

DELTA ELEKTRONIKA BV



P.O. BOX 27
4300 AA ZIERIKZEE
NETHERLANDS
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**REGULATED
POWER SUPPLIES**

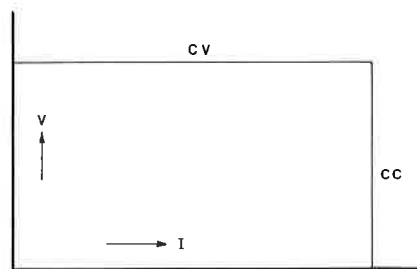
E 015-2	0- 15 V	0-2 A
E 030-1	0- 30 V	0-1 A
E 030-3	0- 30 V	0-3 A
E 060-0.6	0- 60 V	0-0.6 A
E 0300-0.1	0-300 V	0-0.1 A
E 018-0.6 D	± 0- 18 V	0.6 A

DESCRIPTION

E 015-2, E 030-1 and E 060-0.6

These power supplies are of the linear transistor series regulator type. They can be used as a constant voltage source with a sharply limited current, or as a constant current source with a sharply limited open voltage. Both limits are continuously variable from zero to full range. The change of mode occurs at the crossing of the voltage and current settings.

A ten-turn potentiometer is used to provide a high resolution voltage control. For current control a single turn potentiometer (resolution 0,1 %) is used to enable an approximate indication of the current setting.



E 030-3 and E 0300-0.1

These models also have a linear transistor series regulator which however is preceded by an SCR pre-regulator for better efficiency.

This pre-regulator keeps the rectified voltage in accordance with the output voltage to keep dissipation in the power transistors low.

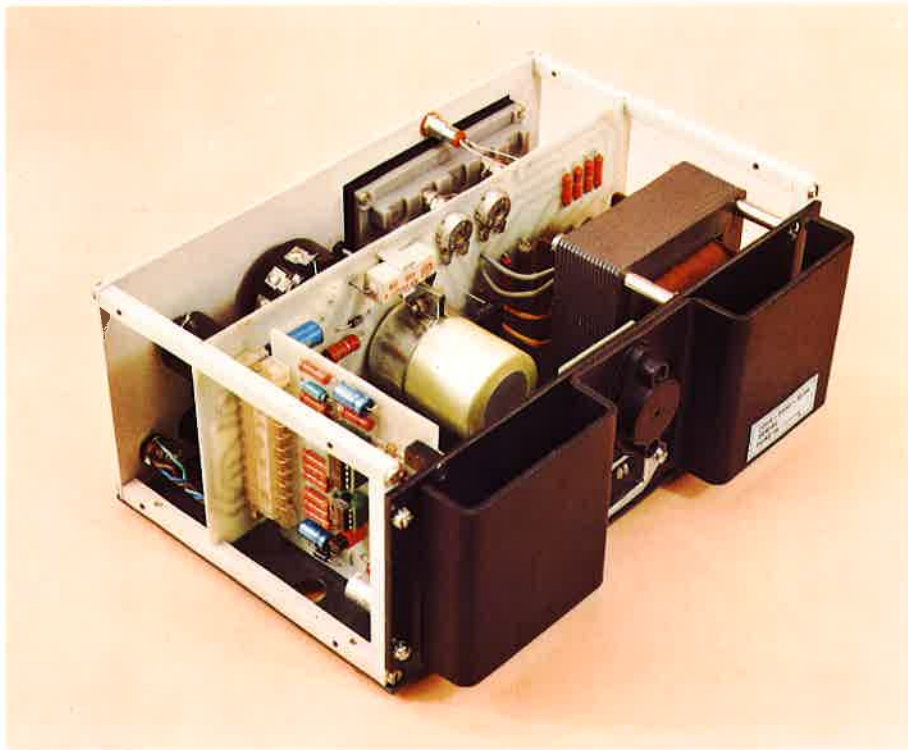
E 018-0.6 D

This model was designed to supply plus and minus 15 volts for design work with operational amplifiers. It provides a plus 0–18 V and a minus 0–18 V which are tracking and can be varied with one ten-turn potentiometer. With the second potentiometer the ratio of the positive and negative voltage can be varied between $\frac{1}{2}$ and 2. The positive and negative outputs have coupled overload protection circuits. This means that both output voltages will decrease proportionally if one is overloaded. Also if one output is short circuited, both outputs will drop to zero. The E 018-0.6 D has a fixed constant current overload characteristic. Independent of the ratio setting, the positive and negative output can never exceed a limit of about 18,5 V.

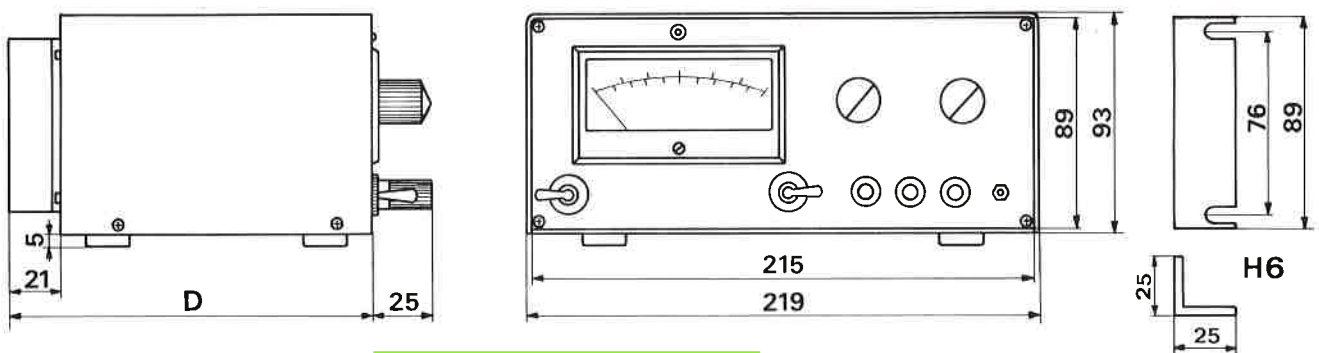
SPECIFICATIONS

Input voltage	220 V 50 Hz standard. Other input voltages at special order.
Input-output isolation	1500 V AC rms 1 minute (VDE 0550).
Max. voltage between output and case	500 V DC.
Max. ambient temperature	45°C.
Meter	Accuracy 1.5 % of fsd, selector switch for voltage and current measurement.
Parallel and series connection	Units can be connected parallel and in series. Series connection up to 300 V.
Weight and size	2.8 kg 219 x 93 x 154 mm 30 Watts type. 5.7 kg 219 x 93 x 222 mm E 030-3

SPECIFICATIONS	E 015-2	E 030-1	E 030-3	E 060-0.6	E 0300-0.1	E 018-0.6 D
CONSTANT VOLTAGE MODE Line regulation for 198–242 V variation Load regulation for 0–100 % variation. Temp. coefficient per °C (% of V max) Drift per 8 hours under constant conditions after 15 minutes warm up Ripple voltage, rms Output impedance at 100 kHz load frequency Recovery time to within 30 mV after a step load change from 10 to 100 % Remote programming of output voltage by resistance	1 mV	2 mV	2 mV	4 mV	10 mV	5 mV
	2 mV	4 mV	4 mV	8 mV	20 mV	5 mV
	0.01 %	0.01 %	0.01 %	0.01 %	0.01 %	0.01 %
	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %	0.1 %
	0.1 mV	0.1 mV	0.1 mV	0.1 mV	0.5 mV	0.1 mV
	100 mΩ	100 mΩ	100 mΩ	100 mΩ	10 Ω	100 mΩ
	15 μS	15 μS	15 μS	15 μS	30 μS	15 μS
	0–5 kΩ	0–5 kΩ	0–5 kΩ	0–10 kΩ	—	—
CONSTANT CURRENT MODE Line regulation for 198–242 V variation Load regulation for zero to max. load Temp. coefficient per °C (% of I max.) Ripple current rms	0.3 mA	0.3 mA	0.4 mA	0.3 mA	0.03 mA	—
	2 mA	2 mA	4 mA	2 mA	0.5 mA	—
	0.05 %	0.05 %	0.05 %	0.05 %	0.05 %	—
	0.1 mA	0.1 mA	0.1 mA	0.1 mA	0.1 mA	—



Simple construction and use of high quality components forms unique reliable unit.



For E 030-3 $D = 222$ mm, for all other models $D = 154$ mm.



Two uncased units can be mounted side by side and with the addition of two H6 brackets can be inserted in a 19" rack.

R = Ohm

1 = 560 1W

2 = 270

3 = CR

4 = 470

5 = 3,9 k

6 = 6,8 k

7 = 1,8 k

8 = 1 M

9 = 470

10 = 100

11 = 18 k

12 = CR

13 = 1 k

14 = 47

15 = 470

16 = 1 k

17 = 150 k

18 = CR

19 = 560

20 = CR

21 = CR

22 = 560 k

23 = 2,2 k

24 = 270 k

25 = 150 k

26 = 1,2 M

27 = 15 k

28 = 100

29 = 15 k

30 = 1 k

31 = 820

32 = 68 k

33 = 3,3 k

34 = 3,3 k

35 = 1,2 M

36 = 10 k

37 = 120

38 = 3,9 M

39 = 10 k

40 = 22 5W WW

41 = 1 k trim.

42 = 1,5 k

43 = 10 k trim.

44 = 330 k

45 = CR

46 = 15 M

47 = 5 k potm.

48 = 1 k 10 trn.potm.

49 = 5,6 k

50 = 100 k

51 = 100 k

52 = 100 k

T

1 = BC 182 TI

2 = BC 212 TI

3 = 2N3439 RCA

4 = 2N3439 RCA

5 = BU 132 Philips

6 = 2N3439 RCA

7 = BC 182 TI

C = microfarad

1 = 47 63 V

2 = 22 25 V

3 = 0,047 250 V

4 = 2,2 35 V tt

5 = CC

6 = 22 25 V

7 = CC

8 = 0,01 1000 V

9 = 100 450 V

10 = 220 40 V

11 = 220 40 V

12 = 0,047 250 V

13 = 10 40 V

14 = 0,22 630 V

15 = 0,001 750 V

16 = 0,001 750 V

17 = 0,22 630 V

18 = 4,7 350 V

19 = 0,01 500 V

20 = 0,01 500 V

21 = 0,07+2x2500 250 V

22 = 0,0001 250 V

23 = 0,0001 250 V

24 = 0,0001 250 V

D

1 = 1N4003 TI

2 = ZY 6,2 ITT

3 = 1N 825 ITT

4 = 1N4148 ITT

5 = 1N4148 ITT

6 = 1N4148 ITT

7 = 1N4148 ITT

8 = 1N4007 TI

9 = 1N4007 TI

10 = 1N4007 TI

11 = 1N4007 TI

12 = KB10-B80C1000 Hermann

13 = HS 64 S Hutson

14 = 2N6027 RCA

15 = ZP 6,2 ITT

16 = ZY 12 ITT

17 = ZY 82 ITT

18 = 1N4007 TI

19 = 1N4148 ITT

20 = 1N4148 ITT

21 = 1N4007 TI

22 = HS 64 S Hutson

IC

1 = SN 72741 P TI

2 = SN 72747 TI

CR = Calibration resistor.

CC = Calibration capacitor.

WW = Wire wound resistor.

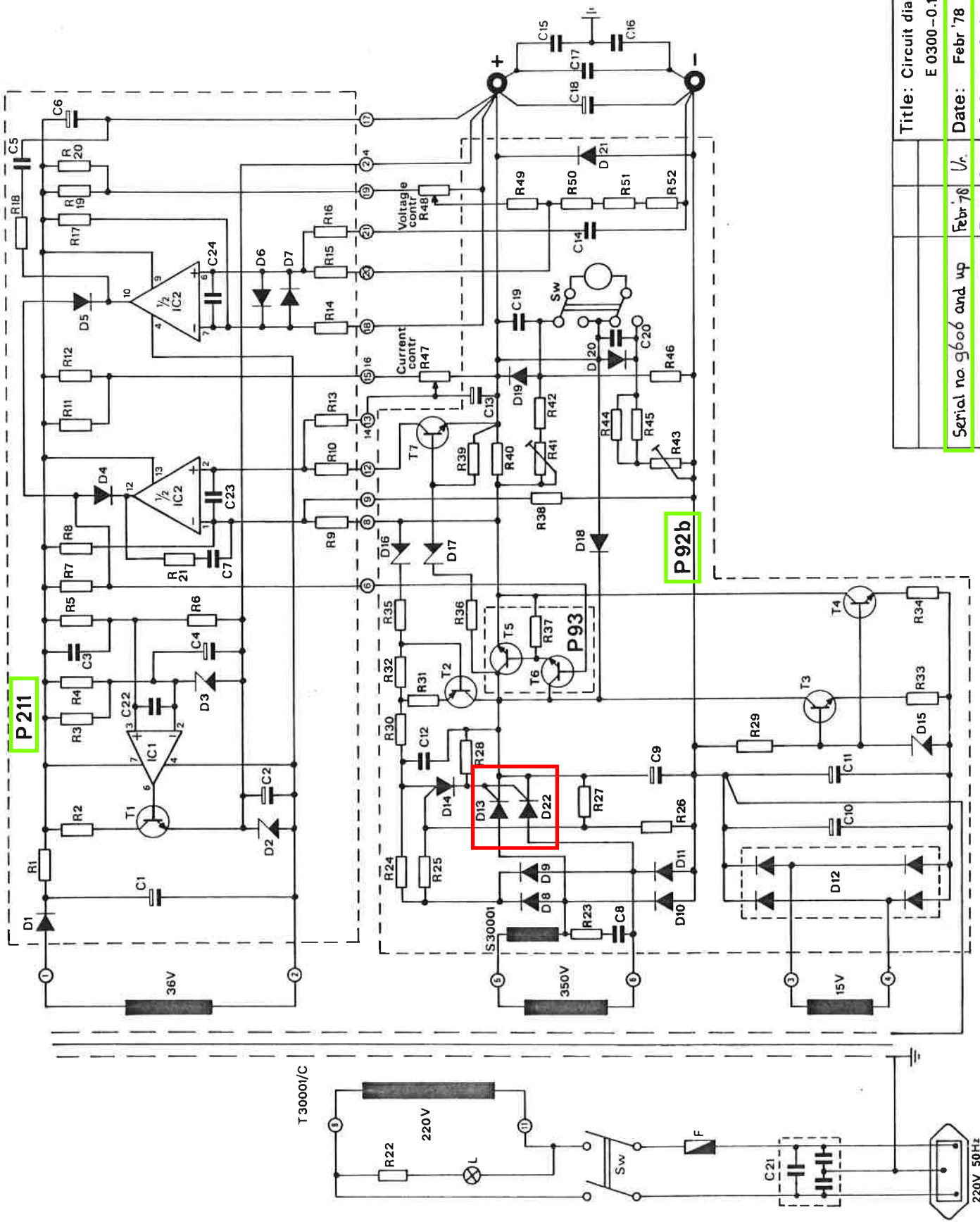
All other resistors 0,4 W 2% metal-film.

tt = tantalum.

F = Fuse 1 A 5 x 20 mm.

			Title: Part list
R14, R16	Aug '79	Ur	E 0300-0.1
Serial no. 9606 and up	Febr '78	Ur	Date: Febr '78
Modifications	Date	App.	delta elektronika bv

δ



Title: Circuit diagram E 0300-0.1		Serial no g606 and up Febr '78	
Date: Febr '78		Date: Febr '78	
App		App	
Modifications		Modifications	
delta elektronika bv		delta elektronika bv	

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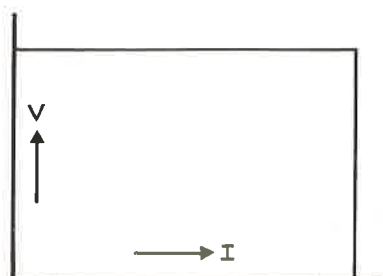


REGULATED POWER SUPPLY E 0300-0.1

0-300 V, 0-100 mA

DESCRIPTION

The power supply E 0300-0.1 can be used as a constant voltage source with a limited current or as a constant current source with a limited open voltage. The change of mode occurs sharply at the crossing of the voltage and current settings.



CONSTANT VOLTAGE OPERATION

- | | |
|---------------------------|--|
| Voltage control | 10-turn potentiometer, range 0-300 V. |
| Voltage regulation | 10 mV for a + or - 10 % AC input voltage variation.
60 mV for a 0-100 % load variation. |

Temp. coeff.	2.10 ⁻⁴ per °C from maximum output voltage.
Ripple voltage	0.5 mV r.m.s.
Output impedance	Maximum 10 Ohm up to 100 kHz.
Recovery time	30 micro seconds for recovery to within the load regulation specifications after a step load change from 10 % to 100 %.

CONSTANT CURRENT OPERATION

Current control	Single turn potentiometer, range 0-100 mA.
Current regulation	0.05 mA for a + or - 10 % AC input voltage variation. 0.5 mA for a maximum output voltage swing.
Temp. coeff.	5.10 ⁻⁴ per °C from maximum output current.
Ripple current	0.2 mA r.m.s.

REMAINING SPECIFICATIONS

Input voltage	220 V, 50 Hz. Other input voltages at special order.
Parallel and series connection	Special design enables parallel and series operation. For safety reasons not more than two units should be series connected.
Ambient temp.	- 20 to + 50 °C.
Meter	Meter with selector switch for voltage and current, accuracy 1.5 % f.s.
Finish	Light grey front panel with dark grey case.
Weight and size	2.8 kg 219 x 93 x 154 mm.

