

## Harmonic Mitigating Power Center (HMPC)

*Outstanding harmonic mitigation in a complete power distribution package.*

### Taking the HARM out of HARMONICS!

The raised floor environment is packed with harmonic generating power electronic equipment. To ensure electromagnetic compatibility with these non-linear loads, the power distribution system must be equipped with transformers that treat harmonics, rather than just tolerate them.

At the heart of the **ONICS** HMPC is MIRUS' patented and proven high efficiency Harmony-2E™ Harmonic Mitigating Transformer (HMT)\* technology. The unique secondary winding configuration of the Harmony-2E™ minimizes output voltage distortion and flat-topping by canceling 3rd, 5th, 7th and 9th harmonic fluxes, preventing these harmonic currents from appearing in the primary winding. Consequently, voltage distortion will be within IEEE Std 519 limits despite the application of substantial harmonic loads.

The HMPC integrates harmonic mitigation with noise suppression, electronic grade grounding, non-linear load distribution panels, TVSS, monitoring and alarms for a complete power quality package.

Taking the harm out of harmonics has never been easier.



\* Harmony-1E™ and Harmony-3™ models also available

## Features:

### Harmonic Treatment

- Treats all four major current harmonics (3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> & 9<sup>th</sup>) by flux cancellation using a patented configuration of secondary windings
- Triplens are prevented from circulating in the primary windings
- Meets IEEE Standard 519 harmonic limits
- Genuine 100% non-linear load compatibility

### Power Conditioning

- Improves power quality by minimizing voltage flat-topping
- Reduces input current distortion
- Improves power factor and phase current balance seen on primary side
- Dual electrostatic shield for noise suppression

### Monitoring

- Comprehensive Monitoring and Alarms
- Remote Communications

### Reliability

- Proven Harmony™ Transformer reliability
- Manufactured in compliance with ISO9001 Quality System Standards

### Cost Savings

- Lowers harmonic losses both within transformer and in upstream distribution
- Frees up UPS or upstream distribution capacity by improving power factor

## Specifications:

### Input Rating:

Voltage: 208, 480, 600VAC  
 Frequency: 60Hz, ± 5Hz  
 Phase: 3<sup>∅</sup>, 3 Wire + Ground

### Output Rating:

Voltage: 208 / 120 VAC  
 Phase: 3<sup>∅</sup>, 4 Wire + Ground

### Efficiency:

Energy Star compliant under both linear and non-linear loading (H1E & H2E models)

### Input Connection:

To Input Main CB terminals

### Signal & Control Connections:

To terminals, input conduit landing

### Grounding:

Convection Cooled

### Ventilation:

Single point computer ground connection for zero signal reference

### Alarms and Controls

EPO & Overtemp standard  
 (Other alarms available with optional monitoring)

### Power Monitoring (Optional):

Basic (M1)  
 Advanced (M2)

### Noise Isolation:

Dual electrostatic shields

### Harmonic Mitigating Transformer

Low zero sequence impedance with phase shifted outputs to treat 3<sup>rd</sup>, 5<sup>th</sup>, 7<sup>th</sup> & 9<sup>th</sup> harmonics simultaneously (patented design)  
 Zero Sequence Impedance < 0.95%  
 Zero Sequence Reactance < 0.3%

### Output Distribution Panelboards:

Cutler-Hammer 84 pole (standard)  
 225 Ampere, Neutral: 450 Amp  
 (Square D NQOD optional)

### Cable Access:

Bottom for raised floor  
 (Standard Top Access)

### Design Standards:

UL1950 NEMA ST20  
 CSA950 CSA C9

### Additional Standard Features:

Casters, levelers, removable swing-out dead front



# HARMONIC MITIGATING POWER CENTER (HMPC) Technical Specifications

## HMPC Model Numbers

HMPC - 0 8 4 - 4 2 - 1 2 5 - H2E - M 1 A

### Pole Positions

- 084 = 2 Panelboards, 84 poles
  - 126 = 3 Panelboards, 126 poles<sup>a</sup>
  - 168 = 4 Panelboards, 168 poles
  - 252 = 6 Panelboards, 252 poles<sup>b</sup>
- a. Requires Harmony-3™ Transformer  
b. Available with Harmony-2E™ or Harmony-3™

### Input Voltage

- 2 = 208
- 4 = 480
- 6 = 600
- P = Special

### Output Voltage

- 2 = 120 / 208
- X = Special

### KVA

- 050 = 50kVA
- 075 = 75kVA
- 100 = 100kVA
- 125 = 125kVA
- 150 = 150kVA
- 200 = 200kVA
- 225 = 225kVA
- 300 = 300kVA

### Monitoring Configuration

- A = Single Monitor (Input only on models other than Harmony-1E™)
- B = Output X Monitor & Output Y Monitor

### Monitor

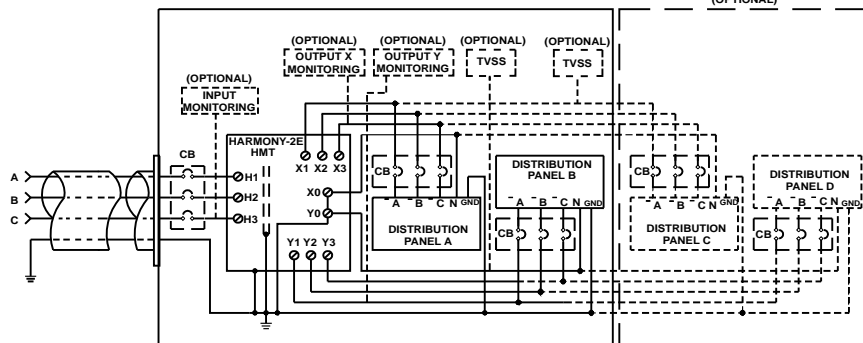
- M0 = No Power Monitor
- M1 = Power Monitor
- M2 = Advanced Power Monitor

### Harmony™ HMT

- H2E = Harmony-2E™
- H1E = Harmony-1E™
- H3 = Harmony-3™

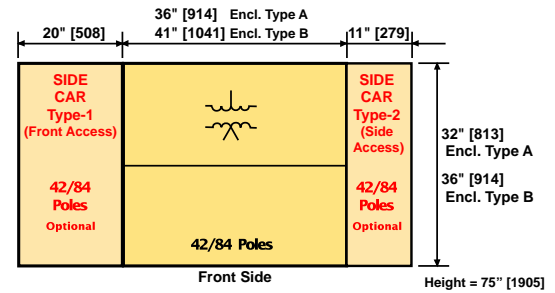


## HMPC Typical Schematic



Notes:  
A. Standard 2 Panel or optional 4 Panel configuration shown.  
B. The Harmony-2E™ is an isolation transformer and is considered to be a separately derived source.

## HMPC Enclosure Configuration



ENCLOSURE Dimensions (in. [mm])

(Standard configuration uses Sidecar Type-1 with front access)

TYPE	42/84 Poles (W x D)	TYPE	126/168 Poles (W x D)	TYPE	252 Poles (W x D)
A	36 [914] x 32 [813]	A1	56 [1422] x 32 [813]	A2	76 [1930] x 32 [813]
B	41 [1041] x 36 [914]	B1	61 [1549] x 36 [914]	B2	81 [2057] x 36 [914]

Transformer (kVA)	Input Voltage (V) <sup>[1]</sup>	Input Current (A)	Frame (A)	Trip (A)	IC (kA)	Heat Rejection (BTU/hr.) <sup>[2]</sup>	84 pole			126 pole			168 pole			252 pole		
							ENCL. TYPE w/ XFMR H1E H2E	Weight lbs [kg]		ENCL. TYPE w/ XFMR H1E H3	Weight lbs [kg]		ENCL. TYPE w/ XFMR H1E H2E	Weight lbs [kg]		ENCL. TYPE w/ XFMR H1E H2E	Weight lbs [kg]	
50	208	139	225	175	65	4,400	A	A	1150 [522]									
	480	60	225	80	35	4,400	A	A	1150 [522]									
	600	48	225	60	18	4,400	A	A	1150 [522]									
75	208	208	400	250	65	6,800	A	A	1320 [599]	A1	A1	1795 [814]	A1	A1	1820 [825]			
	480	90	225	125	35	6,800	A	A	1320 [599]	A1	A1	1795 [814]	A1	A1	1820 [825]			
	600	72	225	100	18	6,800	A	A	1320 [599]	A1	A1	1795 [814]	A1	A1	1820 [825]			
100	208	278	400	350	65	9,100	A	A	1550 [703]	A1	A1	2025 [918]	A1	A1	2050 [930]			
	480	120	225	150	35	9,100	A	A	1550 [703]	A1	A1	2025 [918]	A1	A1	2050 [930]			
	600	96	225	125	18	9,100	A	A	1550 [703]	A1	A1	2025 [918]	A1	A1	2050 [930]			
125	208	347	600	450	65	10,900	A	A	1600 [726]	A1	A1	2075 [941]	A1	A1	2100 [952]			
	480	150	225	200	35	10,900	A	A	1600 [726]	A1	A1	2075 [941]	A1	A1	2100 [952]			
	600	120	225	150	18	10,900	A	A	1600 [726]	A1	A1	2075 [941]	A1	A1	2100 [952]			
150	208	416	600	600	65	10,900	A	A	1600 [726]	A1	A1	2075 [941]	A1	A1	2100 [952]			
	480	180	225	225	35	12,800	A	A	1700 [771]	A1	A1	2175 [986]	A1	A1	2200 [998]			
	600	144	225	200	18	12,800	A	A	1700 [771]	A1	A1	2175 [986]	A1	A1	2200 [998]			
200	480	241	400	300	35	17,500	A	B	2100 [952]	A1	B1	2575 [1168]	A1	B1	2600 [1179]	A2	B2	3100 [1406]
	600	192	400	250	25	17,500	A	B	2100 [952]	A1	B1	2575 [1168]	A1	B1	2600 [1179]	A2	B2	3100 [1406]
225	480	271	400	350	35	18,400	A	B	2300 [1043]	A1	B1	2775 [1259]	A1	B1	2800 [1270]	A2	B2	3300 [1497]
	600	241	400	300	25	18,400	A	B	2300 [1043]	A1	B1	2775 [1259]	A1	B1	2800 [1270]	A2	B2	3300 [1497]
300 <sup>[3]</sup>	480	361	450	450	35	19,500	B		2700 [1227]	B1		3195 [1449]	B1		3220 [1464]	B2		3740 [1700]
	600	289	400	400	25	19,500	B		2700 [1227]	B1		3195 [1449]	B1		3220 [1464]	B2		3740 [1700]

1. Contact sales office for voltages & configurations not shown.  
2. Heat based on 100% resistive load; actual will increase only slightly with non-linear loading.  
3. HMPC rated at 300kVA are only available with Harmony-1E Transformers.

HMPC-PS01-D  
Effective: February 2007

