

**MIL-STD-188-125-1 ACCEPTANCE PCI TESTING SUMMARY
MPE DS33905 HEMP Filter (4X 250 A, 250 VAC)**

Jaxon Engineering and Maintenance (JEM) has performed MIL-STD-188-125-1 acceptance PCI testing on HEMP conductive PPD (Point-of-Entry Protective Device) PN DS33905 manufactured by MPE of Liverpool, UK. The DS33905 is a four-line HEMP filter from the MPE "Standard Performance" range; each independent line is rated at 250 A and 250 VAC with surge protection provided by a single Epcos B60K275 MOV (metal-oxide varistor) installed line-to-ground.

The MPE DS33905 is classified as an unrestricted intrasite commercial power line PPD as defined in MIL-STD-188-125-1. Accordingly, each line of the test sample was tested against both the short (E1) and intermediate (E2) pulse transient waveforms detailed in MIL-STD-188-125-1. The clean-side line-to-ground dummy resistive loads applied for the E1 and E2 injections were 1 Ω (250 V / 250 A) and 50 Ω, respectively.

All four lines of the test sample met all applicable performance requirements given in MIL-STD-188-125-1. There was no evidence of damage or degradation resulting from application of the short or intermediate pulse transients. Furthermore, the peak, peak rate-of-rise, and root action norms of the measured short pulse residual current waveforms were well below the applicable limits given in MIL-STD-188-125-1 as highlighted below.

SHORT PULSE NORM	LIMIT	WORST CASE
Peak Current	10 A	8.4 A
Peak Rate-of-Rise	1E7 A/sec	2.3E+06 A/sec
Root Action	1.6E-1 A√sec	1.2E-2 A√sec

DS33905 – MIL-STD-188-125-1 Acceptance PCI – Worst Case E1 Residual Current Norms

A summary of the maximum residual current peak, peak rate-of-rise and root action norms at each injection level from all four lines of the unit tested is provided below.

NORM	LIMIT	UNITS	INJECTION LEVEL (A)							
			25	50	125	250	500	1000	1750	2500
Peak	10	A	0.3	0.7	1.6	2.6	4.0	5.4	7.5	8.4
Peak Rate-of-Rise	1.00E+07	A/sec	9.5E+04	1.9E+05	4.4E+05	7.1E+05	1.1E+06	1.5E+06	2.0E+06	2.3E+06
Root Action	1.60E-01	A√sec	3.8E-03	3.8E-03	5.5E-03	7.1E-03	9.9E-03	1.2E-02	1.1E-02	1.2E-02

DS33905 – MIL-STD-188-125-1 Acceptance PCI – Maximum Norms versus Injection Level