



VMS-CFS

Intel® 8th/9th Coffee Lake Rugged Fanless Vehicle Telematics System



- > 8th/9th Generation Intel® Processors (6-Core/8-Core)
- > Intel® Q370 Express Chipset
- > Intel® UHD Graphics 630/610
- > Memory Max. Up to 64GB DDR4 2666
- > mPCIe, M.2 Key-E, M.2 Key-B Expansion Slots
- > -25~70/-40C~70C Operating Temperature
- > 9~36Vdc DC Input, with Vehicle Power Management
- > Support RAID 0/1/5/10, Firmware TPM 2.0, iATM 12.0
- > CE, FCC, IP50, E Mark, ISO7637-2 Certified

+ Spec

System	
Processor	Intel® Core™ i7-8700T Processor (12M Cache, up to 4.00 GHz) Intel® Core™ i5-8500T Processor (9M Cache, up to 3.50 GHz) Intel® Core™ i3-8100T Processor (6M Cache, 3.10 GHz) Intel® Pentium® Gold G5400T Processor (4M Cache, 3.10 GHz) Intel® Celeron® G4900T Processor (2M Cache, 2.90 GHz) Intel® Core™ i7-9700TE Processor (12M Cache, up to 3.80 GHz) Intel® Core™ i5-9500TE Processor (9M Cache, up to 3.60 GHz) Intel® Core™ i3-9100TE Processor (6M Cache, up to 3.20 GHz)
System Chipset	Intel® Q370 Express Chipset
System Memory	2 x 260-pin DDR4 SODIMM 2400/2666MHz up to 64 GB
Watchdog Timer	H/W Reset, 1sec. ~ 65535min.
H/W Status Monitor	Monitoring CPU & System Temperature and Voltage
TPM	TPM 2.0 (Firmware)
SBC	EBM-CFSV
Expansion	
Expansion	1 x Avalue 80-Pin IET Interface 1 x Full Size Mini PCIe (w/ push-push SIM Slot) 1 x M.2 Key-E 2230 for Wi-Fi & BT Module 2 x M.2 Key-B 2242/3042/2280 w/ push-push SIM slot for SSD/ LTE/ I/O Modules 1 x CANBus (supports OBDII, SAE J1939/ J1708)
Storage	
Storage	2 x 2.5" Drive Bay (SATA III, Max. up to 12.5mm Height Storage) 2 x M.2 Key-B SSD (SATA III, Max. up to 2280)
I/O	
USB	6 x USB 3.1
COM Port	2 x RS-232/422/485 (BIOS) 1 x RS-232
SIM	3 x SIM Card Slot (External Accessible)
Antenna	5x Antenna Mounting Hole
GPIO	1 x 8bit GPIO, w/1.5KV isolation
Output Interface	1 x DC-Out (12V/4A)
Other	Onboard u-blox NEO-M8N module supports GPS/ Gloness/ QZSS/ Galileo/ Beidou
Display	
Chipset	Intel® UHD Graphics 630 (i7-8700T, i5-8500T, i3-8100T) Intel® UHD Graphics 610 (Pentium G5400T, Celeron G4900T)
Resolution	DP: Max. resolution 4096x2160 @ 60Hz HDMI: Max. resolution 4096x2160 @ 30Hz LVDS: Max. resolution 1920x1200 @ 60Hz
Multiple Display	Triple Displays
Audio	
Chipset	Realtek ALC892 supports 2-CH
Audio Interface	2 x Mic-In 2 x Line-Out
Ethernet	
Chipset	1 x Intel® I211AT 1 x Intel® I219LM
Ethernet Interface	10/100/1000 Base-Tx GbE compatible
LAN Port	2 x RJ-45
Mechanical & Environmental	
Power Requirement	Typical 12/24 Vdc (+9~ 36Vdc)



ACPI	Single Power ATX Support S0, S3, S4, S5 ACPI 5.0 Compliant
Power Type	Vehicle Power Mode (Default Setting)/Industrial PC Power Mode
Operating Temperature	-40°C ~ 70C (-40°F ~ 158°F) with 0.5m/s air flow, extended temperature peripherals
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	5.4KG (w/packing) 4.5KG (System)
Construction	Aluminum + Metal
Mounting Kit	Wall Mount kit (Standard)
Dimension (L x W x H)	279.4mm x 210mm x 110 mm(w/ wall mount)
Vibration Test	Operating with SSD : MIL-STD-810G, Method 514.6, Category 4, common carrier US highway truck vibration exposure Non-Operating with SSD : MIL-STD-810G, Method 514.6, Category 24, minimum integrity test
Shock Test	Operating with SSD : MIL-STD-810H, Method 516.8, Procedure I, functional shock=20G Non-Operating with SSD: MIL-STD-810H, Method 516.8, Procedure V, crash hazard shock test=75G
Certifications	
Certification Information	CE, FCC Class A, E13 Mark, ISO 7637-2, IP50
Software Support	
OS Information	Win10, Linux

Ordering

With Intel® Q370 Chipset
 VMS-CFS-87-A1-1R (i7-8700T)
 VMS-CFS-85-A1-1R (i5-8500T)
 VMS-CFS-81-A1-1R (i3-8100T)
 VMS-CFS-54-A1-1R (Pentium Gold G5400T)
 VMS-CFS-49-A1-1R (Celeron G4900T)
 VMS-CFS-97-A1-1R (i7-9700TE)
 VMS-CFS-95-A1-1R (i5-9500TE)
 VMS-CFS-91-A1-1R (i3-9100TE)