

## EMP COMMERCIAL AND DEFENSE NON-TEMPEST POWERLINE FILTERS SPECS

ETS-Lindgren's Pulse Protected Powerline Filters with Red Edge™ Technology protects against damage to electronic equipment and loss of data caused by a sudden and intense electromagnetic pulse (EMP) and Intentional Electromagnetic Interference (IEMI).



ETS-Lindgren's Pulse Protected Powerline Filters with Red Edge Technology protects against damage to electronic equipment and loss of data caused by a sudden and intense electromagnetic pulse (EMP) and Intentional Electromagnetic Interference (IEMI). These filters provide excellent multi-stage, over-voltage, and EMI/ RFI protection. ETS-Lindgren is the only manufacturer to have their filters acceptance tested to the requirements of MIL-STD-188-125 by Little Mountain Test Facility operated by Boeing at Hill Air Force Base, in Ogden, Utah (test report available on request).

## Key Features

- Protects Against Damage from EMP:
  - HEMP
  - IEMI
- Wide Selection of Current Ratings: 10 Amps to 1200 Amps
- Meets or Exceeds MIL-STD-188-125, Hardness Critical Item (HCI), 1 & 2 Point-of-Entry Requirements
- Acceptance Tested at Little Mountain Test Facility, Hill AFB, Ogden, UT
- Superior Red Edge Performance Features
- For Defense (non-TEMPEST) and Commercial Applications

## Features

### Red Edge Pulse Protection

Our Red Edge advantage includes the knowledge and expertise gained from almost 90 years of designing and building RF shield and filter solutions for demanding defense and commercial applications.

### EMP Pulse Protection

The filter unit is fitted with inductive input circuit and ESA, resulting in very low residual currents during an EMP pulse, protecting connected equipment.

### Insertion Loss Performance as Required by MIL-STD-188-125 1 & 2

Our filters provide 80 dB of insertion loss across a frequency range of 10 MHz to 1 GHz and 100 dB from 1 GHz to 20 GHz in symmetric and asymmetric mode per MIL-STD-220.

### High Frequency Response Design

Better frequency response is achieved with the use of a high frequency feed-through capacitor design. Extended filter life oversized inductors are used for low loss and low temperature rise which extends filter life. Filter life is further extended with the use of self-healing capacitors.

### Meets or Exceeds These Standards

- MIL-STD-188-125 1 & 2
- Defense Standard 59-188 1 & 2
- MIL-STD-F15733
- MIL-STD-220
- UL 1283
- CSA C22, 2 No. 8
- EC 60939
- LVD (2066/95/EC)

### Listed Tests Performed

- MIL-STD-188-125 by Little Mountain Test Facility, Hill AFB, Ogden, UT
- UL1283, safety listing by Intertek ETL

### Test Performance Results

- Frequency Insertion Loss in Symmetric and Asymmetric Mode

- 100 dB, from 1 GHz to 20 GHz
- Pulse Suppression Performance MIL-STD-188-125 Acceptance Test: Short Pulse Current Injection (E1), Wave Shape 20/500 ns
- Pulse Suppression Performance MIL-STD-188-125 Acceptance Test: Intermediate Pulse Current Injection (E2), Wave Shape 1.5/3000  $\mu$ s
- Listed for Safety to UL 1283 and CSA C22, 2 No. 8 by Intertek ETL

## Specifications

## Electrical Specifications

Model	Amperage	Short Circuit Current Rating (SCCR)	Max Voltage	Input Pulse Amplitude, E1, E2	Residual Requirement Amplitude and Filter Residual Let Through	Typical Filter Response
HEMP-2010	10	10 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-2030	30	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3030	30	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4030	30	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-2060	60	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3060	60	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4060	60	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation

HEMP-2100	100	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3100	100	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4100	100	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3250	250	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4250	250	25 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3X400	400	50 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4X400	400	50 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3X600	600	125 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4X600	600	125 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation

HEMP-3X800	800	125 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4X800	800	125 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-3X1200	1200	150 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation
HEMP-4X1200	1200	150 k A	277/480	2500 A; 250 A	<10 A	No Filter Damage or Performance Degradation

## Physical Specifications

Model	Wires	Wall Mount Cabinet	Floor Mount	Nominal Dimensions H x W x D
HEMP-2010	2	Yes	No	43 cm x 10 cm x 8 cm (17 in x 4 in x 3 in)
HEMP-2030	2	Yes	No	51 cm x 13 cm x 9 cm (21 in x 5 in x 3.5 in)
HEMP-3030	3	Yes	No	53 cm x 25 cm x 9 cm (21 in x 10 in x 3.5 in)
HEMP-4030	4	Yes	No	53 cm x 25 cm x 9 cm (21 in x 10 in x 3.5 in)
HEMP-2060	2	Yes	No	107 cm x 25 cm x 25 cm (42 in x 10 in x 10 in)
HEMP-3060	3	Yes	No	107 cm x 51 cm x 25 cm (42 in x 20 in x 10 in)
HEMP-4060	4	Yes	No	107 cm x 51 cm x 25 cm (42 in x 20 in x 10 in)
HEMP-2100	2	Yes	No	107 cm x 25 cm x 25 cm (42 in x 10 in x 10 in)
HEMP-3100	3	Yes	No	107 cm x 51 cm x 25 cm (42 in x 20 in x 10 in)
HEMP-4100	4	Yes	No	107 cm x 51 cm x 25 cm (42 in x 20 in x 10 in)



HEMP-3250	3	Yes	No	152 cm x 61 cm x 25 cm (60 in x 24 in x 10 in)
HEMP-4250	4	Yes	No	152 cm x 61 cm x 25 cm (60 in x 24 in x 10 in)
HEMP-3X400	3	Yes	Yes	173 cm x 86 cm x 30 cm (68 in x 34 in x 12 in)
HEMP-4X400	4	Yes	Yes	173 cm x 86 cm x 30 cm (68 in x 34 in x 12 in)
HEMP-3X600	3	Yes	Yes	224 cm x 114 cm x 46 cm (88 in x 45 in x 18 in)
HEMP-4X600	4	Yes	Yes	224 cm x 114 cm x 46 cm (88 in x 45 in x 18 in)
HEMP-3X800	3	Yes	Yes	224 cm x 114 cm x 46 cm (88 in x 45 in x 18 in)
HEMP-4X800	4	Yes	Yes	224 cm x 114 cm x 46 cm (88 in x 45 in x 18 in)
HEMP-3X1200	3	Yes	Yes	257 cm x 135 cm x 61 cm (101 in x 53 in x 24 in)
HEMP-4X1200	4	Yes	Yes	257 cm x 135 cm x 61 cm (101 in x 53 in x 24 in)

For other wire numbers or amperages please contact the factory.

## Product Charts

### HEMP Power Filter Typical Insertion Loss For HEMP and IEMI

