8X24V INPUT 8XSSR TRIAC-20.0

RASPI

2/6

File: raspi.kicad_sch

PICO

3/6

File: pico.kicad_sch

CONNECTOR

4/6

File: connector.kicad_sch

INPUT

5/6

File: input.kicad_sch

OUTPUT

6/6

File: output.kicad_sch

According to OSHA https://www.oshwa.org/a-resolution-to-redefine-spi-signal-names/

New signal names:

SDO - Serial Data Out. An output signal on a device where data is sent out to another SPI device.
SDI - Serial Data In. An input signal on a device where data is received from another SPI device.
CS - Chip Select. Activated by the controller to initiate communication with a given peripheral.
PICO (peripheral in/controller out). For devices that can be either a controller or a peripheral; the signal on which the device sends output when acting as the controller, and receives input when acting as the peripheral.
POCI (peripheral out/controller in). For devices that can be either a controller or a peripheral; the signal on which the device receives input when acting as the controller, and sends output when acting as the peripheral.
SDIO - Serial Data In/Out. A bi-directional serial signal.

Deprecated signal names:

MOSI - Master Out Slave In
MISO - Master In Slave Out
SS - Slave Select
MOMI - Master Out Master In
SOSI - Slave Out Slave In

Signal names unchanged:

SCK - Serial Clock. The clock for the bus generated by the controller.

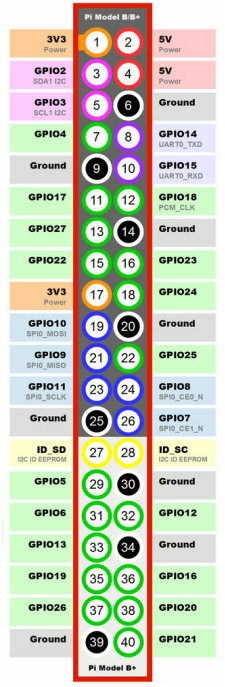
Sheet: /
File: M10DX02-20.kicad_sch

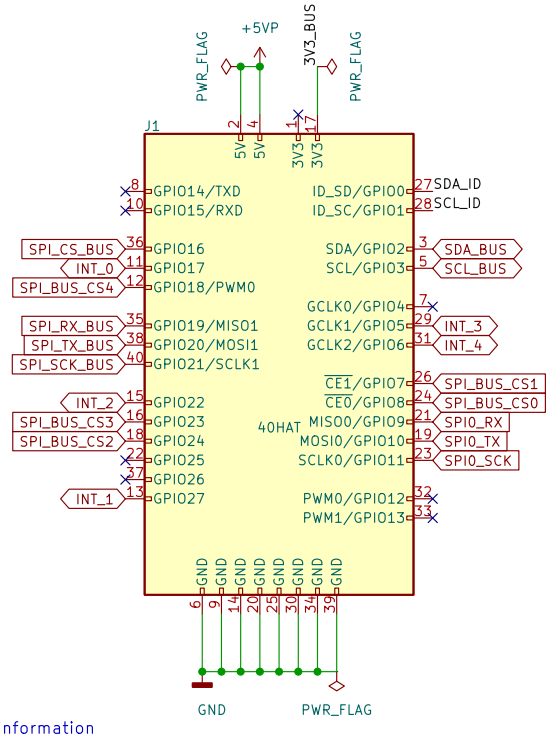
Title: M10DX02 -

Size: A4	Date: 2022-04-10	**Rev: 20.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35~116~ubuntu21.10.1		Id: 1/6

Text

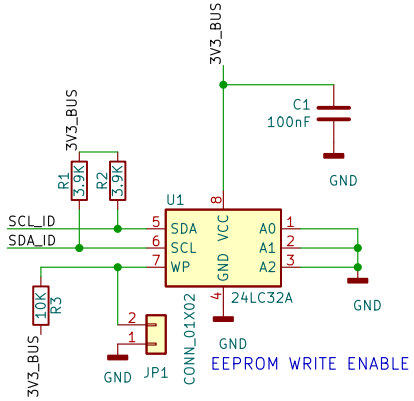
RASPBERRY PI HAT STAGE-20.0





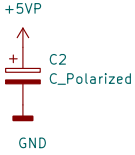
HAT EEPROM

The HAT spec requires this EEPROM with system information to be in place in order to be called a HAT. It should be set up as write protected (WP pin held high), so it may be desirable to either put a jumper as shown to enable writing, or to hook up a spare IO pin to do so.



LOG1

OSHWGR



FID1
FID2
FID3

H1
H2
H3
H4
H5
H6

RASPBERRY PI HAT STAGE
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GR000004

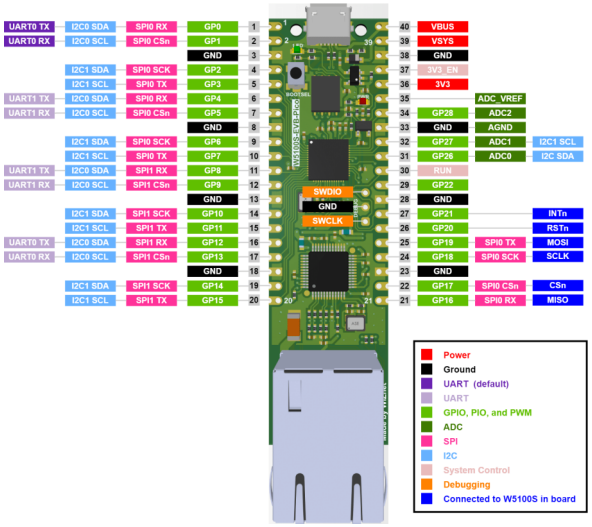
Sheet: /RASPI/
File: raspi.kicad_sch

Title: M10DX02 -

Size: A4	Date: 2022-04-10	**Rev: 20.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1		Id: 2/6

Text

WIZNET PICO CLONE STAGE-20.0



README FIRST

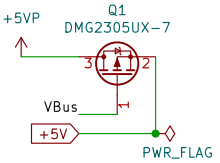
GPIO16-GPIO21 used by WIZNET
GPIO16, GPIO18, GPIO19 shared with WIZNET, CANBUS, SD, SPI on the BUS to control other M10 module through SPI
ALL have different CS pins and INTERRUPT pins

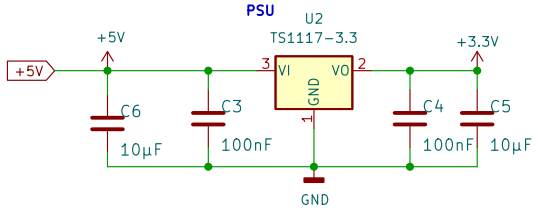
CANBUS IS THE LATEST STANDARD. SPEED UP TO 5MHZ.
MAYBE THIS IS ALSO A SOLUTION FOR FAST I/O. WE CHECK THIS BY EXPERIMENTING.

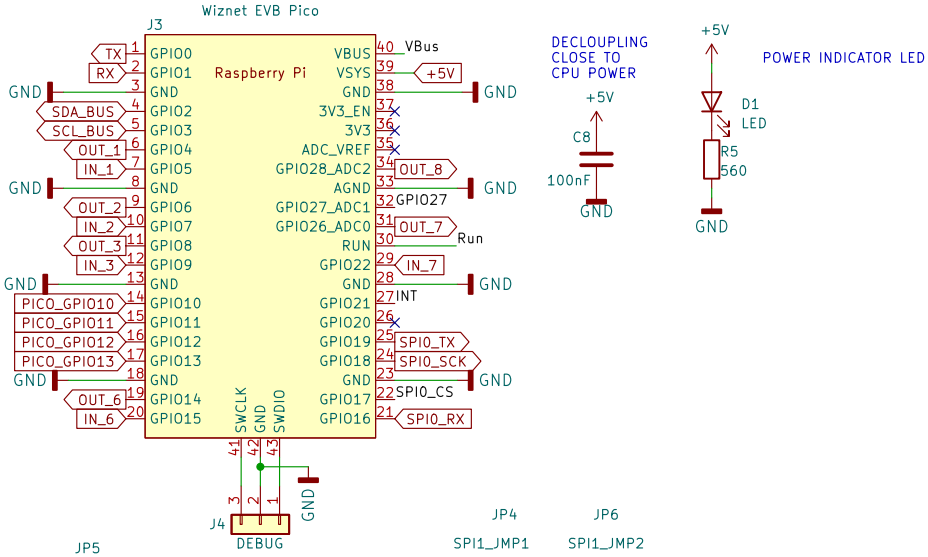
BELOW SIGNALS ARE CONNECTED TO
RASPI 40 PIN CONNECTOR

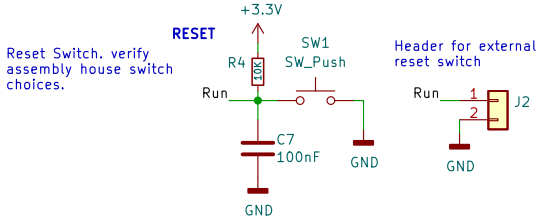
INT_0
INT_1
INT_2
INT_3
INT_4
SPI_BUS_CS0
SPI_BUS_CS1
SPI_BUS_CS2
SPI_BUS_CS3
SPI_BUS_CS4

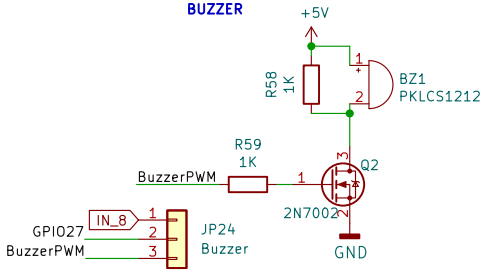
PMOSFET to allow powering PICO from external +5V while still connected via USB. Per Raspberry PI Pico datasheet.

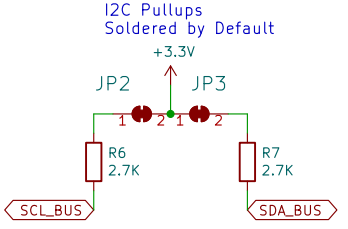


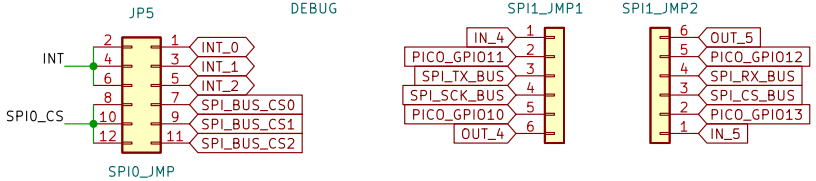












WIZNET PICO CLONE STAGE
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File: pico.kicad_sch

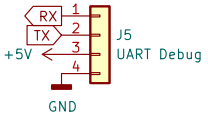
Title: M10DX02 -

Size: A4	Date: 2022-04-10	**Rev: 20.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1		Id: 3/6

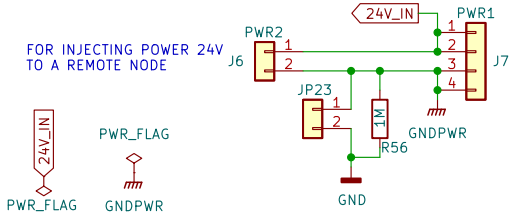
Text

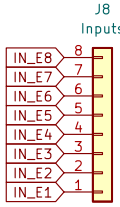
CONNECTOR STAGE-20.0

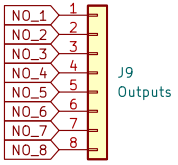
UART DEBUG CONNECTOR

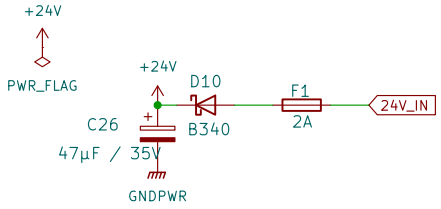


+24V POWER









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Sheet: /CONNECTOR/
File: connector.kicad_sch

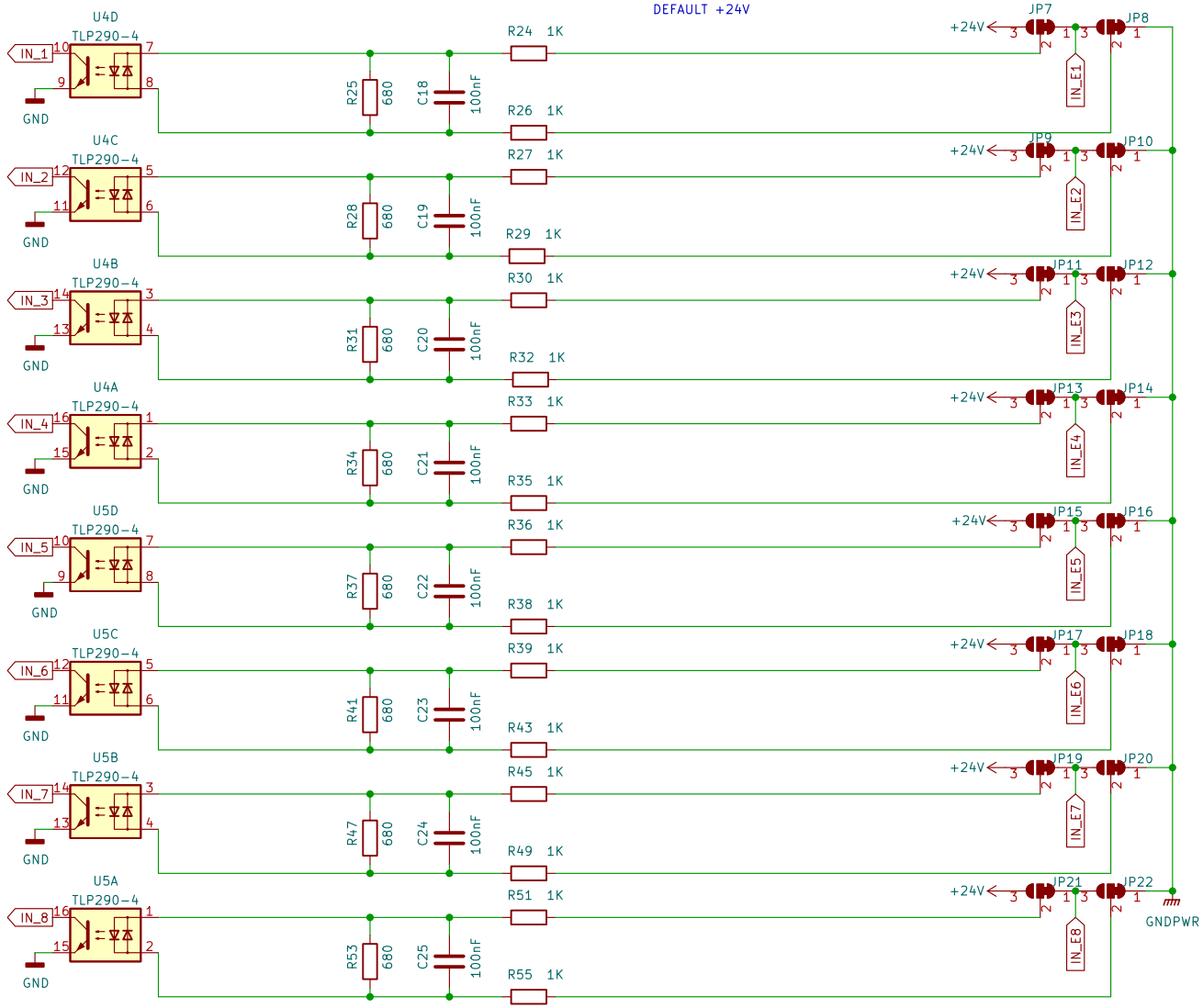
Title: M10DX02 -

Size: A4	Date: 2022-04-10	**Rev: 20.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1		Id: 4/6

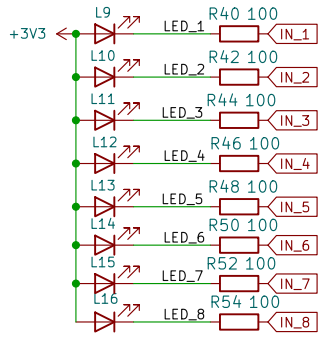
Text

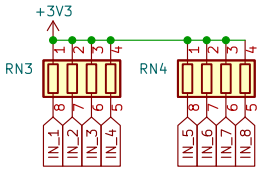
INPUT STAGE-20.0

INPUT JUMPER SELECTOR FOR +24V OR GND.
DEFAULT +24V



INDICATING LEDS
CAN BE REPLACED WITH
2X8 2.54mm CONNECTOR
FOR TRANFERING DISCRETE
ISOLATED SIGNALS TO CPU





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File: input.kicad_sch

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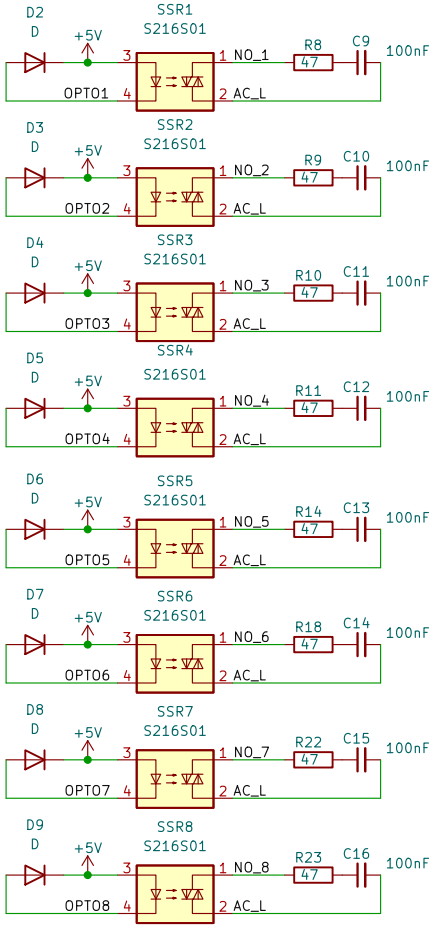
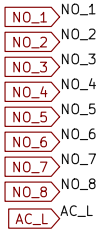
Size: A4	Date: 2022-04-10	**Rev: 20.0**
KiCad E.D.A.	kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1	Id: 5/6

Text

OUTPUT STAGE-20.0





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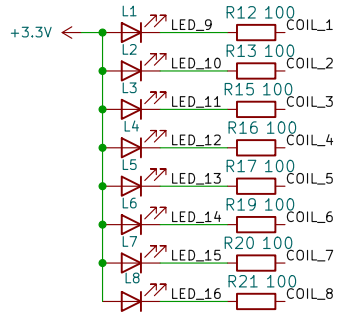

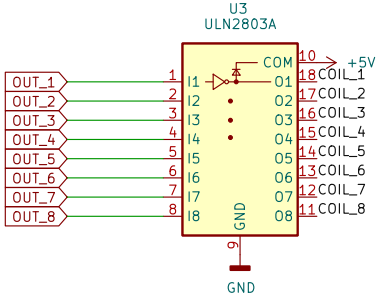

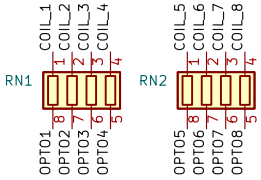

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Sheet: /OUTPUT/
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KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1		Id: 6/6

Text