Atrenne
A Celestica Company

D2D-34TLA

9-SLOT 3/4-ATR TALL LONG AIR-COOLED DEVELOPMENT-TO-DEPLOYMENT CHASSIS

FEATURES AND BENEFITS

- Open VPX™ compatible cabling to rapidly configure backplane and IO during the development phose
- Ability to secure cabling for the demonstration phase
- Application-specific backplane and IO board with cabling for the deployment phase
- Blank IO front panel ready for customization
- MIL 28V-input power supplies
- Modular, open-standard power supplies
- Industrial grade fan
- EMI shielding
- Ability to withstand moderate shock and vibration consistent with rugged air cooled payload
- 9-slot 3U Gen-3 optimized pass-through OpenVPX backplane with patent-pending Gen-3 signal integrity optimization

APPLICATIONS

- Airborne electronics
- Ground mobile electronics
- Shipborne electronics

OVERVIEW

From development to deployment (D2D), project designs must evolve to meet changing program requirements. The D2D-34TLA (3/4 Tall Long ATR) chassis is designed to be configurable so that it can be adapted to each of the three major phases of a program:

- Development systems typically use air-cooled, lab-style equipment for maximum flexibility and reduced cost.
- Demonstration systems move programs to the next level of ruggedization and are often built using light rugged custom equipment.
- Deployment systems are optimized for final program requirements, fully ruggedized and ready to move into production.

Using a single chassis reduces the program cost, schedule impact and technical risk inherent in changing enclosures for each program phase. This is the basic principle behind Atrenne's, D2D (development to deployment) family of enclosures.

The D2D-34TLA is a 9 slot 3/4-ATR Tall Long Air Cooled D2D Chassis that targets primarily development and demonstration applications, and can be adopted for moderately rugged deployment applications. The chassis includes one or two 3U VITA 62 MIL Power Supplies plus a 9-slot 3U Gen-3 optimized pass-through OpenVPX backplane.

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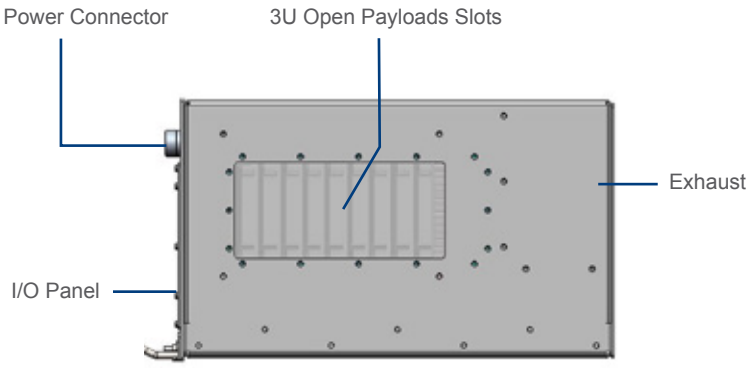

Figure 1: 9-slot 3/4-ATR Tall Long Air-Cooled Development-to-Deployment Chassis

SPECIFICATIONS

PHYSICAL

- Dimensions
  - Width: 7.50" (190.5mm)
  - Height: 11.875" (301.625mm)
  - Depth: 19.745" (501.523mm) excluding handles
- Weight: 24 lbs (10.89kg)
- Construction: bolted aluminum
- Front I/O panel:
  - 0.125" (3.175mm aluminum 5052
  - 5.7" wide x 6.6" high (144.78 x 167.64mm)
  - Blank for user customization
- EMI screens: aluminium honeycomb, 0.5" (12.7mm) thick

ENVIRONMENTAL

- Operating Temperature: -20 to +55°C with industrial fan
- Operating altitude: 20,000 ft (6,096m)
- Cooling:
  - Right side air intake and rear exhaust
  - Forced-air cooling for 9 x 3U OpenVPX air-cooled slots with 14 CFM per slot at MSL with industrial grade fan
  - Cooling for 2 x conduction-cooled 3U VITA 62 power supplies at 55°C ambient up to 20,000 ft.
- EMC: Designed to meet MIL-STD-461E: CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103
- Shock: designed to meet 20 g, 11ms
- Vibration: designed to meet ~8 g RMS:
  - 5-100 Hz PSD incr. @ 3dB/oct.
  - 100-1000 Hz PSD = 0.04 g2 /Hz
  - 1000-2000 Hz PSD decr. @ 6 dB/oct.

POWER/ELECTRICAL

- DC input: 28 VDC per MIL-STD 704F, 40.5A
- Backplane
  - 9 x slots 3U Open VPX
  - 2 x slots 3U VITA 62 power supply
- Backplane connectors
  - 3U OpenVPX connectors
  - Includes Meritec® VPX-plus shrouds on all OpenVPX RTM slots
  - 3U Vita 62 power supply connectors
  - Meritec VPX-plus shrouds on all OpenVPX RTM slots
- Connector pitch: 1.0" (25.4mm)
- Gen-3 optimized pass-through OpenVPX backplane supporting 10.3 Gbaud signalling

CONSTRUCTION

Exterior: aluminum 5052

- Conduction-cooled power supply heat sinks/ conduction rails: aluminum 6063
- Card cage extrusions: aluminum 6063
- card guides: molded plastic, Noryl N190X black UL94-V0
- Tapped strips: carbon steel bar stock with zinc plating and supplementary chromate treatment
- ESD ground clip: beryllium copper, alloy C17400, 1/2 HT with bright tin plating/MIL-T-10727
- Power supply:
  - 1 x or 2 x current sharing 3U 400W VITA 62 power supply with maximum total output of 675W
  - Each power supply:
    - +12V @ 15A
    - +3.3V @ 20A
    - +5V @ 40A
    - +12VAUX @ 1A
    - -12VAUX @ 1A
    - +3.3VAUX @ 4A

D2D-34TLA

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HOW CAN WE HELP REDUCE YOUR RISK?

Atrenne can help with all your application-specific backplane and chassis requirements. The solutions that you see on our website are just a small sample of what we have done. Please browse our solutions and contact us for a consultation.

FLEXIBLE USES

The D2D-34TLA chassis is designed for development and demonstration use with little or no modifications. It can also be adapted for moderately rugged deployed applications. In order to provide maximum flexibility for development and demonstration, the D2D-34TLA chassis includes Meritec VPX-plus shrouds on all OpenVPx RTM slots; this allows application-specific slot-slot connectivity as well as I/O connectivity. The D2D-34TLA ATR Chassis is designed to operate in a temperature range pf -20 to +55°C, and delivers extreme cooling for development and demonstration projects.

The chassis is part of Atrenne's industry-leading line of chassis and backplane solutions that feature innovative design for dependable operation in today's data intensive, rugged aerospace and military applications.

- Development-to-Deployment chassis supporting 9 x slots 3U OpenVPX air-cooled payload
- Forced-air cooled
- Standard 9-slot 3U OpenVPX backplane, 1.0" (25.44mm) pitch, Gen-3 optimized pass-through type
- Meritec VPX-plus shrouds installed on all RTM connectors. Supports VPX-plus cabling on backplane RTM connectors
- Cooling: 14 CFM per slot with industrial grade fan*
- -20 to +55°C operating temperature with industrial grade fan*
- 28 VDC, 40.5A power input per MIL-STD-704F
- 1 x or 2 x plug-in 3U VITA 62 power supplies with power outlet of 400W each (675W maximum for two power supplies)
- Designed to meet MIL-STD-461F EMI
- Designed to meet moderately rugged air cooled shock & vibration levels consistent with ANSI/VITA 47 Class OS1 & V2

Note: Contact factory for extended temperature configurations with MIL grade fan

TABLE 1: ORDERING INFORMATION

PART NUMBER	BACKPLANE CONFIGURATION	POWER SUPPLY	COOLING FAN
D2D-34TLA-01	9 x 3U OpenVPX Gen-3 optimized pass-thru slots + 2 x 3U VITA 62 power supply slots, 1.0" (25.4mm) pitch	1 x VITA 62 power supply, 400W output	Industrial fan
D2D-34TLA-02	9 x 3U OpenVPX Gen-3 optimized pass-thru slots + 2 x 3U VITA 62 power supply slots, 1.0" (25.4mm) pitch	2 x VITA 62 power supply, 675W output	Industrial fan

TABLE 2: ACCESSORY

PART NUMBER	DESCRIPTION
I-EPS00049-01	3U 400W current sharing VITA 62 power supply

WARRANTY

This product has a one year warranty.

CONTACT INFORMATION

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