



LINE CONDITIONERS

PE 1421/10 - PE 1421/15

9415 014 21101)

(9415 014 21151)

230V / 230V-50Hz 200VA

USER'S GUIDE

1.INTRODUCTION.

The PE1421/10 (open version) and PE1421/15 (closed version) are line conditioners which deliver a sinewave output with galvanic separation between input and output. The output is short-circuit proof. Several stabilizers of the same type may be connected in parallel or in three-phase configuration.

2.UNPACKING.

On delivery, check the apparatus to ascertain whether any damage has occurred in transit. Retain all packing materials until all items of the line conditioner have been accounted for and checked. - Claims: in the event of obvious damage or shortages, or if the safety of the line conditioner is suspect, a claim should be filed with the carrier immediately. ETI should also be notified in order to facilitate the repair.

3.GENERAL.

This line conditioner may incorporate minor changes from the information contained in this sheet. Only values with tolerances or limits can be considered as guaranteed data. Figures without tolerances are informative data without guarantee. The ambient temperature is defined as the temperature 20mm below the unit. The air circulation through the unit may not be impeded. The min. distance between any part of the line conditioner and any conductive part must be in accordance with the relevant safety norms.

4.CONFORMITY TO EUROPEAN DIRECTIVES:

4.1.Low Voltage Directive 731231CEE

This component only complies with applicable essential requirements of the L.V.D. based on relevant requirements of EN 60950 and EN 60742. This component is intended for installation in an end-use apparatus. When installed, the following conditions of acceptability are to be considered:

- This component shall be installed in compliance with the enclosure mounting, spacing, casualty (including markings) and circuit separation requirements of the end-use apparatus.
- The input /output connectors are only intended for connection to internal wiring inside the end-use apparatus. Refer to §9 for proper wire gauge.
- The connect/disconnect device and two fuses (one in each conductor) are to be provided in the end-use apparatus. Refer to §6 for proper fuse rating.
- Protection against electric shock is achieved by using the protective earthing conductor of the building wiring that is assuming hazardous voltage if the basic insulation fails. It is therefore not allowed to connect this component to a power system or a power supply outlet without protective earthing conductor. Refer to §8, for connection of protective earthing conductor (yellow/green).
- This component is only designed for "**indoor use**" and "**pollution level 2**". This component is not intended for use in locations where ingress of e.g. water, flammable liquids, conductive dust or explosive gas is possible.
- If this component is brought from a cold to a warm environment, condensation may cause hazardous condition. Do not connect this component until it has reached the room temperature and/or is completely dry.
- To prevent risk of fire and overheating, do not cover or obstruct ventilation openings. Do not mount in zero clearance compartment.
- Whenever it is likely that safety protection has been impaired, refer to qualified ETI service personnel. In the meantime, this equipment must be made inoperative and secured against operation.

4.2.Electro Magnetic Compatibility Directive 89/336/CEE:

This apparatus complies with applicable essential requirements of the E.M.C. directive based on EN 50081-1 and 50082-1. The assembler has to evaluate the final product to achieve conformity with the E.M.C. directive.

ELECTROTECHNISCHE INDUSTRIE ETI BV.

Postbus 56, 7120 AB Aalten – NL
Vierde Broekdijk 16, 7122 JD Aalten – NL
Telefoon +31(0)543 47 24 31
Fax +31(0)543) 47 54 25

5.ELECTRICAL DATA.

The values given in this section are valid within the rated range of operation (-10°C to +45°C). On delivery, the line conditioner is adjusted at an

ambient temperature of 23°C, with convection cooling.

5.1 GENERAL.

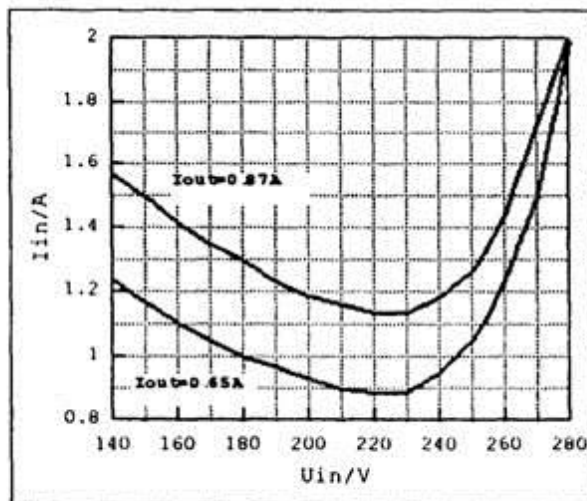
- Leakage current (from chassis to earth) at 50Hz (on delivery) : max. 0.1 mA
- Dielectric strength test AC between
 - primary and secondary: 4.0kV
 - primary and chassis: 2.0kV
 - secondary and chassis : 2.0kV
- Overcurrent : natural limitation of transformer with leakage flux path.
- Short-circuit current: between 150% and 200%.
- The output terminals are floating with respect to earth.

- The AC voltage between any one of the output terminals and the earth may not exceed 500 V.
- Noise level max. 40dBA.

5.2 INPUT

- Mains voltage nominal: 220-240V
- Operating range: 187-254V
- Input current max: 1.5A
- Efficiency at full load : > 76 %
- Frequency: 50Hz ($\pm 1\%$)
- Harmonic content: EN61000-3-2

$I_{in} : U_{in}$
for 100% (0.87A)
and 75% (0.65A)
linear resistive
load.

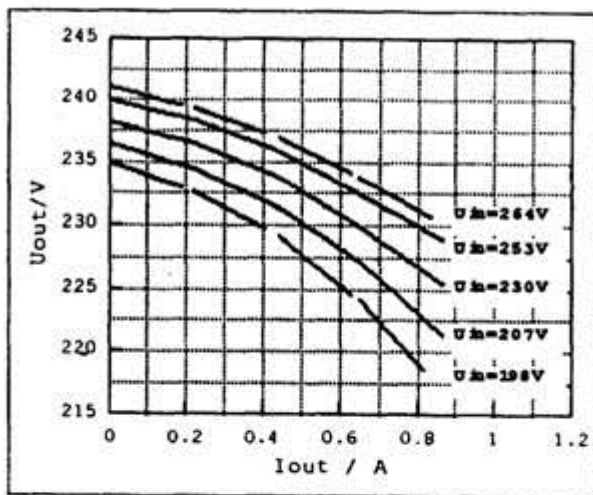


Typical values PE1421/XX

5.3 OUTPUT.

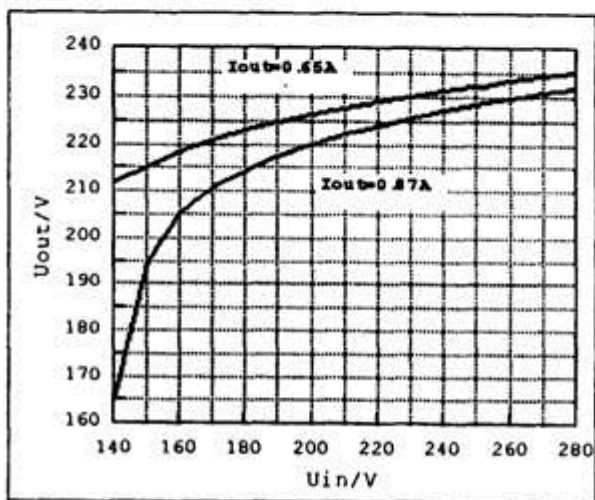
- Output voltage nominal value at 75% load: 230V $\pm 1\%$ (1)
 - Output power: max. 200VA
 - Cos PHI of the load: 1.0 (0.7...1.0)
 - Warm-up time: 4 hours
 - Distortion (output) : max. 4%
 - Transient suppression for asymmetrical pulses : min. 60dB
 - Source frequency effect, for each 1% mains frequency variation, the max. output variation is 1.5%.
- (1) with a cold core (+23°C), the output voltage is approximatively 1.3% higher.

U_{out} : I_{out} for linear resistive



Typical values PE1421/XX

U_{out} : U_{in} for 100% (0.67A) and 75 % (0.65A) linear resistive load.



Typical values PE1421/XX

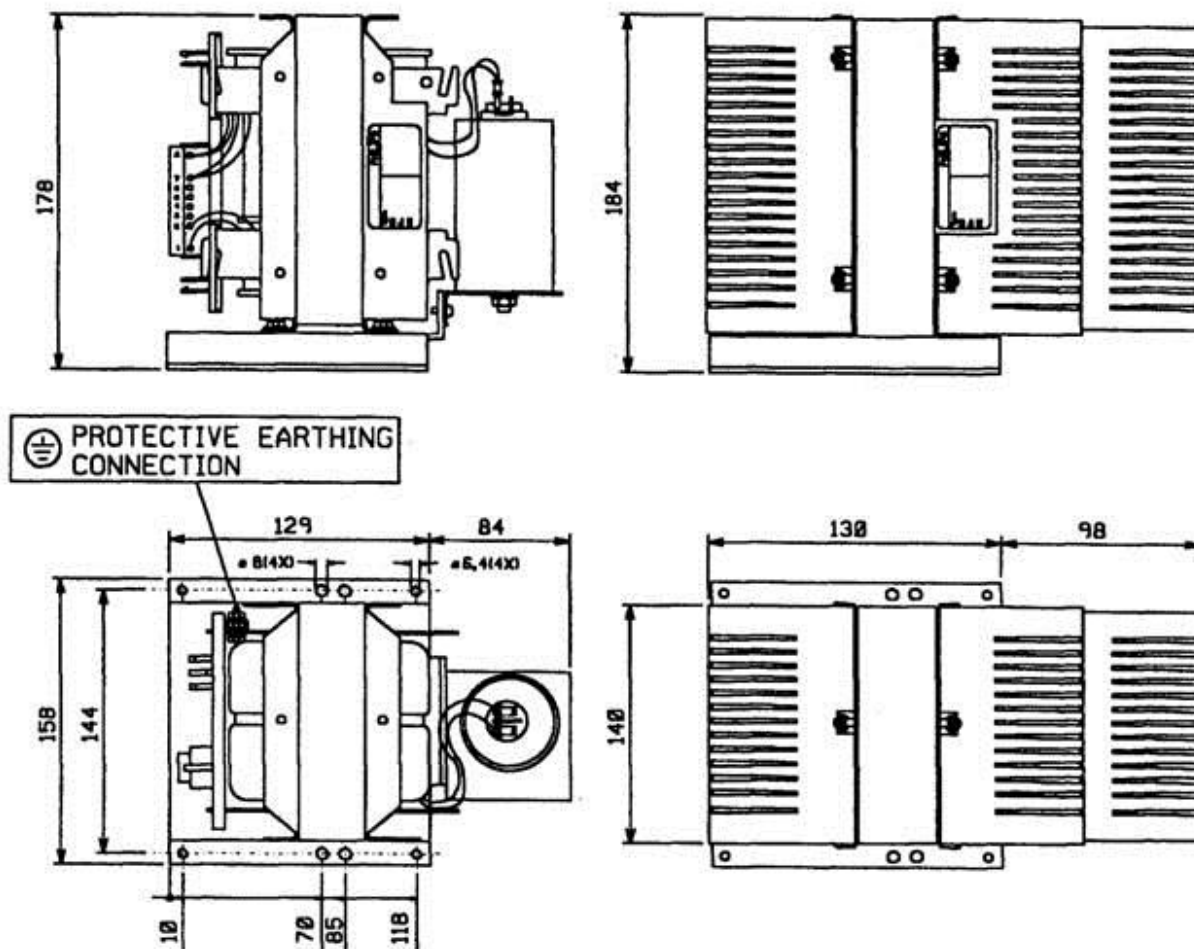
6.PROTECTIONS.

Two delayed action fuses, high breaking capacity, rated 3.15 A, are to be inserted in the primary circuit by the user, outside the line conditioner. For continued protection against fire, only fuses with the required rated current and of the specified type shall be used for replacement; the use of repaired fuses and the short-circuiting of fuse-holders is prohibited.

7. CLIMATIC CONDITIONS.

-Ambient temperature	
-rated range of use :	-10°C to +45°C
-limit range of operation :	-20°C to +45°C
-limit range for storage and transport :	-40°C to +70°C
-Humidity (ambient air, non condensing):	20% to 90%

8. MECHANICAL DATA.



PE1421/10

PE1421/15

(3)Protection degree of the enclosure according to IEC 529 = IP20

Weight: PE1421/10 = 7 kg

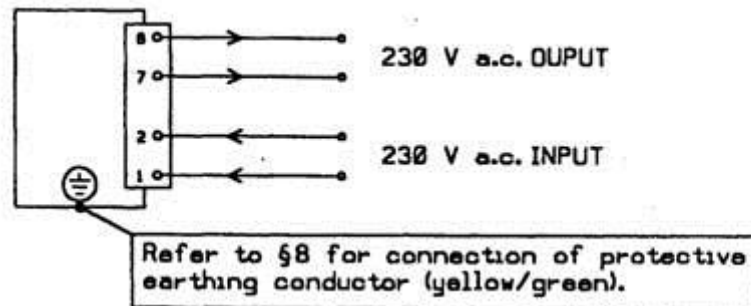
PE1421/15 = 8 kg

9. MOUNTING INSTRUCTIONS.

- A physical spacing and/or orientation of the line conditioner field must be realized to avoid interactions with circuits like audio, CRT displays, etc...
- To reduce EMI coupling, Input and output cables must be separated.
- Max. cross-section of connecting block = 1,5 mm²
- Min. cross section of connecting leads = 0,75 mm²
- A line conditioner attains a nominal working temperature higher than a conventional transformer, due to the high flux density.

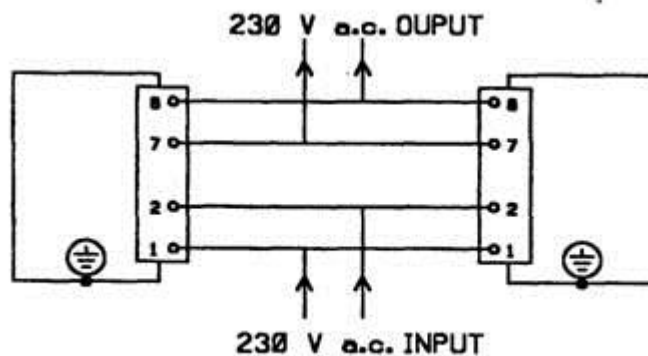
10. APPLICATIONS.

10.1 CONNECTION.



10.2 Parallel connection.

For Increased power requirements, line conditioners can be used in parallel, providing they are all of the same type number. Connecting leads should be of the same length and cross-section to avoid differences in voltage drops and phase shifts.



10.3 Three-phase connection.

Three-phase applications are permissible, providing the line conditioners are all of the same type number, but only with star-connected output and symmetrical loads. Otherwise, only the line stability per phase can be guaranteed because of possible phase shifts. To avoid phase shifts, this symmetry also applies to the connecting leads which must be of the same length and cross-section.

