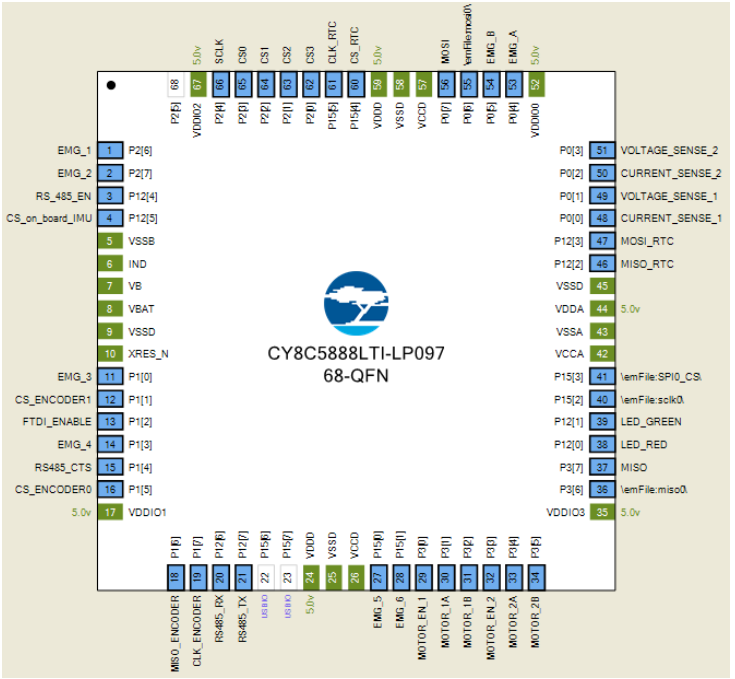
Logic Board PSOC5

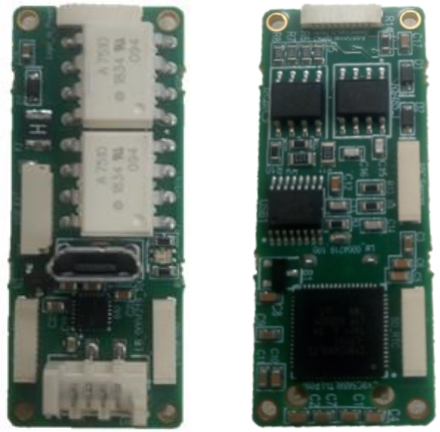


PSOC 5

FAMILY: PSOC5LP 68-pin
CPU Core: 32-bit Arm Cortex M3 (vs 8051 psoc3)
Max. operating frequency: 80 MHz
EEPROM size: 2 KB
FLASH size: 256 KB (vs 64 kb psoc3)
38 GPIOs (vs 25 GPIOs on psoc3)

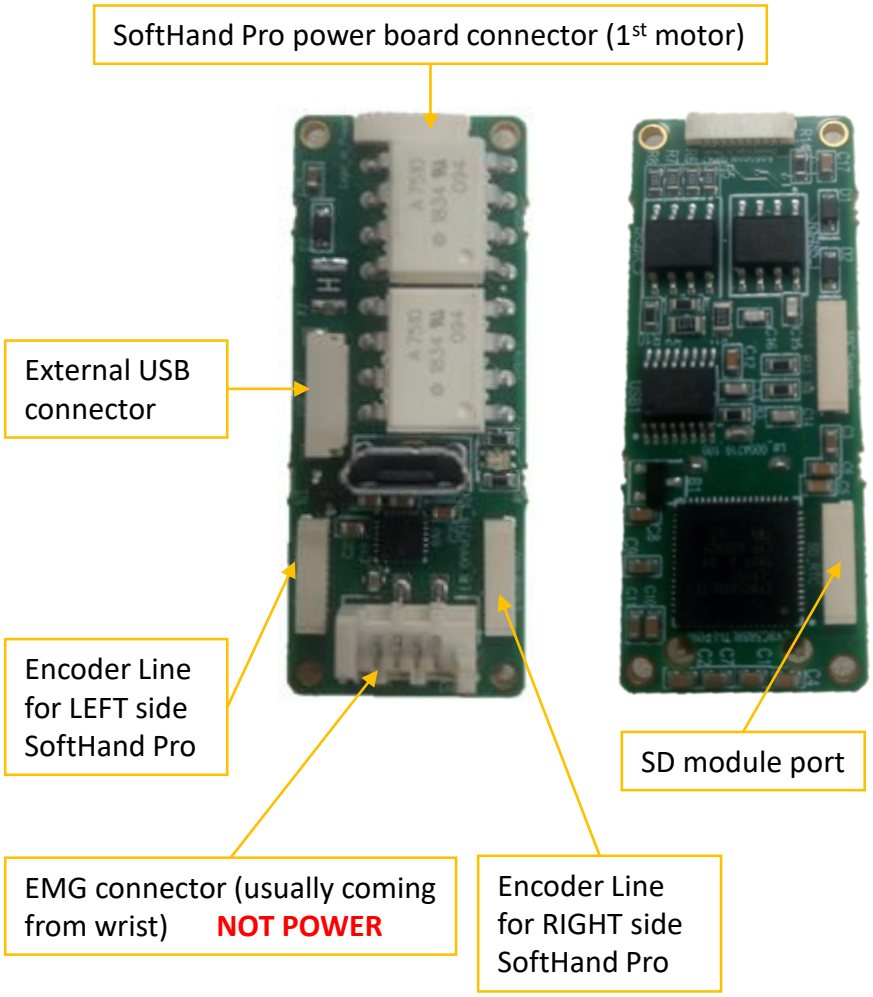
<u>Board connectors:</u>

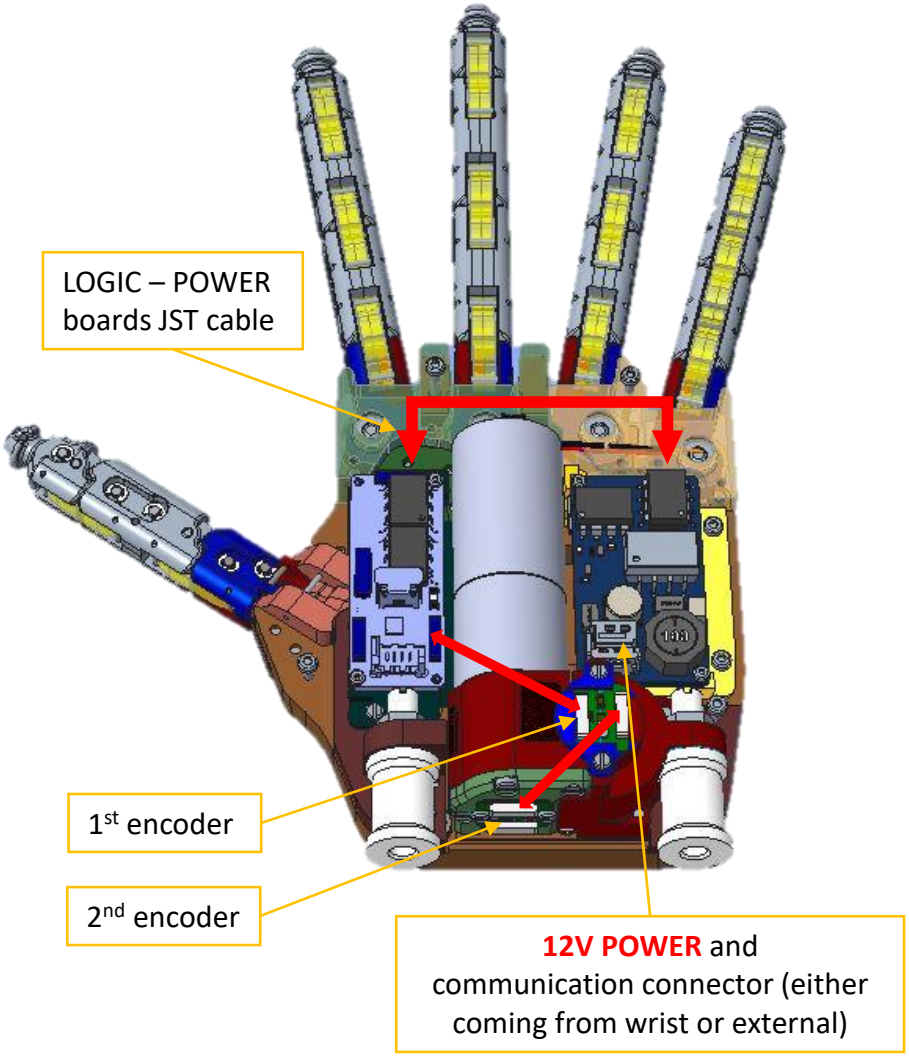
- Encoder-IMU 1 (Right Side)
- Encoder-IMU 2 (Left Side)
- SD-RTC module
- ADC port (for EMGs and analog sensors)
- Logic to Power (1st motor)
- Additional GPIO port (Logic to Power for 2nd motor)
- External USB support



SoftHand Pro firmware

Hardware configuration





Generic firmware

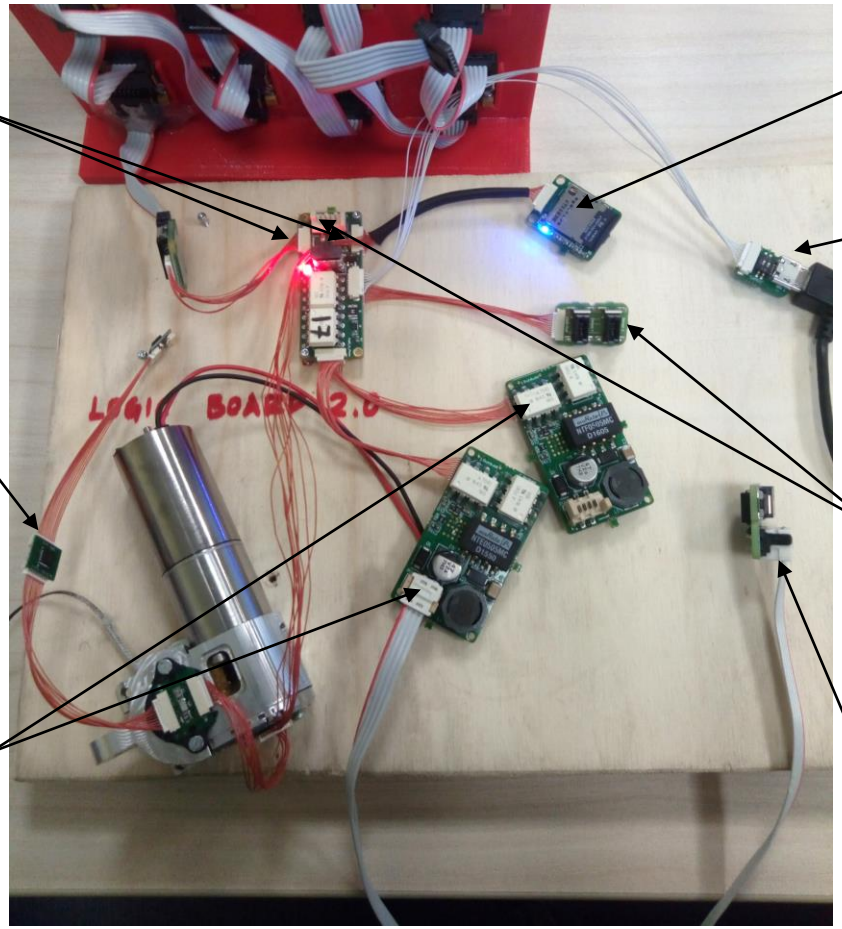
Hardware configuration

Generic firmware is intended for all the uses different from SoftHand Pro (e.g. other devices, 2 motors generic, …). It can handle configurations up to this shown in the figure

2 encoder lines
(can read up to 5 encoders for each line – max. of 10 encoders in total)

2 IMUs cascade at the end of each encoder line
(+ 1 on board IMU – totale of 5 IMUs)

2 power boards to control 2 motors with <u>independent</u> settings and powers (also 30A board with high power driver)



SD + Real time clock expansion functions

External USB port
(necessary to program PSoC)

8 ADC channels for generic analog sensors (6 additionals channels + 2 standard EMG through MOLEX connector)

Molex2ERNI interface
(new Junction board with protection diode, used to interface with ERNI power connector)