F1-30

Rugged Military COTS Computer with Intel® 5th gen Core i7-5650U, NVIDIA GT730M, Dual LAN, DC-In 9-36V, Operating Temperature -40~ +70°C

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

Statement

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- All product specifications are subject to change without prior notice

Revision History

Revision	Date (yyyy/mm/dd)	Changes
Version 1.0	2019/07/12	Initial release

Packing list

- ☐ **F1-30 Fanless Rugged System**
- ☐ **CD (Driver + Quick Installation Guide)**

Ordering information

Model Number	Description
F1-30	Rugged COTS computer with Intel®5th Gen. Broadwell ® Core™ i7-5650U processor, NVIDIA GeForce GT 730M graphics, Operating Temperature -40~+70°C

If any of the above items is damaged or missing, please contact your local distributor.

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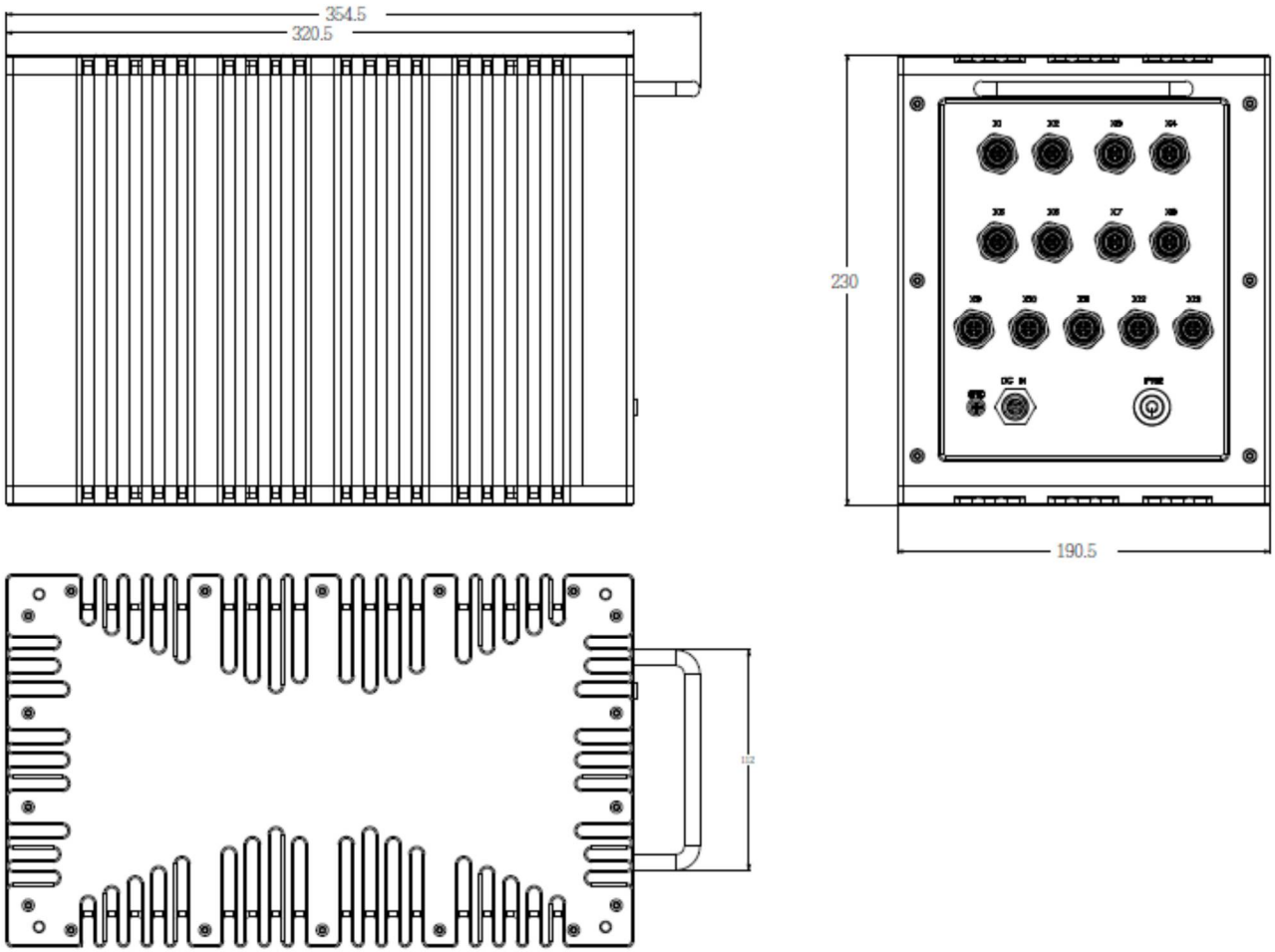
Chapter 1: Product Introduction

1.1 Key Features

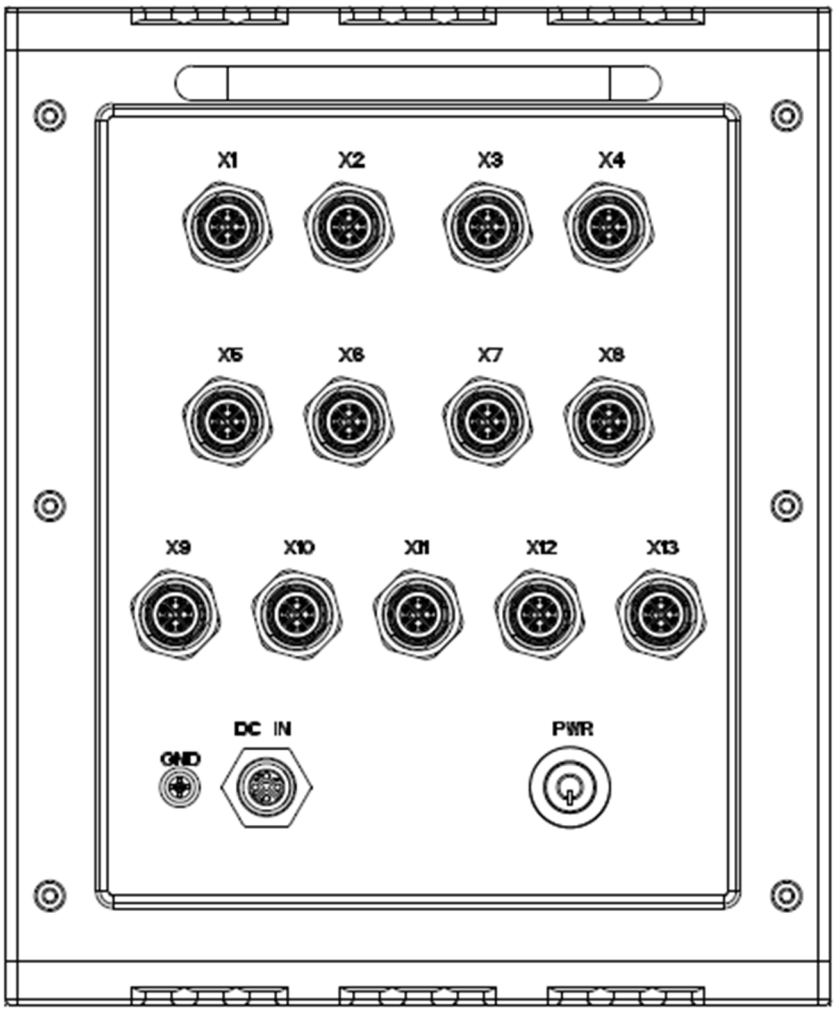
System	
CPU	Intel® Core™ i7-5650U Processor (2 Cores, 4 Threads) up to 3.2GHz
Memory Type	2 x XR-DIMM up to 16 GB
BIOS	AMI® BIOS
Graphics	NVIDIA®GPU GT730M supports CUDA 384 VGA analog support resolution up to 2048x1536
Storage Device	Onboard 64GB SATAIII uSSD
Ethernet	2 x 10/100/1000 Ethernet
Serial Port	4 x RS232
USB	4 x USB2.0
I/O Interface	
COM (RS232)	X1/X2/X3/X4
LAN (Gigabit Ethernet)	X5/X6
DIO1	X7
DIO2	X8
USB	X9/X10/X11/X12
VGA	X13
DC-IN	POWER IN
Mechanical & Environment	
Construction	Aluminum chassis with fanless design
Power Requirements	9~36V DC-IN
Dimension (W x H x D)	190.5 x 230 x 320.5 mm (7.50 " x 9.05 " x 12.62")
Weight	16 Kg (35.24 lb)
Ingress Protection	IP65
Operating Temp.	-40 to 70°C (ambient with air flow)
Storage Temp.	-40 to 70°C
Relative Humidity	Up to 95%RH @40°C, non-condensing

* Specifications are subject to change without notice*

1.2 Dimensions

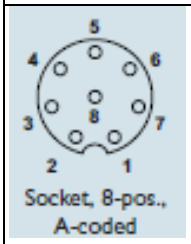
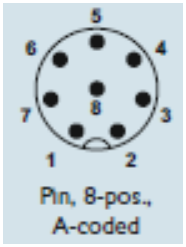


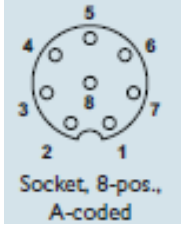
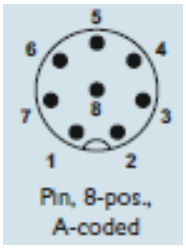
1.3 Front Panel Component

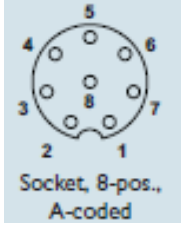
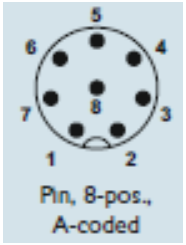


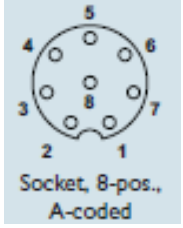
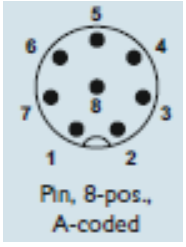
I/O labeling	Function
X1/X2/X3/X4	RS232 Ports (4 ports)
X5/X6	Gigabit Ethernet (2 ports)
X7	DIO1 (8 bit DIO)
X8	DIO2 (8 bit DIO)
X9/X10/X11/X12	USB2.0 (4 ports)
X13	VGA
POWER IN	DC-IN (9-36V input, 150W max.)
GND	Ground screw
PWR	Power Switch w/ indicator LED

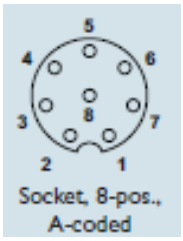
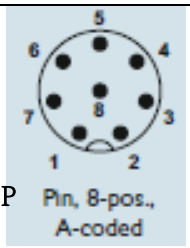
F1 Phoenix Contact Connector Pin Define

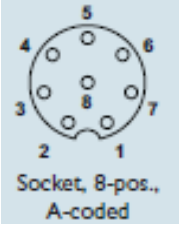
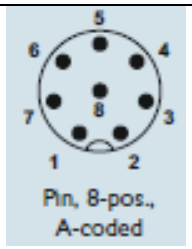
I/O			Pin define		D-9
		RS-232-1 X1	1	DCD	1
			2	RXD	2
			3	TXD	3
			4	DTR	4
			5	GND	5
			6	DSR	6
			7	RTS	7
			8	CTS	8

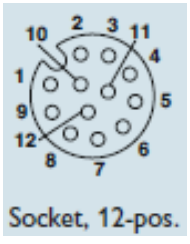
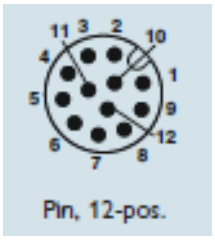
I/O			Pin define		D-9
		RS-232-2 X2	1	DCD	1
			2	RXD	2
			3	TXD	3
			4	DTR	4
			5	GND	5
			6	DSR	6
			7	RTS	7
			8	CTS	8

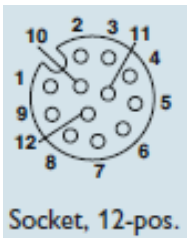
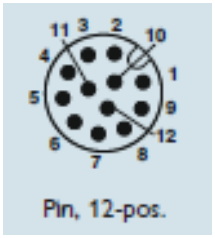
I/O			Pin define		D-9
		RS-232-3 X3	1	DCD	1
			2	RXD	2
			3	TXD	3
			4	DTR	4
			5	GND	5
			6	DSR	6
			7	RTS	7
			8	CTS	8

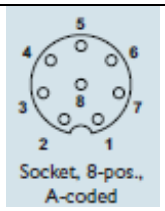
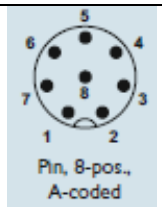
I/O			Pin define		D-9
		RS-232-4 X4	1	DCD	1
			2	RXD	2
			3	TXD	3
			4	DTR	4
			5	GND	5
			6	DSR	6
			7	RTS	7
			8	CTS	8

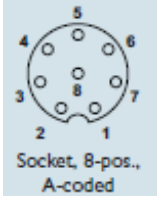
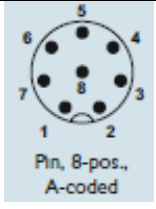
I/O			Pin define		RJ45
 Socket, 8-pos., A-coded	 P Pin, 8-pos., A-coded	LAN1 X5	1	D1+	1
			2	D1-	2
			3	D2+	3
			4	D2-	6
			5	D3-	4
			6	D3+	5
			7	D4+	7
			8	D4-	8

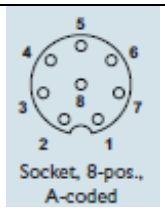
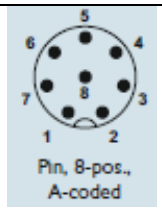
I/O			Pin define		RJ-45
 Socket, 8-pos., A-coded	 Pin, 8-pos., A-coded	LAN2 X6	1	D1+	1
			2	D1-	2
			3	D2+	3
			4	D2-	6
			5	D3-	4
			6	D3+	5
			7	D4+	7
			8	D4-	8

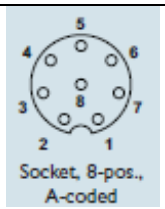
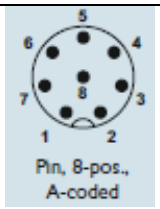
I/O			Pin define		
 Socket, 12-pos.	 Pin, 12-pos.	DIO-1 X7	1	DIO0	1
			2	DIO1	2
			3	DIO2	3
			4	DIO3	4
			5	DIO4	5
			6	DIO5	6
			7	DIO6	7
			8	DIO7	8
			9	+5V	9
			10	G	10
			11~12	N/A	

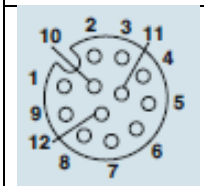
I/O			Pin define		
 Socket, 12-pos.	 Pin, 12-pos.	DIO-2 X8	1	DIO8	1
			2	DIO9	2
			3	DIO10	3
			4	DIO11	4
			5	DIO12	5
			6	DIO13	6
			7	DIO14	7
			8	DIO15	8
			9	+5V	9
			10	G	10
			11~12	N/A	

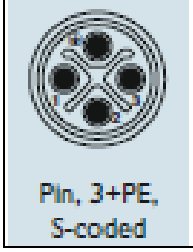
I/O			Pin define		USB-A
 Socket, 8-pos., A-coded	 Pin, 8-pos., A-coded	USB 1 X9	1	VCC	1
			2	D-	2
			3	D+	3
			4	Ground	4
			5~8	N/A	

I/O			Pin define		USB-A
 Socket, 8-pos., A-coded	 Pin, 8-pos., A-coded	USB 2 X10	1	VCC	1
			2	D-	2
			3	D+	3
			4	Ground	4
			5~8	N/A	

I/O			Pin define		USB-A
 Socket, 8-pos., A-coded	 Pin, 8-pos., A-coded	USB 3 X11	1	VCC	1
			2	D-	2
			3	D+	3
			4	Ground	4
			5~8	N/A	

I/O			Pin define		USB-A
 Socket, 8-pos., A-coded	 Pin, 8-pos., A-coded	USB 4 X12	1	VCC	1
			2	D-	2
			3	D+	3
			4	Ground	4
			5~8	N/A	

I/O			Pin define		D-15
 Socket, 12-pos.	Pin, 12-pos.	VGA X13	1	RED	1
			2	R Ground	6
			3	GREEN	2
			4	G Ground	7
			5	BLUE	3
			6	B Ground	8
			7	H-Sync	13
			8	Ground	5
			9	V-Sync	14
			10	Ground	10
			11	ID(Ground)	11
			12	Ground	12

I/O			Pin define		
 Pin, 3+PE, S-coded	Socket, 3+PE, S-coded	POWER IN	1	(+)	
			2	(+)	
			3	-	
			PE	-	