Serial Communication

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| --- | --- |
| Parameter | Format |
| Baud Rate | 115200 |
| Word Length | 8 (including Parity) |
| Parity | None |
| Stop Bits | 1 |

Monitor commands

|  |  |  |
| --- | --- | --- |
| **Command** | **Response** | **Explanation** |
| AT+OK? | OK |  |
| AT+OV? | A total list of all parameters (no AT structure) |  |
| AT+RC? | RC: <Reported remaining Capacity> | [Ah] |
| AT+RSC? | RC: <Reported State of Charge> | [%] |
| AT+TTE? | TTE: <Time tot empty> | [Seconds] |
| AT+TTF? | TTF: <Time tot Full> | [Seconds] |
| AT+CV1? | CV1: <voltage of cell 1> | CV1: +3.5906 [V] |
| AT+CV2? | CV2: <voltage of cell 2> |  |
| AT+CV3? | CV3: <voltage of cell 3> |  |
| AT+CV4? | CV4: <voltage of cell 4> |  |
| AT+CVT? | CVT: <voltage of total pack> | CVT: +14.3525 |
| AT+PC? | PC: <Current from system to battery (Pack Current)> | [A] |
| AT+TH1? | TH1: <temperature 1> | [°C] |
| AT+TH2? | TH2: <temperature 2> |  |
| AT+TH3? | TH3: <temperature 3> |  |
| AT+TH4? | TH4: <temperature 4> |  |
| AT+THD? | THD: <Die temperature> |  |
| AT+ST1? | ST1: <0xcontent status register> | [Hex value] Status 00h Alert status and chip status |
| AT+ST2? | ST2: <0xcontent status register> | Status2 B0h maintains status of hibernate mode |
| AT+ST3? | ST3: <0xcontent status register> | ProtStaus D9h Fault status of the protection functionality |
| AT+ST4? | ST4: <0xcontent status register> | ProAlrt Afh History of previous fault status of the protection functionality |
| AT+ST5? | ST5: <0xcontent status register> | CommStat 61h protection control and status of each page register |
| AT+ENPB | ENPB OK | Enable passive balancing |
| AT+DSPB | DSPB OK | Disable passive balancing |
| AT+RST | RESET OK: successful reset  Reset NOK: unsuccessful reset | Reset monitor IC |
| AT+INT | INT OK: successful init | Initialize monitor IC |

Charger commands

|  |  |  |
| --- | --- | --- |
| **Command** | **Response** | **Explanation** |
| AT+OK? | OK |  |
| AT+OV? | A total list of all parameters (no AT structure) |  |
| AT+RSIV | RSIV | Set input voltage to 4.736V |
| AT+RSMV | RSMV | Set max charge voltage to 16.768V |
| AT+INT | INT | Initialize chargecontroller |
| AT+RSTV | RSTV | Reset voltage |
| AT+RSTP | RSTP | Reset power |
| AT+CUR0 | CUR=0: OK | Set current to 0A |
| AT+CUR1 | CUR=1: OK | Set current to 0.128A |
| AT+CUR2 | CUR=2: OK | Set current to 0.256A |
| AT+CUR3 | CUR=3: OK | Set current to 0.512A |
| AT+CUR4 | CUR=4: OK | Set current to 1.024A |
| AT+CUR5 | CUR=5: OK | Set current to 2.048A |
| AT+CUR6 | CUR=6: OK | Set current to 4.096A |
| AT+CUR7 | CUR=7: OK | Set current to 8.192A |
| AT+CUR8 | CUR=8: OK | Set current to 12.288A |
| AT+CUR9 | CUR=9: OK | Set current to 14.336A |
| AT+CURA | CUR=A: OK | Set current to 16.256A |

Error Codes

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| --- | --- | --- |
| Parameter | Format | Description |
| AT\_UNDIFINED\_ERROR | 0 | We could not identify the error, but there is one… |
| AT\_WRONG\_VALUE | 1 | The supplied value is not supported, e.g. when enabling something only 0 and 1 are allowed |
| AT\_WRONG\_COMMAND | 2 | The supplied AT command is not recognized |