



Harmonic Magnetic Isolators

Harmonics & Non Linear Loads

PURPOSE:

MGM's Harmonic Magnetic Isolators (HMI) are special Power Purifier equipment to be installed in Computer and Telecommunication rooms per the recommendations of the US Federal Information Processing Standards Publication (FPUB), National Electric Code (NEC), and the Institute of Electrical and Electronic Engineers Standard 1100.

BENEFITS:

- Creates a separately derived AC system providing a low-impedance path to ground. Increases safety to personnel against electrocution. (NEC)
- No derating necessary due to harmonics from the non-sinusoidal loads. (IEEE 1100)
- Provides a neutral bus rated 200% of full load amperage to accommodate for large neutral currents from triplen harmonics. (IEEE 1100)
- Windings designed to minimize heating from harmonic load currents. (IEEE 1100)
- Attenuates High Frequency Common Mode Noise. (IEEE 1100)
- Using a step-down HMI, allows for less and smaller cables, less voltage drop, and a reduction in installation costs. (FPUB)
- Three-phase HMI's improve Power Factor when they supply power to non-linear loads. (FPUB)
- Triplen harmonics generated by non-linear loads are not passed to upstream circuits in the building. (FPUB)
- Reduces the effects of voltage variations due to load variations in the building. (FPUB)

SPECIFICATIONS

Power Output

SinglePhase 10 & 15 KVA
 Three Phase 15, 30, 45, 75, 112.5, 150, 225, 300 & 500 KVA

Input Voltage

SinglePhase 240 or 480
 Three Phase 208, 220, 480 Delta
 Taps: 2-2.5% Full capacity above nominal (FCAN)
 4-2.5% Full capacity below nominal (FCBN)
 Special voltages available, consult factory

Output Voltage

SinglePhase 120/240
 Three Phase 208/120Y, 220/127Y or 480/277Y
 Special voltages available, consult factory

Harmonic Handling Capabilities

Designed to handle the following percentages of fundamental and harmonics without exceeding temperature rise limits:

Fundamental 60 Hertz	50%
3rd Harmonic	72%
5th Harmonic	43%
7th Harmonic	21%
9th Harmonic	9%
11th Harmonic	4%
13th Harmonic	3%
15th Harmonic	3%
17th Harmonic	2%

Transient Suppression TVSS Option

Sinewave tracking 80KA capacity
 ANSI/IEEE 62.41 Class B
 Conform to UL 1449 V2.

Noise Attenuation

-126db common mode noise suppression
 -40db normal mode attenuation with
 Optional TVSS

Efficiency

Typically 95-98%

Output Distortion

Less than 1.0% total harmonic distortion added

Operating Frequencies

60 Hertz \pm 3 Hertz

Harmonic Elimination

The load generated triplen harmonics of the fundamental (3rd, 9th, 15th, 21st, etc.) are reduced from the input lines.

Neutral Size

Sized for 200% the ampacity of the secondary phase conductor

COMPARABLE PRODUCTS

MGM	LIEBERT	POWERWARE	MGE
Harmonic Magnetic Isolator	Computer Isolation Transformer	IsoTran	Ultra-Isolator Noise Suppressors
			