

30 S 15 - 15
Serial D



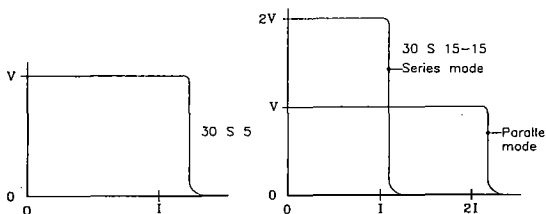
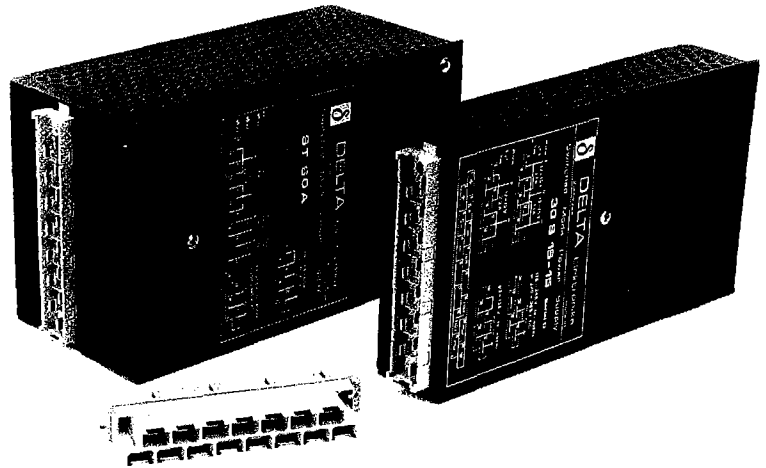
30 - 60 W EURO - CASSETTE SWITCHED MODE POWER SUPPLIES

According to DIN 41494 with connector H15 (DIN 41612) to fit into a 19" Eurocard rack.

30 S 5 5 - 6 V 6 A

30 S 15 - 15 12 - 15 V 2.2 A
or 24 - 30 V 1.1 A
or ±12 - 15 V 1.1 A

ST 60 A V1 5 V 6 A
 V2 12 or 15 V 1 A
 V3 12 or 15 V 1 A

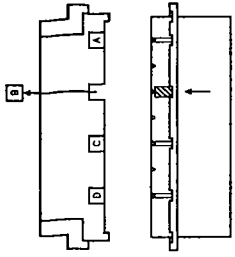


- Built-in OVP
- Thermoswitch protected
- Logic on / off (except ST60A)
- Remote sensing (except ST60A)
- Parallel operation (except ST60A)
- Series operation up to 250 V (except ST60A)

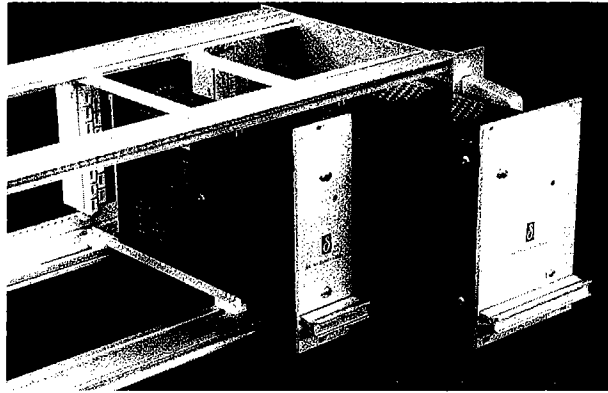
- The 3 outputs of the ST60A are isolated and independently regulated.
- Model 30S15-15 with 2 isolated outputs has the advantage that the 2 outputs can be connected in parallel or in series at the mating connector. Good regulation is obtained in both configurations by connecting the sense points to the total voltage.
- The link for 110 V input can be made at the mating connector without changing anything on the power supply itself.

Specifications:

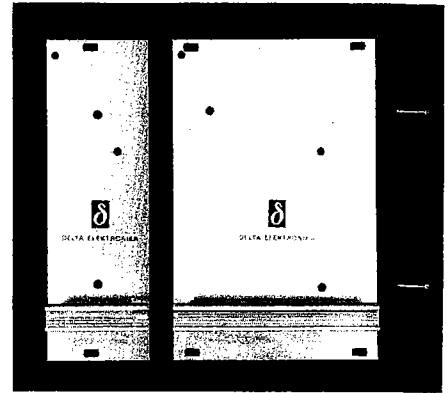
| | 30S5 and 30S15-15 | ST60A |
|-----------------------------------|--|--|
| Regulation | | |
| Load 0 - 100% | : 15 mV (used as single output) | V ₁ 20 mV; V ₂ and V ₃ 125 mV |
| Line 176 - 265 V AC | : 15 mV | V ₁ 15 mV, V ₂ and V ₃ 5 mV |
| Ripple + noise, p-p | : 20 mV at 5 V 30 mV at 15 V | 30 mV on all outputs |
| Temp. coeff., per °C | : 2.10 ⁻⁴ | 2.10 ⁻⁴ |
| Recovery time | | |
| 10 - 100% load step | : 0.5 ms | V ₁ 1 ms, V ₂ and V ₃ 0.1 ms |
| Input | : 176 - 265 V or 93 - 135 V 50 - 400 Hz or 250 - 365 V DC | 185 - 265 V or 98 - 135 V 50 - 400 Hz or 250 - 365 V DC |
| Insulation | | |
| Input / output | : 2500 Vrms (1 min.) | 2500 Vrms (1 min.) |
| Input / case | : 2500 Vrms (1 min.) | 2500 Vrms (1 min.) |
| Output / case | : 500 V DC | 500 V DC |
| Safety | : IEC 950, EN 60950 | IEC 950, EN 60950 |
| EMC | : EN 55011, IEC 801-2, -3, -4, -5 | EN 55011, IEC 801-2, -3, -4, -5 |
| RFI suppression | : VDE 0875 N-12dB on input | VDE 0875 N-12dB on input |
| Operating ambient temp. | : -20 to +50 °C | -20 to +50 °C |
| Hold-up time | : 40 ms at 220 VAC input | 40 ms at 220 VAC input |
| Delay caused by soft start | : 0.4 sec. | 1 sec. |
| Efficiency | : 81% at 15 and 30 V, 77% at 6 V | 72% |
| Weight | : 0.75 kgs | 1.4 kgs |



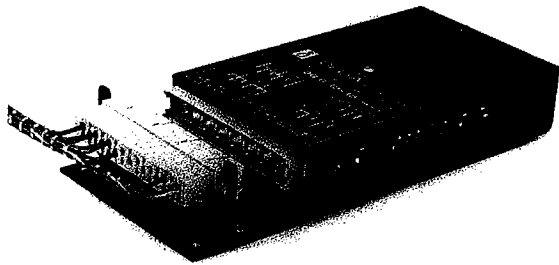
The H15 connector has coding wedges and notches (4 on each side)



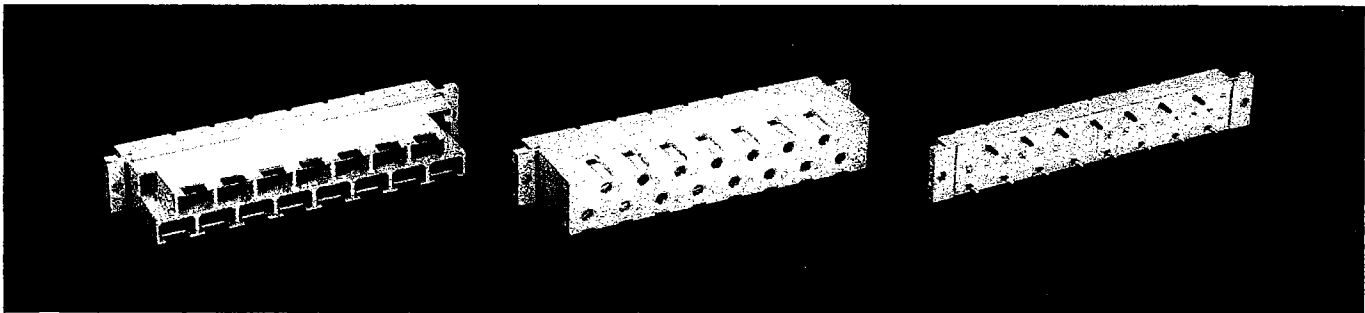
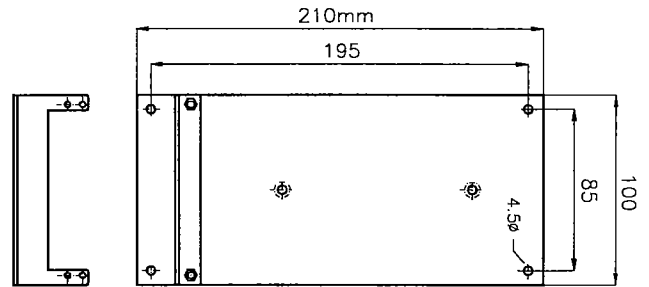
30S and ST60A with frontpanels 8TE and 16TE in Eurocard rack



Frontpanels 8TE and 16TE



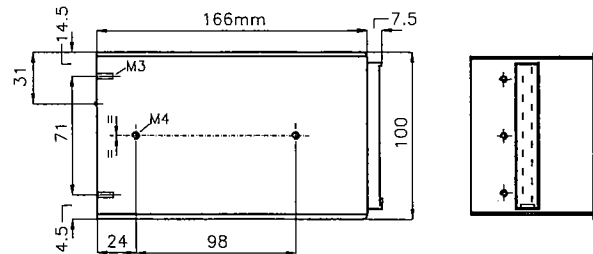
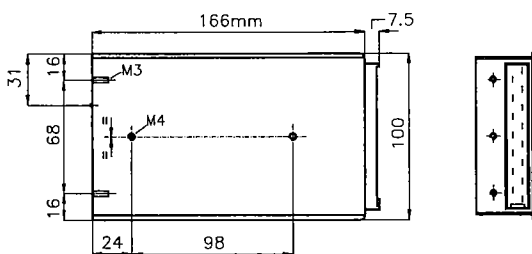
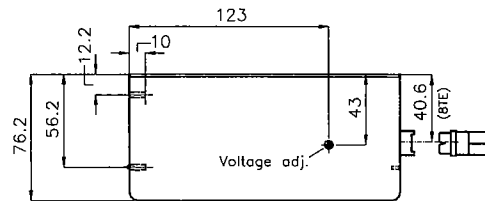
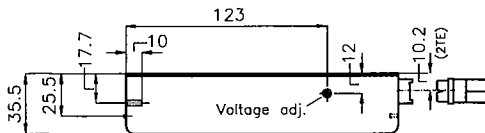
Adapter PA1 for panel mounting



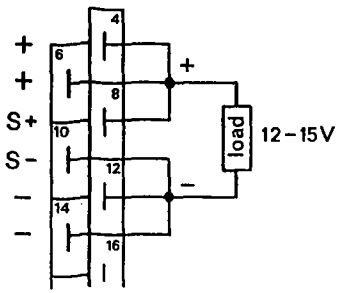
H15 with faston tabs 6.3 x 0.8 mm

with screw terminals

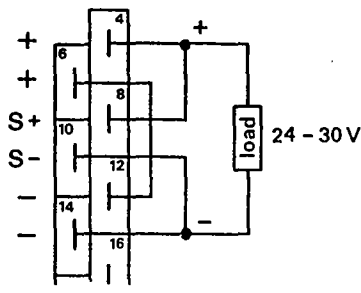
with solder pins



30S15-15 can be used in 4 different modes:



Parallel mode



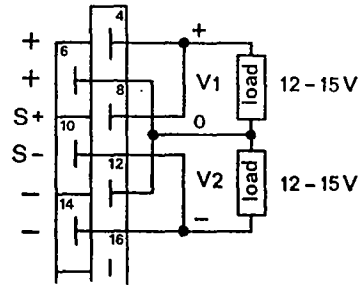
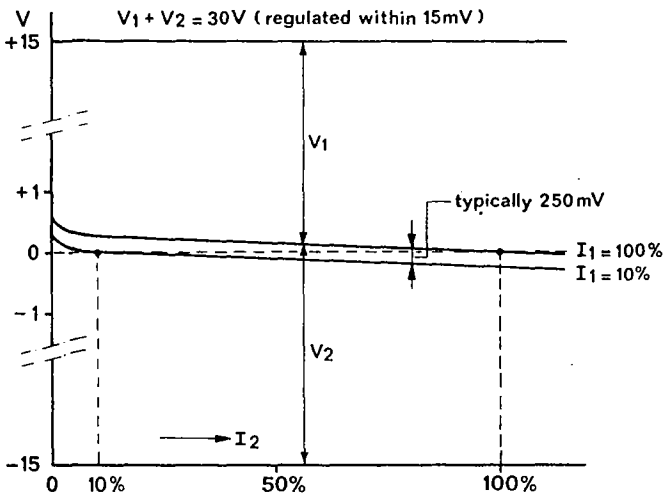
Series mode

Parallel and series mode

Turn the voltage adjustment about 15 turns up if previously used in parallel mode or down if previously used in series mode. The OVP will trip if the voltage adj. potentiometer is in a too high turned up position.

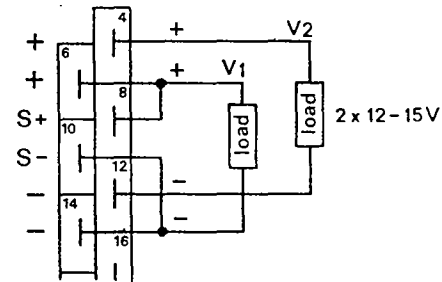
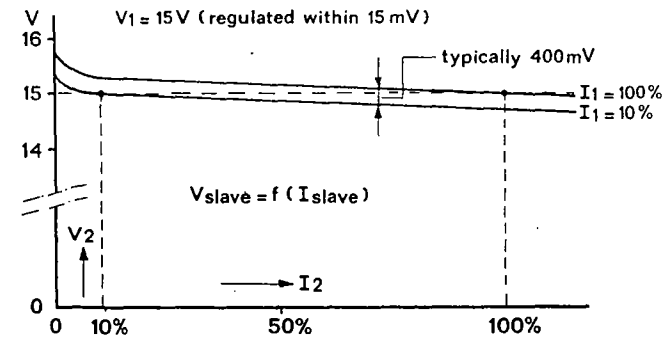
External voltage adjustment

Is possible with a variable resistor between S+ and +, with the internal adj. at zero.



Dual mode (Sensing on $V_1 + V_2$)

The total voltage $V_1 + V_2$ is regulated within 15 mV. Unequal loading of the + and - output causes a slight shift of the zero point.



Master and slave mode (Sensing on V_1)

Two isolated outputs (max. 100VDC between V_1 and V_2). The master output voltage is regulated within 15mV. The slave output varies slightly when the two outputs are loaded unequally.

Parallel operation

Units may be connected in parallel. To protect the internal fixed overvoltage protector, an external crowbar type OVP, set to 110%, can be connected across the load.

Inhibit

A logic 1 (+5V) between INH (pin 16) and S- (pin 10) shuts down the output.

R = Ohm

- 1 = 16 25 °C
(Keystone RL 450-10-73-S48)
- 2 = 150 k PRO2
- 3 = 150 k PRO2
- 4 = 47
- 5 = 100
- 6 = 1 k
- 7 = 4,7
- 8 = 1,5 k
- 9 = 10 k
- 10 = 10 k
- 11 = 10 k
- 12 = 10 k
- 13 = 10 k
- 14 = CR (10 k)
- 15 = 15 k
- 16 = 470
- 17 = 3,3 k
- 18 = 2,7 k
- 19 = 33 k
- 20 = 100
- 21 = 270
- 22 = 180
- 23 = -
- 24 = 470
- 25 = 100 potm.
- 26 = 220
- 27 = 330 DIK B35 Thomson
- 28 = 1,8 PRO2
- 29 = 2x 6,8 k PRO2
- 30 = 680
- 31 = 470
- 32 = 1,5 k
- 33 = 3,3 k
- 34 = 1,2 k
- 35 = 10 k potm.
- 36 = 22
- 37 = CR
- 38 = 220
- 39 = 100
- 40 = 3,3 k
- 41 = 10
- 42 = 560
- 43 = 150 k PRO2
- 44 = 100 k
- 45 = 47
- 46 = 47
- 47 = 220
- 48 = CR
- 49 = 4,7 k

MRS 25 = metal film 0,6 W 1%
 MK 3 = " " 0,6 W 1%
 PRO2 = " " 2,0 W 5%

CR = Calibration Resistor
 all non specified resistors
 are of type MRS 25.

C

- 1 = 150 nF 250 V X
 - 2 = 150 nF 250 V X
 - 3 = 2200 pF 400 V Y
 - 4 = 2200 pF 400 V Y
 - 5 = 100 µF 200 V
 - 6 = 100 µF 200 V
 - 7 = 47 µF 25 V
 - 8 = 10 nF 500 V
 - 9 = 1 nF 1000 V
 - 10 = 2,5 nF 250 V X
 - 11 = 100 nF 100 V
 - 12 = 220 µF 25 V
 - 13 = 220 µF 25 V
 - 14 = 100 nF 100 V
 - 15 = 100 nF 100 V
 - 16 = 220 nF 250 V X
 - 17 = 1000 pF 100 V
 - 18 = 220 pF 100 V
 - 19 = 220 pF 100 V
 - 20 = 10 nF 100 V
 - 21 = 330 nF 50 V
 - 22 = 330 nF 50 V
 - 23 = 1000 pF 100 V
 - 24 = 1 µF 40 V
 - 25 = 330 pF 1600 V
 - 26 = 0,47 µF 40 V
 - 27 = 2200 pF 160 V
 - 28 = 1 µF 40 V
 - 29 = 330 nF 100 V
 - 30 = 100 nF 100 V
 - 31 = 1 nF 1000 V
 - 32 = 100 nF 100 V
 - 33 = 220 µF 25 V
 - 34 = 220 µF 25 V
 - 35 = 100 nF 100 V
 - 36 = 100 nF 100 V
 - 37 = -
 - 38 = -
 - 39 = -
 - 40 = 2,2 µF 25 V
 - 41 = 15 pF 500 V
 - 42 = 220 nF 100 V
 - 43 = 0,47 µF 40 V
- Q = transistor
- 1 = 2 N 2222 A Sescosem
 - 2 = 2 N 2907 A Sescosem
 - 3 = 2 N 2907 A Sescosem
 - 4 = 2 N 2222 A Sescosem
 - 5 = BS 170 Philips
 - 6 = 2 N 2222 A Sescosem
 - 7 = BUX 84 Philips
 - 8 = 2 N 2907 A Sescosem

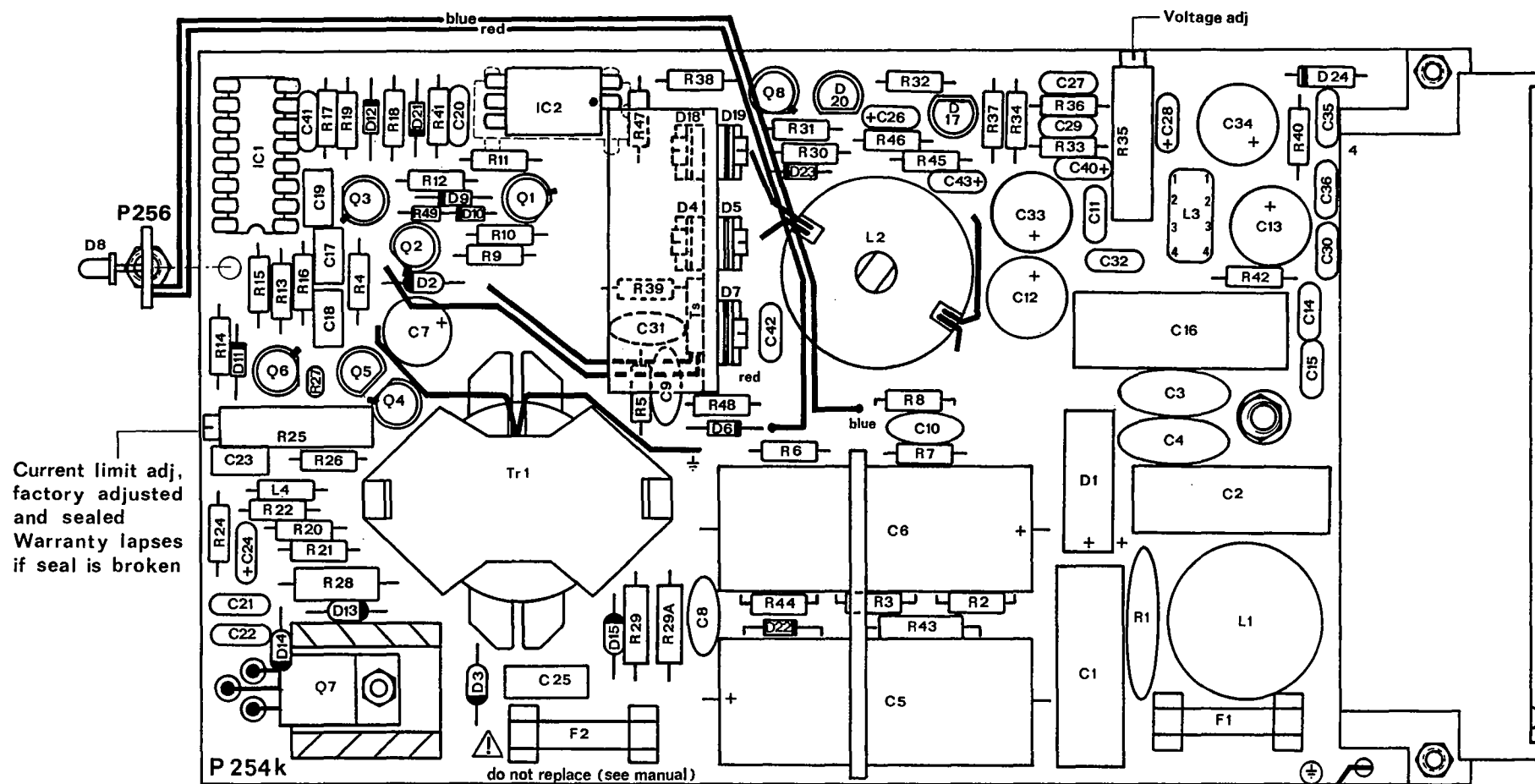
| | | | |
|--|-------|-----|-------------------|
| R ₄ , R ₁₇ = 10k | 7-89 | Vr. | Title: Part list |
| PRO2 | 3-91 | Vr. | |
| R ₄₈ , Q ₅ | 10-88 | Vr. | 30S15-15 serial D |
| R ₄₉ | 12-92 | Vr. | Date: 1-80 |

δ

| | | | | |
|------------------|----------|---------------------------|------------------|-------|
| D | | | L | |
| 1 = SKB2/08-L5A | Semikron | | 1 = 2 x 7 mH | ERO |
| 2 = BYV 26D | Philips | | (F 1753-250-124) | |
| 3 = BYV 26D | Philips | | 2 = Delta (L143) | |
| 4 = BYW 29 -150 | Philips | | 3 = Delta (L141) | |
| 5 = BYW 29 -150 | Philips | | 4 = 0,0047 mH | Secre |
| 6 = ZPY 18 | ITT | | | |
| 7 = BT 151/500 R | Philips | Tr | | |
| 8 = G 314 N4 | Philips | 1 = Delta (T138) | | |
| 9 = ZPD 5,6 | ITT | | | |
| 10 = ZPD 6,8 | ITT | IC | | |
| 11 = 1 N 4148 | TI | 1 = HEF 4049 BD | Philips | |
| 12 = 1 N 4148 | TI | 2 = TLP 580 | ITT | |
| 13 = BYV 26D | Philips | | | |
| 14 = BYV 26D | Philips | F | | |
| 15 = BYV 26D | Philips | 1 = 1 A slow | | |
| 16 = - | | 2 = 315 mA quick | | |
| 17 = TL 431 ILP | TI | Ts = Thermo switch | Uchiya | |
| 18 = BYW 29-150 | Philips | UP 62 80 °C 5% | | |
| 19 = BYW 29-150 | Philips | | | |
| 20 = TL 431 ILP | TI | | | |
| 21 = 1 N 4148 | TI | | | |
| 22 = ZPU 150 | ITT | | | |
| 23 = 1 N 4148 | TI | | | |
| 24 = 1 N 5818 | Mot. | | | |

| | | | |
|---------------|-------|----|-------------------|
| D2,3,13,14,15 | 7-86 | Vr | Title: Part list |
| P254g (IC2) | 2-86 | Vr | 30S15-15 serial D |
| D8 rd = grn. | 10-89 | Vr | Date: 1-80 |





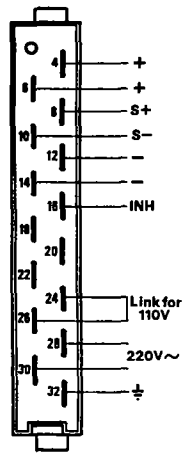
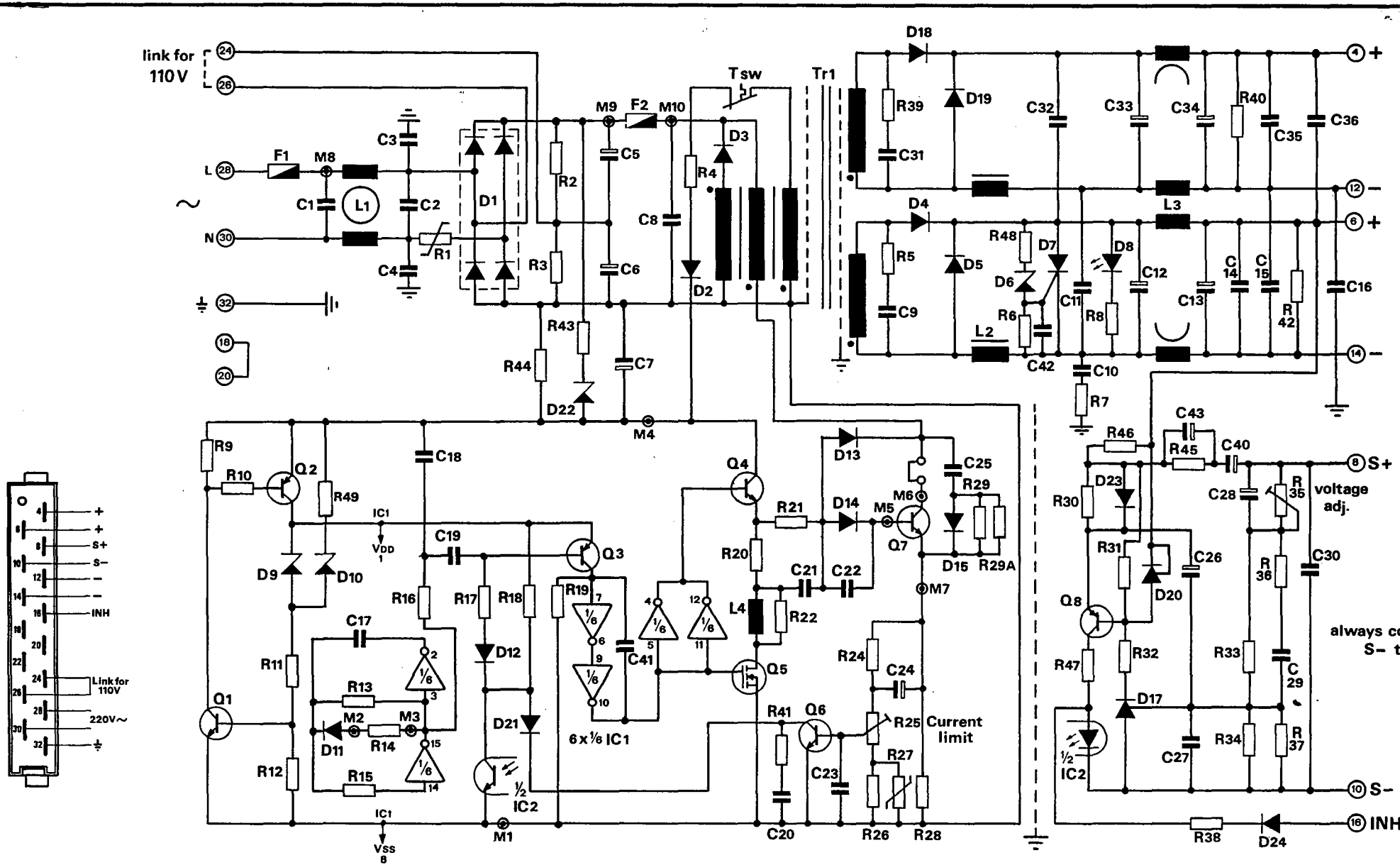
Current limit adj,
factory adjusted
and sealed
Warranty lapses
if seal is broken

P 254k

do not replace (see manual)

Do not replace F2
F2 blows when Q7 gets defective
In that case replacement of F2 can
also damage other components

| | | | |
|-----------------|-------|-----|-------------------|
| | | | Title: |
| Rug | 12-90 | Vr | 30S15-15 serial D |
| P254k (R48, Q5) | 10-88 | Vr | Date: 1-'80 |
| Modifications | Date | App | delta elektronik |



Logic inhibit function: Logic 1 between INH (pin 16) and S- (pin 10) inhibits output

Logic 0 between INH (pin 16) and S- (pin 10) enables output

| | | | |
|-----------------|-------|-----|-------------------|
| | | | Title: |
| Rug | 12-90 | Vr | 30S15-15 serial D |
| P254k (R48, Q5) | 10-88 | Vr. | Date: 1-'80 |
| Modifications | Date | App | delta elektronik |



EC Declaration of Conformity

We

Delta Elektronika
P.O. BOX 27
4300 AA Zierikzee
The Netherlands

declare under sole responsibility that the Power Supply

30S15-15

meets the intent of Directive 89/336/EEC for Electromagnetic Compatibility. Compliance was demonstrated to the following specification as listed in the official Journal of the European Communities:

EN 50081-1 Generic Emissions:

EN 55022 Radiated, Class B
EN 55022 Conducted, Class B
EN 60555-2 Power Harmonics

EN 50082-1 Generic Immunity:

| | | |
|-----------|-------------------------------------|-------------------------|
| IEC 801-2 | Electrostatic Discharge | Level 3, air discharge. |
| IEC 801-3 | Radiated electromagnetic fields | Level 3. |
| IEC 801-4 | Electrical Fast Transients / Bursts | Level 4. |
| IEC 801-5 | Surge on DC output | Level 2. |
| IEC 801-5 | Surge on line input | Level 3. |