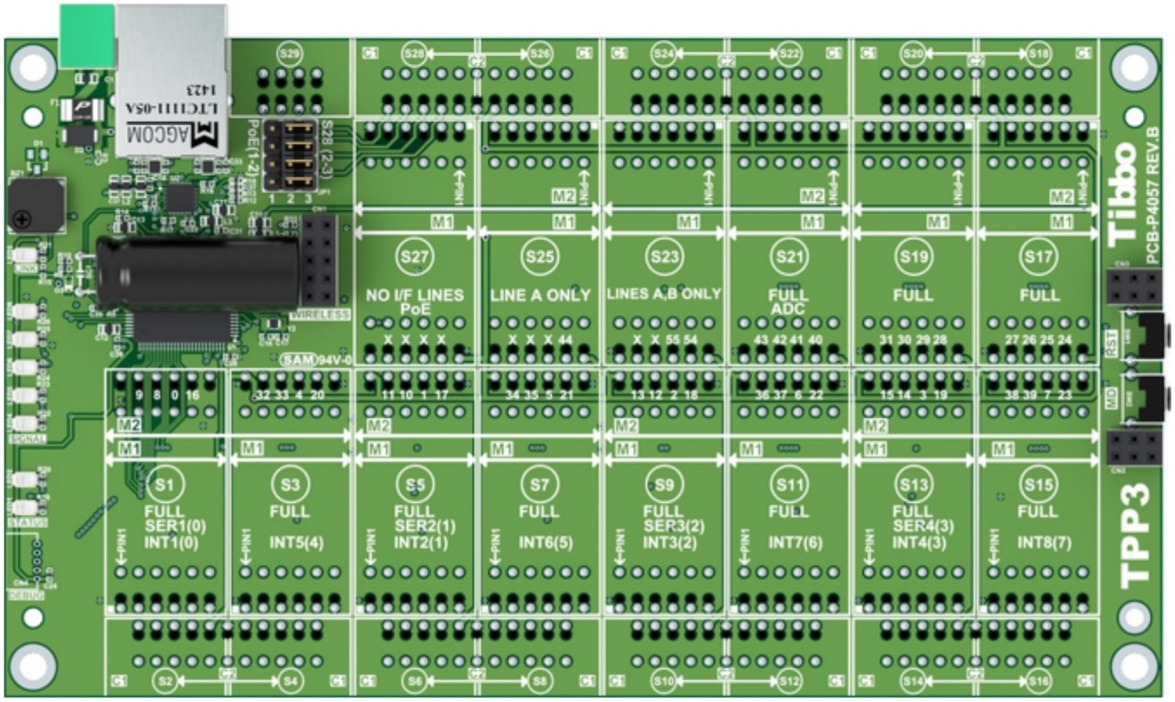


This is the board that I want to start with. See the 4 rows of 11 black dots at the bottom and 3 rows of 11 black dots along the top? Those and all the other black dots are pin sockets that are flush with the PCB. The rows of 11 are for external connectors such as screw terminals, 9-pin d-sub, etc. The other sockets are for their interface modules.

I need a board that will utilise their modules and other boards that will be filled with custom circuitry but will still use the rows-of-11 to be compatible with their connectors.

Their CPU is at the top corner. I want the new boards to have a MM instead.

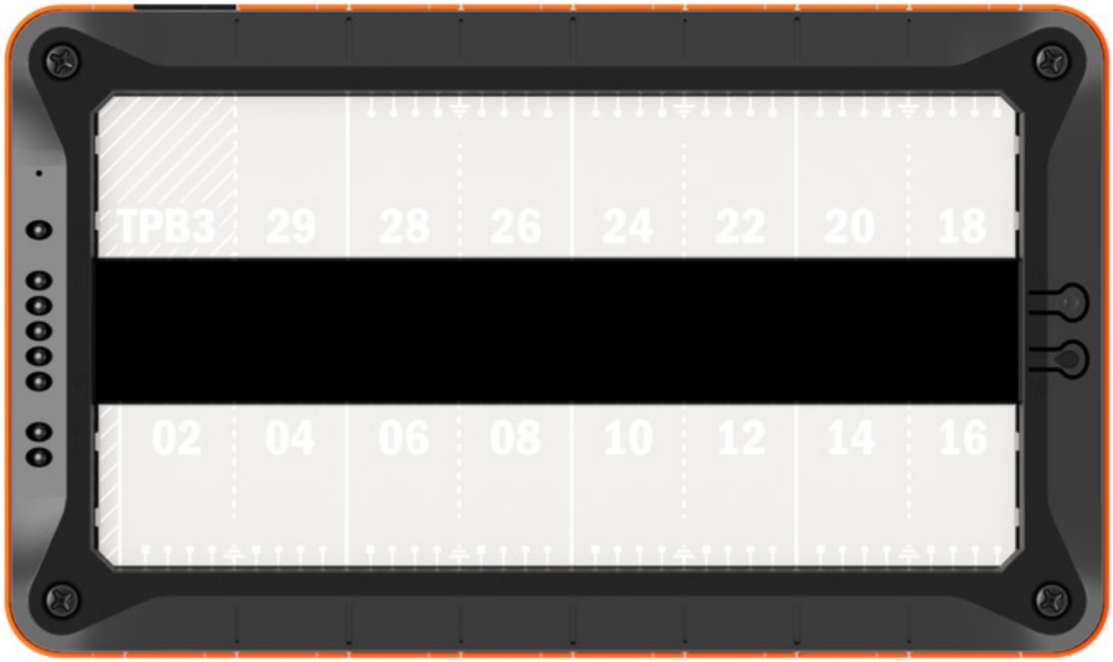
On the left, the white oval dots are LEDs, there are light-guides that bring the light up to the box lid.

On the right are headers for 2 pushbuttons (reset and user defined) that are also on the box lid.

These are the light guides:

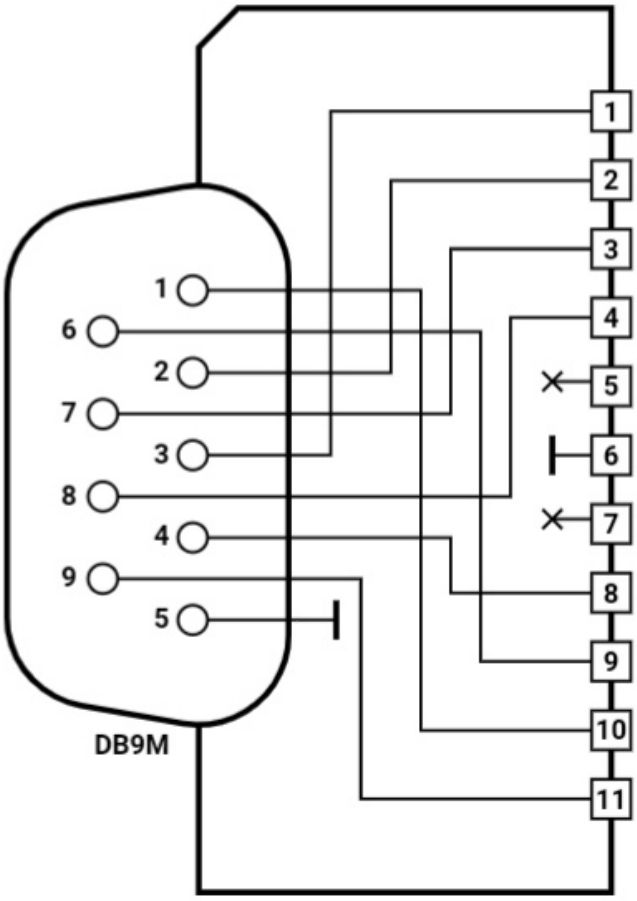
These are the pushbuttons:

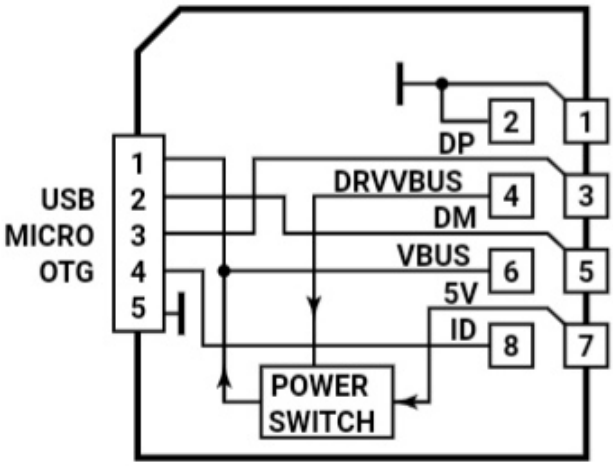
The box:



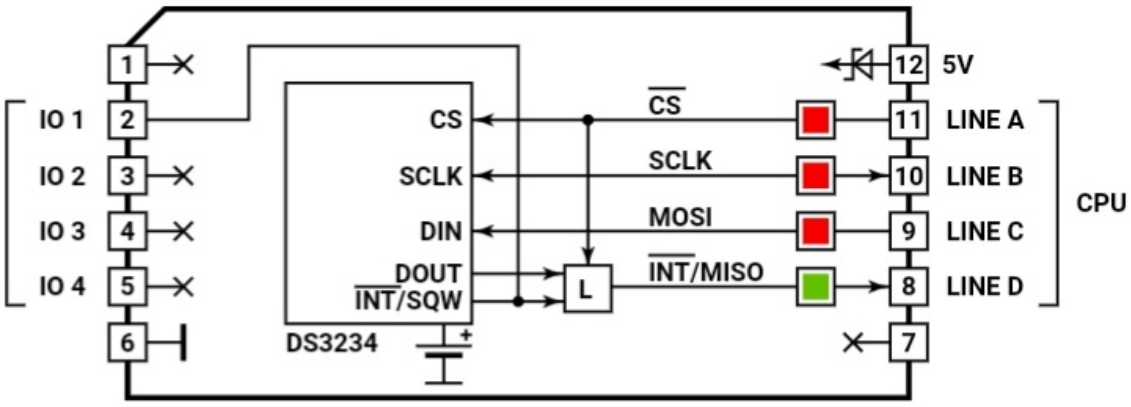
See the LEDs on the left and the pushbuttons on the right?

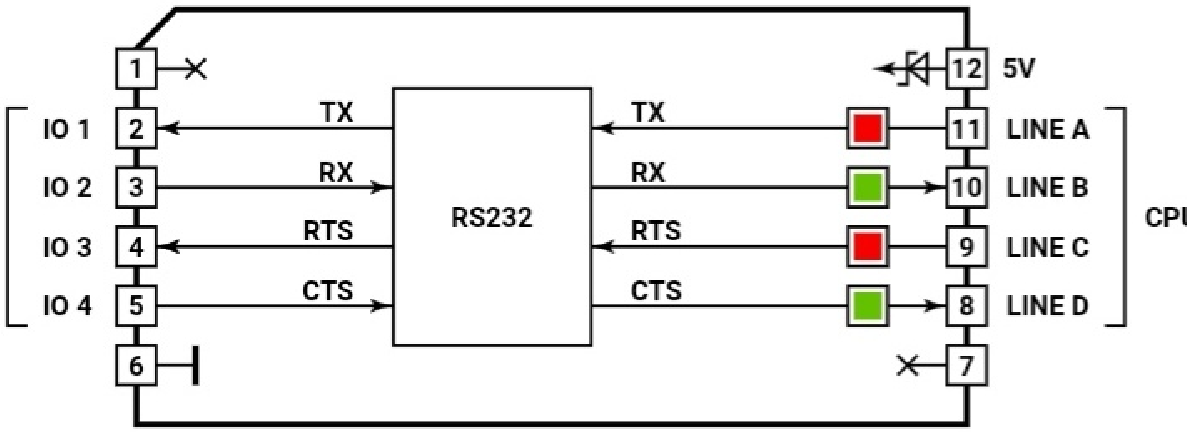
Just some of the bits that I'm interested in:



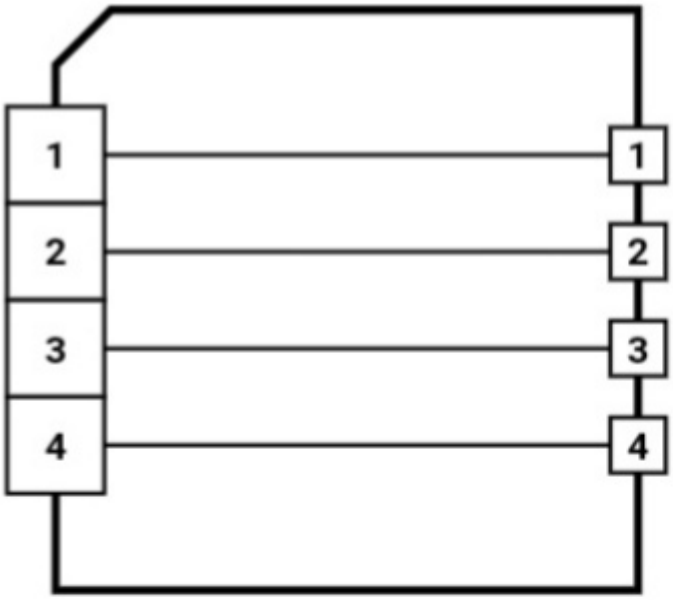

USB
MICRO
OTG
1
2
3
4
5
DP
DRVVBUS
DM
VBUS
5V
ID
2
1
4
3
6
5
8
7
POWER
SWITCH


USB
50

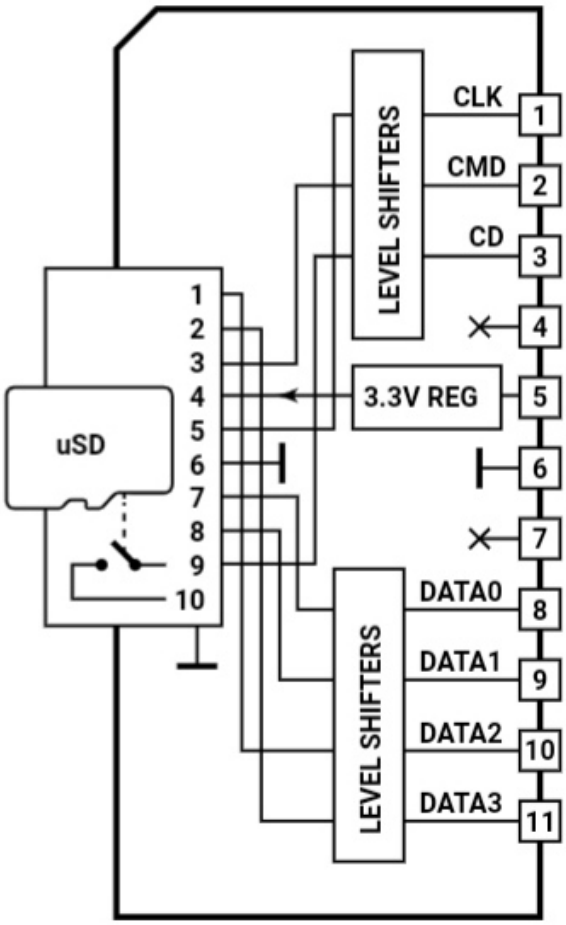

1
IO 1
2
IO 2
3
IO 3
4
IO 4
5
6
CS
SCLK
DIN
DOUT
INT/SQW
DS3234
L
12
5V
CS
11
LINE A
SCLK
10
LINE B
MOSI
9
LINE C
INT/MISO
8
LINE D
7
CPU


1
2
3
4
5
6
7
8
9
10
11
12
5V
IO 1
IO 2
IO 3
IO 4
TX
RX
RTS
CTS
RS232
TX
RX
RTS
CTS
LINE A
LINE B
LINE C
LINE D
CPU

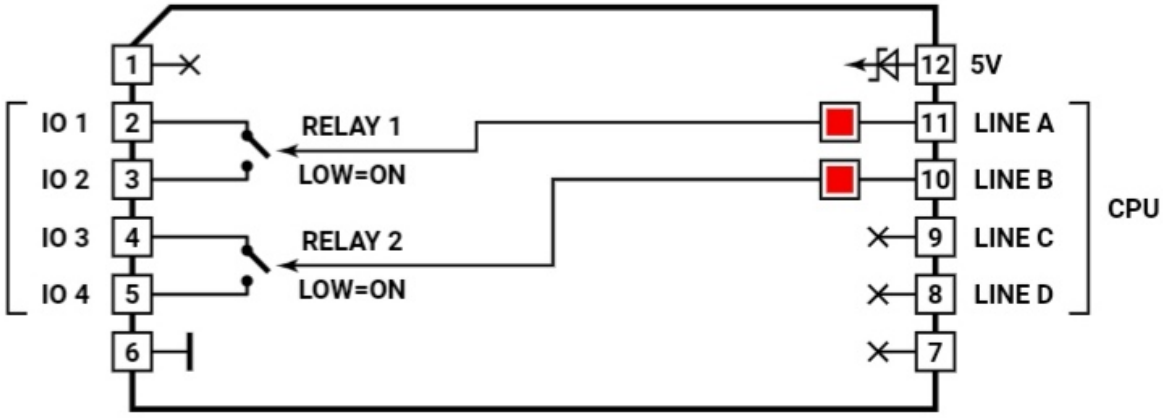

TX
RX
RTS
CTS
01
FOUR-LINE
RS232
PORT
Tibbit


1
2
3
4
1
2
3
4

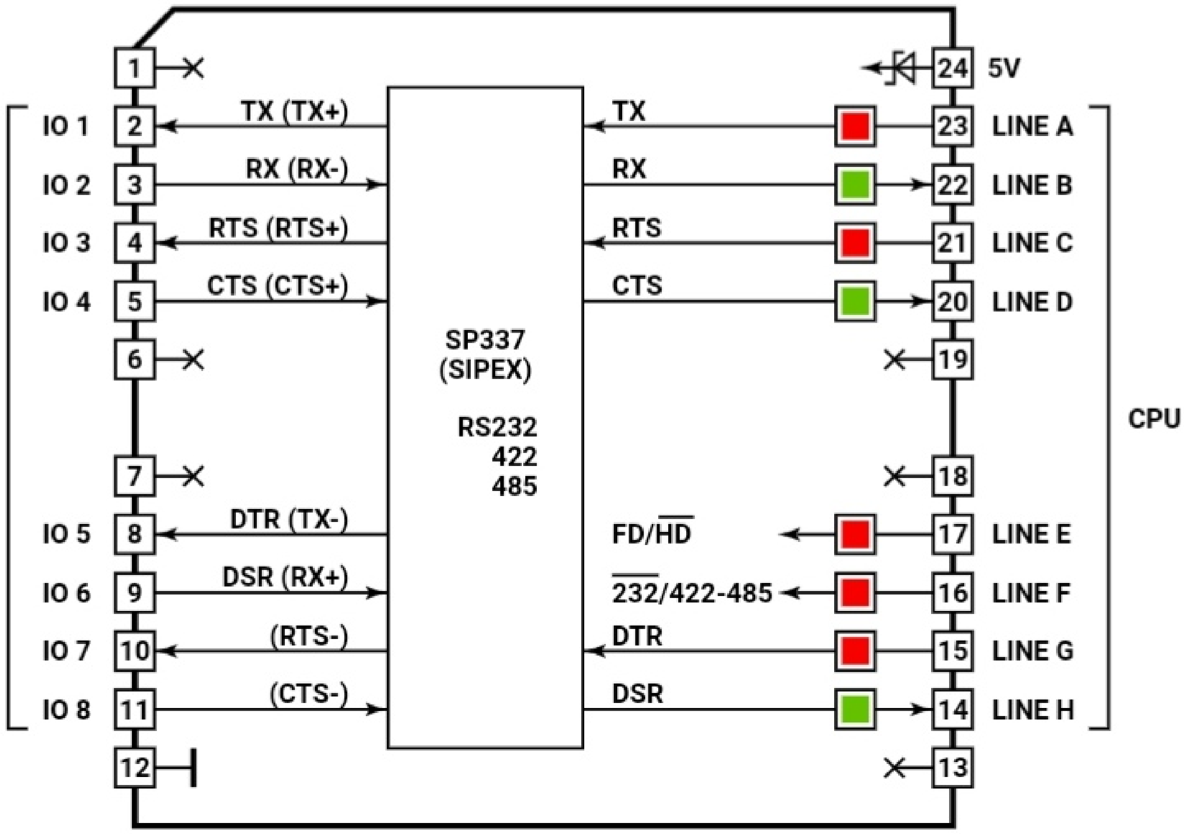

4 TERMINAL
BLOCKS


LEVEL SHIFTERS
CLK
CMD
CD
3.3V REG
LEVEL SHIFTERS
DATA0
DATA1
DATA2
DATA3
uSD
1
2
3
4
5
6
7
8
9
10
1
2
3
4
5
6
7
8
9
10
11

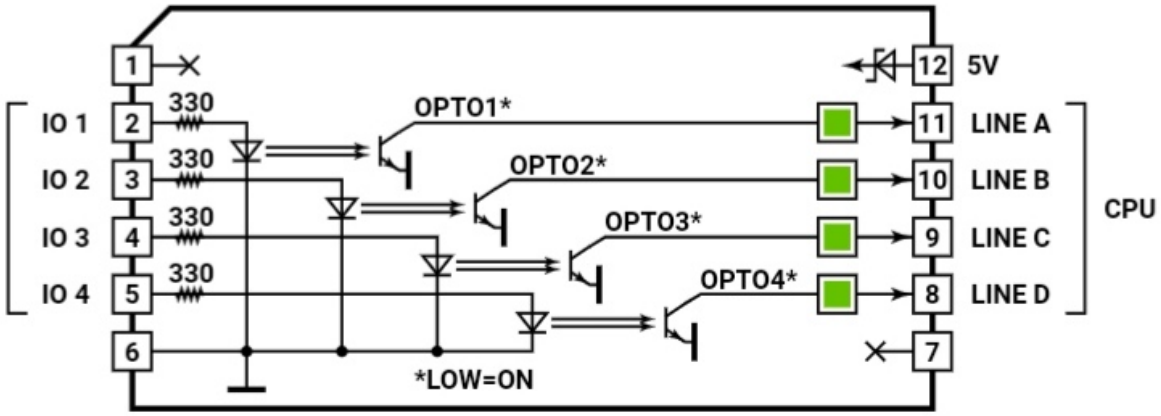

MICRO SD


1
12
5V
IO 1
2
RELAY 1
11
LINE A
IO 2
3
LOW=ON
10
LINE B
CPU
IO 3
4
RELAY 2
9
LINE C
IO 4
5
LOW=ON
8
LINE D
6
7


031
RELAY 1
RELAY 2
LOW-POWER RELAYS
(INDEPENDENT)

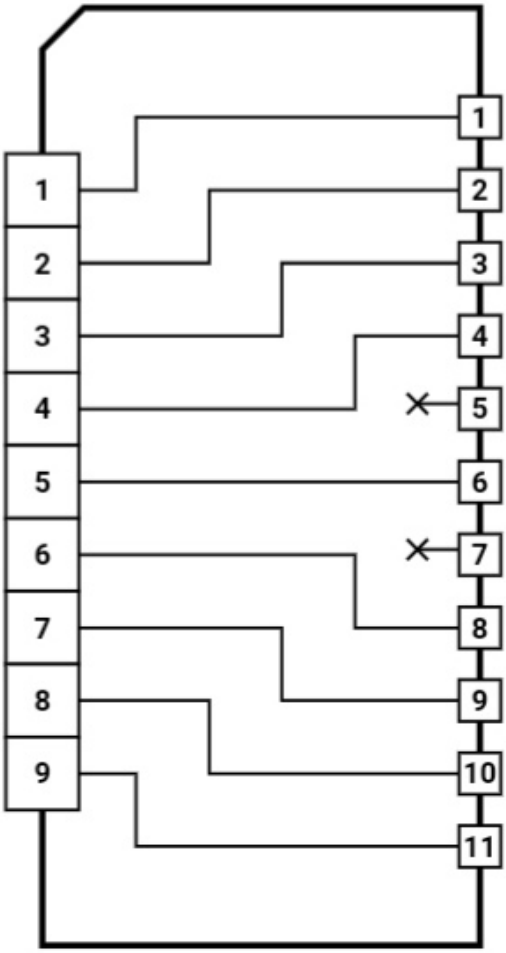


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
5V
IO 1
IO 2
IO 3
IO 4
IO 5
IO 6
IO 7
IO 8
TX (TX+)
RX (RX-)
RTS (RTS+)
CTS (CTS+)
DTR (TX-)
DSR (RX+)
(RTS-)
(CTS-)
SP337
(SIPEX)
RS232
422
485
TX
RX
RTS
CTS
FD/HD
232/422-485
DTR
DSR
LINE A
LINE B
LINE C
LINE D
LINE E
LINE F
LINE G
LINE H
CPU

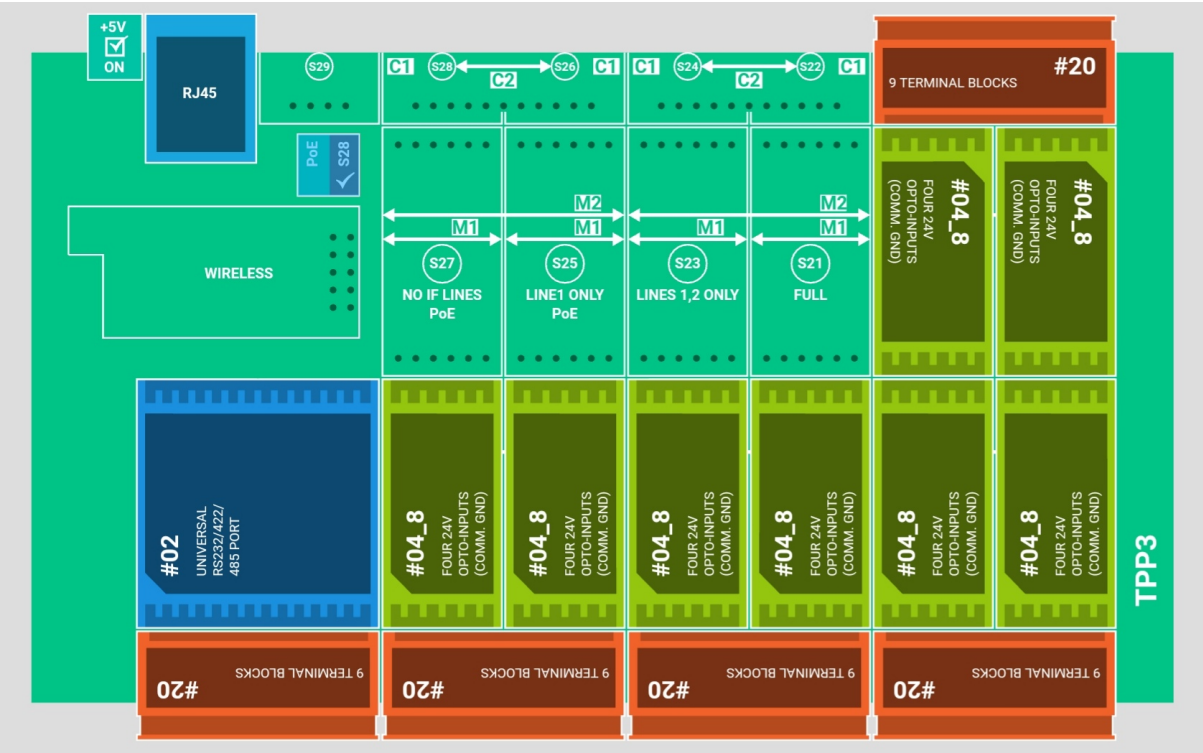

1
2
3
4
5
6
12
11
10
9
8
7
IO 1
IO 2
IO 3
IO 4
330
330
330
330
OPTO1*
OPTO2*
OPTO3*
OPTO4*
5V
LINE A
LINE B
LINE C
LINE D
CPU
*LOW=ON


04


USB
TYPE-A
56


1
2
3
4
5
6
7
8
9
1
2
3
4
5
6
7
8
9
10
11


9 TERMINAL BLOCKS
20



This gives an idea of a typical layout for a board that is designed for some of their standard modules. This is showing the RS422 module and a whole bunch of 24v optocoupler inputs.

Where it shows "wireless" is where the MM would be.

If it's 170 chip, a few I²C expanders would be required.

Other boards would have custom circuitry that I already use on proto boards but still use the #20 terminal blocks.

I already use these screw-less terminals and they are rock-solid.

9-pin D-sub connector.