

GENERAL

1. INTRODUCTION

The PE 1258/31, PE 1261/31 and PE 1264/31 (closed version) are regulated d.c. power supplies modules. Normally, the power supply is intended for 19-inch rack-mounting plug-in according to DIN 41494 (3 U height). Several power supplies may be series or parallel connected. The overvoltage protection and the overcurrent protection are adjustable.

Other facilities include :

- local and remote sensing
- remote ON-OFF (TTL level)
- remote voltage programming
- PWF (TTL level)
- synchronisation (TTL level)
- overvoltage protection
- thermal protection

NOTE : The design of this power supply is subject to development and improvement. Consequently, this power supply 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 power supply 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 power supply.

2.1. ELECTRICAL DATA

The values given in this section are valid within the rated range of operation (0°C to + 55°C). On delivery, the supply 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 435, VDE 0411, VDE 0804, (when the supply is rack-mounted).

If one of the output terminals is not connected to safety earth, all live parts connected to this output must not be accessed by the IEC test-finger.

UL 478, UL 544 : UL recognized (with UL listed fuses) : file no. E 69576 Vol 1. Sec. 12.

Contribution from the earth leakage current supply (from chassis to earth) : as per IEC 435 (1983) Para. 5.2.2. Max. 0,5 mA NC r.m.s. at 50 Hz (on delivery)

When UL 544 applies an isolation transformer might be necessary if the total leakage current exceeds 0,5 mA.

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

- between primary and chassis : 2 kVa.c./d.c.
- primary and secondary : 4 kVa.c./d.c.
- secondary and chassis : 2 kVa.c./d.c.

In the event of repetition of the dielectric strength tests, it is necessary to follow the instructions laid down in the Service Manual (4822 872 45308). If the Service Manual is not in stock, the Supply Centre must be contacted in order to obtain the supplementary information.

* 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 125 V d.c. or a.c. (r.m.s.). Either the "+" or "-" terminal may be earthed.

* Interference level.

Input : in accordance with VDE 0875 (N-12) (1977) level.

Output : in accordance with IEC 478-3.

2.1.2. INPUT

Mains voltage (a.c.) nominal : 220 V (190 V - 260 V) or 110 V (95 V - 130 V) by strapping
(d.c.) nominal : 320 V (270 V - 375 V)

Mains frequency : 48 Hz - 440 Hz

Consumption : PE 1258/31 196 VA
PE 1261/31 192 VA
PE 1264/31 223 VA

Inrush current (worst-case) : max. 50 A

Efficiency : Nominal PE 1258/31 : 72 %
PE 1261/31 : 76 %
PE 1264/31 : 78 %

2.1.3. OUTPUT

	PE 1258/31	PE 1261/31	PE 1264/31
U _{on} (1)	5V(-0,+1)%	12V(-0,+1)%	24V(-0,+1)%
I _{on} (55°C)	18 A	8 A	5 A
I ₀ (40°C)	22 A	9 A	6 A
Fig.	10, 20	11, 21	12, 22

(1) Initial adjustment and drift.

2.1.4. OUTPUT EFFECTS (IEC 478-2)

2.1.4.1. AS VOLTAGE STABILIZER

* Source effect : (U_m : +10 % or -10 %)
Output : max. 0,1 %

Settling effect :
Output : max. 0,1 %

* Load effect : (I₀ : 0 % - 10 %, 10 % - 100 %)
Output : max. 0,1 %

Settling effect : (I₀ : 10 % - 100 %)
Output : max. 0,1 %

* Temperature coefficient
Output : max. 0,02 %/K

* PARB BW 30 MHz (mV p-p)
Output : max. 50 mV p-p
BW 10 MHz (mV r.m.s.)
Output : max. 12 mV r.m.s.

* Recovery time and overshoot : (max.)

(dI₀/dt = 0,5 A/us) I₀: 50 % to 100 % 1,2ms and 250 mV
I₀: 100 % to 50 % 1,2ms and 250 mV
I₀: 10 % to 100 % 2 ms and 500 mV
I₀: 100 % to 10 % 2 ms and 500 mV

- * Turn-on delay time ($U_m - 10\%$) : max. : 300 ms
- * Turn-off decay time ($U_m - 10\%$) : min. : 20 ms
- * Transient suppression (with SCHAFFNER NSG221)
Symmetrical (U : 600 V ; dU/dt : 300 V/us) : min. 75 dB
Asymmetrical (U : 600 V ; dU/dt : 300 V/us) : min. 65 dB

2.1.4.2. AS CURRENT STABILIZER

Not applicable

2.1.5. PROTECTION

- Mains fuses
- Sense protection
- Foldback current limiter
- Overvoltage protection
 U_t on delivery : PE 1258/31 : 5,6 to 6 V
PE 1261/31 : 13,5 to 14,5 V
PE 1264/31 : 25,5 to 29 V
- Thermal protection

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	Specification	Additional information
- Ambient temperature		
- rated range of use	: 0°C to 55°C	
- limit range of operation	: -10°C to +70°C	
- limit range for storage and transport	: -40°C to +85°C	
- Relative humidity (of the ambient air)	: 20 % to 90 %) non-condensing

COOLING

- The ambient temperature is defined as the temperature 20 mm below the unit. Mount the power supply unit with the cooling surfaces in a vertical plane so that the air circulation in the unit is maximum.
- The current values given in Section 2.1.3. may be only applied when the unit is in a free-standing position and the rising warmed air is not impeded.
- In the event of forced air cooling being applied (air speed of approximately 1 m/s through and around the module), and air temperature of 55°C, see characteristics in Fig. 20, 21, 22). The air circulation through the unit may not be impeded.

2.2.2. ENVIRONMENTAL TESTS

Performance tests, operating

Description	IEC-68
Cold test	2-1 Ad 2 h. (-10°C)
Dry heat	2-2 Bd 2 h. (+55°C)
Damp heat steady state	2-3 Ca 10 d. (+40°C)
Vibration test	2-6 Fc

Tests for storage and transport

Description	IEC-68
Cold test	2-1 Ab 72 h. (-40°C)
Dry heat	2-2 Bb 96 h. (+70°C)
Vibration test	2-6 Fc
Bump test	2-29 Fb
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 AND MASS

For Euro module 20 T, 3 U

Height : 110,6 mm
Width : 97,5 mm
Depth : 290,0 mm (without LED)
Mass : 2,0 kg

2.3.2. MOUNTING

Rack : DIN 41494 (3 U)
Connecting Block :
X101 DIN 41612 H15M (H15F)

2.4. ACCESSORIES

2.4.1. OPERATING MANUAL

2.4.2. OPTIONAL

PE 1373/02 Rack adaptor for 2 fans
PE 1374/02 Fan (110 V a.c.)
PE 1390/03 Key set (Manual 4822 872 40141)
PE 1390/09 Front plate 20 T, 3 U (Manual 4822 872 40147)