core schematic

VCC
U1
ATMEGA328P
DIP-28

Pin		Pin	
7	VCC	14	(PCINT0/CLK0/ICP1)PB0
20	AVCC	15	(PCINT1/OC1A)PB1
21	AREF	16	(PCINT2/OC1B/SS)PB2
		17	(PCINT3/OC2A/MOSI)PB3
		18	(PCINT4/MISO)PB4
		19	(PCINT5/SCK)PB5
		9	(PCINT6/XTAL1/TOSC1)PB6
		10	(PCINT7/XTAL2/TOSC2)PB7
		23	(PCINT8/ADC0)PC0
		24	(PCINT9/ADC1)PC1
		25	(PCINT10/ADC2)PC2
		26	(PCINT11/ADC3)PC3
		27	(PCINT12/SDA/ADC4)PC4
		28	(PCINT13/SCL/ADC5)PC5
		1	(PCINT14/RESET)PC6
		2	(PCINT16/RXD)PD0
		3	(PCINT17/TXD)PD1
		4	(PCINT18/INT0)PD2
		5	(PCINT19/OC2B/INT1)PD3
		6	(PCINT20/XCK/T0)PD4
		11	(PCINT21/OC0B/T1)PD5
		12	(PCINT22/OC0A/AIN0)PD6
		13	(PCINT23/AIN1)PD7
22	GND		
8	GND		

C1 100n
GND

D8
10k R2
VCC

U2 RFM95W
RESET VDD ANT
NSS
MOSI
MISO
SCK
GND GND GND
DIO5 DIO4 DIO3 DIO2 DIO1 DIO0

VCC AE1 Antenna

13 6 5 3 2 4 1 8 10 9 7 12 11 16 15 14

X1 X2
A0 A1 A2 A3
SDA SCL
RST
RXD TXD
D5 D6 D7

10k R1
VCC
GND
www.hoperf.nl/RFM95W

power & programming

P1 2.7 – 6.0 VDC
MCP1700-3302
VI TO-92 VO
GND U3
power select JP1
Q1 STU60N3LH5 TO-251
C2 10u C3 100n C4 100u
GND VCC

X2
1k R5
LED D1
GND

P2 serial breakout
R3 1k
RXD TXD RST
C5 100n
GND

SW_GND
Q2 STU60N3LH5 TO-251
X1
1k R4
GND

standard sensors

Air temperature and humidity sensor
VCC
10k R6 10k R7
SDA SCL
P3 HTU21D breakout
GND
www.sparkfun.com/products/12064

GPS module
VCC
P4 GPS
D8
1k R8
SW_GND
www.sparkfun.com/products/13740

optional sensors

Disdrometer
A3
R9 10k
1k R10
P5 piezo
D5
GND

PAR meter
VCC
A2
10k R11 100k R12
P6 BPW34
D5
GND

Soil moisture sensor
D7 D6
10k R13
A1
P7 electrodes
forum.arduino.cc/index.php?topic=37975
aquatictechtank.net/viewtopic.php?f=11&t=150

Other sensors
VCC
SW_GND
A0 A1 A2 A3 D5 D6 D7 D8
P8 perfboard breakout
GND