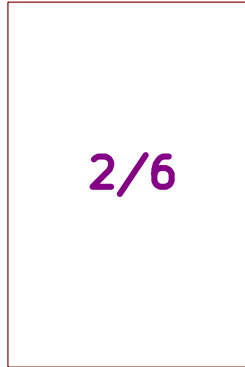


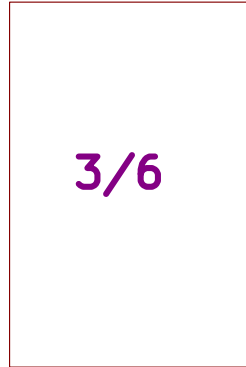
8X24V INPUT 8X24V OUTPUT HIGH SIDE -20.0

RASPI



File: raspi.kicad_sch

PICO



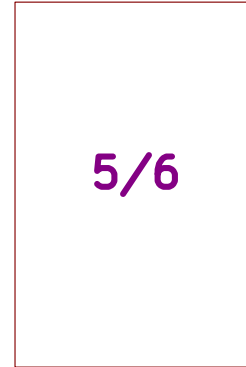
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CONNECTOR



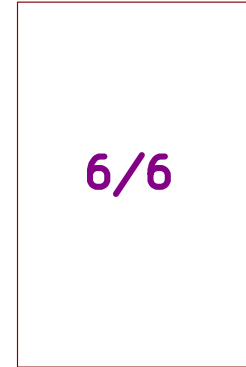
File: connector.kicad_sch

INPUT



File: input.kicad_sch

OUTPUT



File: output.kicad_sch

According to OSHA <https://www.osha.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.

8X24V INPUT 8X24V OUTPUT HIGH SIDE
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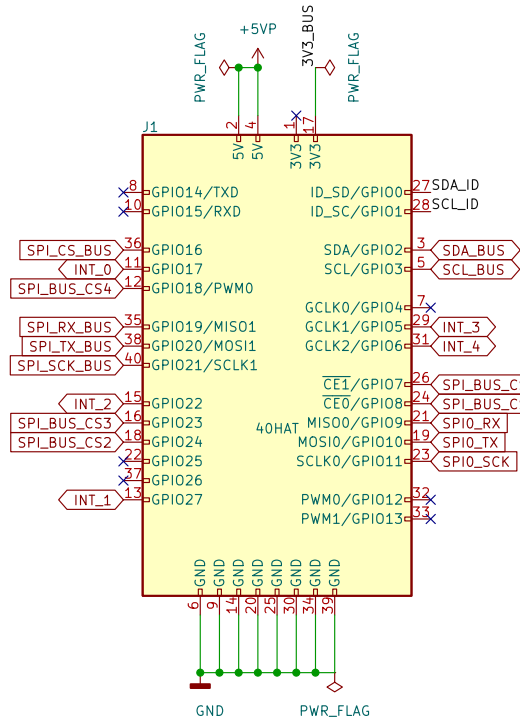
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Title: M10DX01 -

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

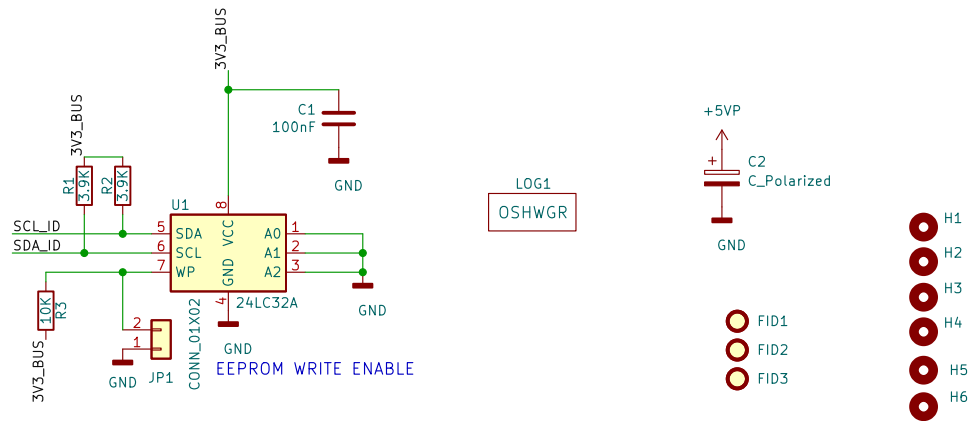
RASPBERRY PI HAT STAGE-20.0


PI Model B/B+			
3V3 Power	1	2	5V Power
GPIO2 SDA1/I2C	3	4	5V Power
GPIO3 SCL1/I2C	5	6	Ground
GPIO4	7	8	GPIO14 UART0_TXD
Ground	9	10	GPIO15 UART0_RXD
GPIO17	11	12	GPIO18 PCM_CLK
GPIO27	13	14	Ground
GPIO22	15	16	GPIO23
3V3 Power	17	18	GPIO24
GPIO10 SPI0_MISO	19	20	Ground
GPIO9 SPI0_MOSI	21	22	GPIO25
GPIO11 SPI0_SCLK	23	24	GPIO8 SPI0_CSN
Ground	25	26	GPIO7 SPI0_CSN
ID_SD DC ID EEPROM	27	28	ID_SC RC ID EEPROM
GPIO5	29	30	Ground
GPIO6	31	32	GPIO12
GPIO13	33	34	Ground
GPIO19	35	36	GPIO16
GPIO26	37	38	GPIO20
Ground	39	40	GPIO21



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.



 GR000004	
Title: M10DX01 -	
Size: A4	Date: 2022-04-10
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1	Rev: 20.0 Id: 2/6

- H1
- H2
- H3
- H4
- H5
- H6

- FID1
- FID2
- FID3

WIZNET PICO CLONE STAGE-20.0

README FIRST

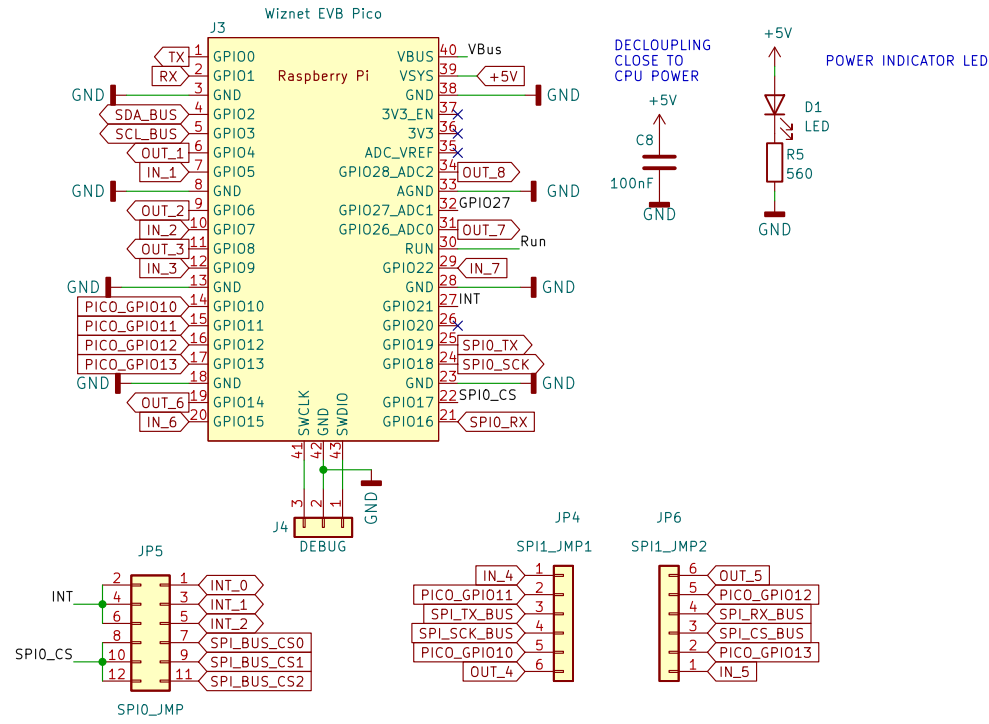
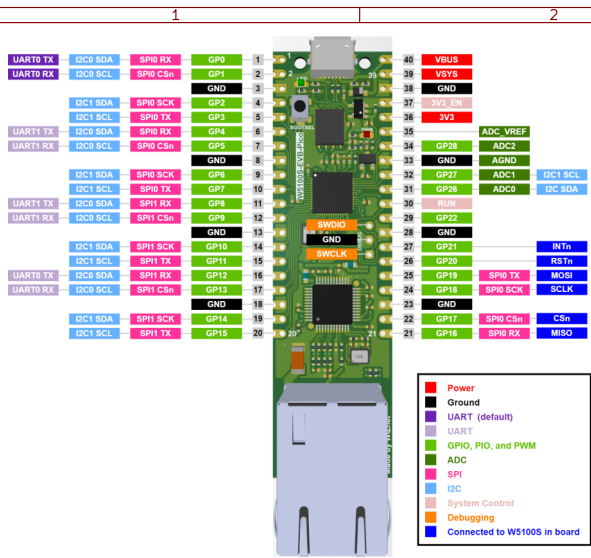
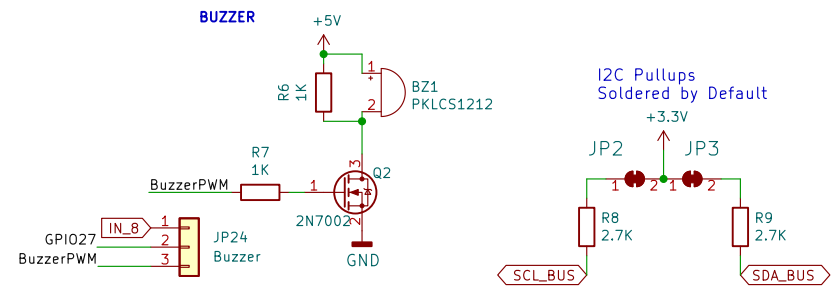
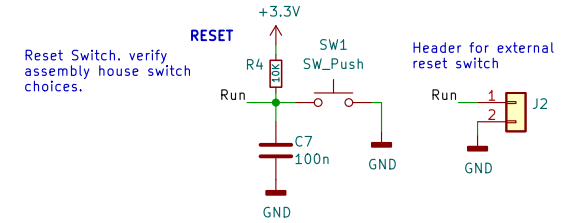
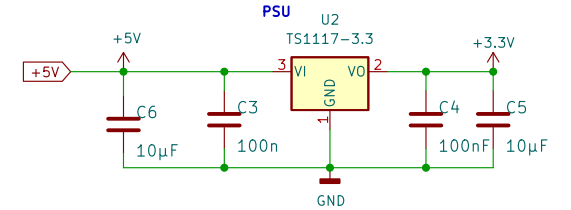
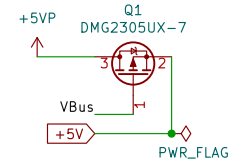
GPIO16–GPIO21 used by WIZNET
 GPIO16, GPIO18, GPIO19 shared with WIZNET, CANBUS, SD, SPI on the BUS to control other M10 module through SPI
 ALL have different CS pins and INTERRUPT pins

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 while still connected via USB. Per Raspberry Pi Pico datasheet.



OSHW
GR000004

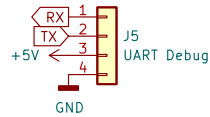
WIZNET PICO CLONE STAGE
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WIZcube
 Sheet: /PICO/
 File: pico.kicad_sch

Title: M10DX01 -

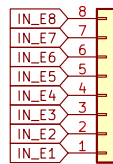
Size: A4	Date: 2022-04-10	Rev: 20.0
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1	Id: 3/6	

CONNECTOR STAGE-20.0

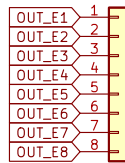
UART DEBUG CONNECTOR



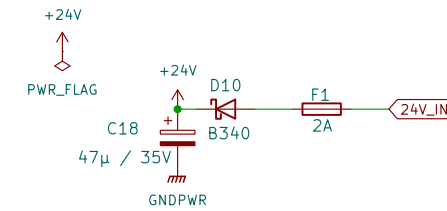
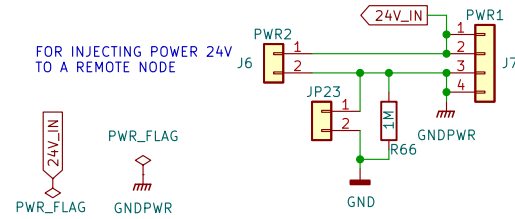
J8 Inputs



J9 Outputs



+24V POWER



CONNECTOR STAGE
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WIZcube
Sheet: /CONNECTOR/
File: connector.kicad_sch

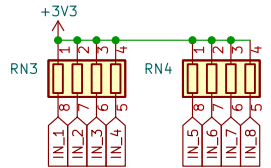
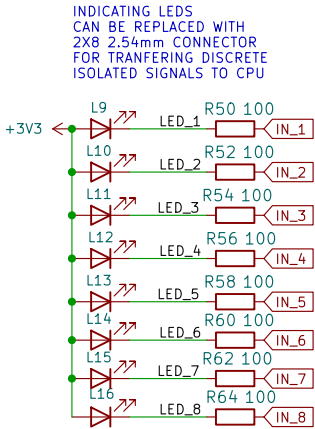
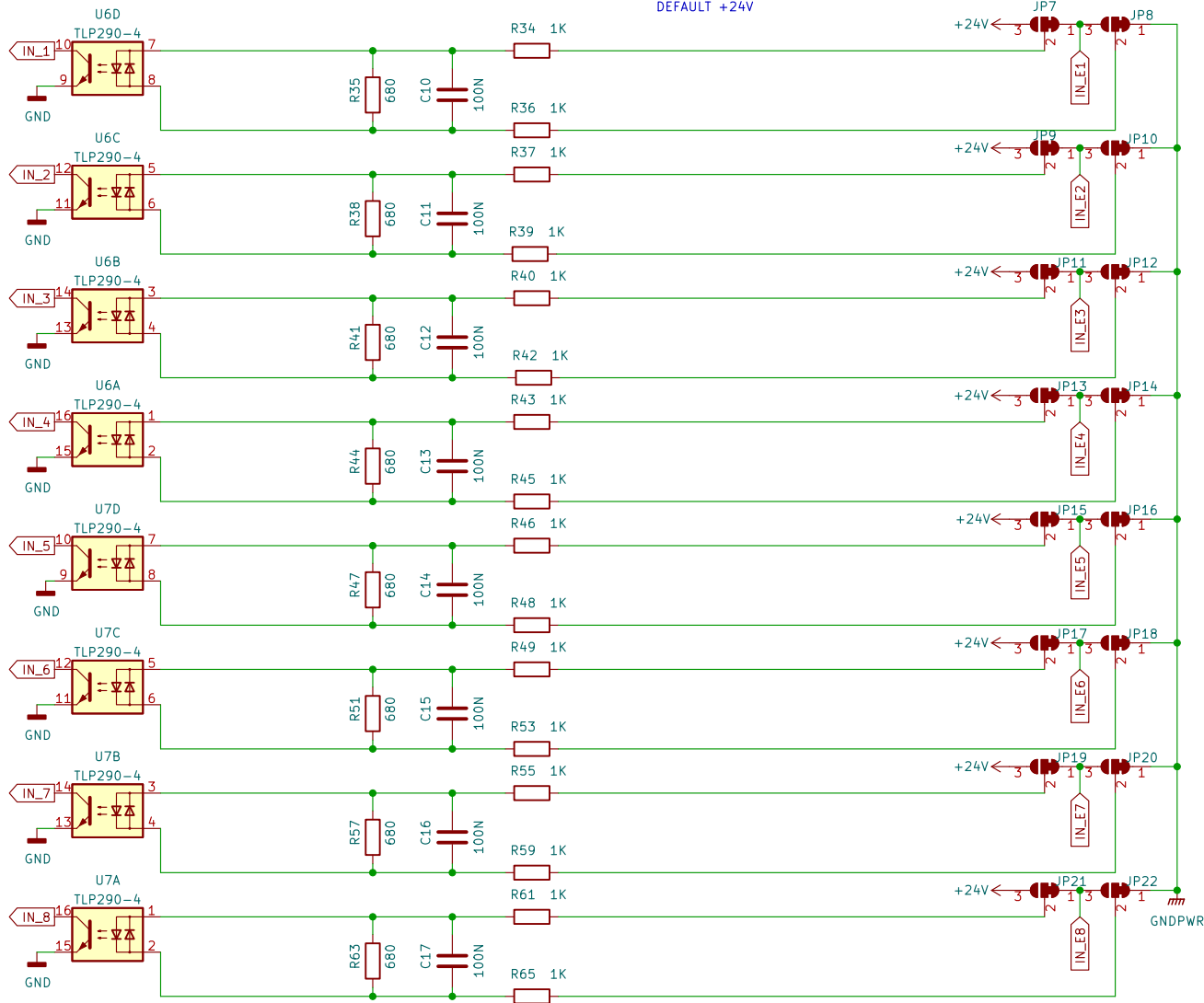
Title: M10DX01 -

Size: A4 Date: 2022-04-10
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

Rev: 20.0
Id: 4/6

INPUT STAGE-20.0

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



INPUT STAGE
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WIZcube

Sheet: /INPUT/
File: input.kicad_sch

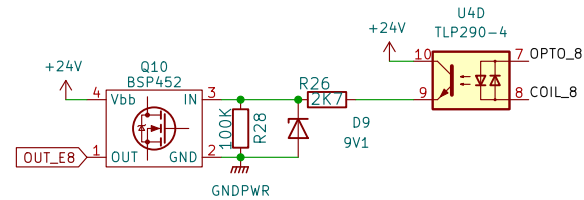
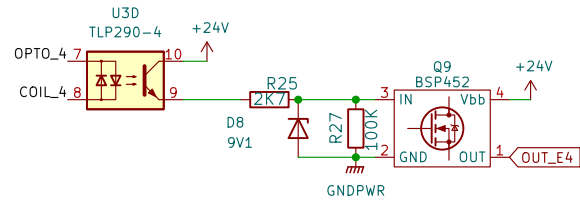
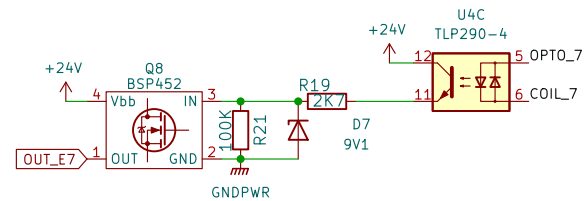
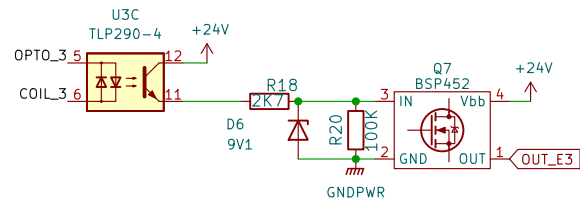
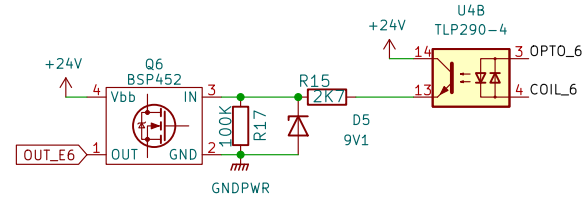
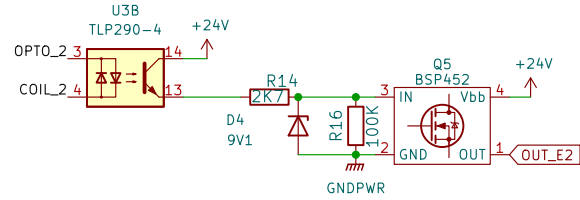
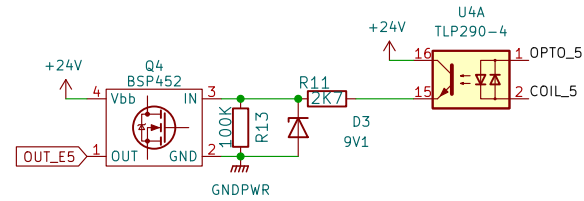
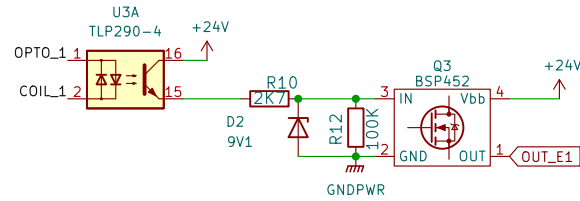
Title: M10DX01 -

Size: A4 Date: 2022-04-10
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

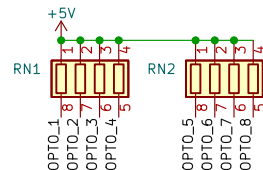
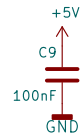
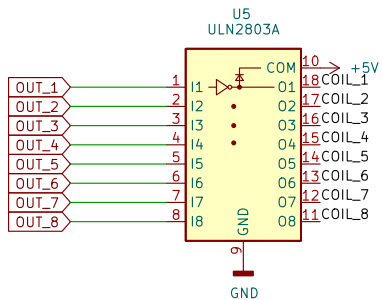
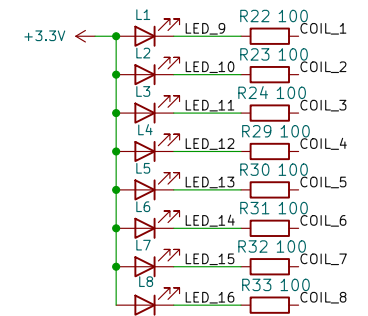


Rev: 20.0
Id: 5/6

OUTPUT STAGE-20.0



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



OUTPUT STAGE
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WIZcube
Sheet: /OUTPUT/
File: output.kicad_sch

Title: M10DX01 -

Size: A4 Date: 2022-04-10
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu21.10.1

Rev: 20.0
Id: 6/6