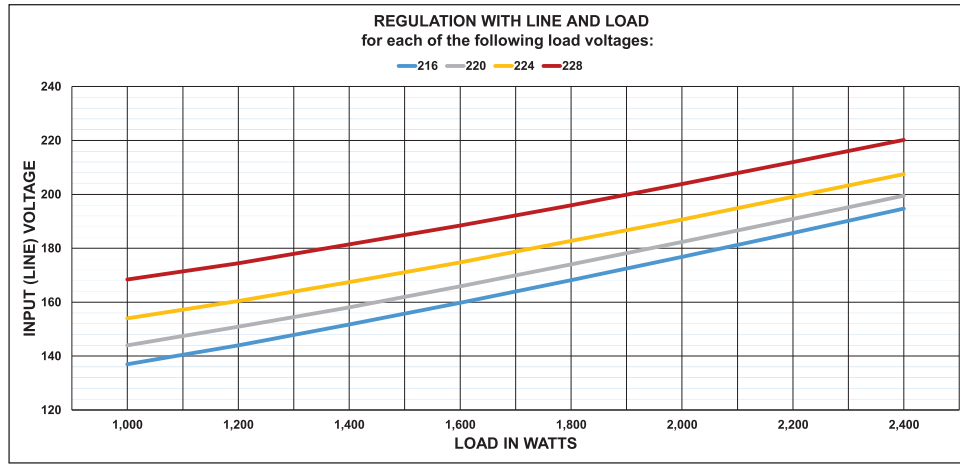


OPERATING NOTES

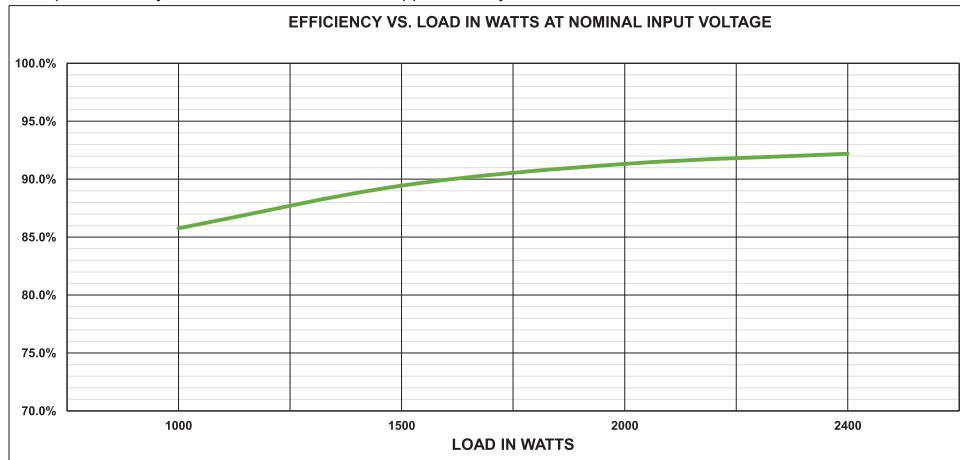
This is a split-phase output model capable of powering 120 volt and 240 volt loads simultaneously. All data is presented for 240 volt loads and/or multiple, balanced, 120 volt loads. Any combination of 120 volt and 240 volt loads, including a single 120 volt load, is permissible up to full rated power. Unbalanced loading will result in slightly lower efficiency and regulation.

The first chart below shows regulation with both line and load for four different minimum load voltages. Select the curve corresponding to the minimum voltage acceptable for your loads. Unless otherwise specified, most nominal 240 volt loads are designed to function well at 216 volts or more, so the 216 volt curve should generally be selected. Find the maximum load power required on the horizontal axis, go up to the appropriate output voltage curve (216 for example), and then left to the vertical axis to find the minimum input (line) voltage at which regulation will be maintained.

For example, assume a 2000 watt load and a 216 volt minimum load voltage. Minimum input (line) voltage is 176.8 volts.



The second chart, below, shows line conditioner efficiency at various load magnitudes and nominal input voltage. For example, efficiency with a 2000 watt load will be approximately 91.3%.



WARRANTY

xx year limited warranty.....

LINE CONDITIONER/VOLTAGE REGULATOR

INSTALLATION MANUAL

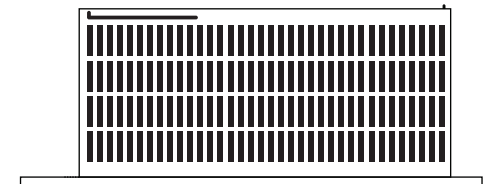
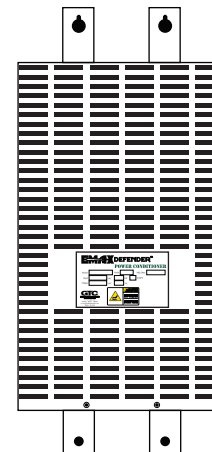
MODEL: 45-60-2400-1

Input: 208/240 Vac, 60 Hz

Output: 120/240 Vac

Max Load: 2400VA

EMAX DEFENDER™



GTC
GENERAL TRANSFORMER
CORPORATION

DESCRIPTION & SPECIFICATIONS

General Transformer's EMAX Defender Power Conditioner provides protection from line surges and sags that can potentially harm equipment.

Operating Temperature:	-40° - +60° C (-40° - +140° F)
Phase:	Single
Operating Frequency:	60 Hz
Nominal Input Voltage:	208/240 Vac
Input Current @ Full Load, Nominal Input Voltage	12.6 Aac/10.9 Aac
Nominal Output Voltage:	120/240 Vac
Maximum Load:	2400 VA

Input and output currents are inherently limited even under load fault (short circuit) conditions. These currents are as shown below, and supply and load wires should be sized accordingly.

Maximum Input Current:	21.4 Aac/18.5 Aac
Maximum Output Current:	45.5 Aac (20 Aac with optional circuit breaker, order #950-20-2-1)

For supply and load connection, use wires suitable for at least 90°C (194°F).

INSTALLATION

This equipment depends upon natural air circulation for adequate cooling, so it is important that the ventilation openings not be obstructed. For proper ventilation allow 12" clearance on each side and top to bottom of the unit. Mounting this unit in a confined or poorly ventilated space should be avoided unless special provisions have been made for ventilation.

Unit must be securely mounted vertically with 1/4" steel bolts through mounting channel in all 4 places. See table 2 for unit and mounting dimensions.

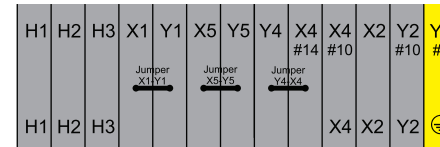
Two standard 1.125" conduit holes are provided in the bottom panel for installer connections. The supply conductors should enter from the left, and the load conductors on the right. The grounding conductor can be brought in via either conduit for connection to the green/yellow grounding terminal block. Alternatively, the grounding conductor may be connected externally, using the grounding lug mounted between the conduit holes (14-4 AWG). Output terminal Y2 is internally bonded to chassis ground, and is to serve as the grounded (neutral) conductor.

See Table 1 on the following page for terminal connections and wire sizes.

THIS EQUIPMENT IS INTENDED FOR INSTALLATION ONLY BY QUALIFIED PERSONNEL, IN COMPLIANCE WITH ALL APPLICABLE CODES.

CONNECTIONS & DIMENSIONS

FACTORY CONNECTIONS



INSTALLER CONNECTIONS

An optional two pole circuit breaker kit is available to limit maximum output current to 20 Aac. Order General Transformer Corporation #950-20-2-1 and install according to the instructions provided.

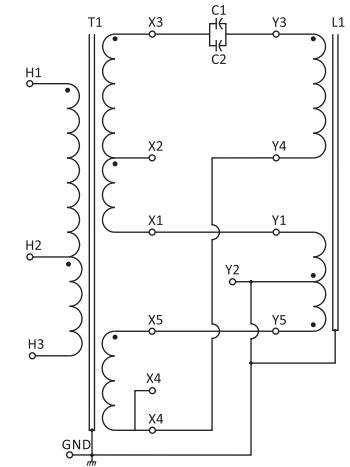


Table 1. Installer Connections For supply and load connection, use wires suitable for at least 90°C (194°F)					
Connection	208Vac Input	240Vac Input	240Vac Output	120Vac Output	Ground
Terminals	H1 & H2	H1 & H3	X2 & X4 Y2 is grounded (neutral) output conductor	X2 & Y2 or X4 & Y2 Y2 is grounded (neutral) output conductor	Yellow/Green \oplus
Wire Range	16-6 AWG	16-6 AWG	16-6 AWG	16-6 AWG	16-6 AWG

