

## Railway Computer

### COMPACT-RSL Rail Series

Embedded Railway Computer with Intel® Atom™ E39xx processor (formerly Apollo Lake-I)



## IPC/COMPACT81

This fan less RPC COMPACT81 generation is based on the Intel® Atom™ E3900 (formerly Apollo Lake-I) processor technology and offers a wide range of interface options. The robust and uncompromising industrial design allows the implementation in the most demanding rail applications and guarantees long term availability.

- 24/7 continuous operation
- M12 connector
- EN50155 Class S2 power supply
- Extended temp. Range
- Railway approved (EN50155 & EN45545)



### Product Highlights

Maintenance free/Long term availability  
Goldcap instead of battery backup  
No moving parts  
Scalable CPU core  
Hardware watchdog  
Temperature supervision  
Intelligent power management system  
ESD- protection on all interfaces  
Motion Sensor  
Dead Reckoning  
Shock and vibration resistant

### Product Features

Intel® Atom™ E3900 Series  
up to 2.0GHz, up to 4 Cores  
RAM soldered on board up to 8GB  
Socket for CFast  
Graphic resolution up to WUXGA  
Ethernet, USB, CAN  
M12 connectors  
Stainless steel housing  
Protection class IP40  
EN50155 certified (OT4)

### Markets / Applications

Railway (rolling stock)  
Automotive  
Traffic control  
Transportation and vehicle construction  
Automated Guided Vehicle (AGV)

	Order Code	IPC/RS1120-R245E <sup>1</sup>	IPC/RS1120-R301E <sup>1</sup>	MySyslogic <sup>1</sup>
<b>Processor / Performance</b>				
Intel® Atom™ x5-E3930 1.80GHz (Burst)   1.3GHz Clock - Dual Core		optional	optional	
Intel® Atom™ x7-E3950 2.00GHz (Burst)   1.6GHz Clock - Quad Core		•	•	
<b>Memory</b>				
L2 cache		2MB	2MB	2MB
DDR3 RAM		8GB	8GB	8GB
4GB or 2GB DDR3 RAM <sup>1</sup>		optional	optional	optional
<b>Features</b>				
Real time clock PC compatible		•	•	•
Hardware Watchdog & Temperature supervisor		•	•	•
Intelligent power management (Ignition controller)		•	•	•
Goldcap backup		•	•	•
TPM2.0 (SLB9665)		•	optional	optional
<b>Communication Interfaces</b>				
DisplayPort 1.2 up to 4096x2160 @60Hz		•	•	•
CFast socket with retention frame <sup>2</sup>		1	1	1
USB version 3.0 (Type A)		1	1	1
USB version 2.0 (Type A)		1	1	1
Ethernet 10/100/1000 (I210-IT)	(M12 female X-coded)		2	up to 2
Ethernet 10/100 (I210-IT)	(M12 female d-coded)	2		
RS232 ESD protected	(DSUB9)		2	up to 6
RS422/485 ESD protected	(DSUB9)			up to 2
CAN (PEAK, SJA1000 compatible) ESD protected, isolated	(DSUB9)	2		up to 6
Mini PCIe socket <sup>2</sup>		1	1	up to 4
I2C bus <sup>2</sup>		•	•	•
Buzzer		•	•	•
<b>Wireless Functions</b>				
Cellular 4G Module (GSM/UMTS/LTE) u-blox MPC1-L210-03S-00 Module (TOBY-L210) - M2M only!		2x SMA		
Dual SIM Support		•		
Positioning Wireless Module (GPS, Galileo, Glonass, Beidou) u-blox NEO-M8U Module		1x SMA		
Acceleration / Motion Sensor STMicroelectronics ISM330DLC		•		
<b>Technical Data</b>				
Dimensions w262 x h52 x d138 mm (housing)		•	•	•
Net weight in gram		1750	1850	1750
Input voltage (isolated and reverse polarity protected)	(M12 4P male A-coded)	16.8 ... 45VDC	optional	optional
Wide input voltage (isolated and reverse polarity protected)	(M12 4P male A-coded)	optional	16.8 ... 137.5VDC	16.8 ... 137.5VDC
Interruption of voltage supply time: EN50155 (>10ms)		Class S2	Class S2	Class S2
UPS: Interruption of voltage supply time up to 30s <sup>3</sup>				optional
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~ 10	~ 12	~ 10
<b>Environmental Conditions</b>				
Operating temperature (up to 85°C for 10 min. according to EN 50155 Class OT4) <sup>3</sup>		-40°C ... +70°C	-40°C ... +70°C	-40°C ... +70°C
Storage temperature -40 ... +85°C		•	•	•
Protection standard: IP40		•	•	•
Conformal coating <sup>4</sup>		•	•	•
Shock: EN60068-2-27 / EN61373		•	•	•
Vibration: EN60068-2-64 / EN61373		•	•	•
EMI-Conformity EN50121-3-2 / EN301489-1		•	•	•
Safety according to EN62368-1		•	•	•
Fire protection HL3: DIN EN45545-2		•	•	•
Radio and Telecommunication: Designed to meet RED		•	•	•
MTBF ~ 455 000h @ 25°C according to Telcordia SR-332, Environment GB, excluding battery		•	•	•
<b>Enhancement cards</b>				
Wireless Module (LTE / GPS / WiFi / BT) <sup>1</sup>			optional	optional
Digital and Analog I/O <sup>1</sup>			optional	optional

<sup>1</sup> Please contact factory for minimum order quantities

<sup>2</sup> Internal connector

<sup>3</sup> Depending on installation situation and interface connection. Please see user documentation.

<sup>4</sup> 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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industrial computing

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