J3 J2 Voltage Supply GPIO GPI02/SDA1 GPI03/SCL1 GPI04/GPCLK0 PI_TX PI_RX GPI018/PCM.CLK GPI027 GPI022 GPI023 15 GPI024 17 18 GPI010/SPI0.MOSI 19 21 +5٧ + BATT GPI09/SPI0.MISO GPI025 GPI08/SPI0.CE0 GPI011/SPI0.SCLK GPI07/SPI0.CE1 Motor Controllers GPIO5 GPIO6 28 ID_SCL 29 31 GPI012/PWMQ GPI013/PWM1 33 12C_SDA GPI019/PCM.FS 35 GPI016 GPI026 37 GPI020/PCM.DIN I2C_SCL GPI021/PCM.DOUT

+5٧ Nano_TX RESET Nano_RX 1 D1/TX RESET 3 5 D2 ×6 D3 ×7 D4 ×8 D5 9 D6 Pull-up Resistor Values to be decided (0-10k if AREF 18 needed) 4.7k 4.7k I2C_SDA I2C_SCL Arduino_Nano Motor Control Hub Arduino to be connected via Serial USB to Raspberry Pi

Motor Controller Command Bridge: Control Relay passing instructions from Raspberry Pi to Slave Controllers

Raspberry Pi HAT header connector + Power Supply

R7, R8 : Mouser CR0402AJW-472GAS J2 : Digikey SFH11-PBPC-D20-ST-BK J3 : Digikey SFH11-PBPC-D05-ST-BK J4 : Digikey SBH11-PBPC-D07-ST-BK

Author: Ilyas Asmouki

V2.1 : - Header for Motor Controllers, socket for Power Supply V2.0 : - Motor Control Hub gets its own PCB

Update: Added Raspberry Pi Connector (to be mounted as HAT)

EPFL Xplore

Sheet: /

File: Motor Control Hub.kicad sch

Title: Motor Controller Hub		
Size: A4	Date: 2024-03-27	Rev: 2.1
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