

Model: HVI 1K5R-E3P/24ADJ-3U3-T4247

COSD: XXXX

Summary Description: 1500W Railway Quality Power Supply
400Vac, 3-phase to 22-28Vdc/50A adjustable

Customer Name: Thiele KG/Germany (KS)

Customer Part Number: Same as above



Product description:

This rugged, railway quality power converter system uses field proven technology to generate the required output power. The system has three internal modules, an FID 2000 and two KHI 1200. Built-in fans provide sufficient airflow for operation at the specified temperature without derating. The fans draw air into the unit and the exhaust exits at the rear of the unit. The system has full electronic protection. The input and output are filtered for low noise. Large design headroom and the use of components with established reliability result in a high MTBF. The unit is manufactured at our plant under strict quality control.

Special Features: Railway quality, Ruggedizing, Conformal coating, Adjustable output 22-28Vdc

SPECIFICATIONS

Input Voltage

400Vac, 3-phase nominal, 47-63Hz
340-460Vac operating range
Input Current: 4Arms max per phase

Input Protection

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

Isolation

3000Vdc input to chassis
4300Vdc input to output
5600Vdc type test
10mm spacing
1000Vdc output to chassis

Standards

Designed to meet EN 61010-1, EN 50155, IEC60571, EN45545-2

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

EN50121-3-2

Switching Frequency

55kHz ± 3kHz

Output Voltage

24Vdc/50A
Adjustable 22-28Vdc
Output is floating, either terminal can be grounded

Redundancy Diode

Installed internally for separation of the internal modules

Line / Load Regulation

± 1.5% combined from zero load to full load including redundancy diode

Dynamic Response

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

Output Noise

Better than 60mVrms or 300mVpp (@ 20MHz BW)

Output Overload Protection

Rectangular current limiting with short-circuit protection (No hiccup)
Thermal shutdown with automatic reset in case of insufficient airflow or failure of the built-in fan
Current Limit is set to 54A ± 3A

Output Overvoltage Protection

Double regulator loop. Second loop completely stable and independent of main regulator loop.
OVP setting: 31V ± 2V

Efficiency

85% at full load

Operating Temperature Range

-25°C to +55°C for full specification

Temperature Drift

0.03% per °C over operating temperature range

Cooling

By built-in high-quality fans

Environmental Protection

Ruggedizing
Conformal coating

Shock / Vibration

IEC 61373 Cat 1 A&B

Humidity

5-95% non-condensing

MTBF

Min. 115,000 hours @ 45 °C (Fans excluded)
Demonstrated MTBF is significantly higher

Indicators

Green "Output ON" LED on the internal power module visible through rear perforation

Control Input

Trimming potentiometer for output adjustment

Alarm Outputs

Not installed

Package / Dimensions (WxHxL)

3U3: 187 x 132 x 407mm
(7.4" x 5.2" x 16")

Chassis mount

Weight

Approx. 6kg (13 lbs)

Connections


Input: Terminal block, HV assembly
Output: Threaded studs M6

RoHS Compliance

Compliant

Warranty

Two years subject to application within good engineering practice
Contamination related failures and shipping cost excluded

Originated by	Date
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TS	

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