

# ELIMINATOR™ Series

**Diverts the flow of harmonic currents away from neutral and upstream transformer**

**Reduces high neutral current and neutral-to-ground voltage**

**Eliminates the need for double ampacity neutrals upstream**

**Reduces losses and lowers operating temperature in upstream distribution transformer**

**Substantially reduces primary winding circulating currents in distribution transformers**

**Reduces current distortion at UPS, generator or Utility service**

**Saves energy by reducing harmonic losses**

**Prevents voltage flat-topping caused by non-linear loads**

**Lowers voltage distortion to prevent premature equipment failure**

**Restores ride-through capability of computer equipment**

**Improves Power Factor**

**Integrated ammeter measures neutral current removed**

**Field Adjustable Impedance option offers improved application flexibility**

**Helps meet IEEE Standard 519 harmonic limits**

## Electromagnetic Harmonic Filters

*Passive, electromagnetic harmonic filters for 3rd and other low frequency harmonic currents generated by single-phase non-linear loads, such as computer equipment. Equipped with zero sequence flux cancellation technology to filter 3rd and other triplen harmonic currents without using capacitors.*



## Neutral Current Eliminator™ (NCE™)

A high performance, zero sequence harmonic filter for removal of the 3rd and other triplen harmonic currents from 3-phase, 4-wire distribution systems. Connected in parallel, the NCE™ provides a low impedance alternate path to divert harmonics away from the neutral and upstream transformer, UPS or other power source. Patented Field Adjustable Impedance (FAI) option allows selection of higher zero sequence impedance in the field.

## Combined Neutral Current Eliminator™ (CNCE™) patented

An extremely effective, zero sequence harmonic filter and phase shifting auto-transformer combination. Connected in series, the CNCE™ integrates the triplen harmonic filtering action of the NCE™ with phase shifting to cancel 5th and 7th harmonic currents as well. This substantially reduces voltage distortion and flat-topping throughout the distribution system. Field Adjustable Impedance (FAI) option permits selection of high or low input zero sequence impedance. Field selecting the low impedance option will permit the CNCE™ to treat upstream zero sequence harmonics in addition to those downstream.



## General Specifications:

### Supply Voltage

120/208V, 3-Phase, 4 wire, 60Hz

### Operating Temp. Rise

130°C [150°C] [115°C] [80°C]

### Insulation Class

220°C

### Angular Displacement

CNCE only: 30° lag [0° lag]

### System Connection

NCE: Parallel to load

CNCE: In Series with part of load

### Zero Sequence Impedance

$Z_0 < 0.95\%$ ,  $X_0 < 0.3\%$  (Typical)

### K-Factor Capability

20

### Crest Factor Capability

4.5

### Neutral Bus Ampacity

NCE: 300% of phase current

CNCE: 200% of phase current

300% with FAI model

### Full Load Efficiency

> 97%

### Winding Material

Copper

### Insulating Varnish Impregnation

Polyester Resin

### Audible Sound Level

As per Nema ST-20

### Enclosure

Type: Nema-3R, ventilated

Paint: Polyester powder coated

Colour: ANSI 61 Grey

### Neutral Current Ammeter

Flush Mounted (displays neutral current removed from system)

### Options:

#### Field Adjustable Imp. (FAI)

NCE: Field select very low or low  $Z_0$

CNCE: Field select high or low Input  $Z_0$

#### Over-Temp. Sensors

[170°C], [200°C]

#### Solid Bottom Plate

Available for 'MT' case only

\* Approximate Values

## ELIMINATOR™ Series

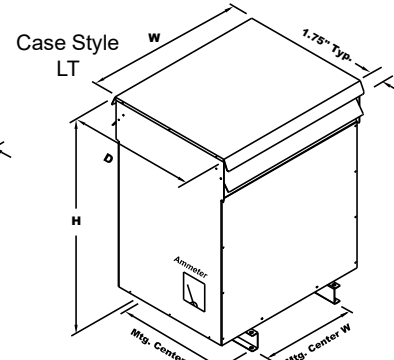
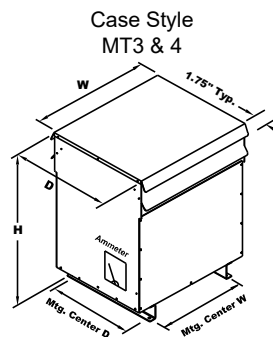
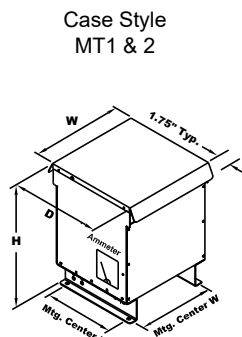
by MIRUS

### Electromagnetic Harmonic Filters

NCE™					
Sizes			Losses*		
Neutral Case Current	Style	Weight* lbs [kg]	Iron (no load)	Copper (full load)	
60	MT1	165 [75]	115W	100W	
75	MT1	180 [82]	130W	120W	
100	MT1	225 [102]	135W	150W	
150	MT1	250 [113]	160W	250W	
175	MT2	270 [122]	180W	350W	
225	MT2	350 [159]	190W	425W	
250	MT2	350 [159]	190W	525W	
300	MT2	375 [170]	200W	550W	
350	MT2	400 [181]	220W	600W	
400	MT3	480 [218]	230W	700W	
500	MT3	520 [236]	240W	800W	
600	MT3	560 [254]	260W	960W	

CNCE™					
Sizes			Losses*		
kVA Primary	Case Style	Weight* lbs [kg]	Iron (no load)	Copper (full load)	
15	MT1	230 [104]	175W	250W	
30	MT2	320 [145]	265W	470W	
45	MT2	410 [186]	320W	590W	
60	MT3	470 [213]	350W	830W	
75	MT3	540 [245]	380W	1350W	
112.5	MT4	700 [318]	450W	1750W	
150	MT4	890 [404]	465W	2680W	
225	LT1	1350 [612]	660W	4150W	

DIMENSIONS					
Case Style	H (Height) inches [mm]	W (Width) inches [mm]	D (Depth) inches [mm]	Mtg. Center W inches [mm]	Mtg. Center D inches [mm]
MT1	29.00 [737]	16.75 [425]	15.00 [381]	13.75 [349]	13.00 [330]
MT2	38.00 [965]	21.50 [546]	19.50 [495]	17.00 [432]	17.50 [445]
MT3	45.00 [1143]	26.00 [661]	21.00 [534]	21.50 [546]	19.00 [483]
MT4	51.50 [1308]	32.00 [813]	25.50 [648]	23.50 [597]	23.50 [597]
LT1	59.00 [1499]	39.50 [1003]	30.00 [762]	24.00 [610]	32.00 [813]



## Product Codes:

**System L-L Voltage**  
 208 (consult factory for other voltages)  
**NCE - hhh - I - STD**  
 Neutral Current Eliminator  
 Neutral Current Ampacity in Amps  
 60, 75, 100, 150, 175, 225, 250, 300, 350, 400, 500, 600

**Options**  
 STD = Standard  
 FAI = Field Adjustable Impedance

**Angular Displacement**  
 30, 00  
**Device kVA**  
 15, 30, 45, 60, 75, 112.5, 150, 225  
**CNCE - dd - hhh - kVA - STD**  
 Combined Neutral Current Eliminator  
 System L-L Voltage  
 208 (consult factory for other voltages)  
 Options  
 STD = Standard  
 FAI = Field Adjustable (Input) Impedance



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