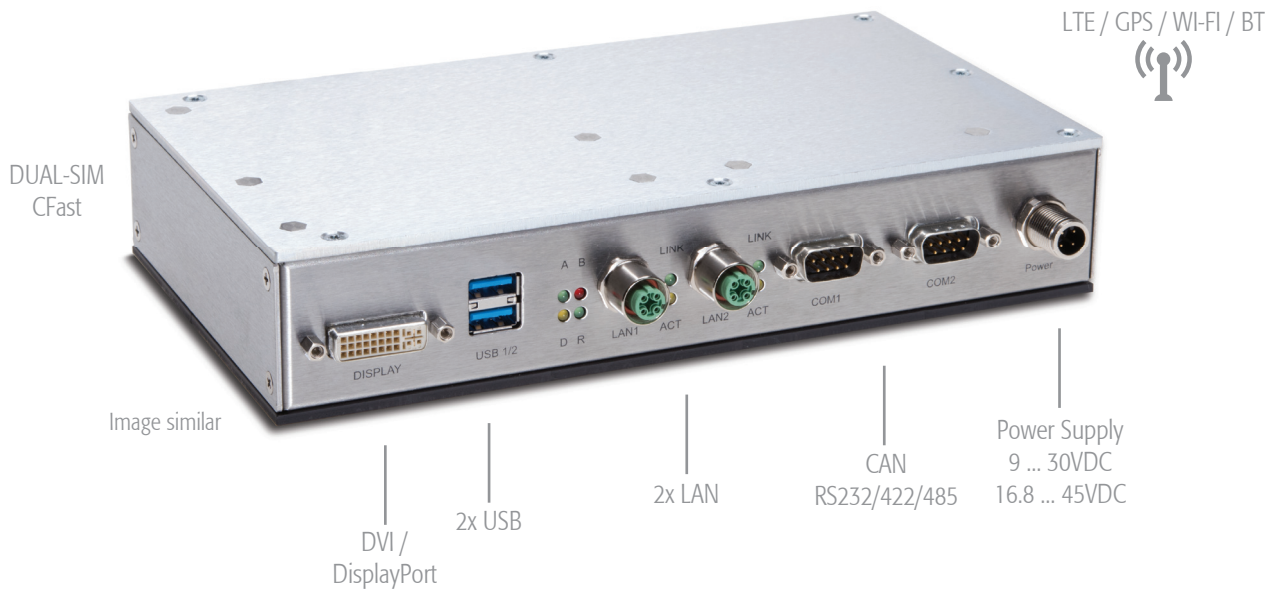


## COMPACT-VSL Series

Embedded Vehicle Computer with Intel® Atom™ E39xx processor (formerly Apollo Lake)



## IPC/VSL81

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

- **Multi-core 64-bit Intel® Atom™ processor**
- **24/7 continuous operation**
- **M12 connector for LAN and USB**
- **Shock and vibration resistant**
- **Full -40...+85°C on component level**



### Product Highlights

Maintenance free/Long term availability  
 Scalable CPU core  
 Watchdog  
 Temperature supervision  
 Persistent Flash BIOS  
 ESD- protection on all interfaces  
 No moving parts  
 Dead Reckoning Function  
 LTE, WiFi, Bluetooth and GPS  
 Trusted Platform Module - TPM2.0  
 Motion Sensor

### 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

### Markets / Applications

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

	Order Code	IPC/VSL81H18-B138E <sup>1</sup>	IPC/VSL81H18-B139E <sup>1</sup>	MySyslogic <sup>1</sup>
<b>Processor / Performance</b>				
Intel® Atom™ x5-E3940 1.80GHz (Burst)   1.6GHz Clock - Quad Core		•	•	•
Intel® Atom™ x7-E3950 2.00GHz (Burst)   1.6GHz Clock - Quad Core		optional	optional	optional
<b>Memory</b>				
L2 cache		2MB	2MB	2MB
RAM DDR3L 1866MT/s soldered on board		4GB	4GB	4GB
8GB 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		optional	optional	optional
TPM2.0 (SLB9665)		•	•	•
Motion Sensor		•	•	•
Dead Reckoning Function		•	•	•
<b>Communication Interfaces</b>				
DVI-D up to 1920x1200 (WUXGA)				optional
DisplayPort up to 1920x1200 (WUXGA)		•	•	•
SD Card socket		1	1	1
CFast socket with retention frame <sup>2</sup>		1	1	1
SATA 2.0 standard interface <sup>2</sup>		optional	optional	optional
USB version 3.0 (Type A)		1	1	1
USB version 2.0 (Type A)		1	1	1
USB version 2.0 (M12 female A-coded)		optional	optional	up to 4
Ethernet 10/100 (I210-IT) (M12 female d-coded)		2	2	2
RS232 ESD protected (DSUB9)				up to 2
RS232 ESD protected <sup>2</sup>		optional	optional	up to 2
RS422/485 ESD protected, isolated (DSUB9)			1	up to 2
CAN (PEAK, SJA1000 compatible) ESD protected, isolated (DSUB9)		2	1	up to 2
Mini PCIe socket <sup>2</sup>		1	1	1
I2C bus <sup>2</sup>		•	•	•
HD Audio / Speaker <sup>2</sup>		optional	optional	optional
Buzzer		•	•	•
<b>Technical Data</b>				
Dimensions w228 x h44 x d127 mm (housing)		•	•	•
Net weight in gram		~ 1750	~ 1750	~ 1750
Input voltage non-isolated reverse polarity protected (M12 4P male A-coded)		9 ... 30VDC	9 ... 30VDC	9 ... 30VDC
16.8 ... 45VDC Input voltage isolated and reverse polarity protected		optional	optional	optional
Current consumption typ. in mA @ 24V without Add-Ins, idle		~ 500	~ 500	~ 500
Power consumption typ. in Watt @ 24V without Add-Ins, idle		~ 12	~ 12	~ 12
<b>Environmental Conditions</b>				
Operating temperature (up to 85°C for 10 min.) <sup>3</sup>		-40°C ... +70°C	-40°C ... +70°C	-40°C ... +70°C
Storage temperature -40 ... +85°C		•	•	•
Protection standard: IP40		•	•	•
Shock: EN60068-2-27 / EN61373		•	•	•
Vibration: EN60068-2-64 / EN61373		•	•	•
EMI-Conformity EN50121-3-2		•	•	•
Safety according to EN62368-1		•	•	•
Radio and Telecommunication: Designed to meet R&TTE / RED		•	•	•
MTBF ~200 000h (22.8 Years) @ 25°C <small>excluding battery and S2 power supply</small>		•	•	•
<b>Enhancement cards</b>				
Cellular Module with dual SIM (GSM/UMTS/LTE) u-blox MPC1-L210 Module (TOBY-L210) - M2M only!		2x SMA	2x SMA	2x SMA
Positioning Wireless Module (GPS) u-blox NEO-M8U Module incl. acceleration sensor		SMA	SMA	SMA
Wireless LAN a/b/g/n (WLAN)		2x RP-SMA	2x RP-SMA	2x RP-SMA
Digital and Analog I/O <sup>1</sup>		optional	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.

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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