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

preliminary

optional LTE / GPS / WI-FI

SIM
CFast

image similar

DC Supply
16.8 … 45VDC

2x LAN
M12 x-coded

2x USB

DisplayPort

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**

Windows IoT

Debian 9 - Stretch

CE

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)

Your partner for reliable embedded computer and display solutions.

	Order Code	IPC/RS81G13-A101E[1]	IPC/RS81H18-A101E[1]	IPC/RS81I20-A101E[1]
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
[2] Internal connector
[3] Different and slightly bigger housing required (approx: 227 x 47 x 127 mm)

[4] Depending on installation situation and interface connection. Please see user documentation.
[5] on all possible components (excl. Connectors and wireless devices)

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

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industrial computing