

Railway Computer

COMPACT-RS Rail Series

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

preliminary

Rail Computer



IPC/COMPACT81 - RS

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
- Extended AI Computing
- Temperature acc. EN50155 OT 4 (former TX)
- Fully railway approved (EN50155 & EN45545)
- Optional EN50155 Class S2 power supply



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 /Tx Class)

Markets / Applications

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

Order Code IPC/RS81G13-A101E¹ IPC/RS81H18-A101E¹ IPC/RS81I20-A101E¹

Rail Computer

Processor module / Performance				
Intel® Atom™ x5-E3930 1.80GHz (Burst) 1.3GHz Clock - Dual Core		•		
Intel® Atom™ x5-E3940 1.80GHz (Burst) 1.6GHz Clock - Quad Core			•	
Intel® Atom™ x7-E3950 2.00GHz (Burst) 1.6GHz Clock - Quad Core				•
Memory / Storage				
L2 cache		2MB	2MB	2MB
DDR3 RAM		2GB	4GB	8GB
uSD Card socket		1	1	1
CFast socket with retention frame ²		1	1	1
Features				
Real time clock PC compatible with Goldcap backup		•	•	•
Hardware Watchdog & Temperature supervisor		•	•	•
Intelligent power management (Ignition controller)		•	•	•
Goldcap backup		•	•	•
TPM2.0 (SLB9665)		•	•	•
Motion sensor		•	•	•
Dead reckoning		•	•	•
Communication Interfaces				
DisplayPort 1.2 up to 4096x2160 @60Hz		•	•	•
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	2	2
RS232 / RS422/485 ESD protected (DSUB9)		optional	optional	optional
CAN (PEAK, SJA1000 compatible) ESD protected, isolated (DSUB9)		optional	optional	optional
Mini PCIe socket ²		1	1	1
I2C bus ²		•	•	•
HD Audio / Speaker ²		optional	optional	optional
Buzzer		•	•	•
Technical Data				
Dimensions w174 x h47 x d127 mm (housing without mounting bracket)		•	•	•
Net weight in gram		~950	~950	~950
Input voltage isolated and reverse polarity protected (M12 4P male A-coded)		16.8 ... 45VDC	16.8 ... 45VDC	16.8 ... 45VDC
16.8... 137.5VDC Input voltage, isolated and reverse polarity protected ³ (M12 4P male A-coded)		optional	optional	optional
Interruption of voltage supply time: EN50155		Class S2	Class S2	Class S2
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~25	~25	~25
Environmental Conditions				
Operating temperature (up to 85°C for 10 min. according to EN 50155 Class OT4 / TX) ⁴		-40°C ... +70°C	-40°C ... +70°C	-25°C ... +60°C
Storage temperature -40 ... +85°C		•	•	•
Protection standard: IP40		•	•	•
Conformal coating ⁵		•	•	•
Shock: EN60068-2-27 / EN61373		•	•	•
Vibration: EN60068-2-64 / EN61373		•	•	•
EMI-Conformity EN-50121-3-2		•	•	•
Safety according to EN62368-1		•	•	•
Fire protection: DIN EN 45545-2 HL3		•	•	•
Radio and Telecommunication: Designed to meet R&TTE / RED		•	•	•
MTBF ~200 000h (22.8 Years) @ 25°C excluding battery and S2 power supply		tbd	tbd	tbd
Optional enhancement cards				
Wireless Module (LTE / GSM / GPS / BT / WiFi) ¹		optional	optional	optional

¹ Please contact factory for minimum order quantities 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)
³ Different and slightly bigger housing required (approx: 227 x 47 x 127 mm)

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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 Syslogic Datentechnik AG
 Täferstrasse 28
 CH-5405 Baden Dättwil

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For further information and support:
info@syslogic.com
support@syslogic.com
www.syslogic.com

 +41 56 200 90 40 Switzerland (Headquarters)
 +49 7741 9671-420 Germany and Austria



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.

US

sales@assured-systems.com

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave
Ste 1200
Sheridan
WY 82801
USA

EMEA

sales@assured-systems.com

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park
Stone Business Park
Stone
ST15 0YJ
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660