USER AND SERVICE MANUAL

PETH-40B3



Low Noise Power Supply

for Laboratory Use

±15V, 1000mA

Design: ***ETH*** Quantumoptics, frank@phys.ethz.ch

Manufactured by ELL

Printed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (write your location here) 24.08.2017

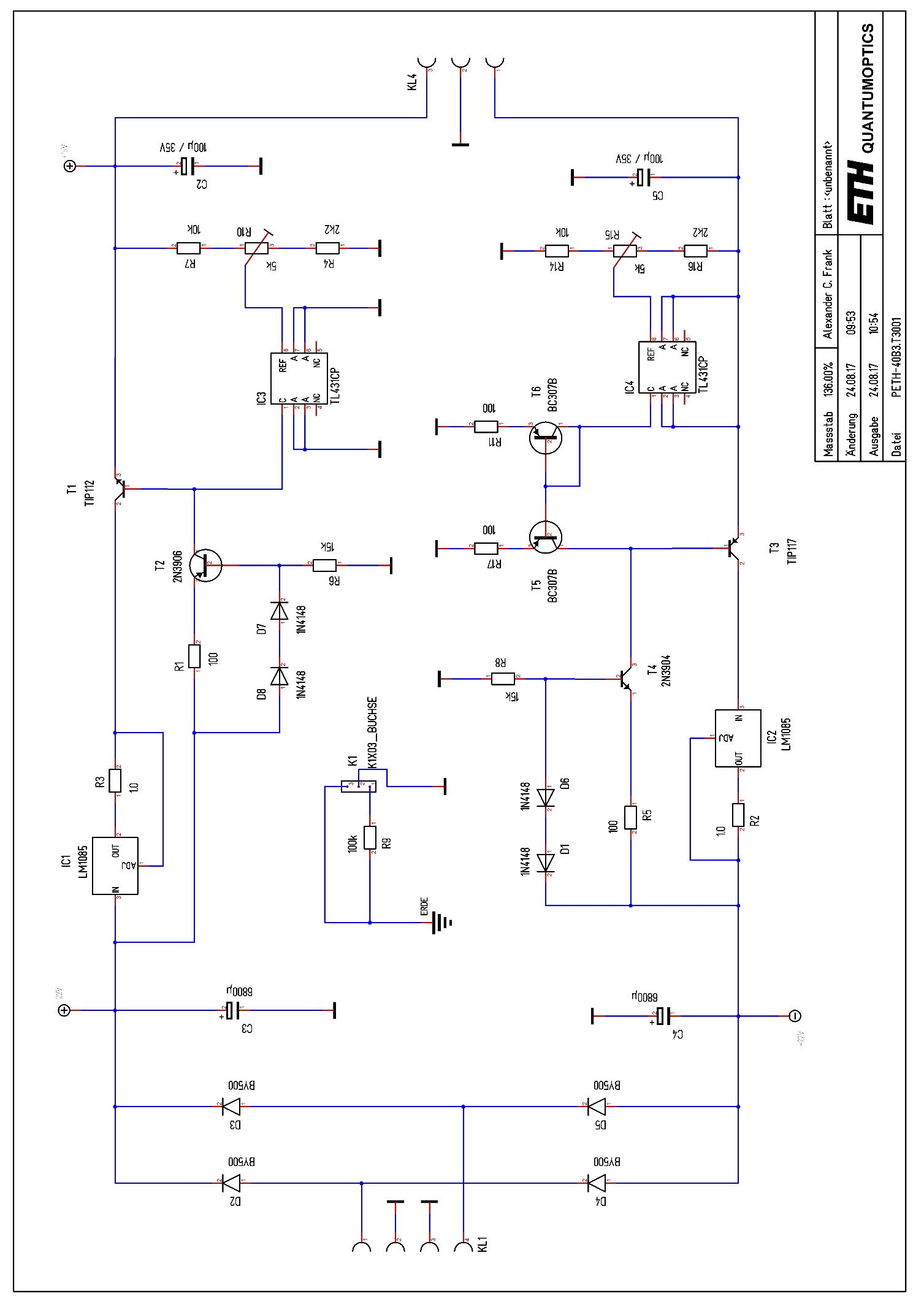
SAFETY WARNINGS

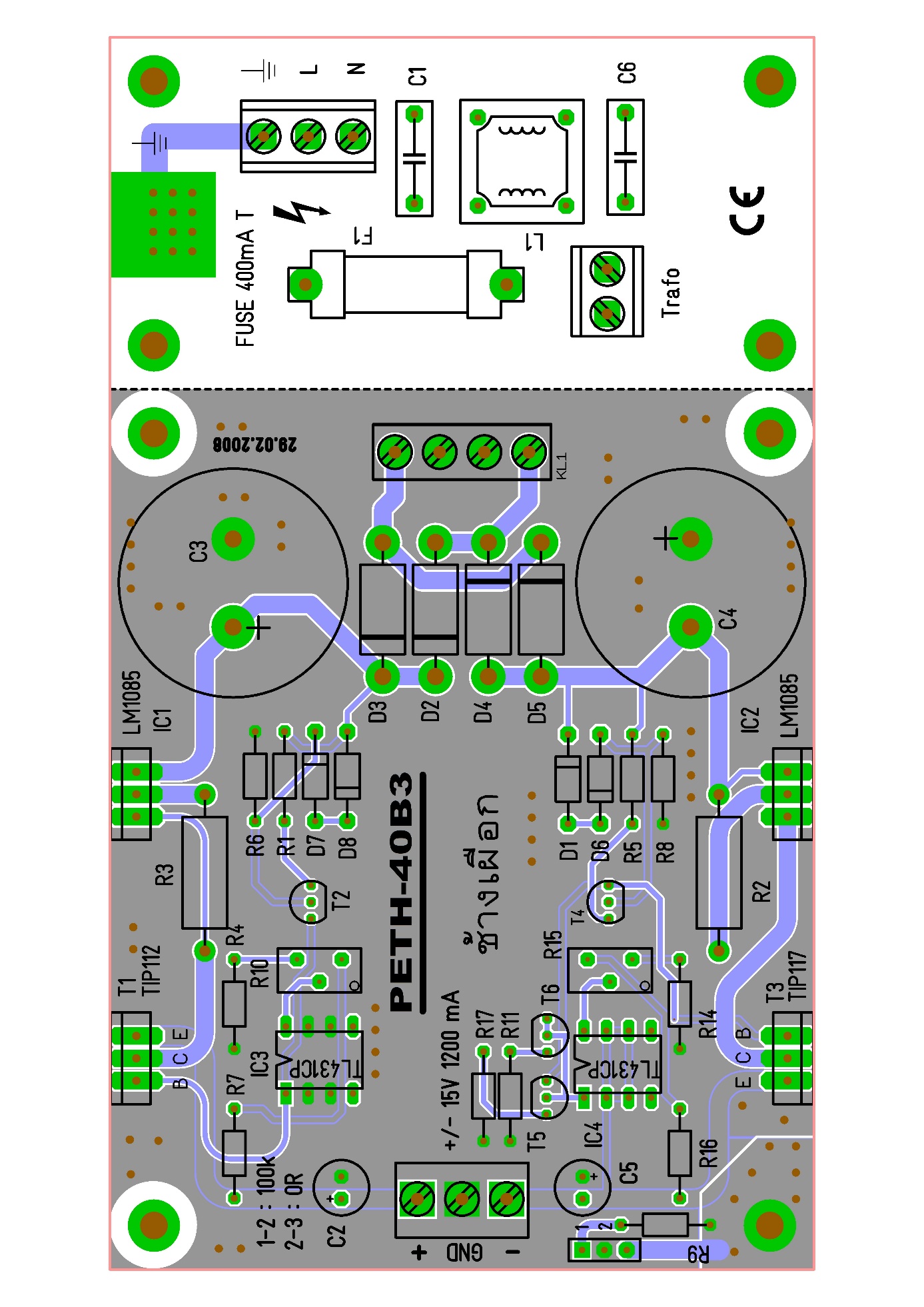
This device is cooled by convection. If you install it in a cabinet, make sure that the air circulation is sufficient.

This device is operated with 230 V. Make sure alle three lines are properly connected.

Replace fuse only with exact the same type. If fuse is black contact manufacturer.

If it seems that normal operation is not occurring, you must disconnect this device from the mains. Contact manufacturer for inspection.





BOM

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Pos** | **Name** | **Wert** | **Lieferant** | **Best.-Nr.:** |
| 1 | C1 | 10nF/275V | distrelec | 821268 |
| 2 | C2 | 100µ / 35V | B10 | 30377.4 |
| 3 | C3 | 6800µ / 35V | distrelec | 802034 |
| 4 | C4 | 6800µ / 35V | distrelec | 802034 |
| 5 | C5 | 100µ / 35V | B10 | 30377.4 |
| 6 | C6 | 10nF/275V | distrelec | 821268 |
| 7 | D1 | 1N4148 | B10 | 30002.2 |
| 8 | D2 | BY500 | distrelec | 170-00-025 |
| 9 | D3 | BY500 | distrelec | 170-00-025 |
| 10 | D4 | BY500 | distrelec | 170-00-025 |
| 11 | D5 | BY500 | distrelec | 170-00-025 |
| 12 | D6 | 1N4148 | B10 | 30002.2 |
| 13 | D7 | 1N4148 | B10 | 30002.2 |
| 14 | D8 | 1N4148 | B10 | 30002.2 |
| 15 | F1 | 400 mA T | B10 | 30073.11 |
| 16 |  | Halterung | distrelec | 271134 |
| 17 |  | Deckel | distrelec | 271138 |
| 18 |  | IC-Sockel | B10 | 30059.2 |
| 19 |  | IC-Sockel | B10 | 30059.2 |
| 20 | IC1 | LM1085/LM1086 | distrelec | 640710 |
| 21 | IC2 | LM1085/LM1086 | distrelec | 640710 |
| 22 | IC3 | TL431CP | distrelec | 649263 |
| 23 | IC4 | TL431CP | distrelec | 649263 |
| 24 | K1 | KLEMME 3POL | B10 | 30436.2 |
| 25 | KL1 | KLEMME 4POL | nicht | bestücken |
| 26 | KL3 | KLEMME 2POL | B10 | 30436.1 |
| 27 | KL4 | KLEMME 3POL | B10 | 30436.2 |
| 28 | KL5 | KLEMME3POL | B10 | 30436.2 |
| 29 | L1 | RN102-0.6/02 | distrelec | 351517 |
| 30 | R1 | 100 | B10 | 30379.48 |
| 31 | R2 | 1.0 | B10 | 30384.1 |
| 32 | R3 | 1.0 | B10 | 30384.1 |
| 33 | R4 | 2k2 | B10 | 30380.33 |
| 34 | R5 | 100 | B10 | 30379.48 |
| 35 | R6 | 15k | B10 | 30381.4 |
| 36 | R7 | 10k | B10 | 30380.49 |
| 37 | R8 | 15k | B10 | 30381.4 |
| 38 | R9 | 100k | B10 | 30381.24 |
| 39 | R10 | 5k | farnell | 64Y-502 |
| 40 | R11 | 100 | B10 | 30379.48 |
| 41 | R14 | 10k | B10 | 30380.49 |
| 42 | R15 | 5k | farnell | 64Y-502 |
| 43 | R16 | 2k2 | B10 | 30380.33 |
| 44 | R17 | 100 | B10 | 30379.48 |
| 45 | T1 | TIP112 | Reichelt | TIP 112 |
| 46 | T2 | 2N3906 | B10 | 30007.9 |
| 47 | T3 | TIP117 | Reichelt | TIP 117 |
| 48 | T4 | 2N3904 | B10 | 30007.4 |
| 49 | T5 | BC307B | B10 | 30007.9 |
| 50 | T6 | BC307B | B10 | 30007.9 |
| 51 |  | Montageprofil | B10 | 50x100x240 |
| 52 |  | Platine | Jack ? | PETH-40B3 |
| 53 | 4 Stück | Isolierscheibe | B10 | 30050.2 |
| 54 | Trafo 1 | Ringkerntrafo | Reichelt | RKT 5015/5018 |
| 55 | diverse | Schrauben | B10 | - |
|  |  |  |  |  |

NOTES

This device is designed to teach electronics by example. There are other ways (smaller BOM :-) to construct a linear Power Supply.

The GND (secondary) mayst be

* disconnected from EARTH (no jumper)
* connected via 100 kΩ (jumper left side)
* or connected via a short (jumper right side).

