

# SR100

## INTEL® QM87 MIL-STD FANLESS RUGGED SYSTEM

INTEL® CORE™ I7 HASWELL PROCESSOR,  
9V TO 36V DC-IN, WIDE TEMP. -40~70°C



- MIL-STD 810G COMPLIANCE
- 4TH GENERATION INTEL® CORE™ I7 HASWELL PROCESSORS (BGA)
- XR-DIMM UP TO 8 GB RAM
- ONBOARD USSD SATAIII UP TO 64 GB
- MULTI-DISPLAYS BY 2 X DP, 1 X DVI-I
- 2 X MPCIE EXPANSION SLOT (ONE CO-LAYOUT WITH MSATA)
- 2 X INTEL® GIGABIT ETHERNET
- 4 X USB 3.0, 1 X COM PORTS
- 9V~36V DC-IN WITH POWER DELAY ON/OFF
- EXTENDED TEMPERATURE -40~+70 °C

## SPECIFICATIONS

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High Performance Processor	Intel® 4th Gen Core™ i7-4700EQ (Frequency 2.4GHz, Turbo Boost up to 3.4GHz), Quad-Core, 8 Thread Support, 6MB SmartCache. Build-in HD Graphics 4600 for excellent 3D, Turbo Boost Technology 2.0, VPro and Hyper-Threading support.
Memory	1 x SAMTEC XR-DIMM™ Rugged Memory connector (BTH-120-01-L-D-A) with Swissbit® DDR3 1600MHz XR-DIMM up to 8GB
Chipset	Intel® QM87 Chipset providing integrated USB 3.0 and supporting 4th generation Intel® Core™ processor families
Expansion Slot	2 x Full-size miniPCIe (ACES 88911-5204M), 1 co-lay with mSATA 1 x Onboard SIM Card slot (ASTRON 5190006-007-R) for 3.5G connectivity 1 x FPE connector (SAMTEC SEAF-20-06.0-L-10-2-A-K-TR) 1 x StackPC connector (SAMTEC ASP-129637-03)
DISPLAY	
Display Port	Resolution up to 3840 x 2160@60 Hz
DVI-I	Resolution up to 1920 x 1200@60 Hz
STORAGE	
uSSD	Onboard uSSD SATAIII up to 64 GB
mSATA	mSATA Solid State Disk (SSD) - up to 512GB Capacity. Rugged Industrial NAND Flash mSATA Storage w/ Rugged -40/+85°C High Capacity, optional Pre-loaded with Linux or Windows OS. 64 / 128 / 256 / 512GB Innodisk 3MG2-P Series MLC SATA III 6Gb/s Flash SSD, Rated for 520 MB/sec Sequential Read ; 350 MB/sec Write Max.
ETHERNET	
Ethernet	2 x Intel Gigabit Ethernet LAN Interfaces (10/100/1000Mbps)
REAR I/O	
DisplayPort	2 x 20Pin External connectors (Female)
DVI-I	1 x 29Pin DVI-I connector (Female)
Ethernet	2 x RJ45 Gigabit Ethernet LAN Interfaces
Audio	2 x 3.5mm Audio Jacks (1 x MIC, 1 x Line-Out)
Serial Port	1 x DB9 connector (RS-232/422/485)
USB Port	2 x USB3.0 standard-A connector
FRONT I/O	
Button	1 x Power Button
DC-IN	4P Rugged Terminal connector
Indicator LED	Power, HDD, LAN (Link/Active/Speed)
USB Port	2 x USB3.0 standard-A connector

#### APPLICATIONS, OPERATING SYSTEM

Applications	Commercial and Military Platforms Requiring Compliance to MIL-STD-810G Embedded Computing, Process Control, Intelligent Automation and manufacturing applications where Harsh Temperature, Shock, Vibration, Altitude, Dust and EMI Conditions. Used in all aspects of the military
Operating System	Windows 7 , Windows 8 , Windows 8.1 , Windows 10 Ubuntu13.04, Ubuntu13.10, Ubuntu14.04, Fedora 20

#### PHYSICAL

Dimension (W x D x H)	250 x 149 x 76mm
Weight	3.4 Kg (7.48 lbs)
Chassis	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide (Color Iron gray)
Cooling	Natural Passive Convection/Conduction. No Moving Parts.
Connectors	DC-IN : PHOENIX CONTACT 1776715 RJ45 Ethernet : RTB-19GB9J1A DVI-I : BANGSON DVI02-0123001-T DisplayPort : FOXCONN 3VD21203-H7U0-4 Audio : WTJ-035-67S1A01/ WTJ-035-67S1A02
Ingress Protection	Dust Proof (Similar to IP50)

#### ENVIRONMENTAL

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)
Reliability	No Moving Parts; Passive Cooling. Designed & Manufactured using ISO 9001/2000 Certified Quality Program.
EMC	CE and FCC compliance
Green Product	RoHS, WEEE compliance

## ORDERING INFORMATION

### SR100-ET

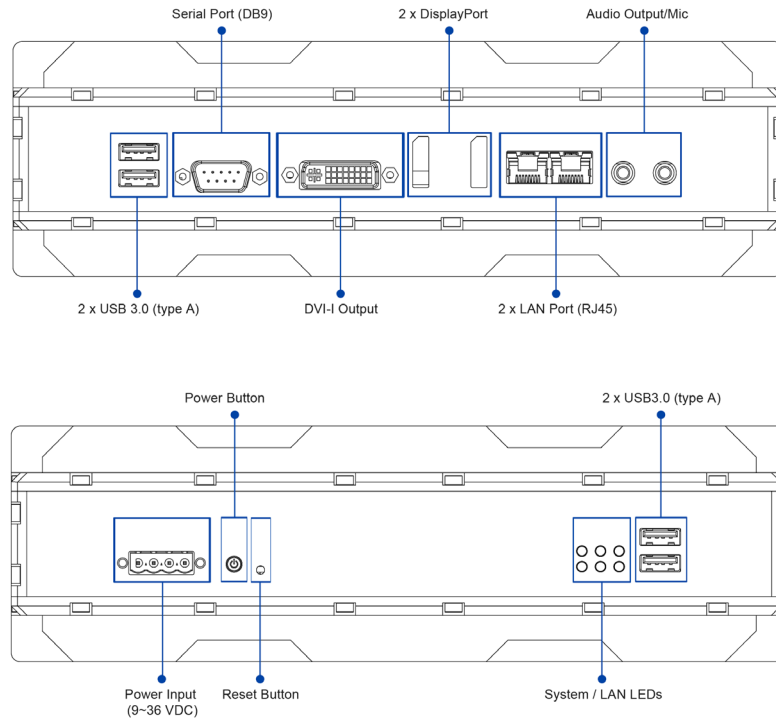
**MIL-STD-810G RUGGED COMPUTER WITH INTEL® CORE™ I7-4700EQ, 9V TO 36V DC-IN, MINI PCIE, EXTENDED TEMP. -20~60°C**

### SR100-UT

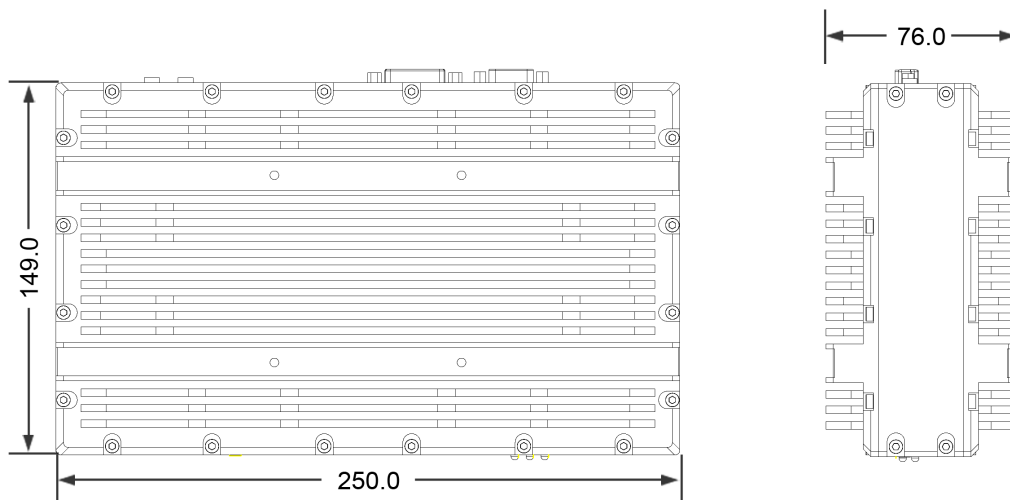
**MIL-STD-810G RUGGED COMPUTER WITH INTEL® CORE™ I7-4700EQ, 9V TO 36V DC-IN, MINI PCIE, EXTENDED TEMP. -40~70°C**

## SR100 , INTEL® QM87 MIL-STD FANLESS RUGGED SYSTEM WITH INTEL® CORE™ I7 HASWELL PROCESSOR, 9V TO 36V DC-IN, WIDE TEMP. -40~70°C

### APPEARANCE



### DIMENSIONS

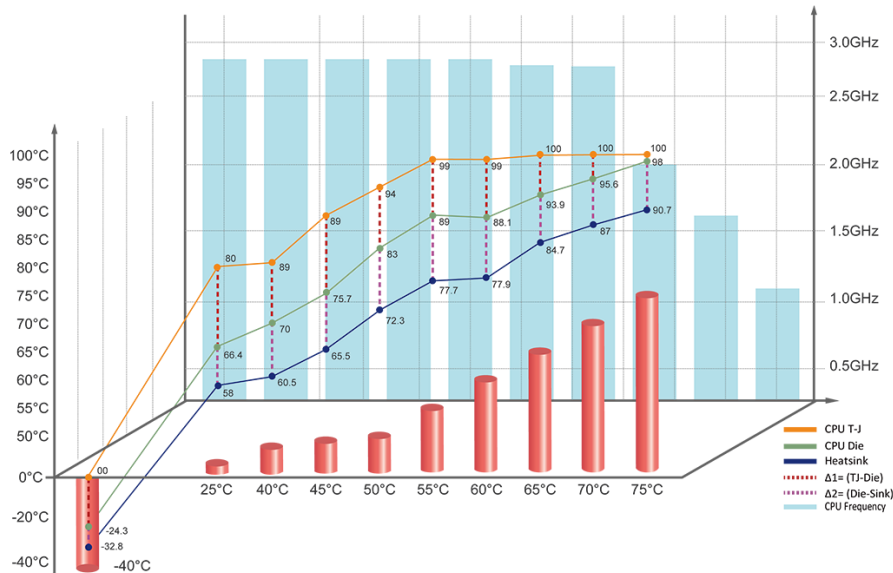
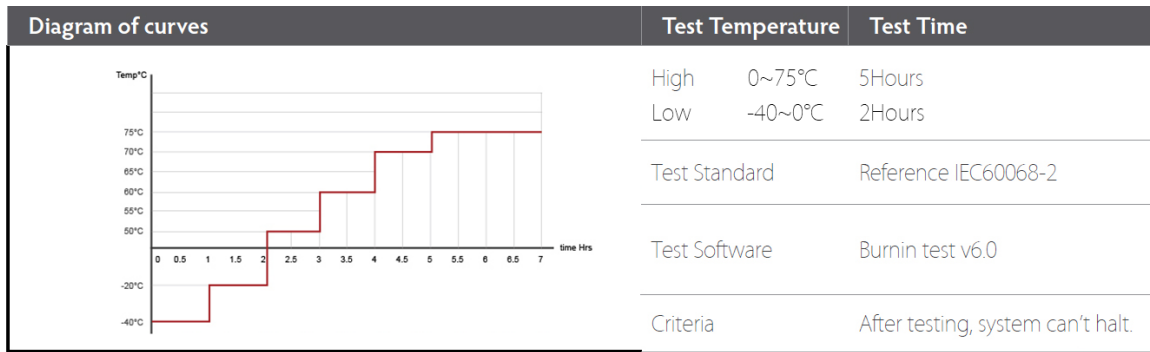


### TEST CONFIGURATION

ITEM	DEVICE INFORMATION
CPU Type	Intel® Core i7-4700EQ 2.40GHz
PCH	Mobile Intel QM87 Express Chipset
Memory	Swissbit XR-DIMM 4 GB DDR3-1600
port3 SATAII	Innodisk 3ME3 mSATA 64GB
Test Software	Burnin test v6.0, AS SSD Benchmark, Intel Extreme Tuning Utility 4.3.0.11

### TEST RESULT

Model	SR100	Test Result	Pass
Tester	Ian Huang		



SR100 MB Heatsink - IO Performance										
Point	-40°C	25°C Room temperature	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C
CPU T-J	0	80	81	89	94	99	99	100	100	100
CPU Die	-24.3	66.4	70	75.7	83	89	88.1	93.9	95.6	98
Heatsink	-32.8	58	60.5	65.5	72.3	77.7	77.9	84.7	87	90.7
Δ1= (TJ-Die)	24.3	13.6	11	13.3	11	10	10.9	6.1	4.4	2
Δ2= (Die-Heatsink)	8.5	8.4	9.5	10.2	10.7	11.3	10.2	9.2	8.6	7.3
CPU Frequency	2.79GHz	2.79GHz	2.79GHz	2.79GHz	2.79GHz	2.6GHz	2.59GHz	2GHz	1.6GHz	1.1GHz