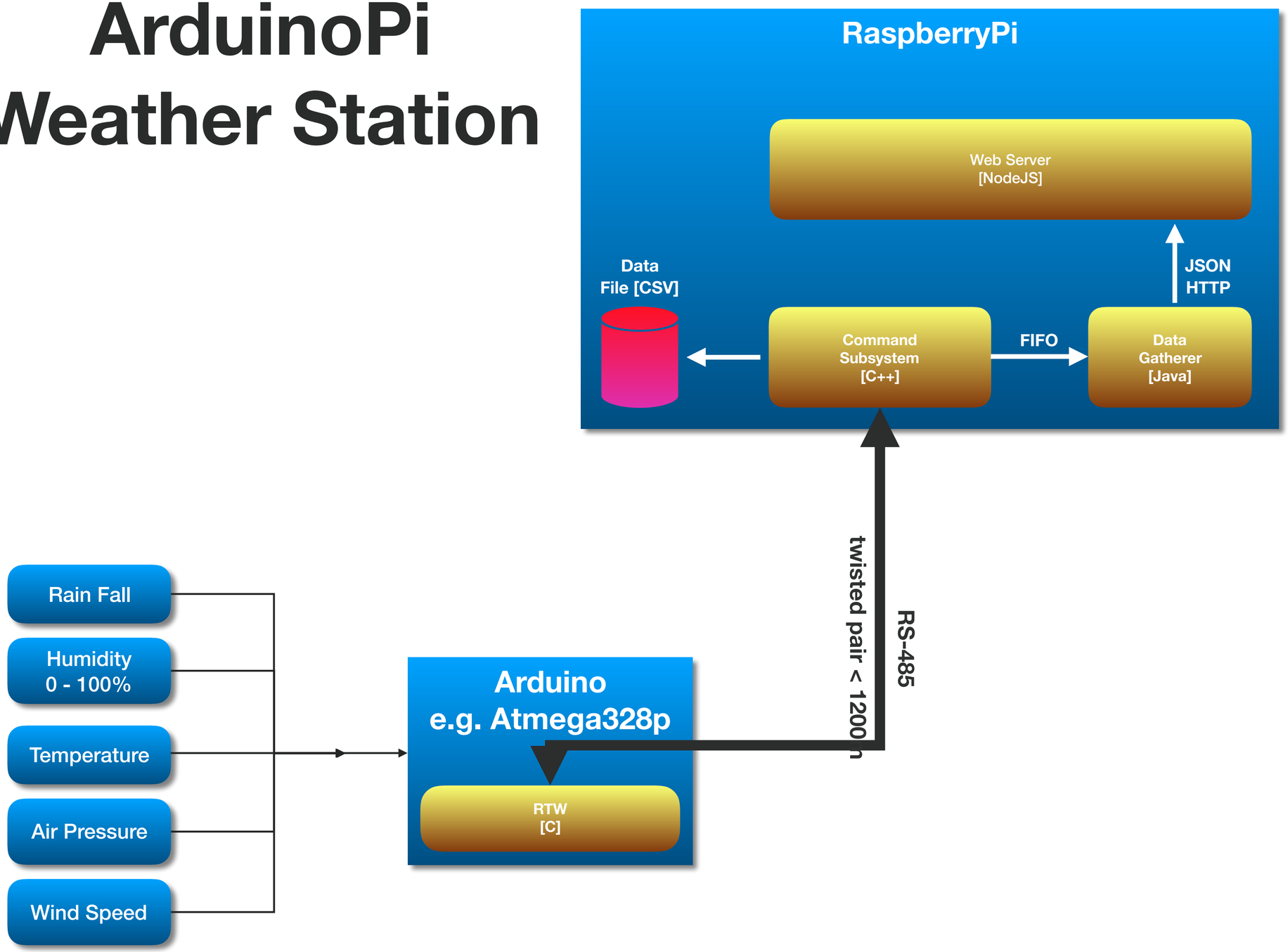
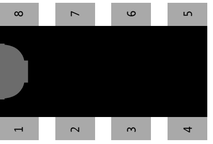
ArduinoPi Weather Station

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7
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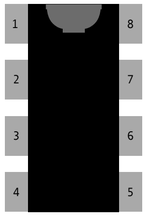
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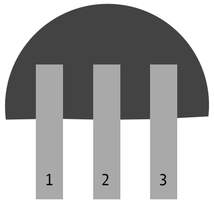
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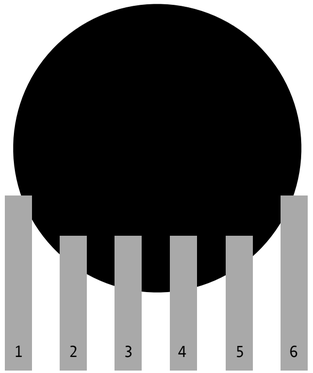
1
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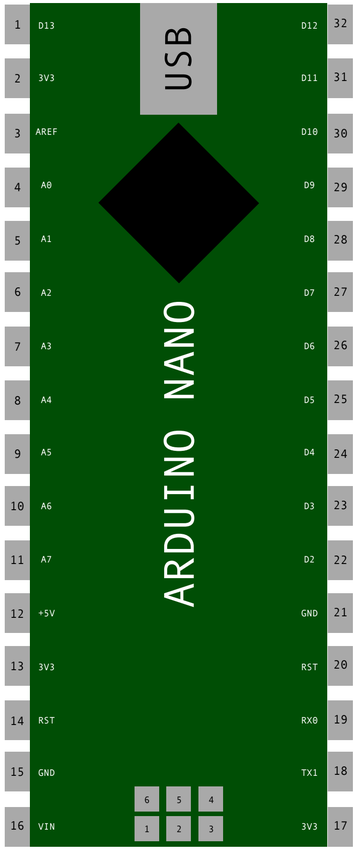
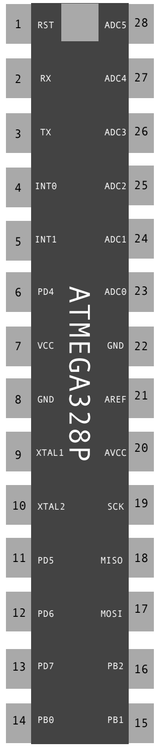
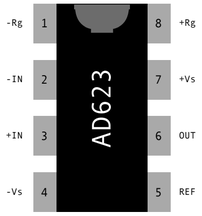
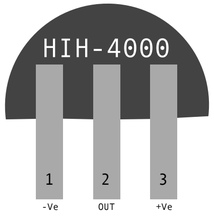
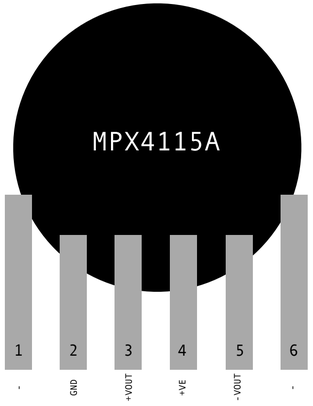
3
4
5
6

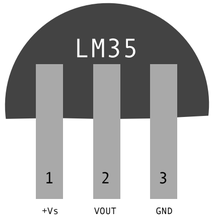

1 D13
2 3V3
3 AREF
4 A0
5 A1
6 A2
7 A3
8 A4
9 A5
10 A6
11 A7
12 +5V
13 3V3
14 RST
15 GND
16 VIN
USB
ARDUINO NANO
32 D12
31 D11
30 D10
29 D9
28 D8
27 D7
26 D6
25 D5
24 D4
23 D3
22 D2
21 GND
20 RST
19 RX0
18 TX1
17 3V3
6 5 4
1 2 3

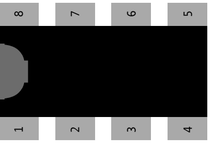

1 RST
2 RX
3 TX
4 INT0
5 INT1
6 PD4
7 VCC
8 GND
9 XTAL1
10 XTAL2
11 PD5
12 PD6
13 PD7
14 PB0
ADC5 28
ADC4 27
ADC3 26
ADC2 25
ADC1 24
ADC0 23
GND 22
AREF 21
AVCC 20
SCK 19
MISO 18
MOSI 17
PB2 16
PB1 15
ATMEGA328P


-Rg
-IN
+IN
-Vs
1
2
3
4
AD623
8
7
6
5
+Rg
+Vs
OUT
REF


HIH-4000
1
2
3
-Ve
OUT
+Ve


MPX4115A
1
2
3
4
5
6
-
GND
+VOUT
+Vs
-VOUT
-


LM35
1
2
3
+Vs
VOUT
GND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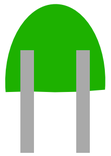
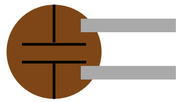
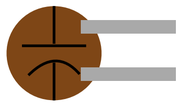
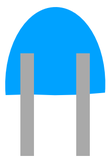
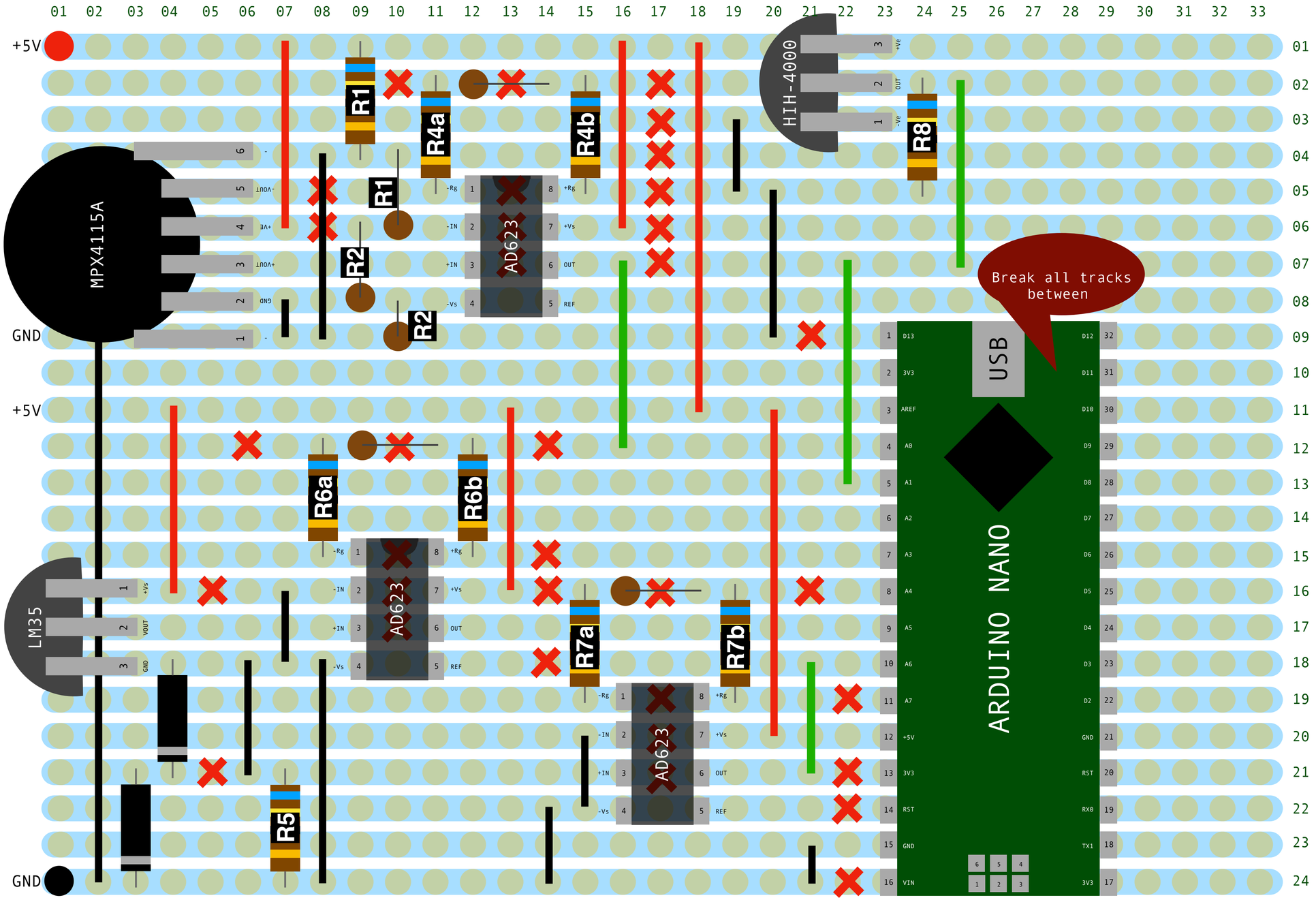
16MHZ

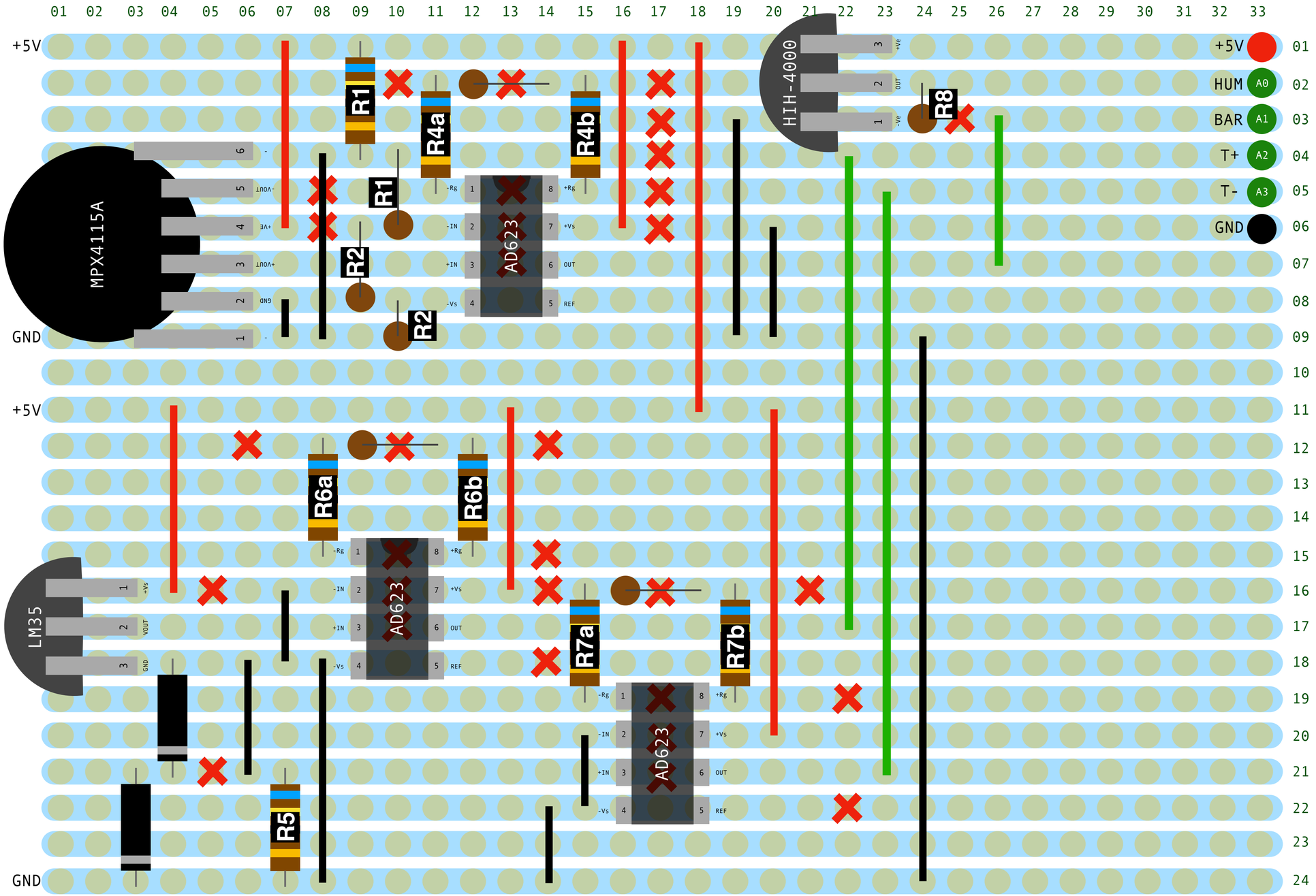









01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
+5V
GND
+5V
GND
MPX4115A
LM35
HIH-4000
AD623
R1
R2
R4a
R4b
R5
R6a
R6b
R7a
R7b
R8
Break all tracks between
USB
ARDUINO NANO


01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
+5V
GND
+5V
GND
MPX4115A
6 -
5 -VOUT
4 +VE
3 +VOUT
2 GND
1 -
LM35
1 +Vs
2 VOUT
3 GND
R1
R2
R1
R2
R4a
R4b
AD623
-Rg 1
-IN 2
+IN 3
-Vs 4
8 +Rg
7 +Vs
6 OUT
5 REF
R6a
R6b
AD623
R7a
R7b
AD623
HIH-4000
3 +Ve
2 OUT
1 -Ve
R8
R5
+5V 01
HUM A0 02
BAR A1 03
T+ A2 04
T- A3 05
GND 06
07
08
09
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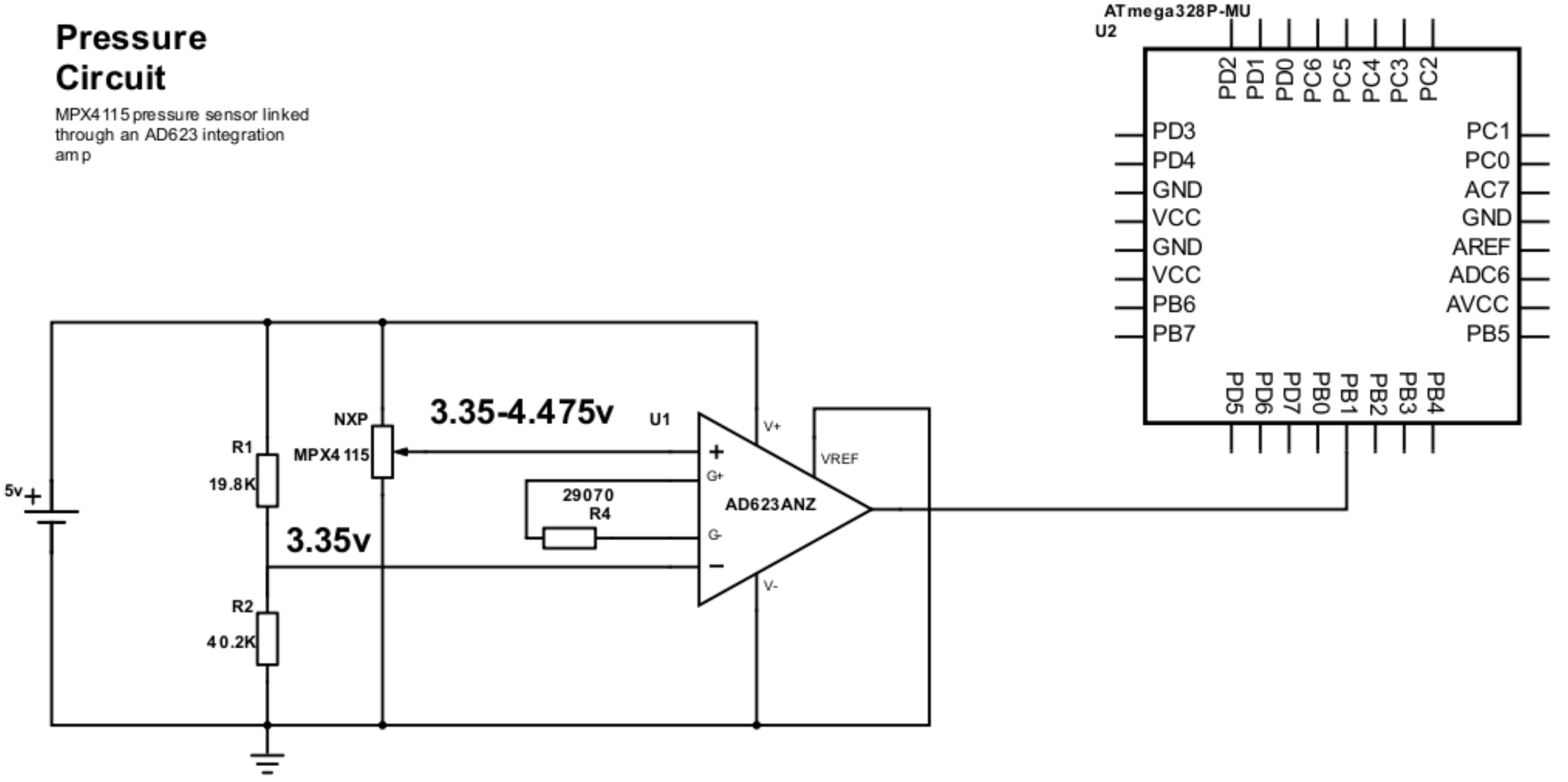
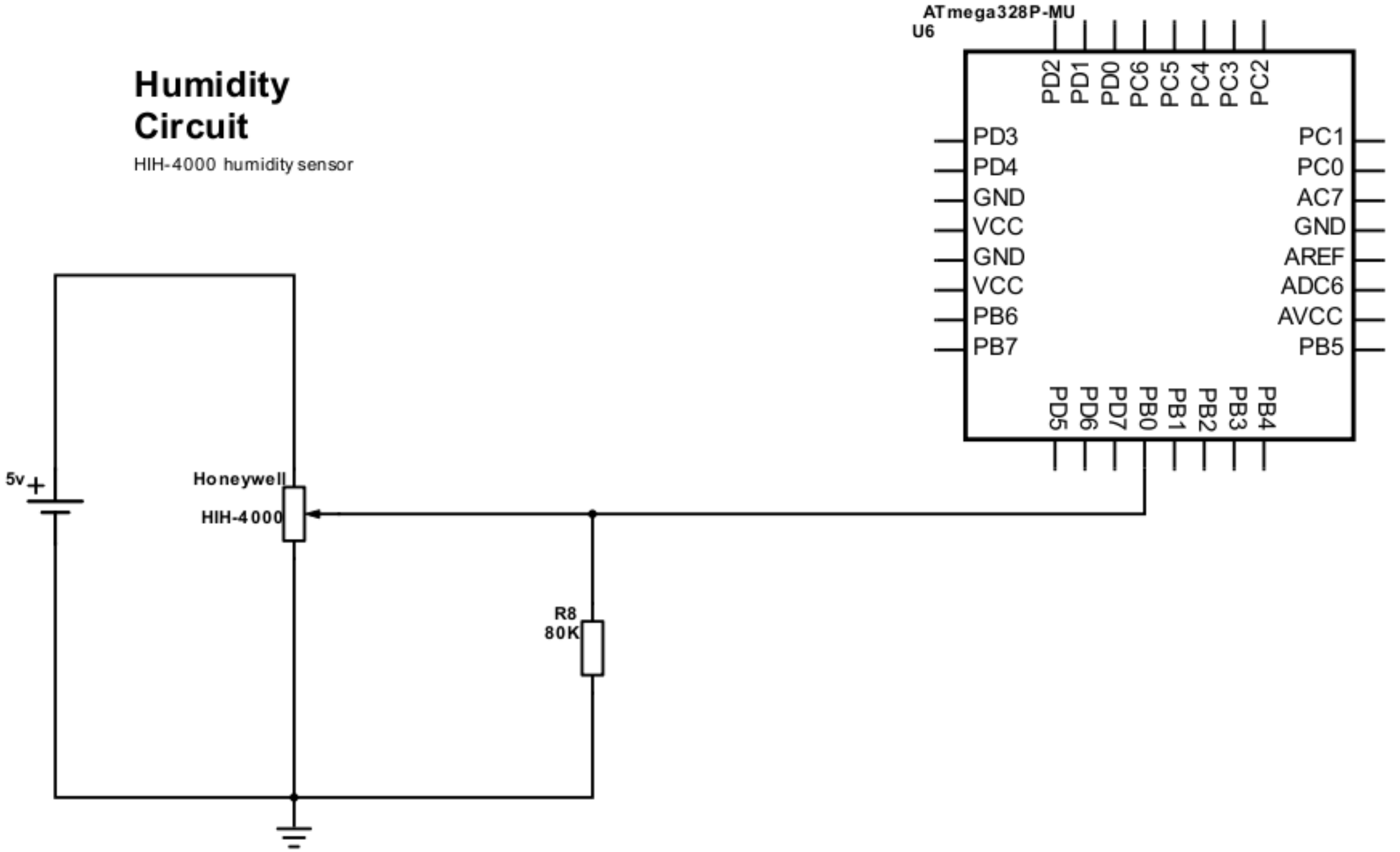
Pressure Circuit

MPX4115 pressure sensor linked through an AD623 integration amp



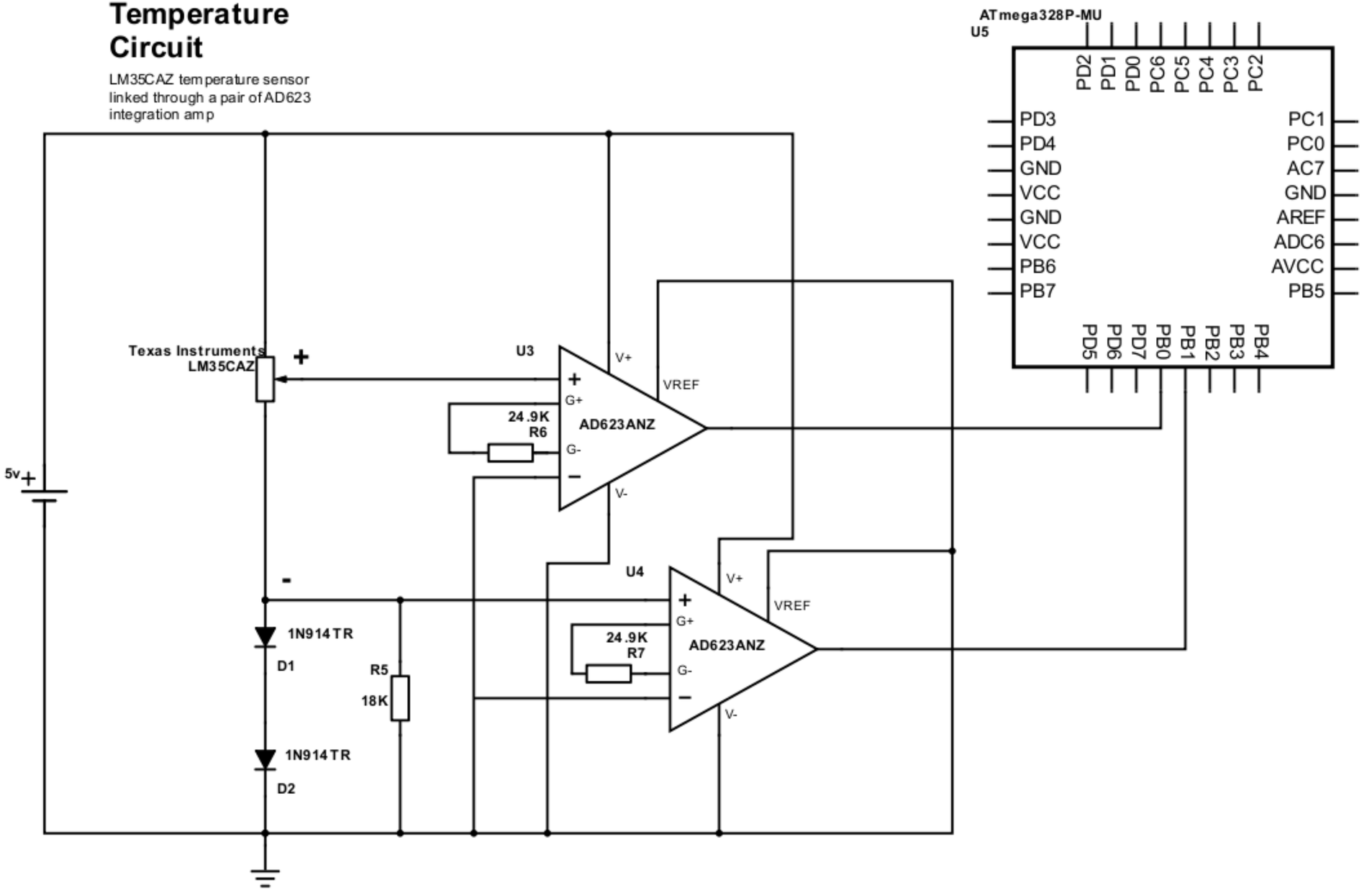
Humidity Circuit

HIH-4000 humidity sensor



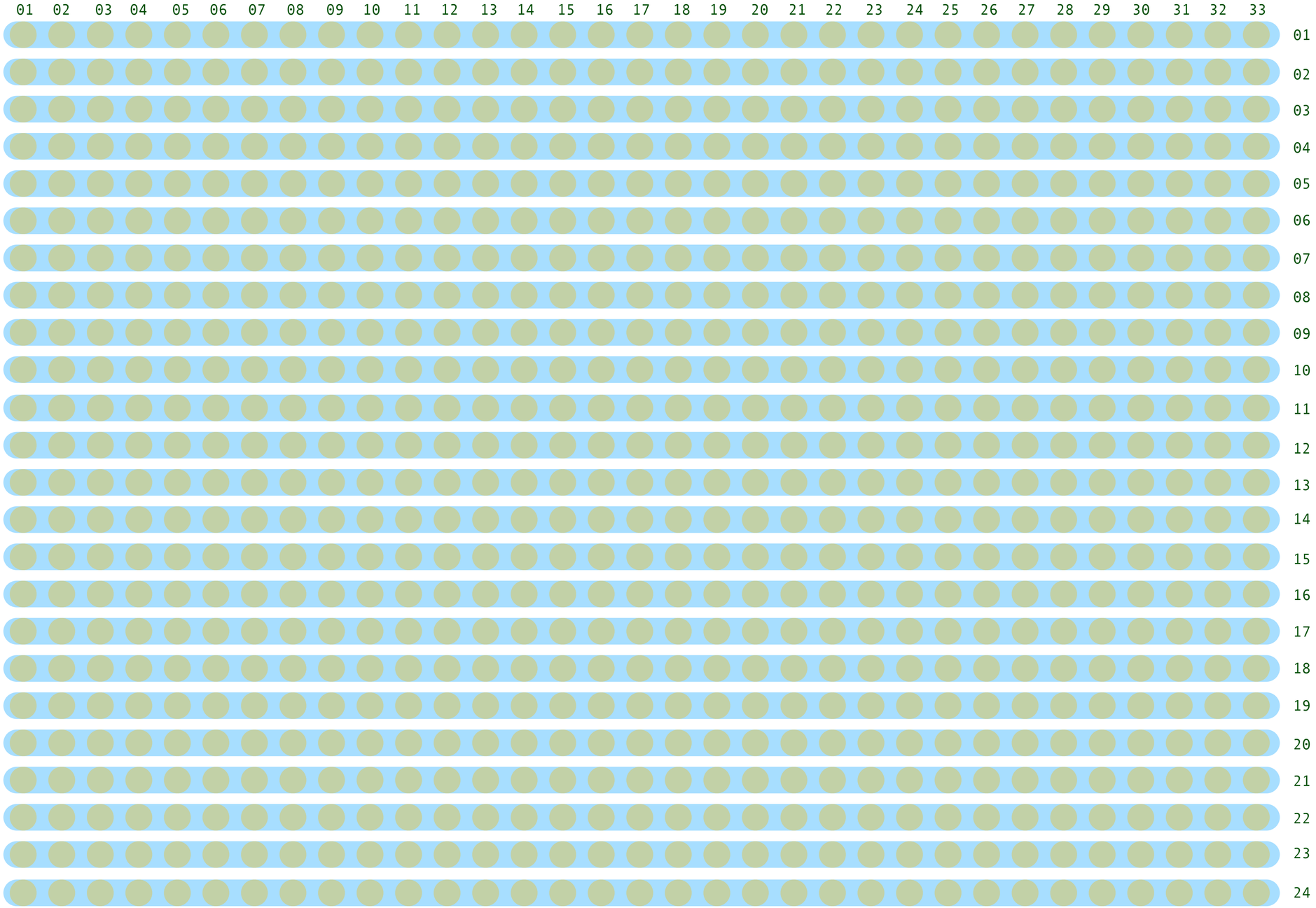
Temperature Circuit

LM35CAZ temperature sensor linked through a pair of AD623 integration amp



Resistor Values

- R1 (19.8KΩ) 18KΩ + 1.8KΩ
- R2 (40.2KΩ) 39KΩ + 1.2KΩ
- R4 (29070Ω) 28KΩ + 1.8KΩ + 270Ω
- R5 (18KΩ) 18KΩ
- R6 (24.9KΩ) 18KΩ + 2.2KΩ + 4.7KΩ
- R7 (24.9KΩ) 18KΩ + 2.2KΩ + 4.7KΩ
- R8 (80KΩ) 82KΩ


01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33
01
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