# ESP32-PoE-ISO, GPIO-Usage on FSEB

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| **port** | **FSEB-signal** | **FSEB-usage** | **ESP-usage** | **remark** |
| GPIO0 | FCON\_PWRBTNn | Low active FCON power button | Boot mode setting,  Used for flash programming | 3k pullup on FSEB and ESP-internal pullup (10k?),  pull down by BUT1 or ESP USB-UART bridge |
| GPIO1 | ESP\_GPIO1\_U0TXD | **ESP debug port** | ESP output,  (ESPs USB-UART-bridge input) | By FTDI cable or FSEB front panel USB-B conn.  1-8-1, 115200 Bd |
| GPIO2 | ESP\_GPIO2\_HS2\_DATA0  ESP\_SPI\_MOSI | FCON-SPI bus | Boot mode setting,  various | Pull down on ESP |
| GPIO3 | ESP\_GPIO3\_U0RXD | **ESP debug port** | ESP input,  (ESPs USB-UART-bridge output) | By FTDI cable or FSEB front panel USB-B conn.  1-8-1, 115200 Bd |
| GPIO4 | ESP\_GPIO4\_U1TXD  FCON\_SYS\_RESETn | FCON system-reset | various | Open drain buffer / inverter |
| GPIO5 | ESP\_GPIO5\_SPI\_CS  ESP\_SPI\_CSn | FCON-SPI bus | various | Low active |
| GPI39 | ESP\_GPI39  P48\_PWRGDn | +60V power switch, low active power good signal | High ohmig (divider 47k+100k) for ext. +5V measurement | 3k pullup |
| GPI36 | ESP\_GPI36\_U1RXD  FCON\_THRMTRIPn | Low active FCON thermal trip recognition | various | 3k pullup on FSEB and ESP-internal pullup 10k, |
| GPI35 | ESP\_GPI35  N48\_PWRGDn | -60V power switch, low active power good signal | High ohmig (divider 470k+470k) for battery measurement | 3k pullup |
| GPI34 | ESP\_GPI34\_BUT1  FCON\_PWR\_OK | Low active FCON power-ok signal | BUT1-readback | 10k pullup on ESP,  3k pullup on FSEB |
| GPIO33 | ESP\_GPIO33  ESP\_WP\_PON | **+/-60V power on/off**  +12V DC/DC has to be switched first to get +/-60V on! | various | Requires FSEB-signal HOT\_PLG\_GND = gnd,  Is OR-ed with panel power switch SW1, J3 |
| GPIO32 | ESP\_GPIO32  ESP\_P12V\_ON | **Local redundant +12V DC/DC power supplies, on/off** | various | Requires FSEB-signal HOT\_PLG\_GND = gnd,  Is OR-ed with panel power switch jumper J1 |
| GPIO16 | ESP\_GPIO16\_I2C-SCL  ESP\_I2C\_SCL | I2C bus clock | various | 2k2 pullup on ESP,  Monitoring ADCs readout |
| GPIO15 | ESP\_GPIO15\_HS2\_CMD  ESP\_SPI\_MISO | FCON-SPI bus | various | 10k pullup on ESP |
| GPIO14 | ESP\_GPIO14\_HS2\_CLK  ESP\_SPI\_CLK | FCON-SPI bus | various |  |
| GPIO13 | ESP\_GPIO13\_I2C-SDA  ESP\_I2C\_SDA | I2C bus data | various | 2k2 pullup on ESP,  Monitoring ADCs readout |