

Intel® QM87 MIL-STD Fanless Rugged Vibration Proof Computer

Intel® Core™ i7 Haswell Processor, SSD easy accessible tray, mPCIe expansion 9V to 36V DC-in, Wide Temp. -40 ~ +70°C

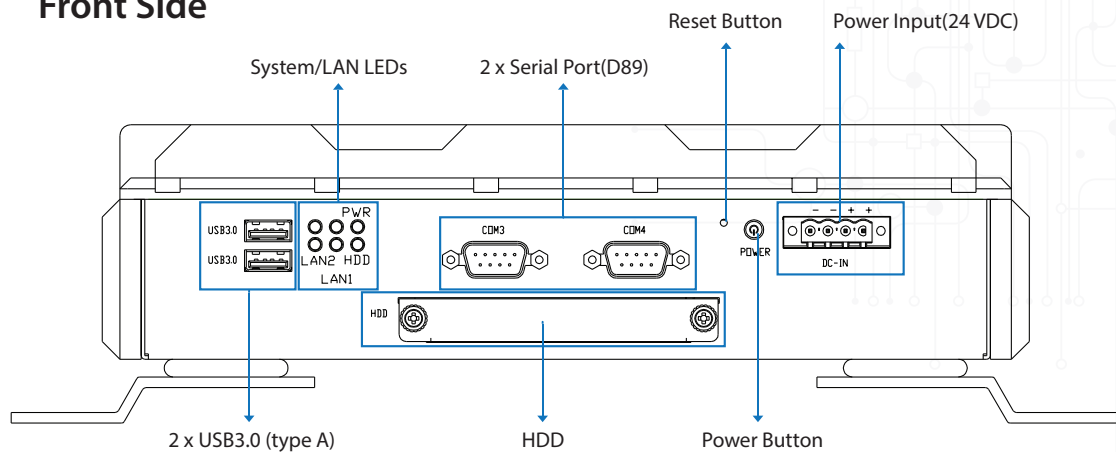


- MIL-STD 810G Vibration: 10 Grms, Shock: 75Grms
- 4th Generation Intel® Core™ i7 Haswell processors (BGA)
- DDR3 Up to 8GB XR-DIMM
- mSATA Up to 256GB
- Multi-Displays by 2 x DP, 1 x DVI-I
- 4 x RJ45 Intel® Gigabit Ethernet
- 1 x mPCIe Expansion
- 4 x USB 3.0, 4 x COM ports (2x RS232/422/485, 2 x RS232)
- 9V~36V DC-in with power delay on/off
- Extended Temperature -40 to 70 °C
- Optional forwipe Rope vibration Isolator

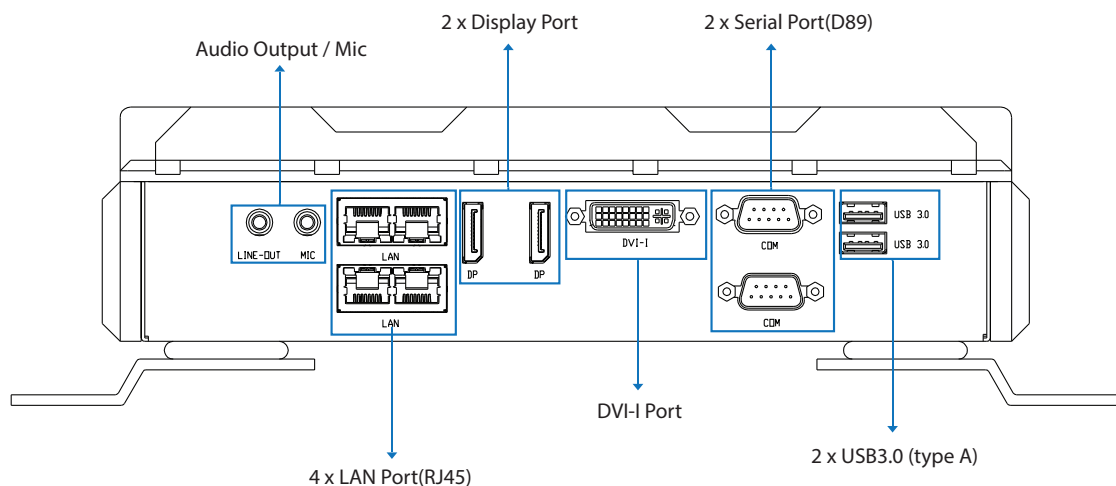
SR10B, a MIL-STD-810G Standard System highlights in its 4th Generation Haswell Core i7-4700QE Fanless System with easy accessible with SSD storage, rugged XR-DIMM RAM, rich I/O with 4 USB 3.0, 4 Com Ports, 4 LANs, 3 Video outputs and mPCIe expansion slot. Besides variety outputs, PERFECTRON has design an unique Wipe Rope Vibration Isolator for better vibration and shock resistance.

Appearance

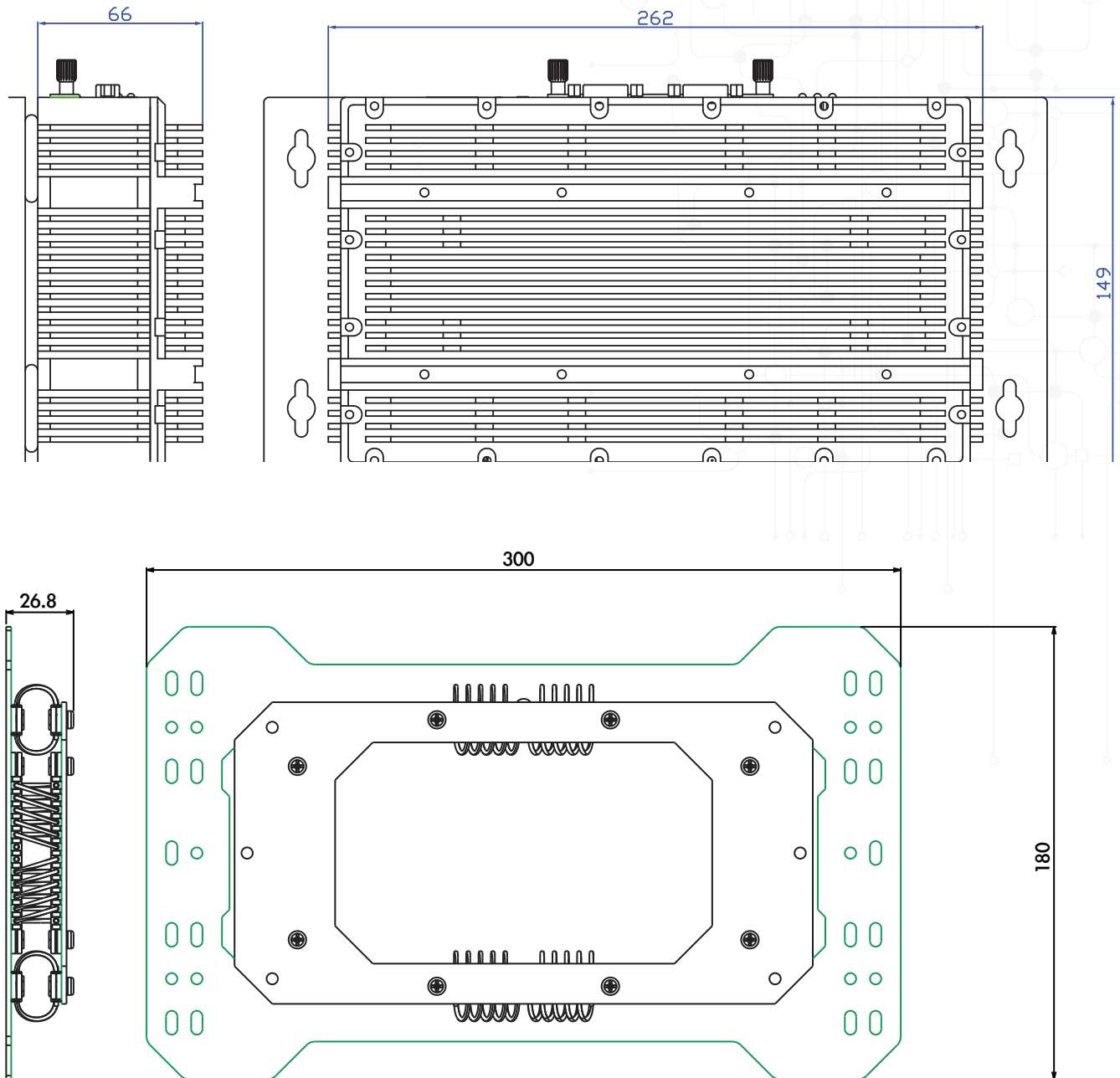
Front Side



Back Side



Dimensions



Wipe Rope Vibration Isolator

PERFECTRON has especially design a vibration isolator for SR10B. The vibration isolator may sustain higher vibration resistance of the product itself.

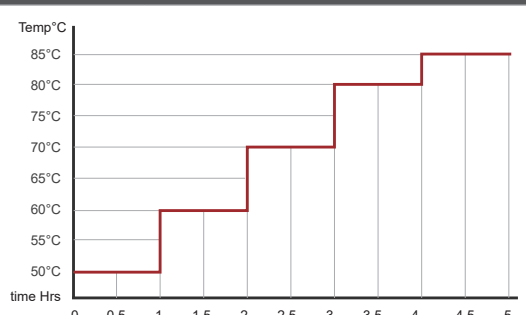
A vibration isolator may absorb and protect the object from vibration damage in any axes simultaneously in order to extended the product life under long operating hour in vibration environment and vibration shock. The vibration isolator is maintenance free and may use perpetually by replacing the system.

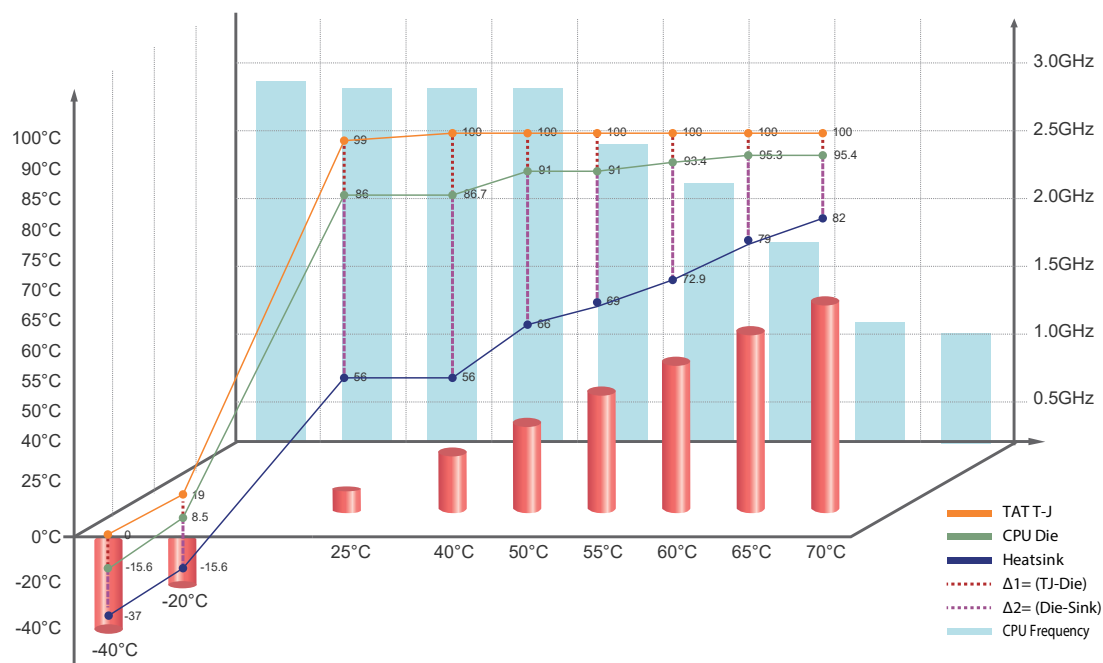
CPU Performance

Test Configuration

Item	Device Information
CPU Type	Intel® Core i7-4700EQ (4C x 2.4Ghz), 6M Cache (47W)
PCH	Intel® QM87
Memory	8GB DDR3 1600 MHz XR DIMM
MSATA PORT	innodisk 256GB MSATA
Test Software	Burnin test v7.1 Crystal DiskMARK3.03, Intel Extreme Tuning Utility

Test Result

Model	SR10B	Test Result	Pass
Tester	Ian Huang		
Diagram of curves		Test Temperature	Test Time
		High	50~85°C 5Hours
		Test Standard	Reference IEC60068-2
		Test Software	Burnin test v6.0
		Criteria	After testing, system can't halt.



SR10-1A MB HeatSink - IO Performance

Point	-40°C	-20°C	25°C Room Temperature	40°C	50°C	55°C	60°C	65°C	70°C
CPU T-J	0	19	99	100	100	100	100	100	100
CPU Die	-15.6	8.5	86	86.7	91	91	93.4	95.3	95.4
Heat sink	-37	-15.6	56	56	66	69	72.9	79	82
Delta 1 = (TJ-Die)	15.6	10.5	13	13.3	9	9	6.6	4.7	4.6
Delta 2 = (Die-Heatsink)	21.4	24.1	30	30.7	25	22	20.5	16.3	13.4
CPU Frequency	2.82GHz	2.79GHz	2.79GHz	2.79GHz	2.39GHz	2.19GHz	1.7GHz	1.1GHz	1.0GHz

System	
CPU	Core i7-4700EQ (4Cx2.4/1.7Ghz), 6M Cache (47W)
Memory type	1xDDR3 1600Mhz XR-DIMM upto 8GB with ECC
Chipset	QM87
Display	
Display Port	2 x 20Pin DP connector (Female)
DVI-I	1 x 29Pin DVI-I connector (Female)
Audio	
Codec	Realtek ALC887 High Defintion Audio Codec
Ethernet	
Chipset	4 x RJ45 Intel® I210IT & i217LM GbE
Front I/O	
Button	1 x Power, 1 x Reset
LED	Power, HDD, LAN
USB	2 x USB 3.0
COM	2 x RS232
Power input	1 x Terminal Block
Rear I/O	
Display Port	2 x 20Pin DP Connector (Female)
DVI-I	1 x 29Pin DVI-I connector (Female)
Ethernet	4 x RJ45 ports
Audio	Mic in, Line-out
Com	2 x RS232/422/485 ports, Jumper-selectable (DB9 male)
USB	2 x USB3.0
Expansion	
PCI	1 x mini PCIe
Mechanical and Environment	
Power Requirement	9V~36V DC-in, AT/ATX mode with power delay on/off

Dimension	262 x 149 x 76 mm
Operating Temp.	40°C ~ 70°C (ambient with airflow)
Storage Temp.	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing
Certifications	
MIL-STD-810G Test	Method 507.5, Procedure II (Temperature & Humidity)
	Method 516.6 Shock-Procedure V Non-Operating (Mechanical Shock)
	Method 516.6 Shock-Procedure I Operating (Mechanical Shock)
	Method 514.6 Vibration Category 24/ Non-Operating (Category 20 & 24, Vibration)
	Method 514.6 Vibration Category 20/ Operating (Category 20 & 24, Vibration)
	Method 501.5, Procedure I (Storage/ High Temperature)
	Method 501.5, Procedure II (Operation/ High Temperature)
	Method 502.5, Procedure I (Storage/ Low Temperature)
	Method 502.5, Procedure II (Operation/ Low Temperature)
	Method 503.5, Procedure I (Temperature shock)
EMC	CE and FCC compliance
Green Product	RoHS, WEEE compliance

Ordering information

SR10B

Intel® QM87 MIL-STD Fanless Rugged Vibration Proof System with Intel® Core™ i7 Haswell Processor, SSD easy accessible tray, mPCIe expansion 9V to 36V DC-in, Wide Temp. -40 ~ 70°C