ArduGauge PCB V1
12/11/2022
Designed By Daniel Barker

R4-7 VALUES DEPENDANT ON
ANALOG SENSOR CHARACTERISTICS

+V +5V +5V +5V +5V +12V Vin

R4 DISC03 R5 DISC03 R6 DISC03 R7 DISC03

J3
B8B-PH-SM4-TB_LFSN_
B8B-PH-SM4-TB

To CH4 Sender A3
To CH3 Sender A2
To CH2 Sender A1
To CH1 Sender A0

MP2 MP1

Button Input D2

GND

Regulation/Filter Circuit

+12V Vin

L1

C3 330uF
C5 100nF
GND

IC2
LD1117S50CTR
VIN GROUND
VOUT_1 VOUT

+V +5V
C4 10uF
GND

+V +5V

+5V

CONN_SIL_5
PROG
A 1
B 2
C 3
D 4
E 5
J4
GND

R3 4k7 R2 4k7

A5 (SCL)
A4 (SDA)

+V +5V
R1 10k

S1 Reset

GND

D2 / TX
A5 (SCL)
A4 (SDA)
A3
A2

32 31 30 29 28 27 26 25

IC1
ATMEGA328P-AU

PD2 [PCINT18]
PD1 [PCINT17]
PD0 [PCINT16]
PC5 [RESET/PCINT14]
PC4 [PCINT12]
PC3 [PCINT11]
PC2 [PCINT10]

+V +5V

C6 47uF
C7 10nF
C8 10nF
GND

D3 1 PD3 [PCINT19]
D4 2 PD4 [PCINT20]
    3 GND_1
    4 VCC_1
    5 GND_2
    6 VCC_2
    7 PB6 [PCINT6]
    8 PB7 [PCINT7]

PC6

PC1 [PCINT9] 24 A1
PC0 [PCINT8] 23 A0
ADC7 22 A7
GND_3 21
AREF 20
ADC6 19
AVCC 18
PB5 [PCINT5] 17 D13 (SCK)

Y1 16MHz
1 2
C1 22pF C2 22pF
GND

GND

PD5 PD6 PD7 PB0 PB1 PB2 PB3 PB4
[PCINT21][PCINT22][PCINT23][PCINT0][PCINT1][PCINT2][PCINT3][PCINT4]

9 10 11 12 13 14 15 16

D5 D6 D7 D8 D9 D10 D11 (MOSI) D12 (MISO)

+12V
Vin Filt

R11 10k

+V +5V

R10 10k
Voltmeter Divider

R9 10k

GND

J2
B8B-PH-SM4-TB-LFSN_
B8B-PH-SM4-TB

+V +5V

SPI
D13 (SCK) 8
D12 (MISO) 7
D11 (MOSI) 6
D10 5
I2C
A5 (SCL) 4
A4 (SDA) 3
2
1

MP2 10
MP1 9

GND

J1
S8B-PH-SM4-TB-LFSN_
S8BPHSM4TBLFSN

+V +5V

VCC8
GND7
D11 (MOSI) DIN6
D13 (SCK) CLK5
D9 CS 4
D8 DC 3
D7 RST2
D6 BL 1

MP2 MP2
MP1 MP1

To LCD

GND