

# FDR-1000 Military Dual Core PC with RMM

## **Extended Temperature Range**

**FDR-1000 is a miniature fan-less PC computer with a Removable Memory Module (RMM), running XP Embedded, or Linux.**

The RMM is used for classified data handling, and recording during missions, in military platforms such as Fighters, helicopters and large UAVs.

The FDR-1000 is built for operational maintainability, with a quick release mounting tray.

The computer can be customized with various input/output cards, additional serial ports, Sound, Video, A/D, 1553 ARIN-429, CAN BUS.

## **Base Line Configuration**

- ◆ Dual Core ATOM D510 (2 Cores 4 Threads).
- ◆ L2 Cache 1MB.
- ◆ 8-128GB Flash Disk.
- ◆ DRAM - 1GB
- ◆ 4 x RS-232 4 x RS-422.
- ◆ VGA
- ◆ 4 x USB 2.0 (or 2 x PS2 + 2 x USB 2.0)
- ◆ 4 x 100 BaseT LAN ports
- ◆ Output discrete signals  
8 outputs of discrete signals via SI2308DS MOSFET. Each of the outputs is capable of sinking Continuous load current ratings to 800 mA @71°C, withstanding 60V in the off state.
- ◆ Input Discrete Signals  
4 x TTL discrete signals.  
4 x HV (28VDC) Isolated discrete signals.
- ◆ 1PPS interrupt time sync.
- ◆ Power Supply: 9-36VDC per MIL-704E, MIL-STD-1275B
- ◆ Environmental Conditions per MIL-STD-810F
- ◆ EMI/RFI per MIL-STD-461E



## **Dimensions & Weight**

135x118x250 (WXHXL) [mm], 2.8Kg

- ◆ Standard temperature range  
-20°C to +71°C,
- ◆ Extended temperature range from  
-40°C to +71°C,

## **Options**

- ◆ RS-170, S-Video AUDIO Recording & Streaming via TCP/IP (MPEG4, H.264).
- ◆ Video Out—RS-170 & VGA
- ◆ MIL-STD-1553 - 1 or 2 channels with BC, RT, Monitor.
- ◆ ARINC-429
- ◆ A/D CONVERTER
- ◆ CAN Bus.

## **Software development**

FDR-1000 is loaded with a development environment, drivers and code examples.

## **Test Cables**

ETI Services inc. offers a set of test cables that could be used in software lab to run the computer during development.

**ETI Services Inc. www.military-computers.com CAGE CODE: 1PZ92**  
**1400 N Jefferson St., Anaheim CA. 92807**  
**Tel: +1-714-524-2986, Fax: +1-714-524-8771 E-mail: [sales@military-](mailto:sales@military-computers.com)**

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## Environmental Conditions

### Temperature:

The FDR-1000 will not be damaged or affected by the effects of ambient air temperature as follows: Operating: The FDR-1000 shall meet performance requirements specified herein after exposure to temperatures from -20° to +71°C or -40° to +71°C.

Non-operating: (Storage/transportation) from -54° to 85°C.

### Relative humidity

Operating: 95% relative humidity (RH) with no condensation.

Non-operating: 95% RH.

### Vibration

According to MIL-STD-810F for Airborne, Helicopter or Vehicle environment.

### Shock

According to MIL-STD-810E, 40g saw tooth for duration of 11msec.

### Fungus

The FDR-1000 is non-nutrient to fungus growth according to the requirements in MIL-STD-810F.

### Sand and Dust

The FDR-1000 shall operate as specified herein while and after being subjected to sand and dust as encountered in dry arid areas according to the requirements of MIL-STD-810F.

### Salt Fog:

The FDR-1000 is resistant to the corrosive effects of salt fog environment per MIL-STD-810F.

### Reliability:

MTBF of 10,000 hours  
Mean Time To Repair (MTTR) < 30 minutes.

## Thermal Design

The cooling of the components on the FDR-1000 PC cards, Power Supply and the Pentiums chip is accomplished by conduction through the aluminum enclosure of the unit.

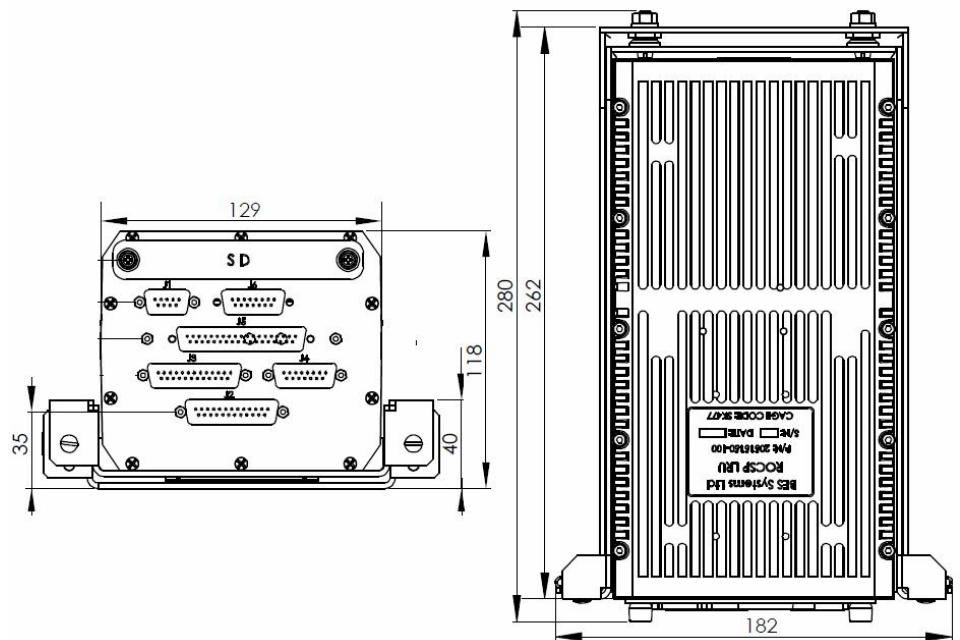
## External Connectors

External connectors are used for interfacing with the subassemblies or equipment and are in accordance with requirement of MIL-STD-454. Connector mating bodies are keyed, and keyed locations are varied to prevent improper installation.

## Electromagnetic Interference:

FDR-1000 complies to MIL-STD-461E.

- ◆ CS101 Conducted Susceptibility, Power Leads, 30HZ-150KHz.
- ◆ CE101 Conducted Emissions, Power Leads, 30Hz - 10kHz
- ◆ CE102 Conducted Emissions, Power Leads, 10kHz - 10MHz
- ◆ RE102 - Radiated Emissions, 10 KHz to 18 GHz
- ◆ RS103 - Radiated Susceptibility, Electric Field, 2MHz -18GHz
- ◆ CS114 - Conducted susceptibility, bulk current



FDR-1000 with a tray, dimensions

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