

LINE CONDITIONERS

PE 1411/10 (9415 014 11101)

PE 1411/15 (9415 014 11151)

PE 1411/20 (9415 014 11201)

PE 1412/10 (9415 014 12101)

PE 1412/15 (9415 014 12151)

PE 1412/20 (9415 014 12201)

PE 1413/10 (9415 014 13101)

PE 1413/15 (9415 014 13151)

PE 1413/20 (9415 014 13201)

PE 1414/10 (9415 014 14101)

PE 1414/15 (9415 014 14151)

PE 1414/20 (9415 014 14201)

PE 1888/00 (9415 018 88001)

OPERATING MANUAL

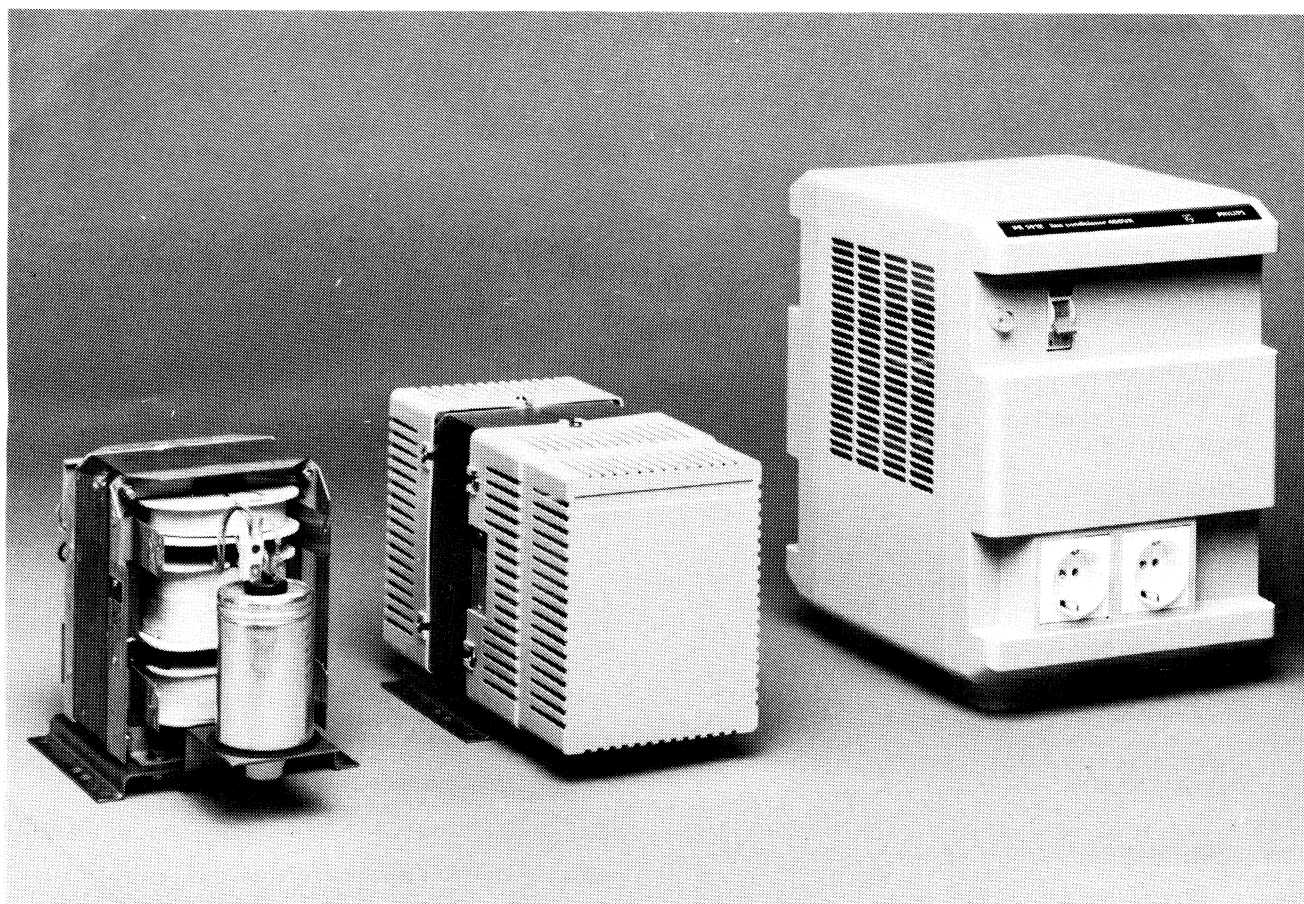
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PHILIPS

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ABBREVIATIONS

f_m	Mains frequency
G	External supply
I_m	Mains current
I_o	Output current
I_{on}	Nominal output current
P_o	Output power
p-p	Peak-to-peak value
r.m.s.	Root mean square value
T_a	Ambient temperature
U_m	Mains voltage
U_{max}	Maximum output voltage
U_o	Output voltage
U_{on}	Nominal output voltage

SAFETY PRECAUTIONS

In the interests of safety to personnel and equipment, it is strongly recommended that this page is read and thoroughly understood by all intended users before attempting to put this instrument into service.

This apparatus has been manufactured according to safety Class 1 standards as listed in Sect. 2.1.1. and has been supplied in a safe condition. This manual contains information and warnings which must be followed by the user to ensure safe operation and to retain the apparatus in a safe condition.

Where necessary, warning and caution statements and/or symbols are marked on the apparatus.

CAUTION is used to indicate correct operating or maintenance procedures in order to prevent damage to or destruction of equipment or other property.

WARNING calls attention to a potential danger that requires correct procedures or practices in order to prevent personal injury.

SYMBOLS



Read the operating instructions (black/yellow), see Section 4.



Protective earth (ground) terminal (black)

* Any interruption of the protective conductor inside or outside the apparatus, or disconnection of the protective earth terminal is likely to make the apparatus dangerous ; intentional interruption is prohibited.

IMPAIRED SAFETY PROTECTION

Whenever it is likely that safety-protection has been impaired, the instrument must be made inoperative and be secured against any operation. The matter should then be referred to the appropriate servicing authority. Safety protection is likely to be impaired if, for example, the instrument fails to perform the intended measurements or shows signs of damage.

IMPORTANT WARNINGS

Wherever appropriate in the manual, four important warnings are inserted in short, reminder form to maintain subject continuity. However, if there is any doubt about their meaning, always refer to the detailed explanation below :

WARNING A

Before any connection is made to a voltage source, the protective earth terminal shall be connected to a protective conductor. The power supply must be earthed in accordance with the IEC 348 safety regulations.

When a power supply is brought from a cold to a warm environment, condensation may cause a hazardous condition : ensure therefore that the earthing requirements are strictly adhered to.

If a three-core mains cable with mains plug is used, the mains plus shall be inserted into a socket provided with a protective earth contact. The protective action shall not be negated by the use of an extension lead without protective conductor.

The cross-section of the earth conductor must be at least equal to the cross-section of the mains conductors and in accordance with the local safety regulations.

If the power supply is rack-mounted, the rack must be connected to the Safety Earth in accordance with IEC 348. The cross-section of the earth conductor must be sufficient and depending on the total power of all instruments mounted in this rack.

WARNING B

After delivery, the apparatus must be connected to the power source only by a qualified person. Before making any connection, the safety measures must be thoroughly understood and observed. All adjustments, replacements, repairs, etc... shall be carried out by a qualified person aware of the hazards involved, with the instrument completely disconnected from the mains wherever possible. After disconnection, allow 4 minutes for capacitors to discharge before handling the power supply !

WARNING C

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. The instrument shall be disconnected from all voltage sources when a fuse is to be replaced. As the power supply is electronically protected against most faults, a blown fuse indicates a major defect. Before replacing the fuse, always check the electronic circuit.

UNPACKING

On delivery, check the power supply as soon as possible to ascertain whether any damage has occurred in transit. Retain all packing materials until all items of the power supply have been accounted for and checked.

* Visual inspection

Carry out a mechanical check on, e.g. connectors, terminal blocks, external fuse-holders and other enclosures. Check items for dents, chips or other signs of damage. Check that all accessories are present in accordance with the accessories list (Sect. 2.4).

* Claims

In the event of obvious damage or shortages, or if the safety of the supply is suspect, a claim should be filed with the carrier immediately. A PHILIPS Sales or Service Organisation should also be notified in order to facilitate the repair of the instrument.

WARNING D

If nominal values are changed, the rating type-plate must be suitably amended.

GENERAL

1. INTRODUCTION

The PE 14../10 (OEM or open-version) and PE 14../15, 14../20, PE 1888/00 (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 a three-phase configuration.

NOTE : The design of this stabilizer is subject to development and improvement. Consequently, this stabilizer may incorporate minor changes in detail from the information contained in this manual. Only values with tolerances or limits can be considered as guaranteed data. Figures without tolerances are informative data without guarantee.

2. CHARACTERISTICS

This section deals with the technical specifications of the stabilizer with regard to the input and output conditions (i.e. amplitudes, regulation, stability, etc.) safety aspects and interference level. In addition, it covers details of environmental and mechanical data, and gives a list of accessories that are provided with the stabilizer.

2.1. ELECTRICAL DATA

The values given in this section are valid within the rated range of operation (- 10°C to + 45°C). On delivery, the stabilizer is adjusted at an ambient temperature of 23°C, with convection cooling.

2.1.1. GENERAL

* Safety.

In accordance with (Safety class 1) IEC 65, IEC 348, IEC 380, IEC 435
VDE 550 : only for the transformers

Leakage current (from chassis to earth) :
max. 0,5 mA r.m.s. at 50 Hz (on delivery)

* Dielectric strength test : see Fig. 541
Every unit has been factory tested to withstand the following voltages :

- between primary and chassis : 2,0 kVa.c.
- primary and secondary : 1,5 kVa.c.
- secondary and chassis : 1,5 kVa.c.

For test voltage higher than 2000 Va.c., a repeated test must be performed at 80 % of its nominal value (see IEC 348 Second edition ; Section 9.7.4.a).

* Output terminals : the output terminals are floating with respect to earth. The voltage between any one of the output terminals and earth may not exceed 500 V a.c. (r.m.s.).

* Noise level.

PE 1411	PE 1412	PE 1413	PE 1414	PE 1888
40 dBA max.	40 dBA max.	50 dBA max.	50 dBA max.	55 dBA max.

2.1.2. INPUT

Mains voltage (a.c.) nominal
220 V (198 V - 242 V) or
240 V (218 V - 266 V) by wiring

Mains frequency
50 Hz ($\pm 2\%$) or
60 Hz ($\pm 2\%$) by wiring

Consumption, input current

Type	PE 1411	PE 1412	PE 1413	PE 1414	PE 1888
I_m (1)	1,3 A	2,5 A	5 A	8,6 A	11,4 A
Fuses (2)	3,15 A	6,3 A	10 A	16 A	20 A

(1) at mains voltage of 220 V

(2) the delayed action fuses, provided by the user, are to be mounted outside the stabilizer.

Efficiency (at full load) : min. 89 % (All models)

2.1.3. OUTPUT

ON DELIVERY	Type	wired as	INPUT	OUTPUT
	PE 1411	FILTER	220V/50Hz	220 V
	PE 1412	FILTER	220V/50Hz	220 V
	PE 1413	FILTER	220V/50Hz	220 V
	PE 1414	FILTER	220V/50Hz	220 V
	PE 1888	FILTER	220V/50Hz	220 V

Type	P_o (VA)	U_m (V)	U_o (V)	f_m (Hz)
PE 1411	200	220/240	220/240	50/60
PE 1412	400	220/240	220/240	50/60
PE 1413	850	220/240	220/240	50/60
PE 1414	1500	220/240	220/240	50/60
PE 1888	2000	220/240	220/240	50

2.1.4. OUTPUT EFFECTS (IEC 478-2)

2.1.4.1. AS STABILIZER

* Output voltage nominal value U_{on} :
220 V (+ 1, - 1) % or
240 V (+ 2, - 2) %

* Source effect (U_m : + 10 % or - 10 %)
Valid for a constant mains frequency of 50 Hz, an input distortion of max. 5 % and a linear resistive load between no load and full load.
max. - 1 %, + 1 % (PE 1411, 1412, 1413, 1414)
max. - 2 %, + 1,3 % (PE 1888/00)

* Combined load and source effect :
Valid for a constant mains frequency of 50 Hz, an input distortion of max. 5 %, a mains input voltage between + 10 % and - 10 % and a linear resistive load between no load and full load.
max. - 1,9 %, + 3,0 % from U_{on} (PE 1411)
max. - 1,6 %, + 2,8 % from U_{on} (PE 1412)
max. - 1,2 %, + 2,3 % from U_{on} (PE 1413)
max. - 1,0 %, + 2,0 % from U_{on} (PE 1414)
max. - 2,0 %, + 3,2 % from U_{on} (PE 1888)

* Warm-up time : 4 hours
with a cold core (+ 25°C), the output voltage is approximatively 1,5 % higher.

- * Distortion (output)
max. 4 % under all conditions referred to under source and load effect.
- * Transient suppression :
min. 30 dB for asymmetrical pulses
- * Source frequency effect (fm : 50Hz \pm 2% or 60Hz \pm 2%)
For each 1 % mains frequency variation, the max. output variation is 1,5 %

2.1.4.2. AS FILTER

- * Output voltage nominal value U_{on} :
220 V (+ 1, - 1) % or
240 V (+ 2, - 2) %
- * Source effect (U_m : + 10 % or - 10 %)
Valid for a constant mains frequency of 50 Hz, an input distortion of max. 5 % and a linear resistive load between no load and full load.
max. - 2 %, + 2 % (PE 1411, 1412, 1413, 1414)
max. - 2,5 %, + 2 % (PE 1888/00)
- * Combined load and source effect :
Valid for a constant mains frequency of 50 Hz, an input distortion of max. 5 %, a mains input voltage between + 10 % and - 10 % and a linear resistive load between no load and full load.
max. - 2,9 %, + 6,0 % from U_{on} (PE 1411)
max. - 2,5 %, + 4,9 % from U_{on} (PE 1412)
max. - 2,1 %, + 4,5 % from U_{on} (PE 1413)
max. - 1,8 %, + 4,2 % from U_{on} (PE 1414)
max. - 2,5 %, + 5,0 % from U_{on} (PE 1888)
- * Warm-up time : 4 hours
with a cold core (+ 25°C), the output voltage is approximatively 1,5 % higher.
- * Distortion (output)
max. 4 % under all conditions referred to under source and load effect.
- * Transient suppression :
min. 60 dB for asymmetrical pulses
- * Source frequency effect (fm : 50Hz \pm 2% or 60Hz \pm 2%)
For each 1 % mains frequency variation, the max. output variation is 1,5 %

2.1.5. PROTECTION

- Overcurrent : natural limitation of transformer with leakage flux path.
Short-circuit current : between 150 % and 200 %

2.2. ENVIRONMENTAL DATA

The environmental data mentioned in this manual are based on the results of the manufacturer's checking procedures.

Details of these procedures and failure criteria are supplied on request by the PHILIPS Organisation in your country, or by PHILIPS INDUSTRIAL & ELECTRO-ACOUSTIC SYSTEMS DIVISION, EINDHOVEN, THE NETHERLANDS.

2.2.1. CLIMATIC CONDITIONS

Designation

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

2.2.2. ENVIRONMENTAL TESTS

Performance tests, operating

Description	IEC-68
Cold test	2-1 Ad 2 h. (-20°C)
Dry heat	2-2 Bd 2 h. (+40°C)
Damp heat steady state	2-3 Ca 10 d. (+45°C)

Tests for storage and transport

Description	IEC-68
Cold test	2-1 Ab 72 h. (-40°C)
Dry heat	2-2 Bd 96 h. (+70°C)
Vibration test	2-6 Fc
Bump test	2-29 Eb
Cyclic damp heat test	2-30 Db 21 d. (+25°C to + 40°C) 90 - 100 % RH

Packaging according to UN-D-1400

The test methods mentioned are in accordance with those of the relevant ISO-Standards.

2.3. MECHANICAL DATA

2.3.1. OVERALL DIMENSIONS (see Fig. 100, 101, 102) AND WEIGHT

TYPE	HEIGHT (mm)	WIDTH (mm)	DEPTH (mm)	MASS (kg)
PE 1411/10	178	160	212	7
PE 1411/15	183	158	226	8
PE 1411/20	310	220	255	9
PE 1412/10	178	160	240	10,5
PE 1412/15	183	158	252	11,5
PE 1412/20	310	220	315	13
PE 1413/10	249	163	286	20
PE 1413/15	256	173	315	21
PE 1413/20	310	220	383	22
PE 1414/10	249	163	332	31
PE 1414/15	256	173	360	32
PE 1414/20	310	220	429	33,5
PE 1888/00	256	167	427	46

2.3.2. MOUNTING (see Fig. 100, 101, 102)

Connecting Block :
INPUT : X1 mains supply cable
OUTPUT : X1 wall plug
 : X4 -

2.4. ACCESSORIES

2.4.1. OPERATING MANUAL

2.4.2. OPTIONAL

Plugs and sockets for version.

- /201 Valid in Germany, Austria, Holland, Sweden, ...
 - /202 Valid in Belgium, France, ...
 - /203 Valid in Great-Britain, Hong-Kong, ...
 - /204 Valid in Switzerland.
- See part list page 29.

DIRECTIONS FOR USE

3. INSTALLATION

3.1. INITIAL INSPECTION

Refer to Safety Precautions and Unpacking

SEE WARNING A - PROTECTIVE EARTHING

/10/15 version : Connect the stabilizer to a protective earth with : - terminal X4 : M6 (see Fig. 100)

/20 version : Provided with a main plug with earth contact.

3.2. MOUNTING INSTRUCTIONS

SEE WARNING A - PROTECTIVE EARTHING

A line conditioner attains a nominal working temperature higher than a conventional transformer, due to the high flux density in the core.

A physical spacing and/or orientation of the transformer field must be realized to avoid interactions with circuits like audio, CRT displays, etc ...

3.3. DISMANTLING

SEE WARNING B - Before handling or dismantling first disconnect from all voltage sources.

Removal and access :

/10 version

- the connecting blocks are accessible without dismantling

/15/20 version

- the connecting blocks are accessible after removing the cover (see Fig. 150, 151, 152, 153, 154, 155).

3.4. OUTPUT CONNECTIONS

NOTE : The output effects given in Sect. 2.1.4. can be influenced by external connections or parameters (e.g. cross-sections of the load connections, distance between output terminals and load characteristics of the load).

/10/15 version : Connecting block : X1
Phase : terminals U1 and V1
Max. cross-section: 1,5 mm²

The cross-section of the wires must be of adequate current-carrying capacity (also dependent on the distance between the line conditioner and the load).

/20 version : output : wall plug on-front panel.

3.5. MAINS CONNECTION

Before inserting the mains plug into the mains socket, make sure that the instrument is set to the local mains voltage.

NOTE : If the mains plug has to be adapted to the local situation, such adaptation should be done by a qualified person only !

See WARNING A - protective earthing. Page 3.

See WARNING B - authorized mains connection & disconnection procedures. Page 3.

See WARNING C - fuse types and renewal procedure. Page 3.

See WARNING D. Page 3.

/10/15 version : Connect the power supply to the a.c. mains voltage (see also Sect. 4.5.) through connector :
Connecting block : X1 : terminals U and V
max. cross-section 1,5 mm²

The current-carrying wires to the mains must be of sufficient cross-section depending on the mains voltage and the distance between the mains and the stabilizer.

/20 version : INPUT : mains supply cable with plug.
(length : 2 m)

4. OPERATING INSTRUCTIONS

4.1. GENERAL INFORMATION

This section outlines the procedures and precautions necessary for operation.

It identifies and briefly describes the functions of front and rear panel controls and indicators, and explains the practical aspects of operation to enable an operator to evaluate quickly the instrument's main functions.

4.2. SWITCHING «ON»

After the stabilizer has been connected to the mains (line) voltage in accordance with Installation, Sections 3.1. and 3.5. it can be switched on, after which the instrument is ready for use.

With normal installation, in accordance with Section 3 and after a warming-up time of 2 hours, the characteristics specified in Section 2 are valid.

4.3. CONTROLS, ADJUSTMENTS, INDICATORS AND TERMINALS (Fig. 100, 101, 102)

Front panel (/20) : H1 indicates the presence of the output voltage
S1 switch ON/OFF
X3 wall plug

Rear panel (/10/15) : X1 input/output connection block

Side panel (/10/15) : X4 earth terminal

4.4. SERIES, PARALLEL THREE-PHASE CONNECTIONS

4.4.1. SERIES CONNECTIONS

Not applicable

4.4.2. PARALLEL CONNECTION

Stabilizer of the same type may be connected in parallel. See example page 25.

4.4.3. THREE-PHASE CONNECTION

Stabilizers of the same type may be connected in a three-phase configuration. See example page 26.

4.5. MAINS INPUT (see fig. 201)

On delivery, the stabilizer is wired for :
input voltage : 220 V
mains frequency : 50 Hz
configuration : as FILTER

For other configurations, see Table 1.

For 110 V mains connections, (only for /10/15 versions)

NOTE : The current-carrying wires to the mains must be of sufficient cross-section depending on the mains voltage and the distance between the mains and the stabilizer.

4.6. OUTPUT (see fig. 201)

On delivery, the stabilizer is wired for :
 output voltage : 220 V 50 Hz
 configuration : as FILTER

For other configuration, see Table 1.

5. SERVICING

See WARNING B ; Servicing by qualified person only !

If other technical information is required, please contact :

PHILIPS Concern Service Technical Service Publications Building SBP6 5600 MD EINDHOVEN, The Netherlands Telex : 35000 PHTC-NL Tel : 31-40-735556
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OR

Your local Sale and Service adress (back-side of the Operating Manual)

OR

The "Supply Centre"

PHILIPS INDUSTRIE s.a. Service Power Supplies Department Boulevard de l'Europe, 131 B-1301 WAVRE BELGIUM Telex : 59058 philwa b Tel : 10/41.65.11

Safety measures require that the instrument should first be put into its original state and that the spare parts are identical to the original components.

5.1. FUSE REPLACEMENT

Not applicable

DISMANTLING /20 VERSION

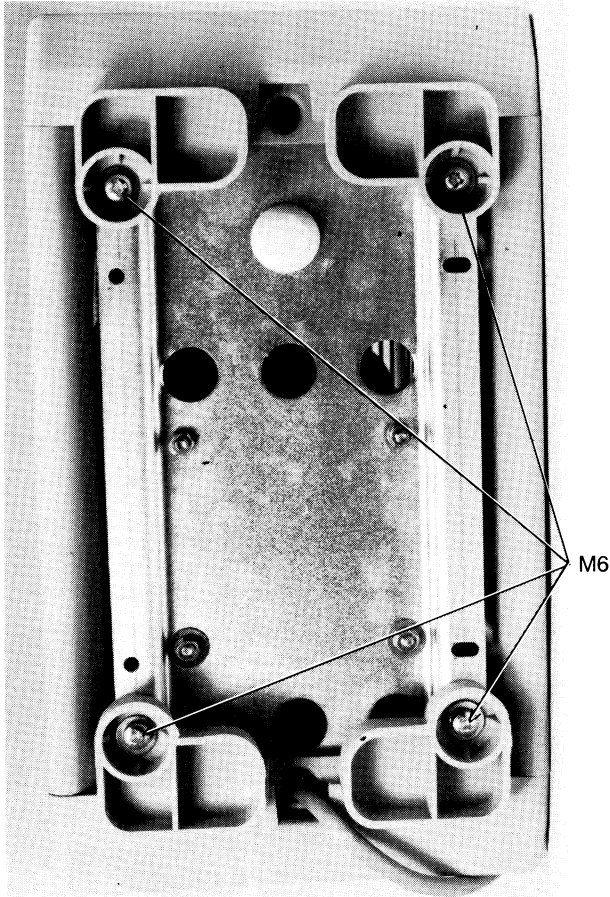


FIG. 150

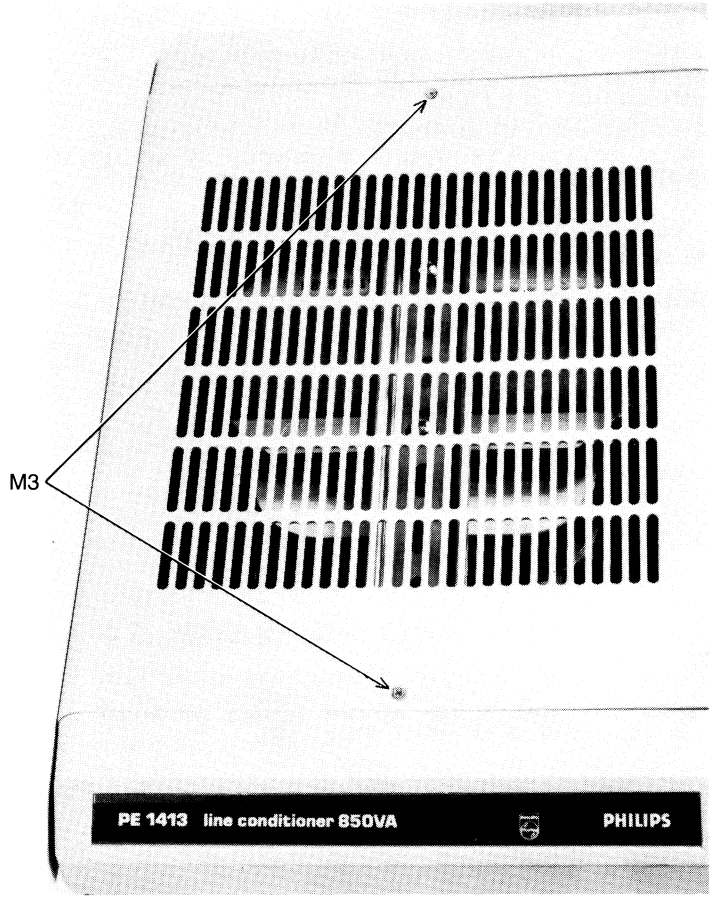


FIG. 151

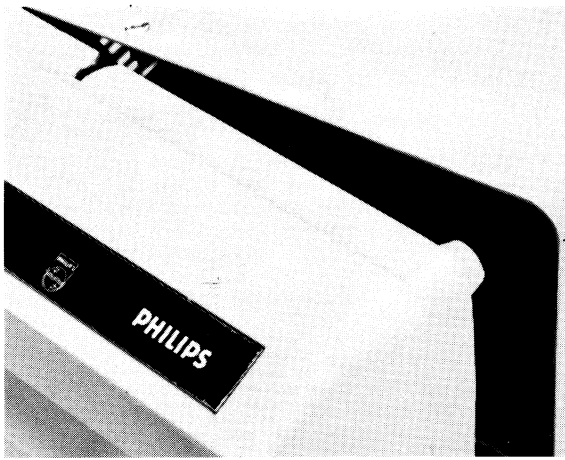


FIG. 152

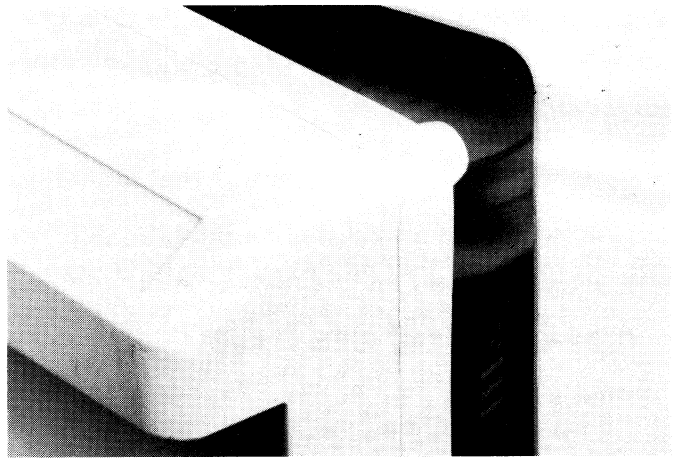


FIG. 153

/15 VERSION + PE 1888/00

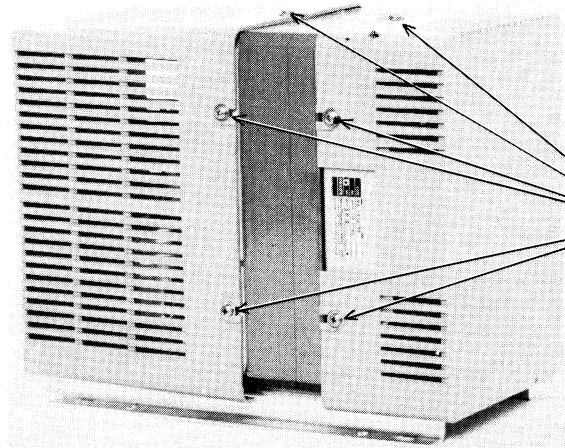


FIG. 154

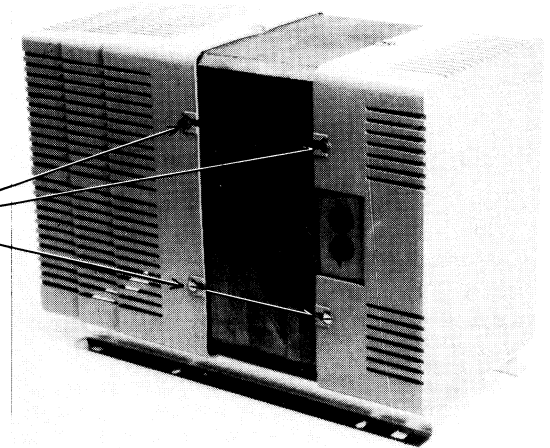



FIG. 155

TABLE 1 : CONNECTIONS POSSIBILITIES

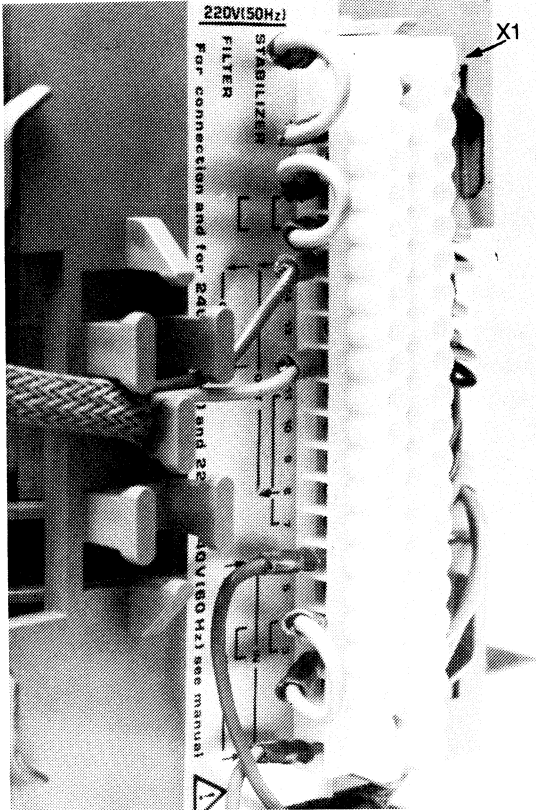
fm	50 Hz					60 Hz					Type			
FIL./STAB.	FILTER			STABILIZER		FILTER				STABILIZER				
Um	110 V *	220 V	240 V	110 V *	220 V	110 V *	120 V	220 V	240 V	110 V *	120 V	220 V	240 V	PE 14.../10 /15 /20
Uon	220 V		240 V	220 V		220 V		240 V		220 V				
FIG.	220			221		222				223				
Um	220 V	240 V		220 V		Not applicable Nicht anwendbar Non applicable					PE 1888/00			
Uon	220 V	240 V		220 V										
FIG.	224			225										

 on delivery
bei Lieferung
à la livraison

* for /10 or /15 version see 4.5 page 6
für /10 oder /15 version siehe 4.5 Seite 12
pour version /10 ou /15 voir 4.5 page 18

CONNECTIONS

AS FILTER
(220 V, 50 Hz)



AS STABILIZER
(220 V, 50 Hz)

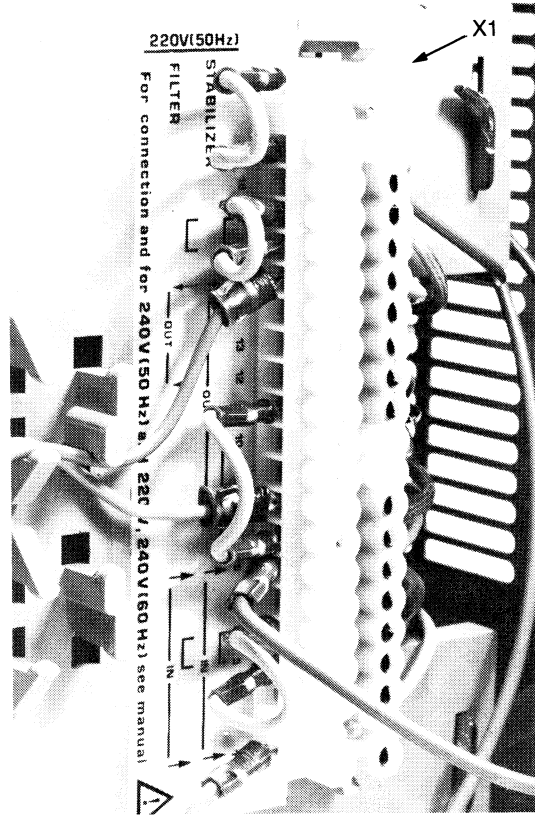


FIG. 201

VIEW CAPACITORS 50 Hz

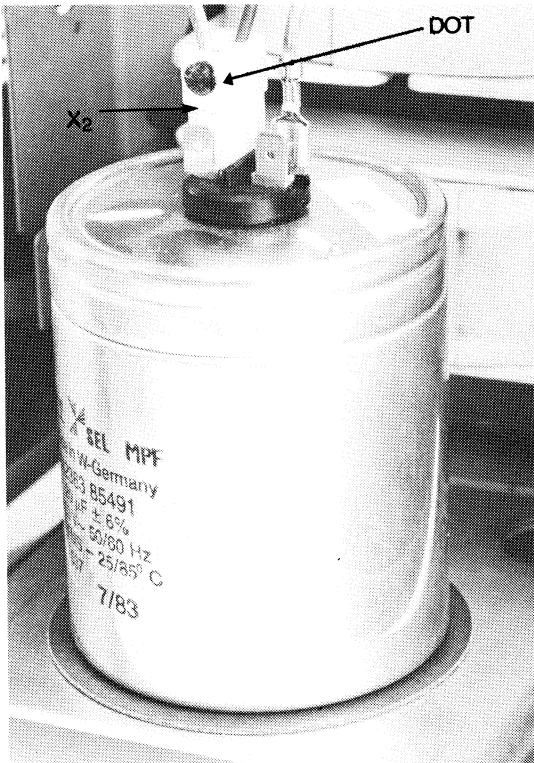


FIG. 202

VIEW CAPACITORS 60 Hz

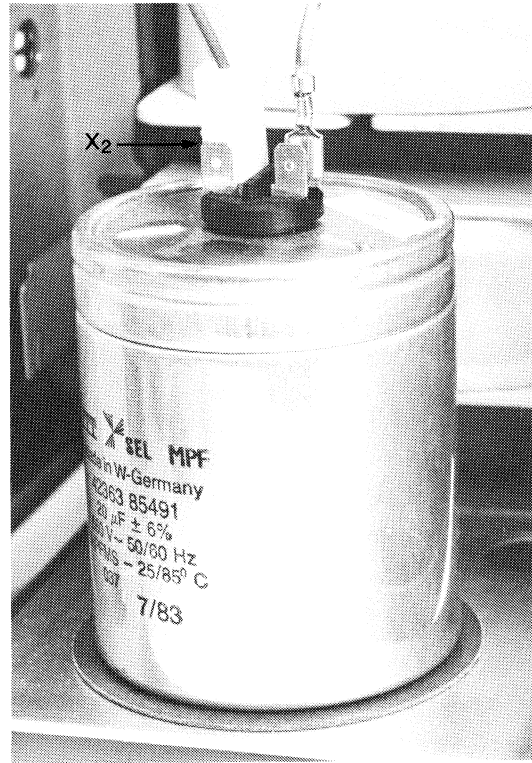


FIG. 203

FILTER CONFIGURATION $f_m = 50$ Hz (see fig. 202)

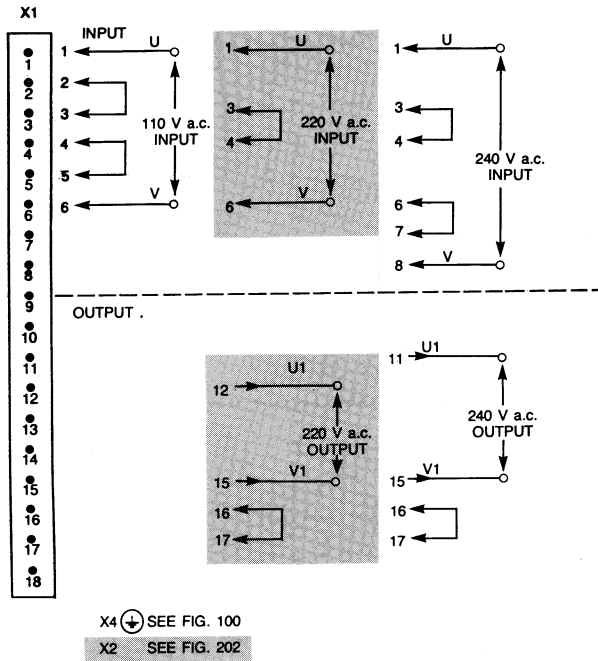


FIG. 220

STABILIZER CONFIGURATION $f_m = 50$ Hz (see fig. 202)

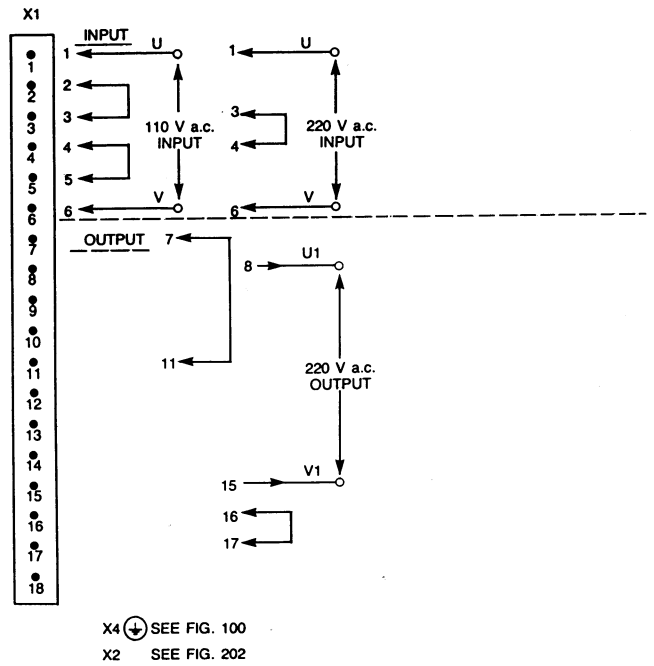


FIG. 221

on delivery
bei Lieferung
à la livraison

FILTER CONFIGURATION $f_m = 60$ Hz (see fig. 203)

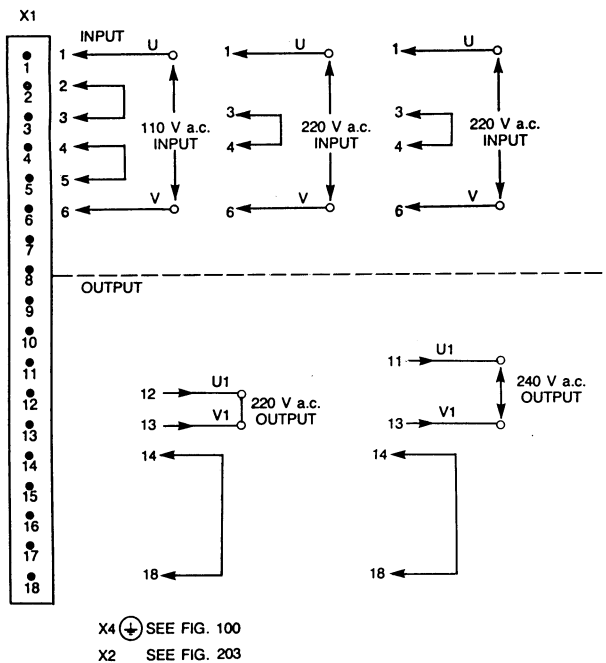


FIG. 222

STABILIZER CONFIGURATION $f_m = 60$ Hz (see fig. 203)

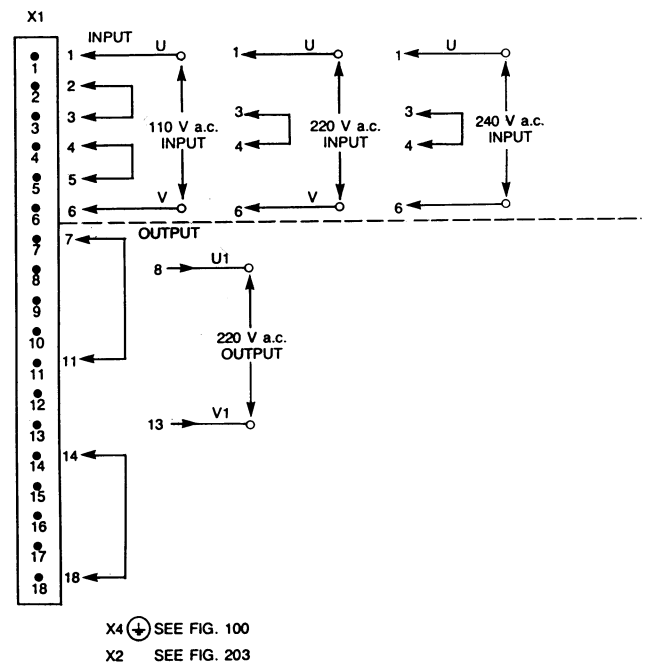


FIG. 223

WARNING

- To increase the efficiency of the line conditioner in filter configuration, it is better to use shielded input and output cables.
- For low frequency noise, connect the shield to the ground at one end (receiving side) only.
- For high frequency noise, connect the shield to the ground at both ends.
- To reduce EMI coupling from other cables and outside EMI ambients, each cable (input, output cable) must be separated from the others: input and output cables should not be near or in parallel to each other. The output cable should be kept clear of power cables.
- Some EMI problems can be solved by grounding: for 3 phases and parallel configuration, the centralized point ground is the most effective in all conditions.

PE 1888/00 FILTER CONFIGURATION fm: 50 Hz

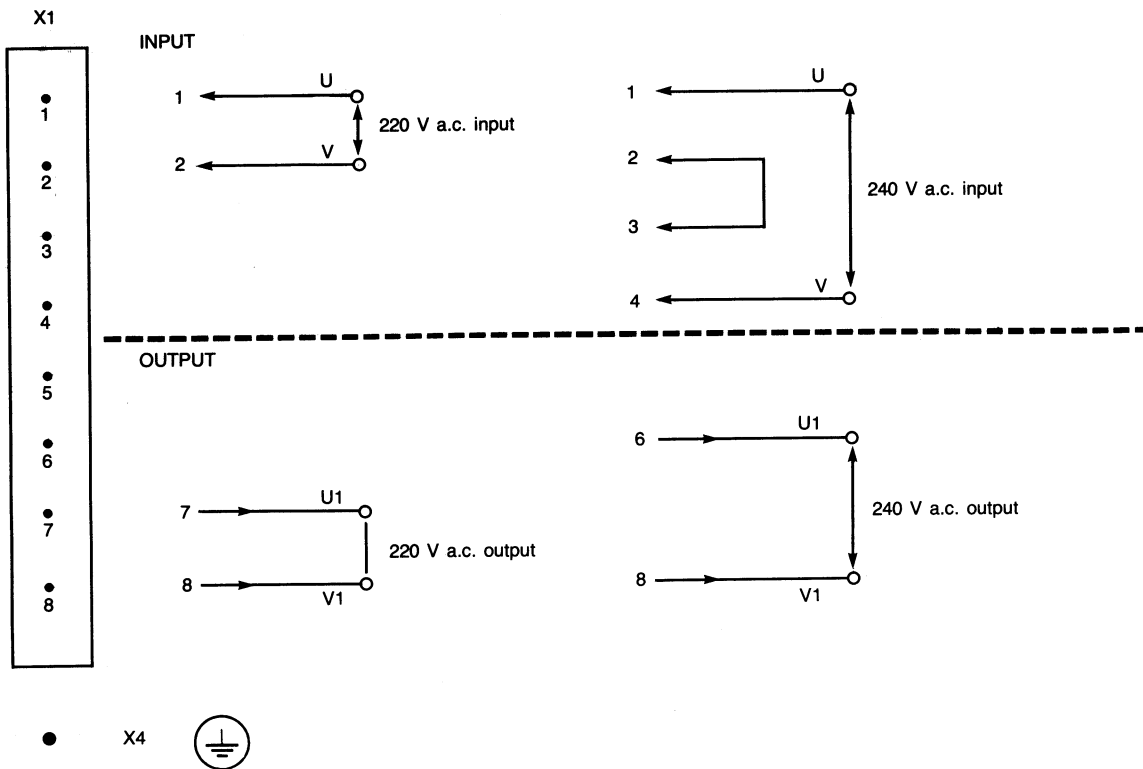


FIG. 224

STABILIZER CONFIGURATION fm: 50 Hz

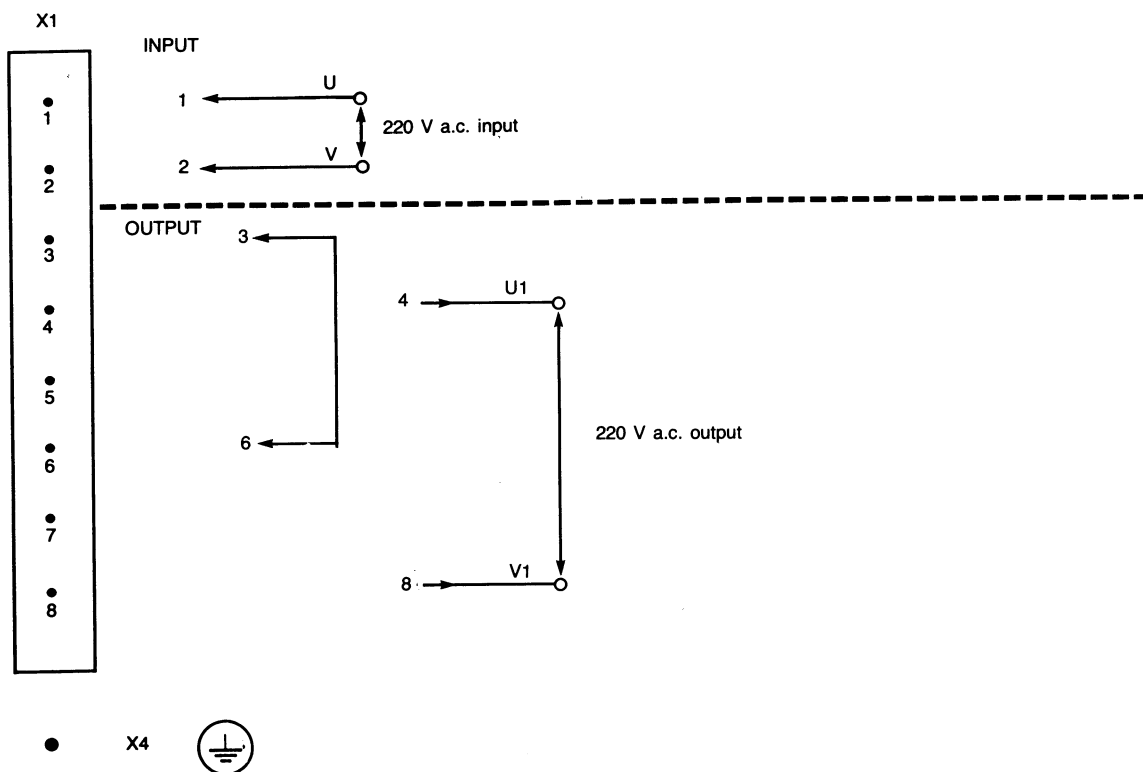


FIG. 225

PARALLEL CONFIGURATION

AS FILTER

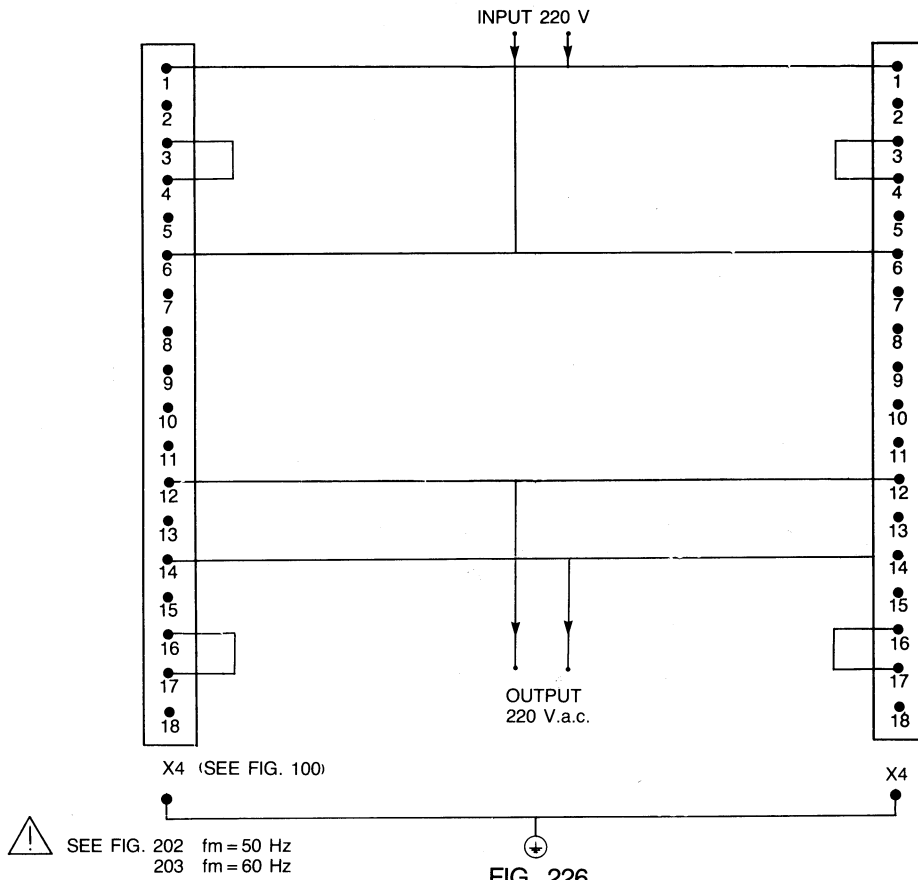


FIG. 226

AS STABILIZER

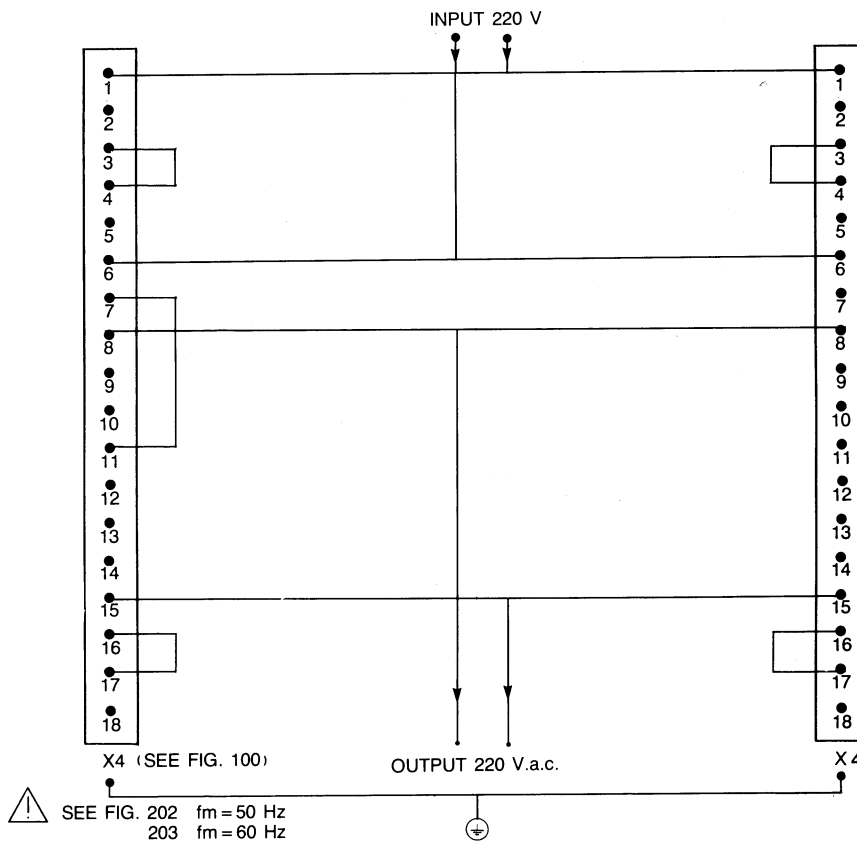


FIG. 227

3 PHASE CONFIGURATION AS FILTER

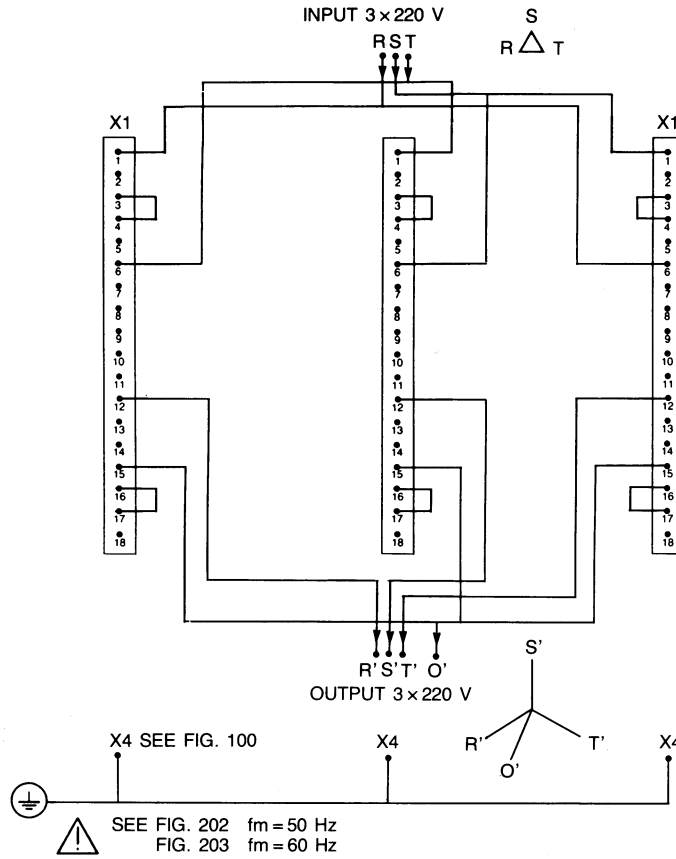


FIG. 228

AS STABILIZER

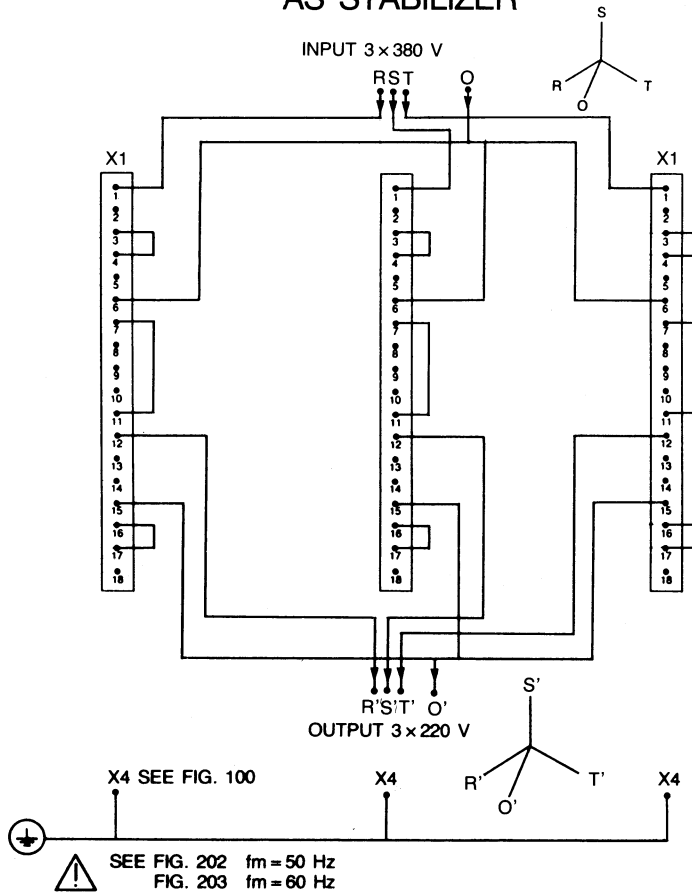
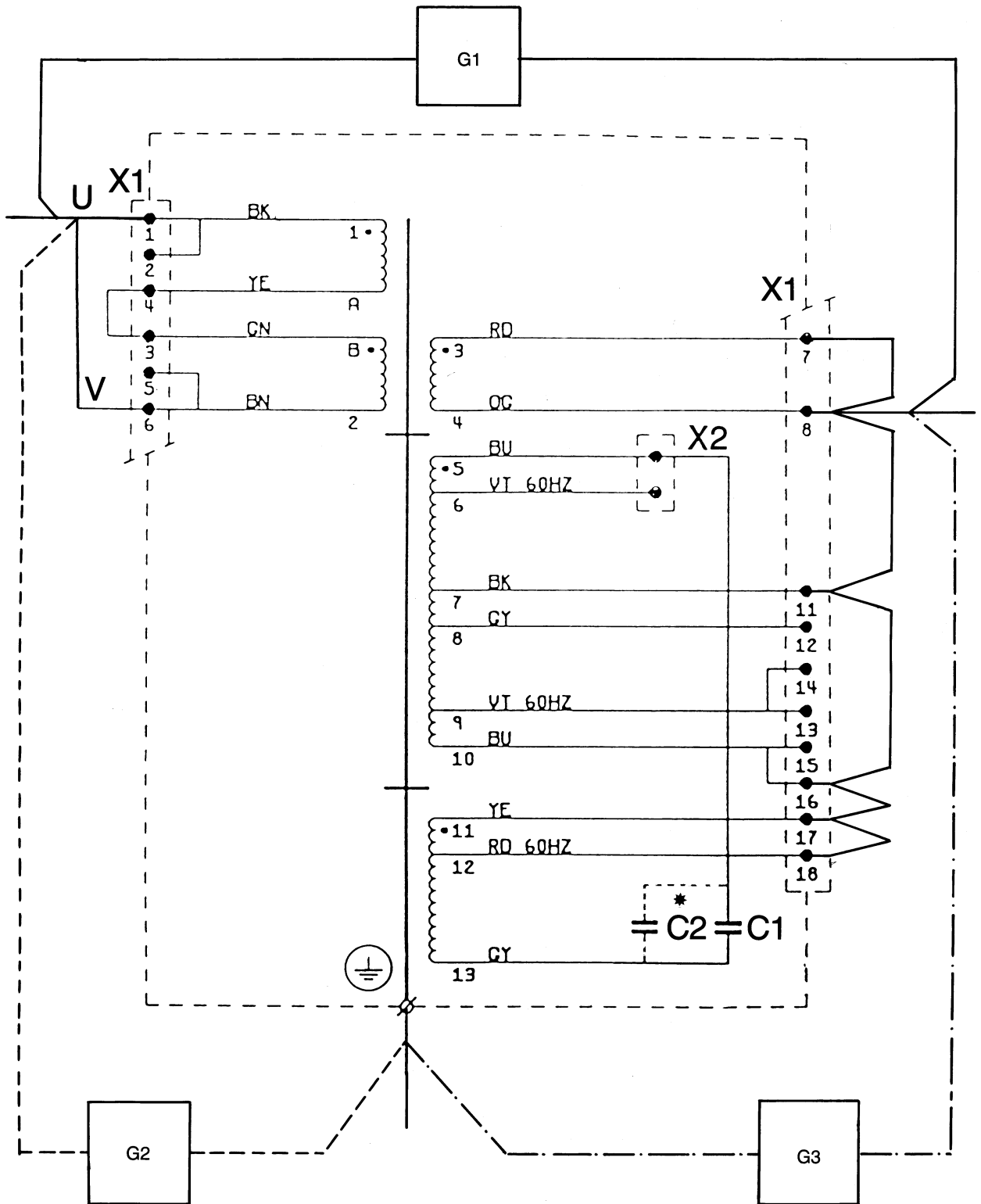


FIG. 229

DIELECTRIC STRENGTH TEST SET-UP



- TEST 1: BETWEEN PRIMARY AND SECONDARY: U_{HT} - 2,0 kVa.c.
- - - - TEST 2: BETWEEN PRIMARY AND CHASSIS: U_{HT} - 1,5 kVa.c.
- · - · TEST 3: BETWEEN SECONDARY AND CHASSIS: U_{HT} - 1,5 kVa.c.

* ONLY FOR PE 1414/10/15/20

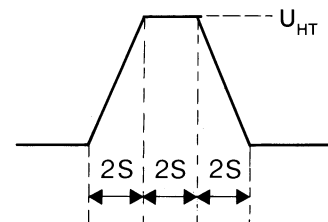


FIG. 541

* PE 1411-12-13-14/10/15/20 + PE 1888/00 85.10.18

DIMENSIONS /10 VERSION

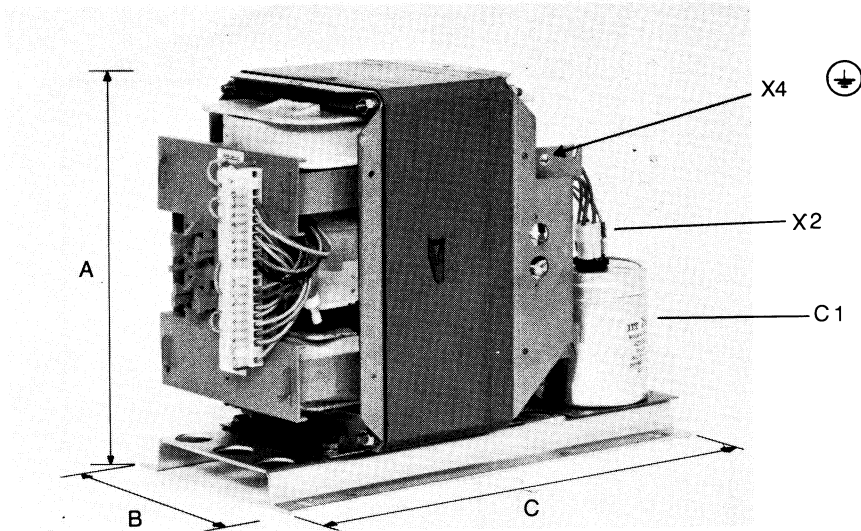


FIG. 100

/15 VERSION + PE 1888/00

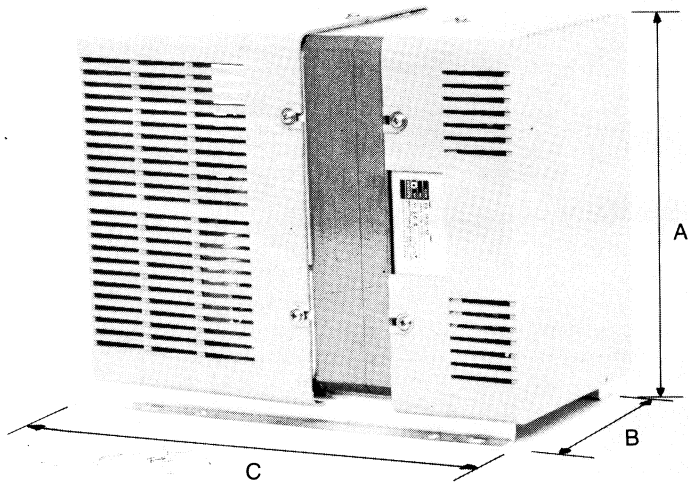


FIG 101

/20 VERSION

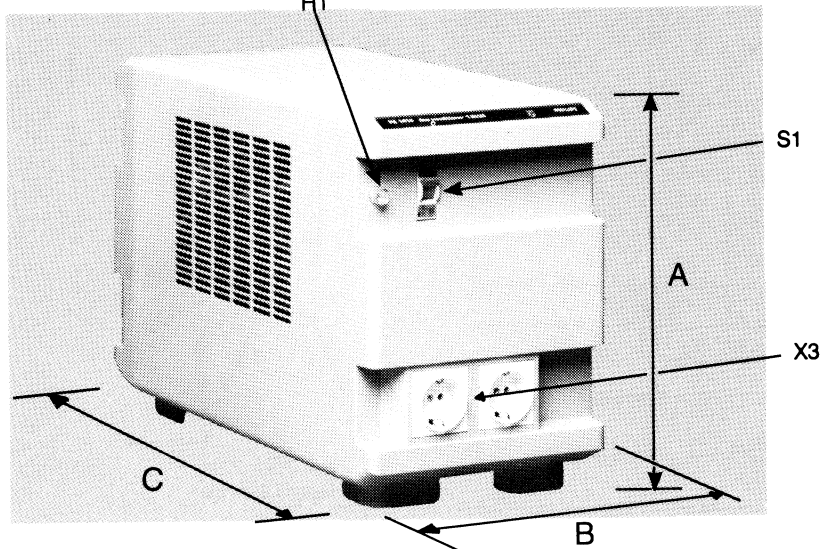


FIG. 102

Type	Height (mm) A	Width (mm) B	Depth (mm) C
PE 1411	178	160	212
PE 1412	178	160	240
PE 1413	249	163	286
PE 1414	249	163	332

Type	Height (mm) A	Width (mm) B	Depth (mm) C
PE 1411	183	158	226
PE 1412	183	158	252
PE 1413	256	173	315
PE 1414	256	173	360
PE 1888	256	167	427

Type	Height (mm) A	Width (mm) B	Depth (mm) C
PE 1411	310	220	255
PE 1412	310	220	315
PE 1413	310	220	383
PE 1414	310	220	429

PART LIST

Version :	Description :	Ordering code :	Version :	Description :	Ordering code :
-----	-----	-----	-----	-----	-----
PE 1411/10	Capac 660 V 10 % 6 µF	5322 124 60061	PE 1414/10	Capac 660 V 6 % 12 µF Capac 660 V 6 % 20 µF	5322 124 60058 5322 124 60059
PE 1411/15	Cover M size Cover S size Capac 660 V 10 % 6 µF	5322 447 90553 5322 447 90554 5322 124 60061	PE 1414/15	Cover M size Cover S size Capac 660 V 6 % 12 µF Capac 660 V 6 % 20 µF	5322 447 90039 5322 447 90038 5322 124 60058 5322 124 60059
PE 1411/20	Front panel Rear panel Cover Logo Main switch Socket Belgium type Socket German type Socket Swiss type Cover plate for Swiss socket Socket English type Plug English type Capac 660 V 10 % 6 µF	5322 447 90555 5322 447 90549 5322 447 90556 5322 456 90117 5322 277 10837 5322 267 40599 5322 267 40601 5322 267 40602 5322 381 10756 5322 267 40603 5322 267 40604 5322 124 60061	PE 1414/20	Front panel Rear panel Cover Logo Main switch Socket Belgium type Socket German type Socket Swiss type Cover plate for Swiss socket Socket English type Plug English type Capac 660 V 6 % 12 µF Capac 660 V 6 % 20 µF	5322 447 90555 5322 447 90549 5322 447 90552 5322 456 90115 5322 277 10837 5322 267 40599 5322 267 40601 5322 267 40602 5322 381 10756 5322 267 40603 5322 267 40604 5322 124 60058 5322 124 60059
PE 1412/10	Capac 660 V 6 % 10 µF	5322 124 60057			
PE 1412/15	Cover M size Cover S size Capac 660 V 6 % 10 µF	5322 447 90553 5322 447 90554 5322 124 60057			
PE 1412/20	Front panel Rear panel Cover Logo Main switch Socket Belgium type Socket German type Socket Swiss type Cover plate for Swiss socket Socket English type Plug English type Capac 660 V 6 % 10 µF	5322 447 90555 5322 447 90549 5322 447 90556 5322 456 90118 5322 277 10837 5322 267 40599 5322 267 40601 5322 267 40602 5322 381 10756 5322 267 40603 5322 267 40604 5322 124 60057			
PE 1413/10	Capac 660 V 6 % 20 µF	5322 124 60059			
PE 1413/15	Cover M size Cover S size Capac 660 V 6 % 20 µF	5322 447 90039 5322 447 90038 5322 124 60059			
PE 1413/20	Front panel Rear panel Cover Logo Main switch Socket Belgium type Socket German type Socket Swiss type Cover plate for Swiss socket Socket English type Plug English type Capac 660 V 6 % 20 µF	5322 447 90555 5322 447 90549 5322 447 90551 5322 456 90116 5322 277 10837 5322 267 40599 5322 267 40601 5322 267 40602 5322 381 10756 5322 267 40603 5322 267 40604 5322 124 60059			

- In some case, the specifications of the line conditioner may be modified after the replacement of the capacitor.
- In bestimmten Fälle, die Spezifikationen des Leitungsstabilisatoren werden nach dem Auswechseln des Kondensators verändert.
- Dans certains cas, les spécifications des stabilisateurs seront modifiées après remplacement de la capacité.

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