Avionics Interface Computer Rugged

Product Brief

Models: BU-67124W

ETHERNET
MIL-STD-1553
MIL-STD-1760
ARINC 429
ARINC 717
DISCRETE
CANbus

intel inside

ACEXTREME®

DDC's Rugged Avionics Interface Computer (AIC-R) provides a flexible and scalable platform that supports a wide range of data network communications. The system combines best-in-class performance from Intel's embedded computing architecture and the I/O flexibility of DDC's High Density Multi-Protocol XMC module, to deliver unmatched avionics connectivity in a small form factor, deployable, rugged enclosure.

Key Features

Performance

- Scalable Processing from an Intel® Core i5 Dual or Quad Core Processor
- Dual Gigabit Ethernet Interfaces for Network Connectivity and Bridging to MIL-STD-1553 or ARINC 429
- Many Configuration Options Supported with (1) XMC Site and (2) Mini-PCIe Sites

Functionality

- Enabled by DDC's Integrated Multi-I/O XMC
  - Up to 4 Dual Redundant MIL-STD-1553 Channels
    - Supports MIL-STD-1553A/B and MIL-STD-1760
    - BC Disable for RT Only Applications
    - Tx Inhibit for MT Only Applications
  - Up to 20 Programmable Tx/Rx ARINC 429 Channels
    - Supports ARINC 575 and Other ARINC Protocols
    - Full Line Rate on All Channels Simultaneously
    - Tx Inhibit for ARINC 429 Rx Only Applications
    - Programmable ARINC 429 Speed
  - Up to 2 Programmable Tx/Rx ARINC 717 Channels
  - Up to 2 CANbus 2.0/ARINC 825 Channels
  - Up to 8 Programmable RS-232/422/485 Channels
  - Up to 10 Avionics/Digital Discrete I/O
- Enabled by DDC's Integrated Mini-PCIe
  - Up to 4 Dual Redundant MIL-STD-1553 Channels
  - Up to 12 Programmable Tx/Rx ARINC 429 Channels

Benefits

- Embedded Intel® Processor Provides Best-in-Class Computing, Programming, and Flexibility, Enabling the AIC to Serve High Density Protocol Bridging and Application Needs.
- Qualified for Rugged Air and Ground Environments.
- Scalable Architecture and DDC's Portfolio of High Density XMC and Mini-PCIe Modules Enables System Customization to Support a Wide Range of Applications
- Field-Proven High TRL Hardware and Software Solution Saves Development Time and Costs.
- Three Modes of Operation Provide Complete Bridging Capability for Lab Environments.
  1. **Remote Access Mode** Uses Ethernet as a Virtual Backplane Between Applications Running on a Host Computer and 1553/429 Interfaces Located Within the AIC, Eliminating the Need and Cost of Long Cabling to Onboard 1553/429 Connections from the Test Lab
  2. **Protocol Conversion Mode** Uses Bridging SDK, Which Allows Users to Easily Create Embedded Software on the AIC that will Autonomously Forward Data Between MIL-STD-1553, ARINC 429, and Ethernet Interfaces
  3. **Standalone Mode** Allows the AIC to Operate as a User Programmable Computer System.

Applications

- Military Aerospace
  - Fixed Wing
  - Rotary
- UAVs
- Commercial Aerospace
  - Fixed Wing
  - Rotary
- Ground Vehicles

Need a Custom Solution?
DDC can customize designs for all products, ranging from simple modifications of standard products to fully customized solutions for commercial, military, aerospace, and industrial applications.

For more information: www.ddc-web.com/BU-67124W

Printed on recycled paper.

Quick Specs

REQUIREMENT	DESCRIPTION
Processor	Scalable to support Core i5 processor modules
Memory	DDR3 DRAM scalable 4GB, 8 GB, 16GB
Networking	2x Gigabit Ethernet
Storage	Solid-State Drive (SSD) 64GB to 512GB
Serial Interface	1x RS-232 4x RS-422 2x USB 2.0 Ports
GPIOs	16x ports
Video	VGS
Power	28VDC, MIL-STD-704
Secure Erase	Trigger by Software
Operating System	Linux, Windows
Enclosure	8.5in x 7.0 in x 3.4in (215.6mm x 177.8mm x 86.2mm)
Weight	< 7lbs (3.175 kg)

ENVIRONMENTALS		TYPICAL
Temperature Range		
	Operating	-40°C to +85°C
	Storage	-55°Cto +100°C
Shock		MIL-STD-8106G — 516.6
Vibration		MIL-STD-8106G — 514.6
EMI		MIL-STD-461F
Humidity		95% Non-condensing
Immersion		MIL-STD-810G — 512.5, Procedure I

Ordering Information

BU-67124W1XXL-CC0 (Contact Factory for Customization)

Config	System Specifications
01	Core i5-4422E, 16GB DRAM, 128GB SSD
02	Core i5-4422E, 16GB DRAM, 128GB SSD x2 Removable SSD
21	Core i5-4422E, 16GB DRAM, 256GB SSD
22	Core i5-4422E, 16GB DRAM, 256GB SSD x2 Removable SSD
31	Core i5-4422E, 16GB DRAM, 512GB SSD
32	Core i5-4422E, 16GB DRAM, 512GB SSD x2 Removable SSD

Note: All configurations include the following:
1. System can be preinstalled with Ubuntu Linux or Windows 7
2. Data Bus I/Os include 1553, ARINC 429, CANBus, Serial I/O, etc.

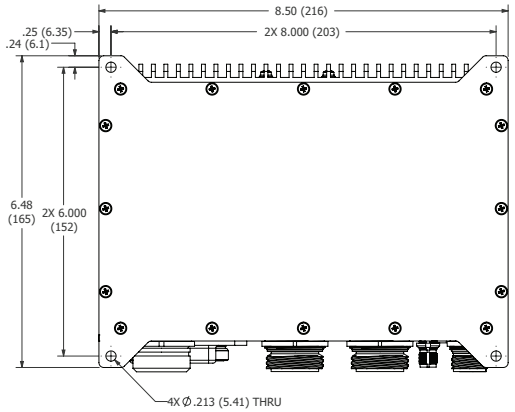
Included Software:

- BU-69094S1 Bridging SDK for 1553/429 (runs AIC)
  - Includes Web Server and Remote Access Server
- BU-69092S0 Windows 1553 SDK (runs on host)
- BU-69092S1 Linux 1553 SDK (runs on host and AIC)
- DD-42992S0 Windows 429 SDK (runs on host)
- DD-42992S1 Linux 429 SDK (runs on host and AIC)

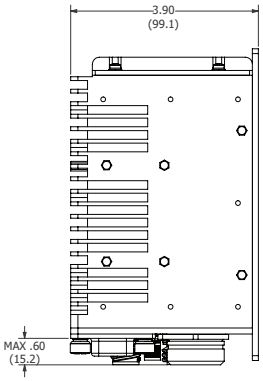
Optional Cable Assemblies:

- DDC-80965-1 P1 Power Cable (6 ft)
- DDC-80965-2 P2 Maintentance Cable (6 ft)
- DDC-80965-3 P3 USB 3.0 Cable (6 ft)
- DDC-80965-4 P4 I/O Cable (6 ft)
- DDC-80965-5 P5 I/O Cable (6 ft)

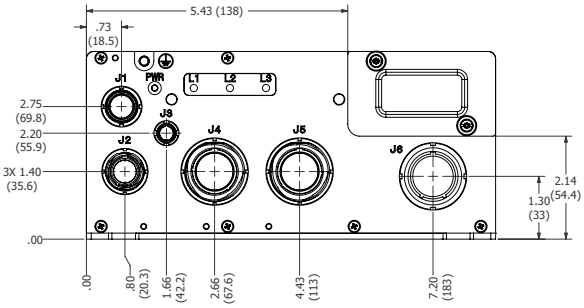
Mechanical Outline



BOTTOM VIEW



SIDE VIEW



FRONT VIEW

DATA DEVICE CORPORATION
REGISTERED TO:
ISO 9001:2008, AS9100C:2009-01
EN9100:2009, JIS Q9100:2009
FILE NO. 10001296 ASH09

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