StarCat OptoIsolator Shield

Pins not labeled are not connected (NC)

JP7 PWMH
SCL1 SDA1 AREF GND D13 D12 D11 D10 D9 D8

JP2 PWML
D7 D6 D5 D4 D3 D2 D1 D0

JP3 COMMUNICATION
D14 D15 D16 D17 D18 D19 D20 D21
TX2 RX2

JSP SPI
VCC-5V SPI0_MISO SPI0_SCK SPI0_MOSI RESET GND1

JP4
JP15 POWER
NOT USED IOREF RESET 3V3 5V GND GND VIN
VCC GND

JP6 ADCL
A0 A1 A2 A3 A4 A5 A6 A7

JP5 ADCH
A8 A9 A10 A11 DAC0 DAC1 CANRX CANTX

X10 Shield Connectors

Fiducials (for pick and place machines)

Configuration jumpers

INPUT_B1 PINHD-2X8 OPTO_OUT_B1
D38 D39 D40 D41 D42 D43 D44 D45

INPUT_B2 PINHD-2X8 OPTO_OUT_B2
D38 D39 D40 D41 D42 D43 D44 D45

INPUT_C1 PINHD-2X8 OPTO_OUT_C1
D38 D39 D40 D41 D42 D43 D44 D45

INPUT_C2 PINHD-2X8 OPTO_OUT_2C
D38 D39 D40 D41 D42 D43 D44 D45

Output_A1 PINHD-2X8 OPTO_IN_A1
D38 D39 D40 D41 D42 D43 D44 D45

Output_A2 PINHD-2X8 OPTO_IN_A2
D38 D39 D40 D41 D42 D43 D44 D45

Input (External to Arduino)

Arduino
External (noisy) system
Optoisolator

VCC R6 10K Q2 MMBT2222ALT3G OPTO_OUT_B1
VCC R5 10K Q1 MMBT2222ALT3G OPTO_OUT_B2
VCC R4 10K GND
VCC R2 10K
R1 220 IN_B1 U1 ILD213T
R3 220 IN_B2
JP8 M02_3.5MM EXT_GND_0

VCC R12 10K Q4 MMBT2222ALT3G OPTO_OUT_C1
VCC R11 10K Q3 MMBT2222ALT3G OPTO_OUT_C2
VCC R10 10K GND
VCC R8 10K
R7 220 IN_C1 U2 ILD213T
R9 220 IN_C2
JP1 M03_3.5MM EXT_GND_1

Output (Arduino to External)

Arduino
External (noisy) system
Optoisolator

R13 220 OPTO_IN_A1
R15 220 OPTO_IN_A2
U3 ILD213T GND
R14 10K
R16 10K Q5 MMBT2222ALT3G
R17 10K
R18 10K Q6 MMBT2222ALT3G
EXT_VCC
EXT_VCC
JP9 OUT_A1 M02_3.5MM
JP10 OUT_A2 M02_3.5MM
EXT_GND_2

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