

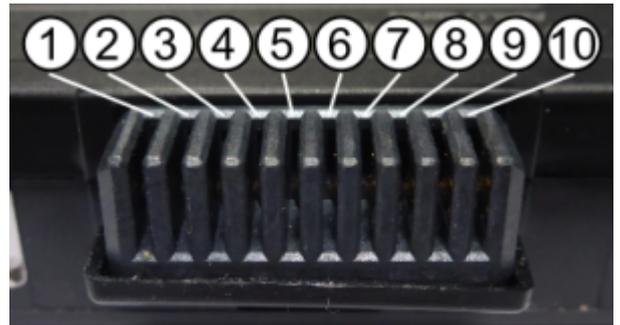
# Pinouts of Laptop/Notebook Batteries:

| Type  | Manuf.       | Notebook            | Remark                                     | Pin1 | Pin2  | Pin3       | Pin4          | Pin5        | Pin6 | Pin7   | Pin8  | Pin9 | Pin10 | Source   | Added  |        |
|---|--------------|---------------------|--|------|-------|------------|---------------|-------------|------|--------|-------|------|-------|--|--------|--------|
| 40001926  | ?            | ?                   |  |      |       | V+         |               |             |      |        |       |      | GND   | Hannes   | 160708 |        |
| 755-4S4000-S1S1   | ?            | ?                   | 14.8V 4Ah                                  | V+   | V+    | C          | D             | 300R to GND | GND  | GND    | X     | X    | X     | Hannes   | 190215 |        |
| BTP-34A1  | ?            | ?                   | 14.8V 4Ah                                  | GND  | empty | ?          | ?             | ?           | ?    | ?      | V+    | X    | X     | Hannes   | 170325 |        |
| BTP-S31   | ?            | ?                   | 10.8V 5.4Ah, Note2b?, stops charging >13V? | GND  | ?     | ?          | ?             | ?           | V+   | X      | X     | X    | X     | Hannes   | 171129 |        |
| AS07B41   | ACER         | ?                   | ?  | BAT+ | BAT+  | 10k Temp?  | SCL           | SDA         | GND  | GND    | x     | x    | x     | Florian  | 190809 |        |
| AS10B5E   | ACER         | ?                   | 11.1V 6Ah                                  | BAT+ | BAT+  | EN         | ?             | SCL         | SDA  | GND    | GND   | x    | x     | Florian  | 190809 |        |
| AS10D31   | ACER         | Travelmate 5740     | 10.8V 4.4Ah                                | BAT+ | BAT+  | EN         | TEMP          | SCL         | SDA  | GND    | GND   | x    | x     | Florian  | 190118 |        |
| GRAPE32   | ACER         | ?                   | 10.8V 4.4Ah; 11.1V 4.0Ah, Note2            | GND  | ?     | ?          | ?             | EN(GND)     | ?    | BAT+   | x     | x    | x     | Hannes   | 180325 |        |
| GRAPE34   | ACER         | ?                   | 14.8V 4.8Ah                                | GND  | SCL   | SDA        | ?             | EN(GND)     | ?    | BAT+   | x     | x    | x     | Florian  | 190617 |        |
| A1175   | Apple        | 15-inch MacBook Pro |  | GND  | ?     | ?          | ?             | ?           | BAT+ | x      | x     | x    | x     | Hannes   | 170210 |        |
| 7564 ?  | ASUS         | EeePC 4G-BK022      |  | GND  | +V    |            |               | EN          |      |        |       |      | GND   | <a href="http://nathandumont.com/">nathandumont.com/..</a> | 131205 |        |
| A32-K72   | ASUS         | ?                   | 10.8V 5.2Ah                                | GND  | GND   |            | EN 10k V+     |             |      |        | V+    | V+   |       | Wolfgang   | 150103 |        |
| A41-X550A   | ASUS         | R510L               | 14,4V 2,6Ah                                | GND  | GND   | GND        | SDA           | SCL         | ?    | ?      | V+    | V+   |       | Florian  | 190207 |        |
| 3R305   | DELL         | D500/D600           | Note2b                                     | GND  | GND   | ON/OFF     | ?             | GND         | SDA  | SCL    | V+    | V+   | X     | X laptop-junction.com/..                                   | 131203 |        |
| 75UYF   | DELL         | C510/C610 / C840    | Note2b                                     | GND  | NC    | Sys        | GND           | SDA         | SCL  | V+     | X     | X    | X     | Hannes   | 190424 |        |
|   | DELL         | E4300               | Note2b                                     | BAT- |       |            | /Ena          |             |      |        |       |      | V+    | X  | Hannes | 131203 |
|   | DELL         | Inspiron 6400/M70   | Note2b                                     | GND  | GND   | BAT_VOLT   | SYSPRES#(GND) | BAT_PRE#    | SDA  | SCL    | V+    | V+   | X     | Hannes   | 190424 |        |
| M5Y0X   | DELL         | Latitude E6430      | 11.1V 9Ah                                  | GND  | GND   | ?          | ?             | ?           | SDA  | SCL    | BAT+  | BAT+ |       | Florian  | 190524 |        |
| EM-G320L1   | Elitegroup   | ?                   | 14.8V 2.2Ah                                | V+   | empty | C          | D             | T           | GND  | GND    | X     | X    | X     | Hannes   | 170325 |        |
| 4UR18650F-2-5   | Fujitsu,u.a. | ?                   | 14.8V 3.2Ah                                | GND  | ?     | ?          | Ena           | ?           | V+   | X      | X     | X    |       | Hannes   | 170326 |        |
| 4UR18650F-2-QC-EF3  | Fujitsu      | ?                   | 14.8V 4Ah                                  | V+   | ?     | ?          | ?             | GND         | X    | X      | X     | X    |       | Hannes   | 170326 |        |
| 3S4400-*  | Fujitsu      | Amilo M1425         | Note2b?                                    | GND  | TEMP  | ?          | ?             | ?           | SMBD | SMBC   | ?     | ?    | V+    | Hannes   | 190424 |        |
| BP-8389   | Fujitsu      | Amilo K 7600        | 11.1V 6.0Ah                                | GND  | Key   | GND        | T             | D           | C    | V+     | V+    | X    | X     | Hannes   | 190410 |        |
| BTP-52EW  | Fujitsu      | ?                   | 14.8V 4.4Ah                                | V+   | V+    | Bus?       | Bus?          | temp?       | GND  | empty  | GND   |      |       | Wolfgang   | 160726 |        |
| FPCBP59   | Fujitsu      | ?                   |  | V+   | V+    | EN         | Bus?          | Bus?        | Bus? | temp?  | empty | GND  |       | Wolfgang   | 150103 |        |
| FPCBP331  | Fujitsu      | ?                   | 10.8V 4.4Ah                                | V+   | V+?   | ?          | ?             | SCL         | SDA  | TEMP?  | empty | GND  |       | Florian  | 190118 |        |
| FPCBP429  | Fujitsu      | ?                   | 10.8V 6,7Ah                                | V+   | ?     | ?          | EN(3,7V)      | SCL         | SDA  | EN(4V) | x     | GND  |       | Florian  | 190912 |        |
| SQU-809-F01   | Fujitsu      | ?                   | 11.1V 4.4Ah, Note1                         | GND  | ?     | ?          | ?             | ?           | ?    | V+     | X     | X    |       | Hannes   | 190329 |        |
| UN34AS1-S1  | Gericom      | ?                   | 11.1V 6Ah                                  | V+   | V+    | C          | D             | T           | GND  | GND    |       |      |       | Hannes   | 160721 |        |
| NC6120, 364602-001, 365750-001, 372772-001, 398854-001, HSTNN-C12C, PB994A, HSTNN-IB05, HSTNN-LB05, PB994, HSTNN-I03C, HSTNN-I05C | HP           | ?                   | 10.8V/7.8Ah                                | GND  | GND   | T          | C             | D           | V+   |        |       |      |       | Hannes   | 160709 |        |
| HSTNN-CB47  | HP           | ?                   | ?  | GND  | GND   | 10k Temp?  | ?             | SDA         | SCL  | BAT+   | BAT+  | X    | X     | Florian  | 190809 |        |
| HSTNN-DB30  | HP           | ?                   | 10.8V/43Wh                                 | GND  | ?     | ?          | E             | ?           | V+   | X      | X     | X    | X     | Hannes   | 170405 |        |
| HSTNN-IB2P, 632427-001  | HP           | ?                   | 14.8V/83Wh                                 | BAT+ | BAT+  | SDA        | SCL           | ?           | GND  | GND    | GND   |      |       | Florian  | 190523 |        |
| HSTNN-UB73, 509459-001  | HP           | ?                   | 10.8V/55Wh                                 | GND  | GND   | 8,7k Temp? | ?             | SCL         | SDA  | BAT+   | BAT+  |      |       | Florian  | 190730 |        |
| 42T4504   | IBM Lenovo   | T60?                |  | V+   | V+    | Bus?       | Bus?          | temp?       | GND  | GND    |       |      |       | Wolfgang   | 150103 |        |
| 42T4649   | IBM Lenovo   | X200                | 10,8V/7,8Ah                                | V+   | V+    | SCL        | SDA           | temp?       | GND  | GND    |       |      |       | Florian  | 190207 |        |
| 42T4653   | IBM Lenovo   | ?                   | 10,8V/4,9Ah Note1                          | V+   | V+    | SCL        | SDA           | temp?       | GND  | GND    |       |      |       | Hannes   | 190606 |        |
| 42T4670   | IBM Lenovo   | ?                   |  | V+   | V+    | SCL        | SDA           | temp?       | GND  | GND    |       |      |       | Florian  | 190118 |        |
| 42T4694   | IBM Lenovo   | ?                   |  | V+   | V+    | Bus?       | Bus?          | temp?       | GND  | GND    |       |      |       | Wolfgang   | 150103 |        |
| 42T4879 52+   | IBM Lenovo   | X220T               |  | V+   | V+    | SCL        | SDA           | Temp (10k)  | GND  | GND    |       |      |       | Florian  | 190207 |        |
| 08K8039   | IBM Lenovo   | ?                   |  | GND  | temp? | Bus?       | Bus?          | V+          |      |        |       |      |       | Wolfgang   | 150103 |        |
| 02K6817   | IBM Lenovo   | ?                   |  | GND  | temp? | Bus?       | Bus?          | V+          |      |        |       |      |       | Wolfgang   | 150103 |        |
| 45N1001 70+   | Lenovo       | T430/530            | 10.8V/5,2Ah                                | V+   | V+    | SCL        | SDA           | Temp (10k)  | GND  | GND    |       |      |       | Florian  | 181211 |        |
| 45N1011 70++  | Lenovo       | T430/530/ W530      | 11.1V/8.4Ah                                | V+   | V+    | SCL        | SDA           | Temp (10k)  | GND  | GND    |       |      |       | Florian  | 181211 |        |

| Type       | Manuf.  | Notebook           | Remark                         | Pin1 | Pin2      | Pin3      | Pin4 | Pin5       | Pin6       | Pin7            | Pin8 | Pin9 | Pin10 | Source   | Added  |
|------------|---------|--------------------|--------------------------------|------|-----------|-----------|------|------------|------------|-----------------|------|------|-------|--|--------|
| 45N1775 68 | Lenovo  | T450s              | 11.1V/2.09Ah                   | V+   | V+        | SCL       | SDA  | Temp (10k) | GND        | GND             |      |      |       | Florian  | 190207 |
| BTP-C0BM   | MEDION  | ?                  | 11.1V/4.0Ah                    | GND  | 10k Temp? | ?         | SCL  | SDA        | BAT+       |                 |      |      |       | Florian  | 190822 |
| BTP-C2BM   | MEDION  | MD96850<br>MD96640 | 11.1V/7.8Ah                    | GND  |           |           |      |            | V+         |                 |      |      |       | Wolfgang   | 160726 |
| A32-A15    | MSI     | ?                  | 10,8V/4,4Ah                    | BAT+ | BAT+      | TEMP?     | SDA  | SCL        | EN         | EN              | GND  | GND  |       | Florian  | 190523 |
| BTY-L74    | MSI     | ?                  | 11.1V/4,4Ah                    | GND  | GND       | 10k Temp? | SDA? | SCL?       | EN         | EN              | BAT+ | BAT+ |       | Florian  | 190723 |
| PCGA-BP2NX | SONY    | ?                  | 14.8V/4Ah                      | V+   | empty     | ?         | ?    | ?          | ?          | /Ena(1k zu GND) | GND  | GND  | X     | Hannes   | 170325 |
|            | Toshiba | Satellite C675D    |                                | GND  | GND       | SCL       | SDA  | Temp?      | SysPresent | ?               | BAT+ | BAT+ |       | <a href="http://kuzyatech.com/">kuzyatech.com/..</a> | 131205 |
| PA2510U    | Toshiba | ?                  |                                | GND  |           |           |      |            |            | temp?           |      |      | V+    | Wolfgang   | 150103 |
| PA3107U    | Toshiba | Satellite Pro 4600 | ON: beide Zusatzpins verbinden | GND  |           |           |      |            |            | temp?           |      | V+   |       | Wolfgang   | 150103 |
| PA3534U    | Toshiba | ?                  | Note2b?                        | GND  | GND       | SCL       | SDA  | 10k Temp?  | /Ena       | ?               | ?    | V+   | X     | Hannes, Florian                                      | 190722 |

- Note1: Battery only starts charging when empty or discharging directly before charging.
- Note2: Needs single bus communication before charging.
- Note2b: Needs bus communication for charging (details unknown).
- Note3: Needs continuous bus communication every <30s for charging (for Dell: see details below).

Pinzuordnung: so wie der Akku in Laptop kommt und der Laptop dann aufm Tisch stehen würde, ist oben. Dann werden die Kontakte von links aufsteigend nummeriert.



## DELL-battery charge-enable:

DELL-Akkus müssen zur Aktivierung der Ladung mittels SMBUS-Kommunikation dazu motiviert werden.

- I2C-Adresse: 0x0B
- Daten: 0x00 0x0A 0x00

getestet mit:

- Type 4R084 (Aktivierungssequenz reicht einmal)
- Type 75UYF (Latitude C510/C610/C840 Akku) (Aktivierungssequenz reicht einmal)
- Type NT349 (Sequenz muss mindestens alle 30s wiederholt werden)
- Type U4873 (Precision M90)(Aktivierungssequenz reicht einmal)

## MSI BTY-L47 charge-enable:

Um den Akku zum Laden zu bewegen ist es notwendig, die Enable-Pins auf GND zu ziehen und an den SMBus Pins 3,3V (z.B. über 10k) anzulegen. Buskommunikation ist nicht nötig.

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