STAR LAKE

F1-30M

Rugged Military COTS Computer Small Form Factor (SFF) with PCIe/104 Architecture

MIL-STD 810H

MIL-STD 461/1275

Power Automation Computer

- Intel® Core™ i7-5650U Processor (3.1GHz, 2 cores, 4 threads)
- Up To 16GB DDR3L SDRAM
- 5 x USB, 4 x COM, 2 x LAN, DIO
- Modular rugged chassis with stackable PCIe/104 I/O card expansion
- M12 connector

- **About MIL-STD-1275/704/461 Power supply with Voltage transient protections**

To enhance reliability, F1-30 is designed for rugged extremes. durable metal casing with an isolated MIL-STD-1275, MIL-STD 704 and DO-160 power supply in an IP50 (dustproof) ultra durable metal /aluminum chassis that protects against vehicle/aircraft voltage surges, spikes and transients is well suited for the strictest military requirement and deliver optimal performance in harsh conditions. The GAIA Hi-Rel DC/DC CONVERTER it also provides Undervoltage Lockout (UVLO), Output Over Current Protection (OCP), Output Overvoltage Protection (OVP) and Over Temperature Protection (OTP) to made stability and safty.
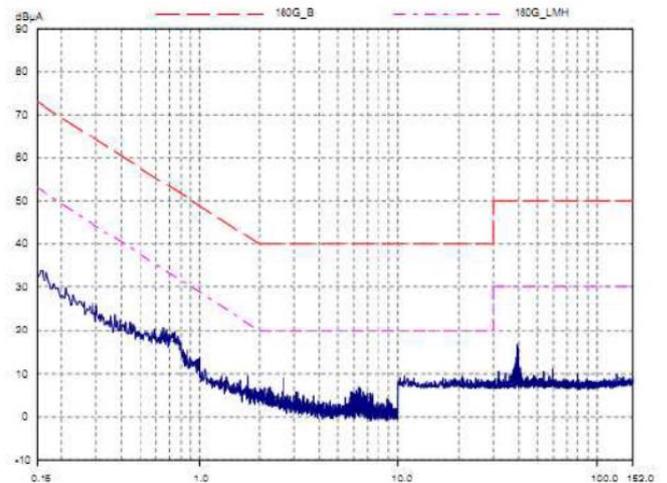

Module Compliance with MIL-STD-461C/D/E Standards
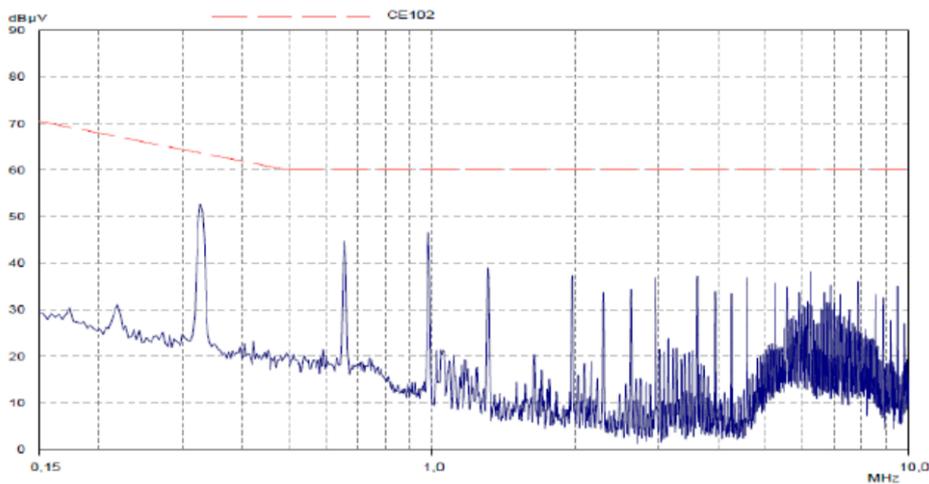
MIL-STD-461E : MGDS-15x-H-J with FGDS-10A-50V
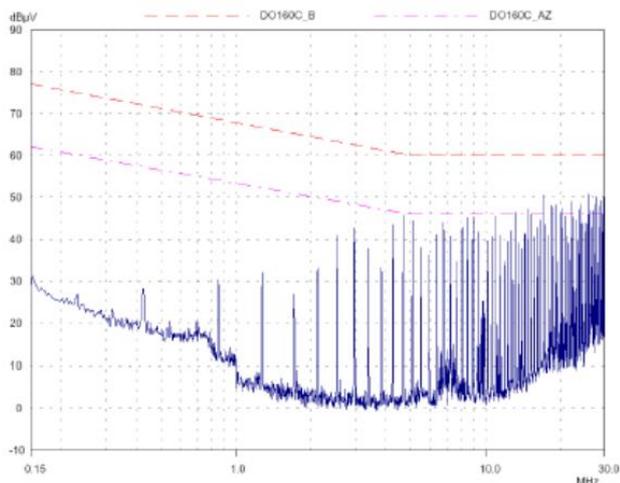
DO-160G : MGDS-15x-H-J with FGDS-10A-50V

Specifications

System

High Performance Processor	Intel® Core™ i7-5650U Processor (Frequency 2.2GHz, Turbo Boost Frequency up to 3.1GHz), 2-Core, 42 Thread Support, 4MB SmartCache. Build-in Turbo Boost Technology 2.0, VPro and Hyper-Threading support.
Memory	2 x Rugged Memory XR-DIMM up to DDR3L -1600 16GB
Chipset	SoC, integrated with CPU

Display

Graphics	NVIDIA GeForce® GT730M
Display Port	Resolution up to 2048 x 1536

Storage

mSATA	mSATA Solid State Disk (SSD) - up to 512GB Capacity. Rugged Industrial NAND Flash mSATA Storage w/ Rugged -40/+85C 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)

I/O

VGA	1 x Rugged M12 connector
Ethernet	2 x Rugged M12 connector
USB	5 x Rugged M12 connector (USB 2.0)
Serial Port	4 x Rugged M12 connector (RS-232)
Digital I/O	2 x Rugged M12 connectors (4 DI/4 DO)
DC-IN	1 x Rugged M12 connector
Button	1 x Power Button w/Indicator LED

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 10 64Bit Ubuntu14.04, Fedora 20/23, RedHat Linux EL 7.1/7.2

Physical

Dimension (W x D x H)	189.5 x 230 x 318 mm
Weight	16 Kg (35.24 lb)
Chassis	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide (Color Iron gray)
Cooling	Natural Passive Convection/Conduction. No Moving Parts.
Ingress Protection	IP65

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 compliance	MIL-STD-461E : CE102 basic curve, 10kHz - 30 MHz RE102-4, (1.5 MHz) -30 MHz - 5 GHz RS103, 1.5 MHz - 5 GHz, 50 V/m equal for all frequencies EN 61000-4-2: Air discharge: 8 kV, Contact discharge: 6kV EN 61000-4-4: Signal and DC-Net: 1 kV EN 61000-4-5: Leads vs. ground potential 1kV, Signal und DC-Net: 0.5 kV EN 61000-4-2: Air discharge: 8 kV, Contact discharge: 6kV EN 61000-4-4: Signal and DC-Net: 1 kV EN 61000-4-5: Leads vs. ground potential 1kV, Signal und DC-Net: 0.5 kV EN 61000-4-2: Air discharge: 8 kV, Contact discharge: 6Kv EN 61000-4-4: Signal and DC-Net: 1 kV

	EN 61000-4-5: Leads vs. ground potential 1kV, Signal und DC-Net: 0.5 kV
	EN 55022, class A EN 61000-4-3: 10V/m CE and FCC
Operating Temperature	-40 to 70℃
Storage Temperature	40 to 85℃

Ordering Information

F1-30M
Core i7　Military Airborne Video Frame Grabber Computer -
Small Form Factor (SFF) with PCIe/104 Architecture GPUCPU Open Structure

Dimension