COMPACT-VSL Series

Embedded In-Vehicle Computer with Intel® Atom™ E39xx processor

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 Power and LAN**
- **Shock and vibration resistant**
- **Full -40...+85°C on component level**

Windows IoT

debian

CE

Product Highlights

Power Ignition controller
Trusted Platform Module - TPM2.0
Inertial Measurement Unit (IMU)
GPS with dead reckoning
Fanless, No moving parts
Maintenance free / Long term availability

Product Features

Intel® Atom™ E3900 Series
up to 2.0GHz, up to 4 Cores
RAM soldered on board up to 8GB
Socket for CFast
Ethernet, USB, CAN
M12 connectors
Stainless steel housing
Protection class IP40
LTE, GNSS, WiFi & Bluetooth options

Markets / Applications

Automotive
Transportation
Automated Guided Vehicles (AGV)
Special purpose vehicles
Agriculture
Industrial trucks

		Order Code IPC/VSL81I20-A153E[1]
Processor / Performance		
Intel® Atom™ x7-E3950 2.00GHz (Burst) | 1.6GHz Clock - Quad Core		•
Intel® Atom™ x5-E3940 1.80GHz (Burst) | 1.6GHz Clock - Quad Core		optional
Memory		
L2 cache		2MB
RAM DDR3L 1866MT/s soldered on board		4GB
8GB DDR3 RAM [1]		optional
Features		
Inertial measurement unit (IMU) STMicroelectronics ISM330DHCXTR		•
Real time clock (RTC) with battery backup Renata CR2477N (950 mAh)		•
Hardware Watchdog & Temperature supervisor		•
Intelligent power management (Ignition controller)		•
TPM 2.0 according to ISO/IEC11889 Infineon SLB9665		•
Communication Interfaces		
DisplayPort 1.4 (up to 7680 x 4320 @ 60Hz)		1
USB version 3.1	(Type A)	1
USB version 2.0	(Type A)	1
Ethernet 10/100/1000 BASE-T (Intel I210-IT)	(M12 female x-coded)	2
PoE+ IEEE802.3at 10/100/1000Mbit requires taller housing: w228 x h85 x d127 mm	(M12 female x-coded)	optional
CAN 2.0A/2.0B & CAN FD (PEAK FPGA chip, SJA1000 compatible), isolated, The CAN signals give no network feedback and are attached via non-volatile I/O port on the I2C bus	(DSUB9)	2
CFast socket with retention frame [2]		1
M.2 Key B socket [2], used for radio options depending on config	(3042)	1
M.2 Key E socket [2], used for radio options depending on config	(2230)	1
Mini PCIe socket [2]	(full size)	1
MicroSD Card socket [2]		1
Buzzer		1
I2C bus [2]		1
Serial RS232 [2]		2
Serial RS422/485, isolated	(DSUB9)	optional
HD Audio, Line in / out [2]		optional
Digital I/O, 24VDC (latency <1ms)	(4 inputs, 4 outputs)	optional
Analog input, 16bit resolution, voltage input: -10 ...+10V / 0 ... 30V Accuracy:+/- 0.1%		optional
Wireless Connectivity		
4G cellular module (3G/2G fallback) Sierra Wireless EM7455 - M2M only! with dual nano SIM support	(2x SMA)	optional
GNSS positioning module with dead reckoning u-blox NEO-M9 Module	(1x SMA)	optional
Wireless LAN IEEE 802.11ac/a/b/g/n/ dual-band 2x2 MIMO SparkLAN WNFB-263ACNI(BT)	(2x RP-SMA)	optional
Technical Data		
Exterior dimensions [mm]		w228 x h55 x d127
Net weight [gram]		~1750
Non-isolated input voltage, reverse polarity protected	(M12 4P male 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)		IP40
Road vehicles (UNECE-R10 'E-mark')		on request
Conformal coating [4]		on request
Shock		EN60068-2-27
Vibration		EN60068-2-64
EMC Conformity		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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