



n.v. delta elektronika

nieuwe boogerdstraat 2 zierikzee holland telefoon (01110) 2734



MODEL A

REGULATED POWER SUPPLY D 1

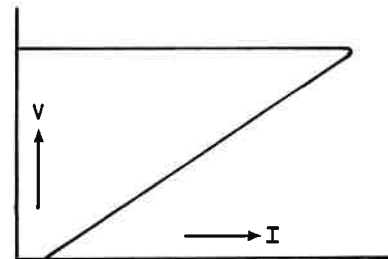
6-30 V, 1 A

Output voltage Model D 1 can be used for a fixed output voltage between 6 V and 30 V DC.

Voltage adjustment The output voltage can be changed by connecting two wires with other faston tabs on the transformer and turning an internal potentiometer to the wanted voltage.

Current 1 Ampere maximum

Current limit On overload the current falls to a low value.
The output voltage returns on removal of the overload condition.

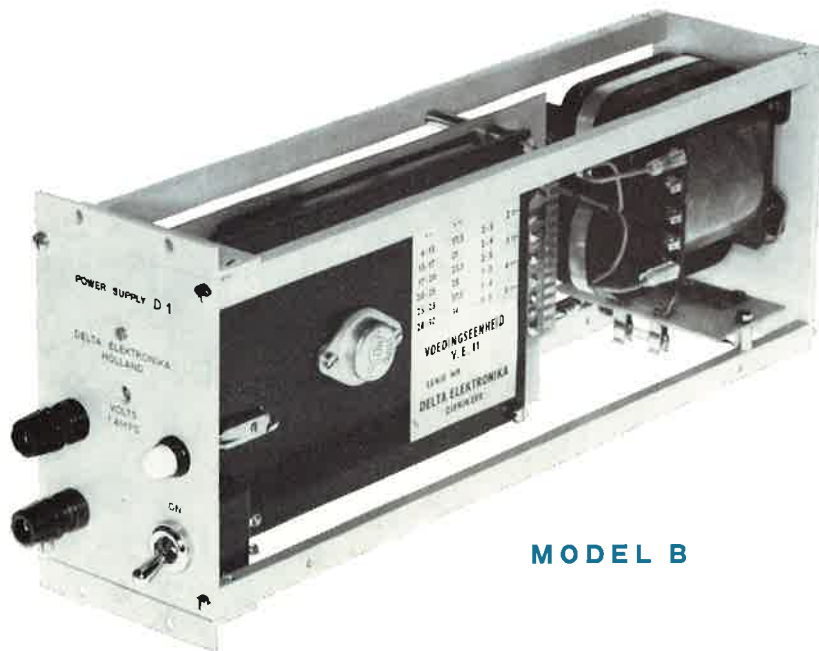


Voltage regulation 0.05 % for a + or - 10 % AC input voltage variation.
0.05 % for a maximum load variation.

Temp. coeff. 0.05 % per °C maximum.

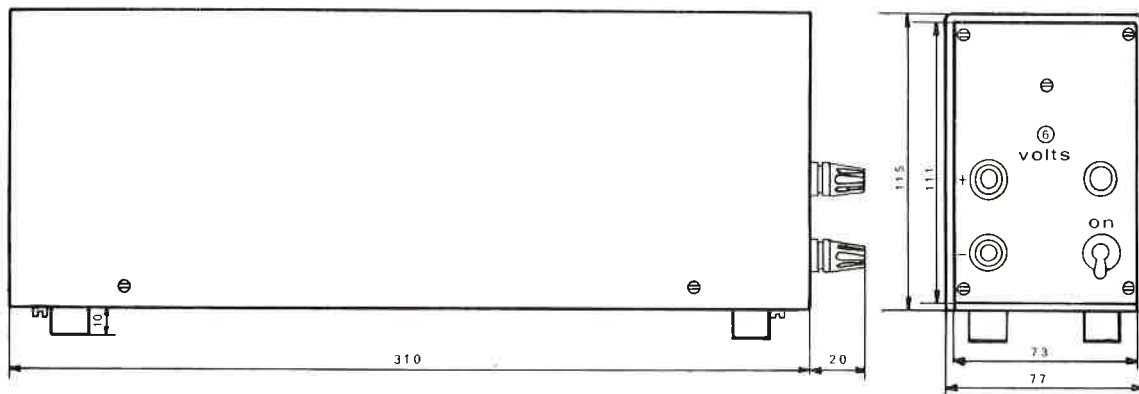
Ripple 0.2 mV r.m.s., 1 mV p-p.

Parallel and series connection Units can be connected in series and parallel.



MODEL B

- Cooling** Natural convection cooling.
The air should flow freely vertically through the ventilation perforations.
- Input voltage** 220 V or 110 V AC, 50-60 Hz.
The primary of the transformer has two windings, which are connected in series for 220 V or parallel for 110 V.
- Models** D 1 A is a bench model.
D 1 B is uncased.
- Weight** D 1 A 2.9 kg, D 1 B 2.3 kg.



R (Ohm)

1 =	100	$\frac{1}{2}$ W	5%
2 =	4,7 k	$\frac{1}{2}$ W	5%
3 =	18 k	$\frac{1}{2}$ W	5%
4 =	470	$\frac{1}{2}$ W	5%
5 =	2,7 k	10W	5%
6 =	390 k	$\frac{1}{2}$ W	5%
7 =	330	$\frac{1}{2}$ W	5%
8 =	10 k	$\frac{1}{2}$ W	5%
9 =	820	$\frac{1}{2}$ W	2% MF
10 =	18 k	$\frac{1}{2}$ W	5%
11 =	330	$\frac{1}{2}$ W	2% MF
12 =	1,2 k	$\frac{1}{2}$ W	2% MF
13 =	220	$\frac{1}{2}$ W	5%
14 =	560	$\frac{1}{2}$ W	2% MF
15 =	3,3 k	$\frac{1}{2}$ W	5%
16 =	10 k	var.	
17 =	10 k	$\frac{1}{2}$ W	5%
18 =	560	$\frac{1}{2}$ W	2% MF
19 =	5 k	20 sl.	potm.

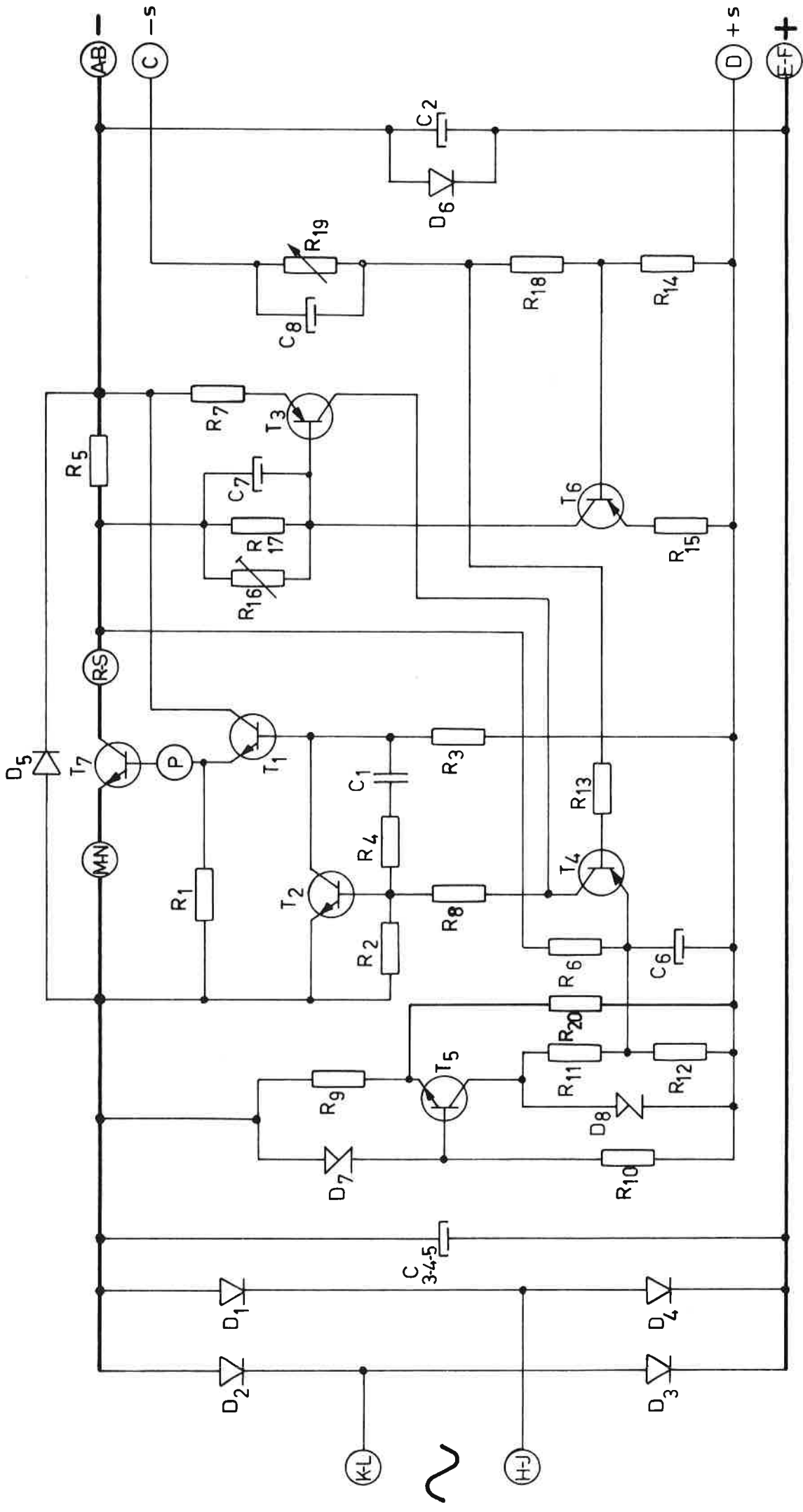
D 1 =	MR 1031 B	Motorola
2 =	MR 1031 B	Motorola
3 =	MR 1031 B	Motorola
4 =	MR 1031 B	Motorola
5 =	MR 1031 B	Motorola
6 =	MR 1031 B	Motorola
7 =	ZG 6,8	Intermetall
8 =	ZG 6,8	Intermetall

T 1 =	2N3053	RCA
2 =	40232	RCA
3 =	OC 445	Intermetall
4 =	OC 445	Intermetall
5 =	2N3053	RCA
6 =	OC 445	Intermetall
7 =	2N3055	RCA

C (microfarad)

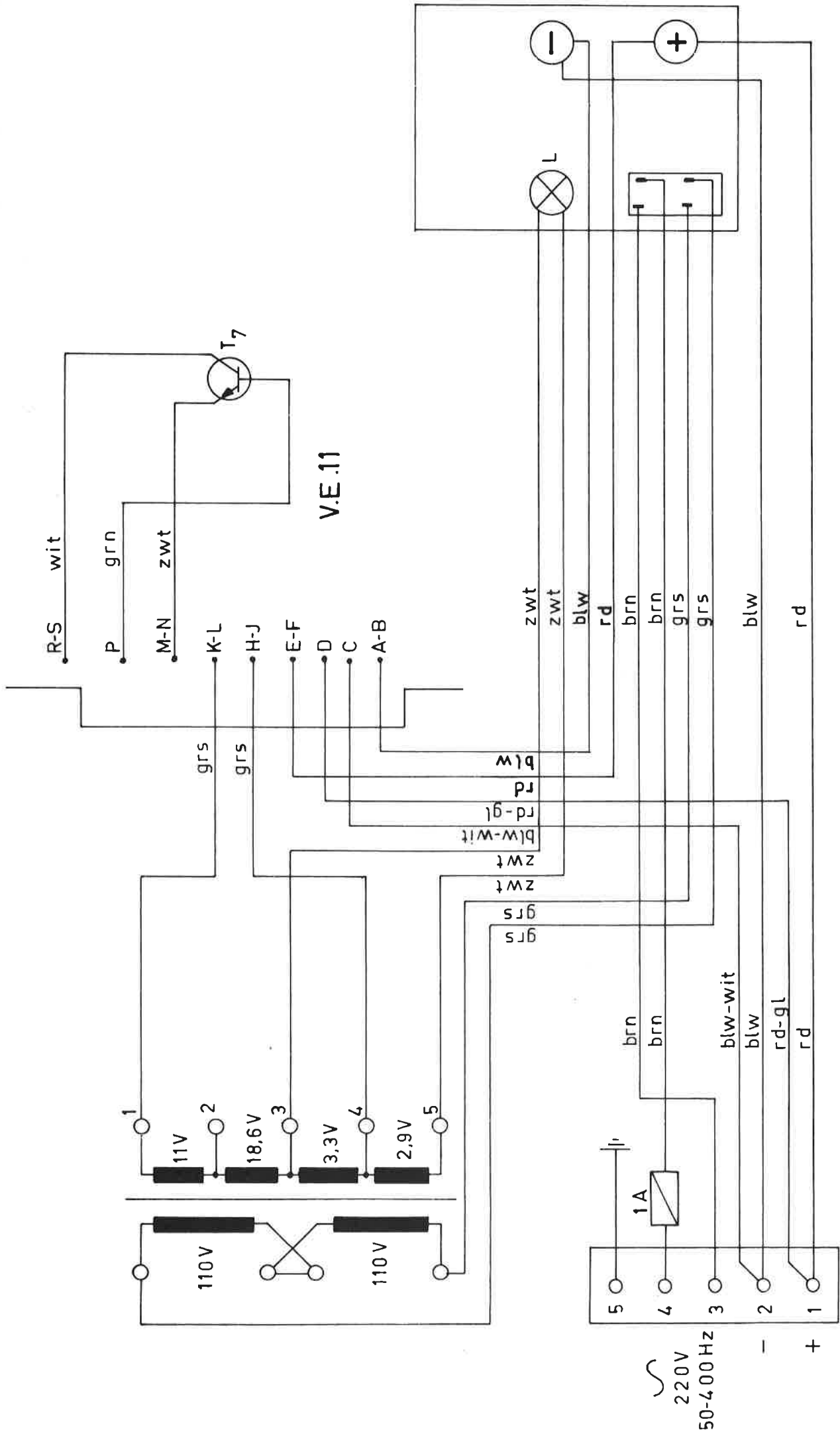
1 =	0,01	160 V
2 =	100	70 V
3 =	500	70 V
4 =	500	70 V
5 =	500	70 V
6 =	25	15 V
7 =	25	15 V
8 =	10	100 V

L = Liliput telefoonlampje
6 V 0,04 A.
(alleen bij D 1)
(nur bei D 1)



V.E.11

DELTA ELEKTRONIKA
zierikzee

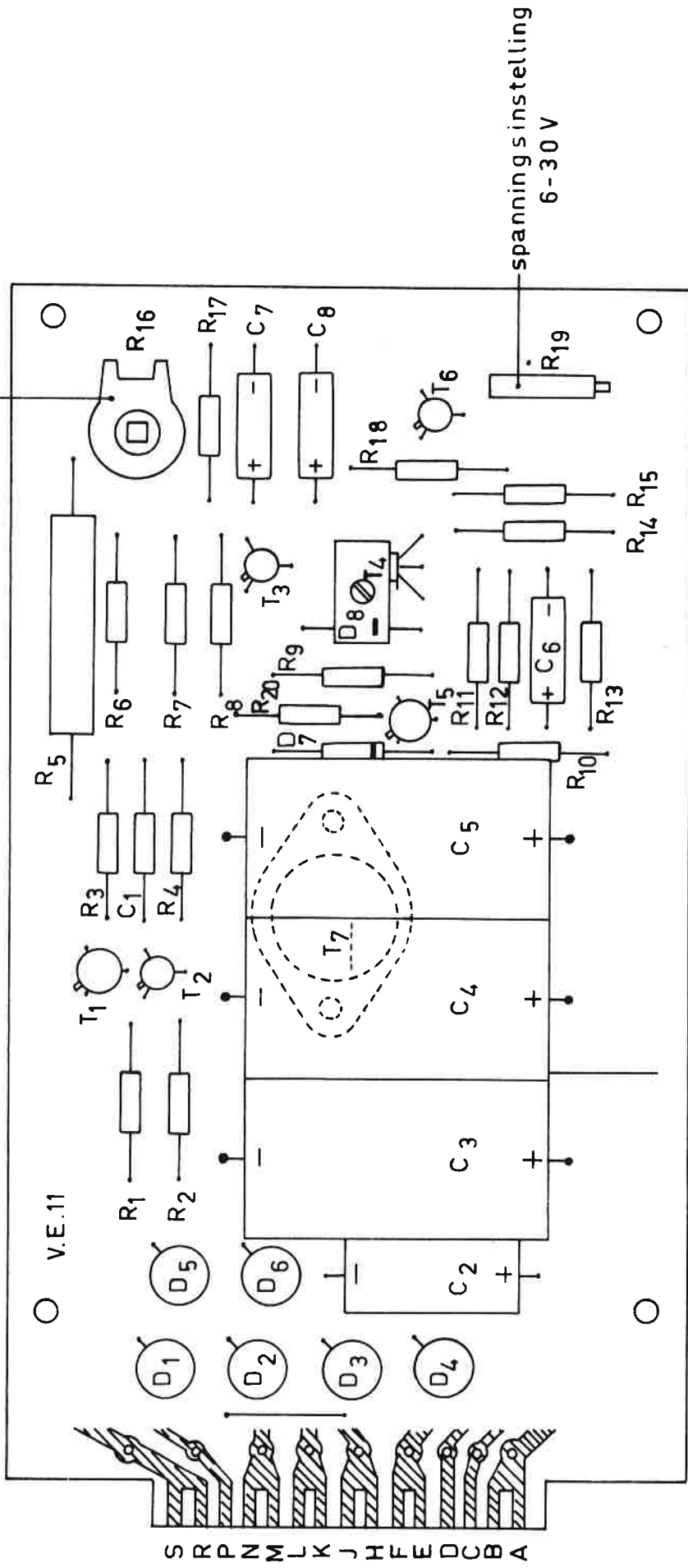


V.E.11

D1

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stroombegrenzing



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**REGULATED
POWER SUPPLIES**

D 1 D ± 15 VDC or ± 12 VDC, 1 A

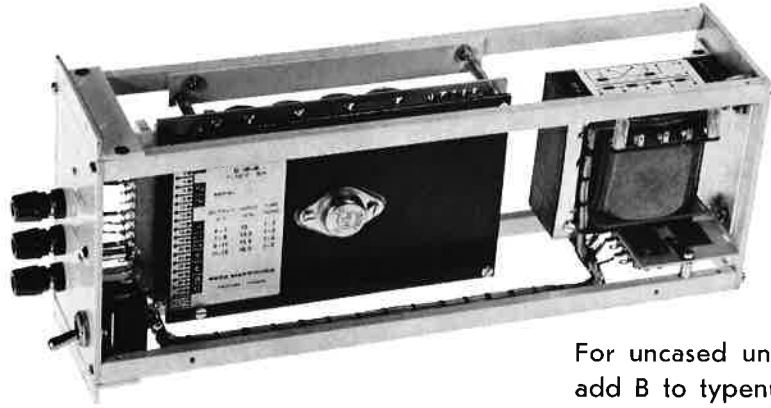
Model D 1 D has a dual output, which can internally be changed from ± 15 V to ± 12 V. In this power supply the card C 15-1 D is used.

D 1 6-30 VDC, 1 A

Model D 1 is intended to be used as a power supply with a fixed output voltage between 6 V and 30 V. The output voltage can internally be changed by the user. In this power supply the card C 30-1 is used.

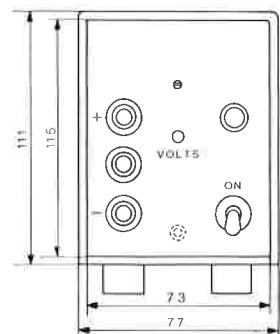
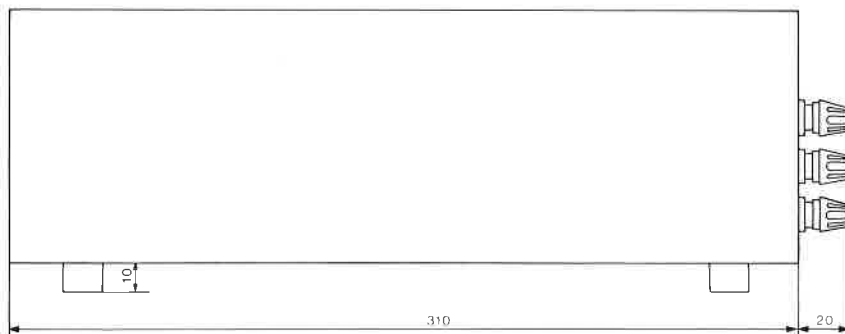
D 2 4-12 VDC, 2 A

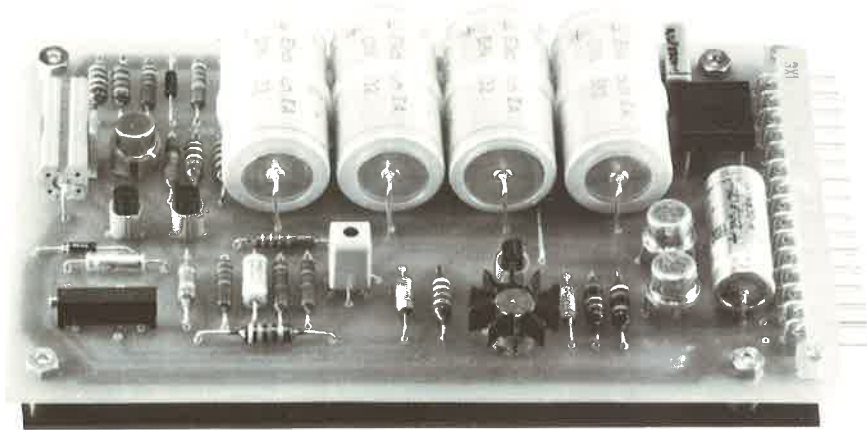
Model D 2 is intended to be used as a power supply with a fixed output voltage between 4 V and 12 V. The output voltage can internally be changed by the user. In this power supply the card C 12-2 is used.



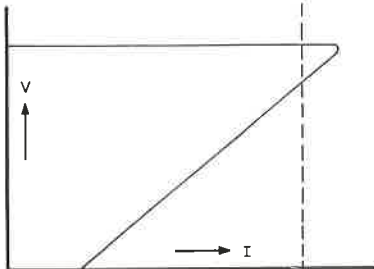
For uncased unit
add B to typenumber

Input voltage	220 V or 110 V, 50-60 Hz.	
Current limit	On overload the current falls to a safe value. The output voltage returns on removal of the overload condition. For D 1 D both outputs will decrease if one is overloaded.	
Voltage regulation	5 mV for a + or - 10 % AC input voltage variation. 10 mV for a maximum load variation.	
Temp. coefficient	0.05 % per °C maximum.	
Ripple	0.1 mV r.m.s., 0.5 mV p-p (0.2 mV r.m.s. for D 2).	
Output impedance	Maximum 100 milli-ohms for load variations up to 100 kHz.	
Recovery time	10 micro-seconds for recovery to within 30 mV after a step load change from 10 % to 100 %.	
Ambient temperature	- 20 to + 45 °C at full load and nominal input voltage.	
Weight and dim.	3.3 kgs 77 x 115 x 310 mm.	

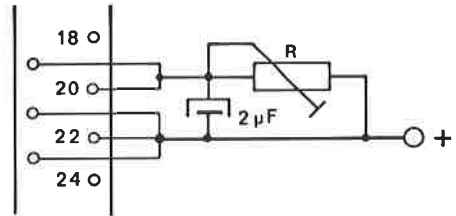




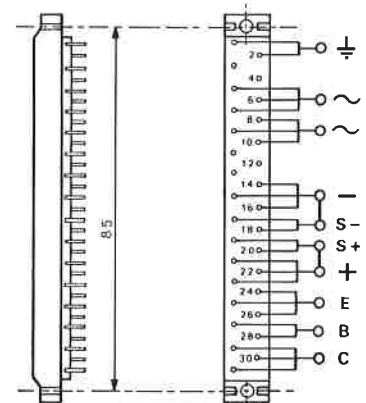
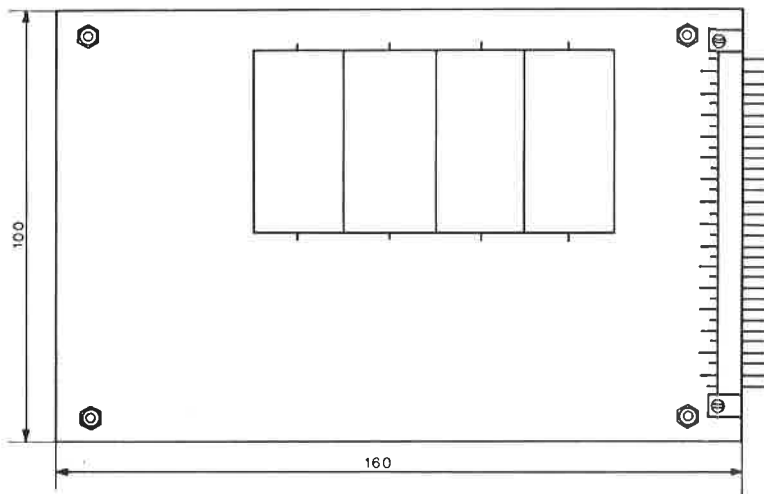
REGULATED POWER SUPPLIES C 12-2 4-12 V, 2 A
C 30-1 6-30 V, 1 A

- Output voltage** Intended to be used as a power supply with a fixed output voltage between 4 V and 12 V DC (C 12-2) or 6 V and 30 V (C 30-1).
- Voltage adjustment** The output voltage is continuously variable with a 20 turn wire wound potentiometer. However, to keep the dissipation low, the required AC input voltage is divided in certain ranges.
- Current limit** On overload the current falls to a safe value.
The output voltage returns on removal of the overload condition.
- 
- Voltage regulation** 5 mV for a + or - 10 % AC input voltage variation
10 mV for a maximum load variation.
- Temp. coefficient** 0.05 % per °C maximum.
- Ripple** 0.2 mV rms, 1 mV p-p (C 12-2)
0.1 mV rms, 0.5 mV p-p (C 30-1)
- Output impedance** Maximum 100 milli-ohms for load variations up to 100 kHz.
- Recovery time** 10 micro-seconds for recovery to within 30 mV after a step load change from 10 % to 100 %.
- Parallel and series connection** Units can be connected in series and parallel.
- Ambient temperature** - 20 to + 50 °C at full load and nominal input voltage
- Weight and dimensions** 0.4 kgs, 100 x 160 x 45 mm.

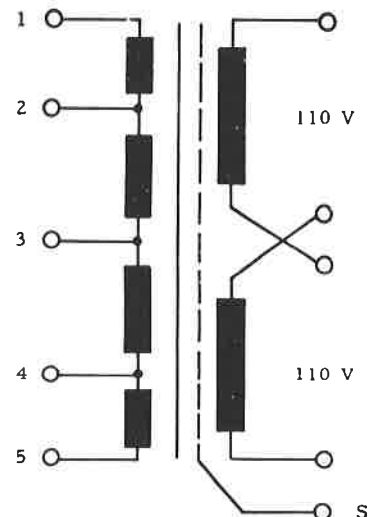
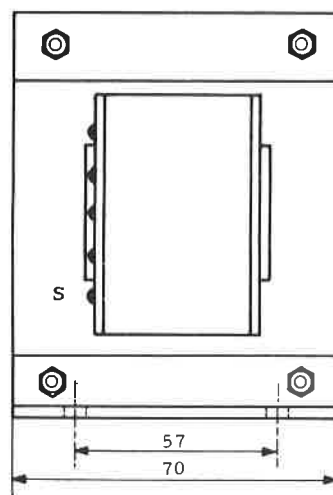
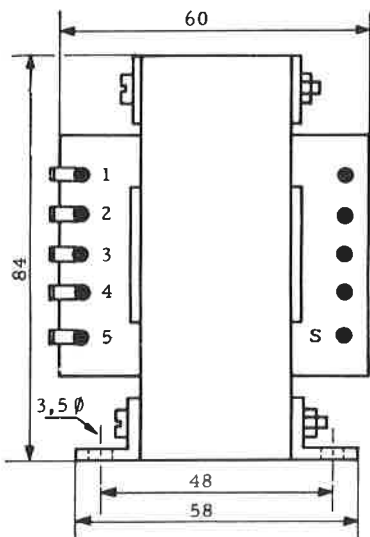
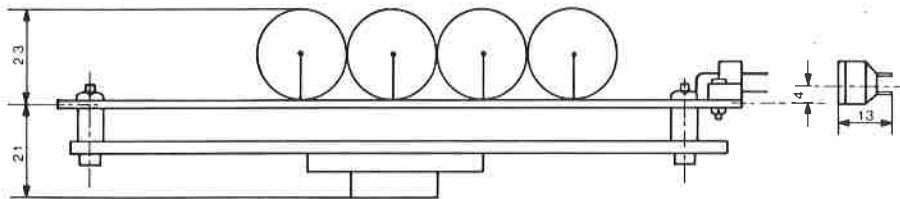
	Output voltage V DC	Input voltage V AC (loaded)	Transformer Terminals
C 12-2	4 - 7	12.0	1 - 2
	7 - 9	13.5	1 - 3
	9 - 11	15.5	1 - 4
	11 - 12	16.5	1 - 5
C 30-1	6 - 13	17.5	2 - 3
	13 - 17	21.0	2 - 4
	17 - 20	23.5	2 - 5
	20 - 25	28.0	1 - 3
	25 - 28	31.5	1 - 4
	28 - 30	34.0	1 - 5



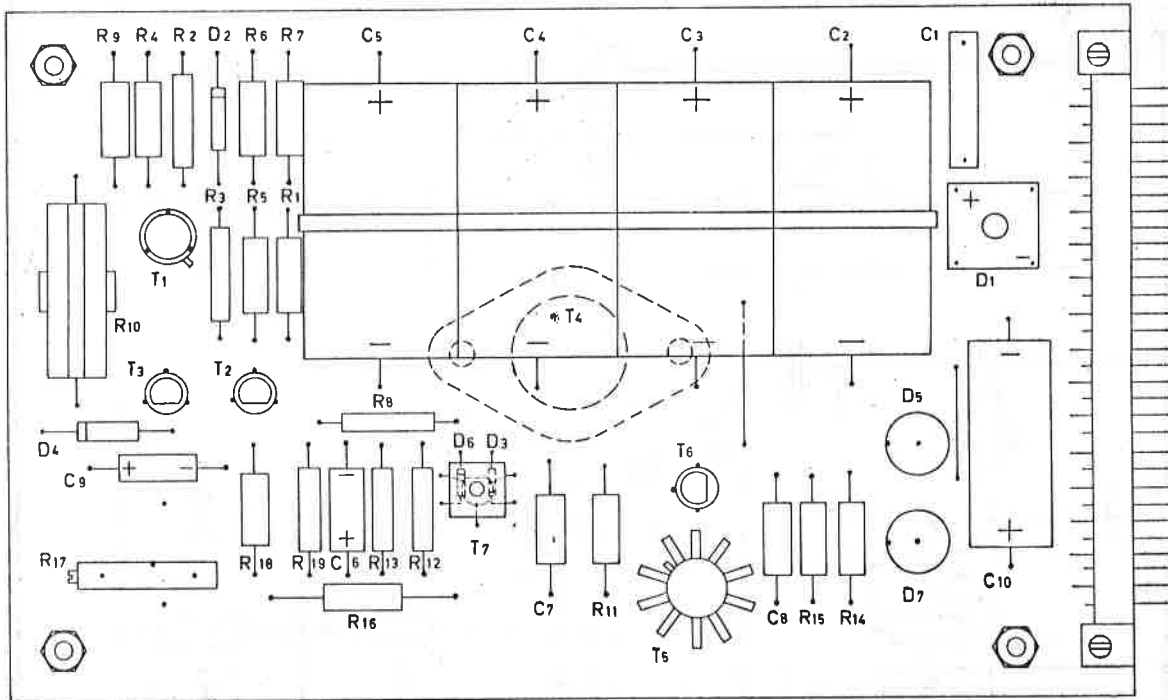
External voltage adjustment about 125 Ohm/Volt for C 12-2 and about 200 Ohm/Volt for C 30-1



Connector DIN 41617
Siemens C42334-A56-A1



Transformer T 122 for C 12-2, T 301 for C 30-1



R (Ohm)

- 1 = 10 k
- 2 = 100 k
- 3 = 10
- 4 = 820
- 5 = 47 k
- 6 = 5,6 k
- 7 = CR
- 8 = 6,8 k
- 9 = 27 k
- 10 = 1,8 7W 5% WW
- 11 = 3,3 k
- 12 = 390
- 13 = 1 k
- 14 = 47
- 15 = 100
- 16 = 470
- 17 = 5 k tr. potm.
- 18 = 470
- 19 = 470

-C (microfarad)

- 1 = 0.1 250 V
- 2 = 470 63 V
- 3 = 470 63 V
- 4 = 470 63 V
- 5 = —
- 6 = —
- 7 = cancelled
- 8 = 0,022 250 V
- 9 = 2,2 63 V
- 10 = 100 63 V

D

- 1 = VH 148 Varo
- 2 = ZP 6,8 ITT
- 3 = ZP 6,2 ITT
- 4 = 1N 4148 ITT
- 5 = MR1031 B Motorola
- 6 = —
- 7 = MR1031 B Motorola

T

- 1 = 2N 4037 RCA
- 2 = BC 182 TI
- 3 = BC 212 TI
- 4 = 2N 3055 RCA
- 5 = 2N 4037 RCA
- 6 = BC 182 TI
- 7 = BC 182 TI

WW = wire wound resistor

CR = calibration resistor

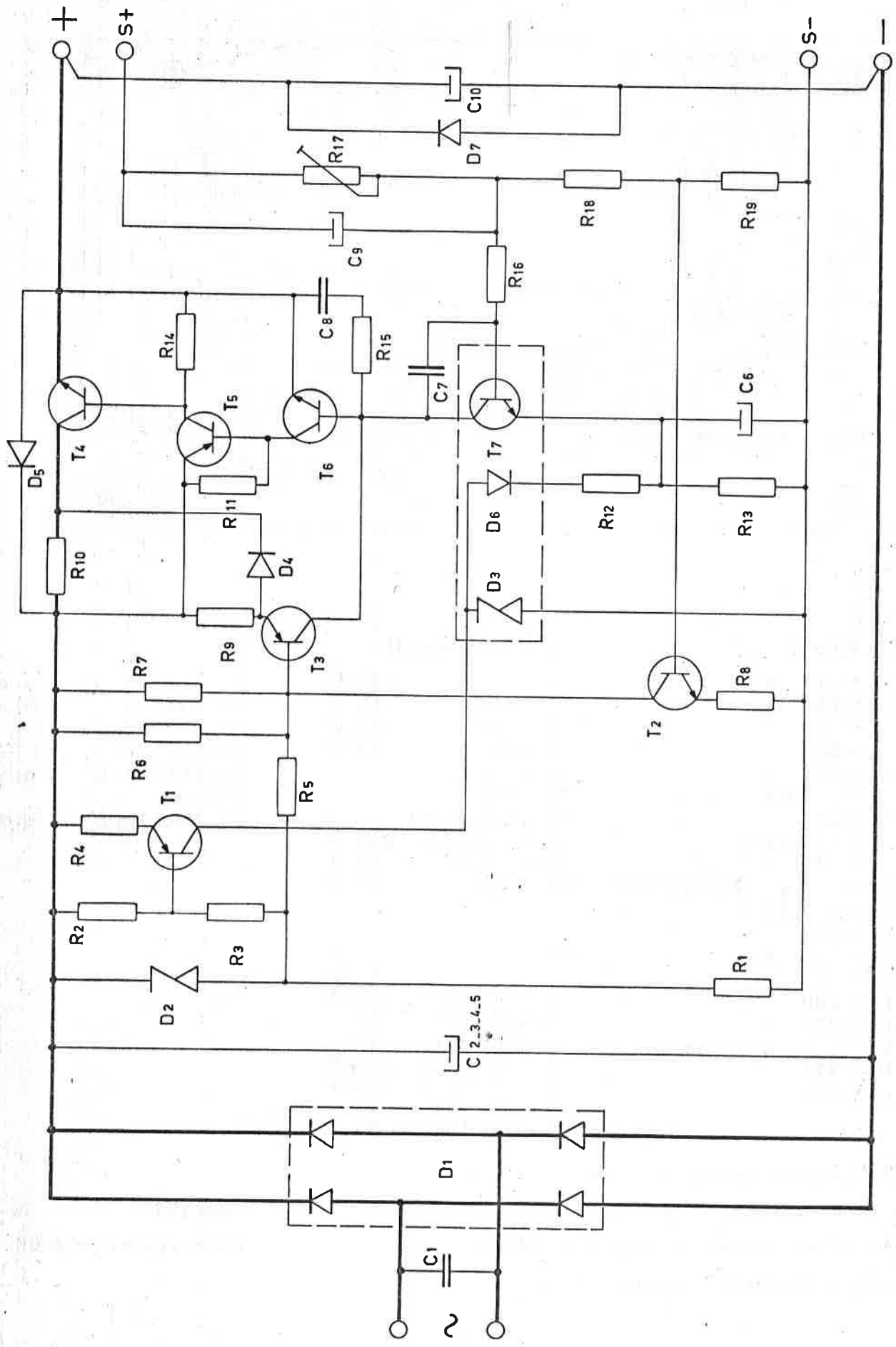
All other resistors metalfilm $\frac{1}{2}$ W 2%

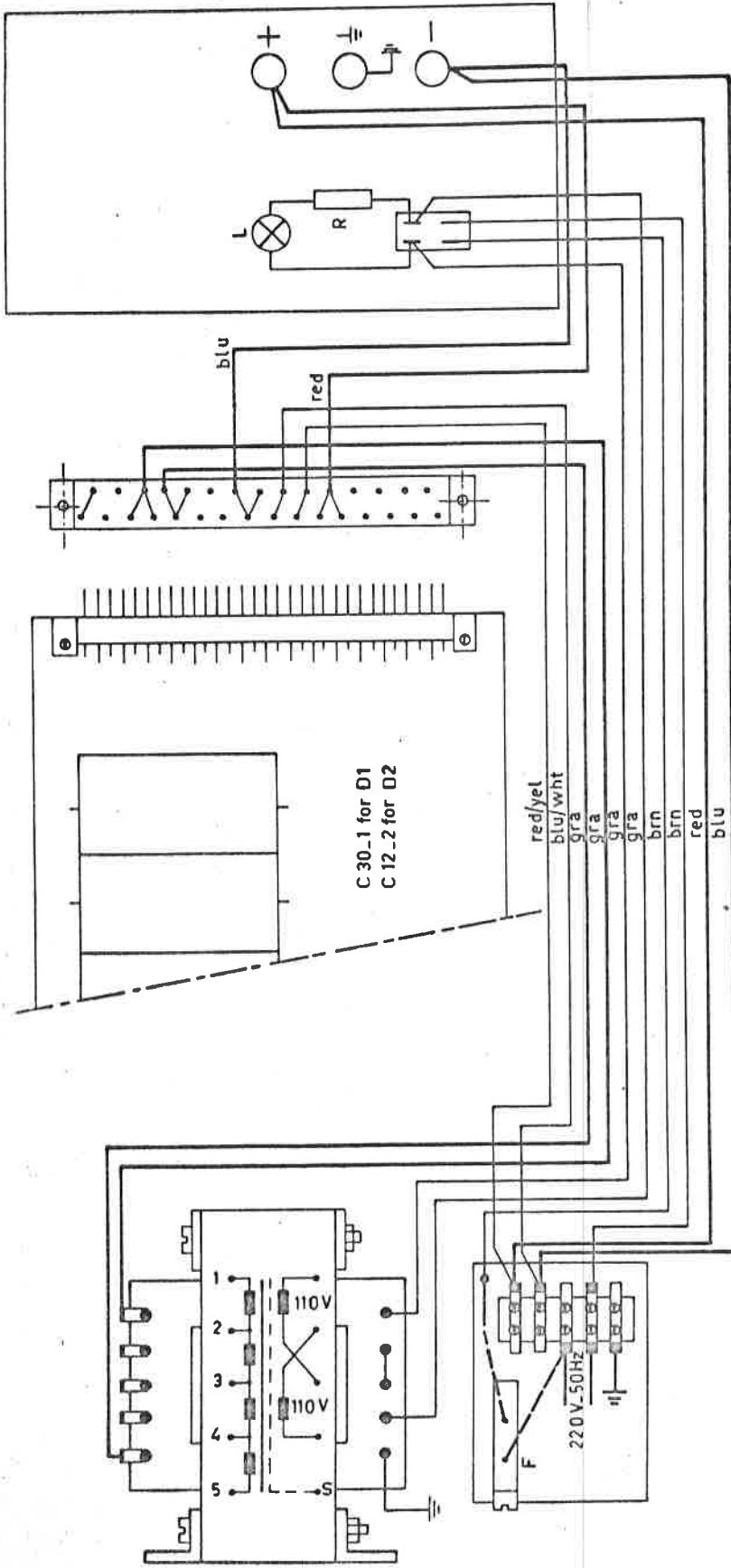
C 5, C 6 and D 6 not on C 30-1

Jan. 1973

C 30-1

from serial nr 2000.





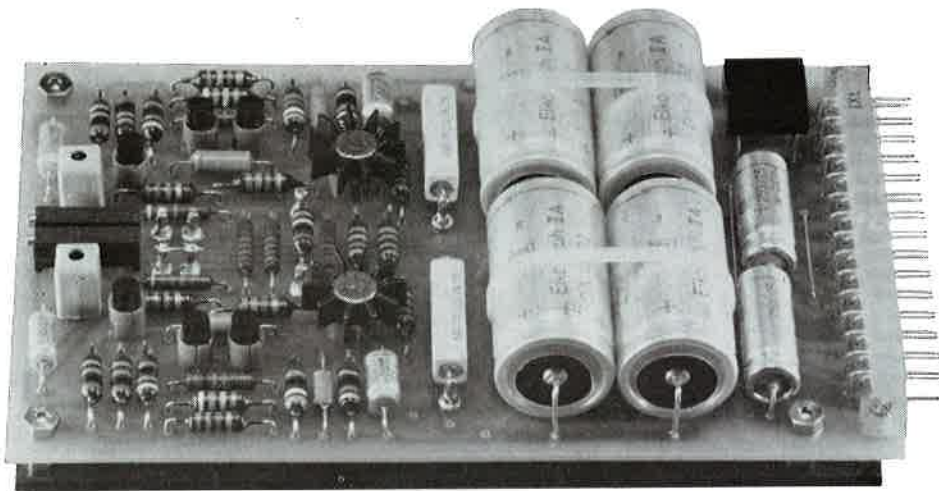
L = Neon lamp BNB2
 R = 560 k $\frac{1}{2}$ W 5%
 F = Fuse 1 A (220 V)
 2 A (110 V)

Wiring diagram
 D 1 and D 2



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nieuwe boogerdstraat 2 zierikzee holland telefoon (01110) 2734



REGULATED POWER SUPPLY C 15-1 D

+ 15 V and - 15 V, 1 A
or + 12 V and - 12 V, 1 A

Input voltage

37 V AC with center tap for + and - 15 V
32 V AC with center tap for + and - 12 V

Output voltages

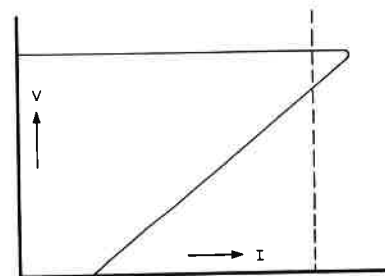
The output voltages can easily be changed from + and - 15 V to + and - 12 V by soldering a link between two turret lugs on the circuit board. The adjustability of the positive and negative voltage is about 10 %.

Output current

Both outputs may be loaded independently up to 1 A.

Current limit

On overload the current falls to a safe value.
If one output is overloaded, both will decrease.
Voltages return immediately after removal of overload condition.



Voltage regulation

5 mV for a + or - 10 % AC input voltage variation.
10 mV for a maximum load change.

Temp. coefficient

0.03 % per °C maximum.

Ripple and noise

Maximum 0.1 mV r.m.s. or 0.5 mV peak to peak on the positive and on the negative output voltage.

Output impedance

Maximum 100 milli-ohms for load variations up to 100 kHz.

Recovery time

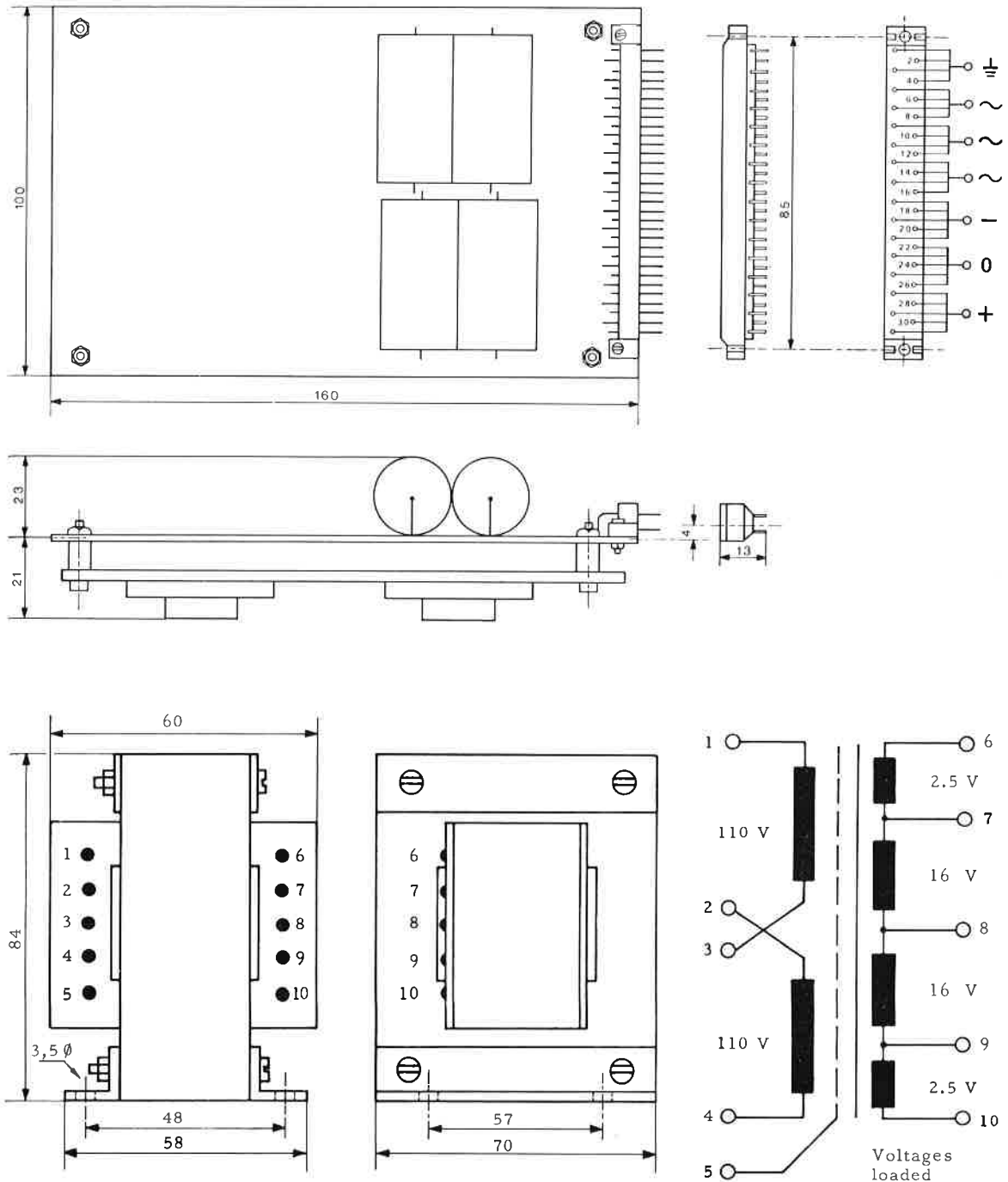
10 micro-sec. for recovery to within 30 mV of steady state voltage, after a step load change from 10 % to 100 %.

Ambient temp.

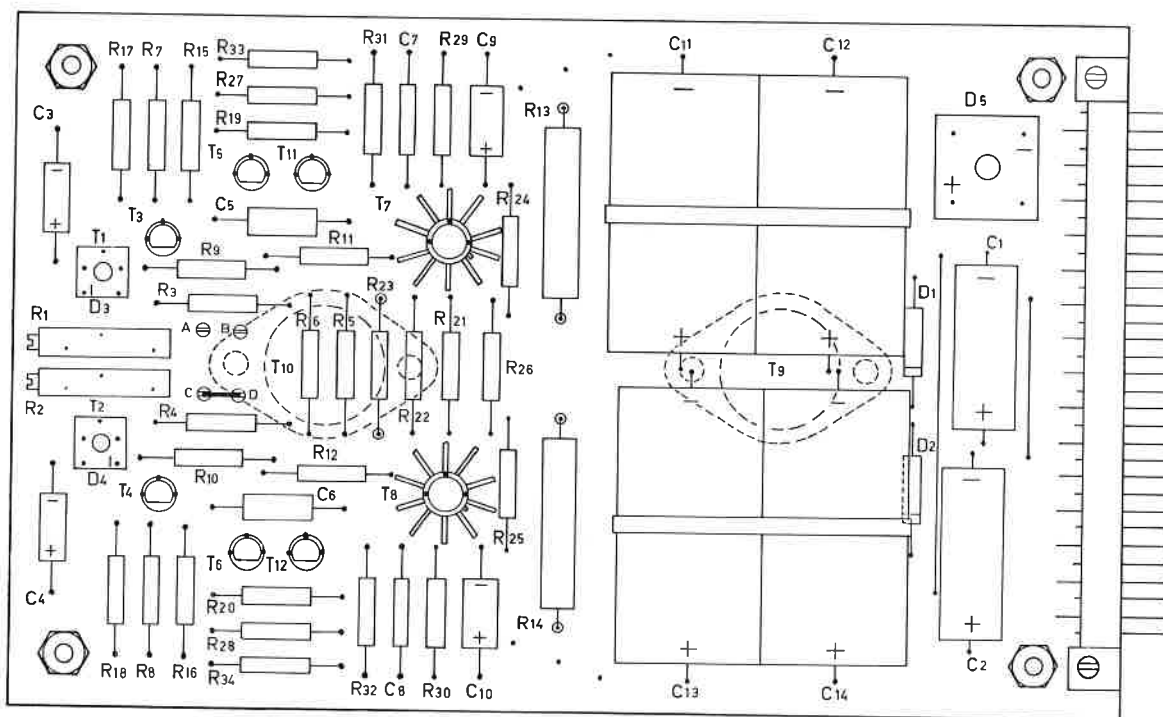
- 20 to + 50 °C at full load and nominal input voltage.

Dimensions and weight

100 x 160 x 45 mm
0.4 kgs



Transformer T 151 D for power supply C 15-1 D



R 1 = negative voltage adjustment
 R 2 = positive voltage adjustment

For + and - 12 V output: Remove connection C-D and connect A-B.
 Input voltage 32 V AC with center tap
 (7-8-9 on T 151 D)

For + and - 15 V output: Remove connection A-B and connect C-D.
 Input voltage 37 V AC with center tap
 (6-8-10 on T 151 D)

R (Ohm)

1 = 200	var.
2 = 200	var.
3 = 470	MF
4 = 470	MF
5 = CR	MF
6 = CR	MF
7 = 1	k
8 = 1	k
9 = 1.5	k
10 = 1.5	k
11 = 680	
12 = 680	
13 = 1.8	WW
14 = 1.8	WW
15 = 47	
16 = 47	
17 = 1	k
18 = 1	k
19 = 1	k MF
20 = 1	k MF
21 = 82	k
22 = 22	k MF
23 = CR	
24 = 2.7	k
25 = 2.7	k

26 = 6.8	k
27 = 47	k
28 = 47	k
29 = 47	
30 = 47	
31 = 390	
32 = 39	
33 = 680	
34 = 680	

T

1 = BC 212	TI
2 = BC 182	TI
3 = BC 212	TI
4 = BC 182	TI
5 = BC 212	TI
6 = BC 182	TI
7 = 2N3053	RCA
8 = 2N4037	RCA
9 = 2N3055	RCA
10 = 2N4901	Motorola
11 = BC 182	TI
12 = BC 212	TI

C (microfarad)

1 = 250	25 V
2 = 250	25 V
3 = 10	35 V
4 = 10	35 V
5 = 0.047	250 V
6 = 0.047	250 V
7 = 0.0033	250 V
8 = 0.01	250 V
9 = 25	15 V
10 = 25	15 V
11 = 1000	35 V
12 = 1000	35 V
13 = 1000	35 V
14 = 1000	35 V

D

1 = TS 1	DI
2 = TS 1	DI
3 = ZP 6.2	ITT
4 = ZP 6.2	ITT
5 = W 613	Varo

CR = Calibration resistor
 MF = Metalfilm resistor 1/2 W 2 %

WW = Wire wound resistor 5 W 5 %
 All other resistors carbon 1/2W 5 %

