

**Model:** HVI 300-750/24FXT-U5482

**COSD:** XXXX

**Summary description:** 250W Railway Quality DC/DC Converter  
750Vdc to 24Vdc / 10A

**Customer Name:** JD GRAY/Texas

**Customer Part Number:** Same as above



**Product description:**

This rugged, industrial quality DC/DC converter uses field proven HVI 500 design family to generate the required output power. Cooling is by conduction to base plate, and also by convection. Ruggedizing and conformal coating provide added immunity to shock, vibration and humidity. Low component count, large headrooms, and the use of components with established reliability results in high MTBF. The unit is manufactured in our plant under strict quality control.

**Special Features:** 525-975Vdc input range, -40°C to +70°C, Output OK alarm. Ruggedizing, Conformal coating,

**SPECIFICATIONS**

**Input Voltage**

750Vdc nominal  
525-975Vdc operating range  
1270Vdc max for 20msec  
Input Current: 0.6A max.

**Input Protection**

Inrush current limiting  
Varistor  
Reverse polarity protection  
Internal safety fuse  
Lower voltage than the specified minimum input will not damage the unit

**Isolation**

4700Vdc input to chassis (requested)  
4700Vdc input to output (requested)  
1400Vdc output to chassis

**Standards**

Designed to meet EN61010-1 and EN 50155  
IEC50163 (1270V surge)

**Immunity**

Meets criteria as requested in EN50155 and EN50121-3-2 according to the following standards:

- EN 61000-4-2 (ESD)
- EN 61000-4-3 (RF Immunity)
- EN 61000-4-4 (Fast Transients)
- EN 50155 (Surge)
- EN 61000-4-6 (Conducted Immunity)
- EN 50155 (Voltage Variations)

**EMI**

EN 50121-3-2 and EN 55032 Class A with margins

**Switching Frequency**

55kHz ±3kHz

**Redundancy diode**

Not Installed

**Line/Load Regulation**

± 1% combined

**Dynamic Response**

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

**Output Ripple/Noise**

Better than 60mVrms, 300mVpp (20MHz BW)

**Output Overload Protection**

Current limiting with short circuit protection (No hiccup)  
Self-resetting thermostat for thermal protection  
Current Limit: 11A ± 0.8A

**Output Overvoltage Protection**

Double regulator loop  
28V ± 2V

**Efficiency**

85% at full load

**Operating Temperature Range**

-40°C to +70°C for full specification with proper cooling

**Temperature Drift**

0.03% per °C over operating temperature range

**Cooling**

Conduction via base plate and unimpeded natural air convection

**Environmental Protection**

Ruggedizing  
Conformal coating

**Terminal Block Pin-Out**

ALARM			24VDC OUTPUT				GND	750VDC INPUT			
FAIL OPEN	COM	FAIL CLOSED	+	+	-	-	⊥	⊗	+	⊗	-
1	2	3	4	5	6	7	8	9	10	11	12

**Shock/Vibration**

IEC 61373 Cat 1 A&B

**Humidity**

5-95% non-condensing

**MTBF**

133,000 hours @45°C  
Demonstrated MTBF is significantly higher

**Indicators**

Green Output ON LED visible through the cooling slots

**Control Input**

None

**Alarm Output**

Output OK (≥22.8V± 0.3V)  
Form C alarm

**Package / Dimensions (WxHxL)**

FX: 125 x 67 x 351mm  
(6" x 2.6" x 13.8")  
Mounting holes are clear

**Weight**

2.2kg (4.5 lbs)

**Connections**

Barrier-type terminal block, 12 poles with 3/8" spacing. Snap-on cover included.

**RoHS Compliance**

Compliant

**Warranty**

Two years subject to application within good engineering practice

**Output Voltage/Current**

24Vdc ± 0.3V/10A  
Output is floating, either terminal can be grounded

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