**NUCLEO-F746 to I/O BOARD**

**ST morpho C11**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CN11 odd** | | **NUCLEO (default)** | **I/O**  **BOARD** | **CN11 even** | | **NUCLEO (default)** | **I/O**  **BOARD** |
| **Pin** | **Pin Name** | **Pin Name** | **Pin Name** | **Pin** | **Pin Name** | **Pin Name** | **Pin Name** |
| 1 | PC10 |  | QUAD2A\_o | 2 | PC11 |  | QUAD2B\_o |
| 3 | PC12 |  | QUAD3A\_o | 4 | PD2 |  | QUAD3B\_o |
| 5 | VDD | VDD | NC | 6 | E5V | E5V | NC |
| 7 | BOOT0 | BOOT0 | NC | 8 | GND | GND | GND |
| 9 | PF6 |  |  | 10 | - | - | - |
| 11 | PF7 |  |  | 12 | IOREF | IOREF | NC |
| 13 | PA13 | SWD | NC | 14 | RESET | RESET | RST\_ARM\_i |
| 15 | PA14 | SWD | NC | 16 | +3V3 | +3V3 | +3V3 |
| 17 | PA15 |  |  | 18 | +5V | +5V | +5V |
| 19 | GND | GND | GND | 20 | GND | GND | GND |
| 21 | PB7 | LED2 \* | ENC3B\_i | 22 | GND | GND | GND |
| 23 | PC13 | BUTTON1 \* | NC | 24 | VIN | VIN | NC |
| 25 | PC14 | 32K CLK | NC | 26 | - | - | - |
| 27 | PC15 | 32K CLK | NC | 28 | PA0 | ST ZIO \* | ENC1A\_i |
| 29 | PH0 | OSC | NC | 30 | PA1 | RMII CLK \* | ENC1B\_i |
| 31 | PH1 | OSC | NC | 32 | PA4 |  | REM\_Y\_i |
| 33 | VBAT | VCC | NC | 34 | PB0 | LED1 \* | QUAD4A\_o |
| 35 | PC2 |  | MTR3\_FLT\_i | 36 | PC1 | RMII MDC \* | MTR2\_FLT\_i |
| 37 | PC3 |  | ESTOP\_i | 38 | PC0 |  | MTR1\_FLT\_i |
| 39 | PD4 |  |  | 40 | PD3 |  |  |
| 41 | PD5 |  |  | 42 | PG2 |  |  |
| 43 | PD6 |  |  | 44 | PG3 |  |  |
| 45 | PD7 |  |  | 46 | PE2 |  |  |
| 47 | PE3 |  |  | 48 | PE4 |  |  |
| 49 | GND | GND | NC | 50 | PE5 |  |  |
| 51 | PF1 | OSC | NC | 52 | PF2 |  |  |
| 53 | PF0 | OSC | NC | 54 | PF8 |  |  |
| 55 | PD1 |  |  | 56 | PF9 |  |  |
| 57 | PD0 |  |  | 58 | PG1 |  |  |
| 59 | PG0 |  |  | 60 | GND | GND | NC |
| 61 | PE1 |  |  | 62 | PE6 |  |  |
| 63 | PG9 |  |  | 64 | PG15 |  |  |
| 65 | PG12 |  |  | 66 | PG10 |  |  |
| 67 | - | - |  | 68 | PG13 | RMII TXDO \* |  |
| 69 | PD9 | USART3 RX | NC | 70 | PG11 | RMII TXEN \* |  |
| 71 | GND | GND | NC | 72 | GND | GND | NC |

**ST morpho C12**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **CN12 odd** | | **NUCLEO (default)** | **I/O**  **BOARD** | **CN12 even** | | **NUCLEO (default)** | **I/O**  **BOARD** |
| **Pin** | **Pin Name** | **Pin Name** | **Pin Name** | **Pin** | **Pin Name** | **Pin Name** | **Pin Name** |
| 1 | PC9 |  | MTR2\_EN\_o | 2 | PC8 |  | MTR1\_EN\_o |
| 3 | PB8 |  | ADDR\_i | 4 | PC6 |  | ENC2A\_i |
| 5 | PB9 |  | ADDR\_o | 6 | PC5 | RMII RXDI \* | MTR3\_EN\_o |
| 7 | AVDD | VDD | NC | 8 | U5V | U5V | NC |
| 9 | GND | GND | GND | 10 | PD8 | USART3 TX | NC |
| 11 | PA5 |  | REM\_X\_i | 12 | PA12 | USB DP \* | QUAD1B\_o |
| 13 | PA6 |  | REM\_SPEED\_i | 14 | PA11 | USB DM \* | QUAD1A\_o |
| 15 | PA7 | RMII RXDV \* | REM\_ON\_i | 16 | PB12 |  | REM\_Z\_i |
| 17 | PB6 |  | ENC3A\_i | 18 | PB11 |  |  |
| 19 | PC7 |  | ENC2B\_i | 20 | GND | GND | GND |
| 21 | PA9 | USB VBUS \* | TX\_o | 22 | PB2 | BOOT1 | NC |
| 23 | PA8 | USB SOF \* | TX\_EN\_o | 24 | PB1 |  | QUAD4B\_o |
| 25 | PB10 |  |  | 26 | PB15 |  | QUAD5B\_o |
| 27 | PB4 |  |  | 28 | PB14 | LED3 \* | QUAD5A\_o |
| 29 | PB5 |  |  | 30 | PB13 | RMII TXD1 \* |  |
| 31 | PB3 | SWO | NC | 32 | AGND | AGND | NC |
| 33 | PA10 | USB ID \* | RX\_i | 34 | PC4 | RMII RXD0 \* | IMAGE\_EN\_o |
| 35 | PA2 | RMII MDIO \* |  | 36 | PF5 |  |  |
| 37 | PA3 |  |  | 38 | PF4 |  |  |
| 39 | GND | GND | NC | 40 | PE8 |  |  |
| 41 | PD13 |  |  | 42 | PF10 |  |  |
| 43 | PD12 |  |  | 44 | PE7 |  |  |
| 45 | PD11 |  |  | 46 | PD14 |  |  |
| 47 | PE10 |  |  | 48 | PD15 |  |  |
| 49 | PE12 |  |  | 50 | PF14 |  |  |
| 51 | PE14 |  |  | 52 | PE9 |  |  |
| 53 | PE15 |  |  | 54 | GND | GND | NC |
| 55 | PE13 |  |  | 56 | PE11 |  |  |
| 57 | PF13 |  |  | 58 | PF3 |  |  |
| 59 | PF12 |  |  | 60 | PF15 |  |  |
| 61 | PG14 |  |  | 62 | PF11 |  |  |
| 63 | GND | GND | NC | 64 | PE0 |  |  |
| 65 | PD10 |  |  | 66 | PG8 |  |  |
| 67 | PG7 | USB GPIO \* |  | 68 | PG5 |  |  |
| 69 | PG4 |  |  | 70 | PG6 | USB GPIO \* |  |
| 71 | GND | GND | NC | 72 | GND | GND | NC |

1. I/O BOARD J4, J5 = NUCLEO CN11, C12 (PINS 1 – 38)
2. NC = No Connection. This pin is used by the NUCLEO-F746.
3. \* = There is a conflict with this pin between the NUCLEO-746 board and the I/O board. Remove Solder Bridges (SBxx) and Jumpers (JPx). See table.
4. BLANK = Undefined pin. Temporarily defined in reset state.
5. AGND is connected to DGND on the NUCLEO board