



CERTIFICATE OF CONFORMANCE
MIL-STD-188-125-1A Acceptance PCI Testing
MPE HPS32-N#277 HEMP Power Line PPD (N Lines, 32 A, 277 VAC)

MIL-STD-188-125-1A short (E1) and intermediate (E2) pulse acceptance pulsed-current injection (APCI) testing of the MPE HPS32-N#277 (where N, the number of lines, ranges from one to four) HEMP unrestricted power line filter / Point-of-Entry (PoE) Protective Device (PPD) has been performed by Jaxon Engineering and Maintenance. Based on the results of this testing, Jaxon Engineering and Maintenance hereby certifies that the one-, two-, three-, and four-line configurations of the MPE HPS32-N#277 meet the applicable short and intermediate pulse APCI testing performance requirements published in MIL-STD-188-125-1A. MIL-STD-188-125-1A long (E3) pulse APCI testing was not performed; E3 protection is not typically provided by a powerline PPD.

The MPE HPS32-N#277 is available as an assembly of one to four individual modules, each rated for 32 A at 277 VAC (line-to-ground) and mounted onto common dirty and clean side shielded end compartments. Line-to-ground surge suppression for each module is provided by a CKE Z60M751 metal oxide varistor (MOV), or equivalent.

MIL-STD-188-125-1A short pulse APCI testing of the HPS32-N#277 was performed by applying E1 transients up to a maximum short-circuit current (Isc) injection level of 2500 A onto the dirty side of each of four individual HPS32-1#277 modules in the wire-to-ground (WTG) mode, and additionally by applying E1 transients up to a maximum Isc injection level of 5000 A simultaneously onto four of these modules configured in the worst-case common-mode (CM) configuration as an HPS32-4#277 assembly. For both the E1 WTG and CM testing, the clean side of each module was terminated into a 0.01 Ω (10 m Ω) resistive WTG load. MIL-STD-188-125-1A intermediate pulse APCI testing of the HPS32-N#277 was performed by applying E2 transients up to a maximum Isc injection level of 250 A onto each of four individual HPS32-1#277 modules in the WTG mode with the clean side of each module terminated into a 50 Ω resistive WTG load.

The MPE HPS32-N#277 met all applicable short and intermediate pulse APCI performance requirements levied by MIL-STD-188-125-1A. The test samples exhibited no evidence of degradation or damage resulting from the application of the E1 or E2 transients. Furthermore, the worst-case (maximum) peak, peak derivative, and root action norms of the measured short pulse residual current waveforms in both the WTG (four individual HPS32-1#277 modules) and CM (one HPS32-4#277 assembly) configurations were well below the applicable limits given in MIL-STD-188-125-1A as highlighted below.

SHORT PULSE NORM	WTG LIMIT	WTG MAX	CM LIMIT	CM MAX
Peak Current (A)	10.0	5.3	20.0	14.8
Peak di/dt (A/sec)	1.0E+07	6.8E+05	1.00E+07	6.0E+05
Root Action (A√sec)	1.6E-01	8.5E-02	3.20E-01	2.3E-01

MPE HPS32-N#277 - Worst Case MIL-STD-188-125-1A E1 APCI Residual Current Norms