox NEO M9 Module	(1x SMA)	optional
High accuracy GNSS positioning module w/ RTK support u-blox ZED F9P	(1x SMA)	optional
Technical Data		
Dimensions [mm] (housing, incl. mounting)		w324 x h55 x d165
Dimensions [mm] (housing, excl. mounting)		w276 x h55 x d165
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 quantities
[2] Internal connector
[3] Depending on installation situation and interface connection. Please see user documentation.
[4] On all possible components (excl. Connectors and wireless devices)

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