PANNEL

R7
R022

VIN

Q1
IPB136N08N3

SWITCHNODE

L1
100u

VOUT

R8
R016

BATTERY

A

R1
39k

D3
20V

R13
0R

IC1
1 REF OUT 6
2 GND IN- 5
3 VCC IN+ 4
INA213LONG

IIN_SENSE

VIN_SENSE

C9
100n

R2
10k

C3
100n

+ C1
680u

Q2
IPB136N08N3

D1
SCHOTTKYMINI2

+5V

+ C2
820u

R14
0R

IC2
1 REF OUT 6
2 GND IN- 5
3 VCC IN+ 4
INA213LONG

IOUT_SENSE

VOUT_SENSE

R3
22k

C4
100n

R4
10k

C8
100n

GND GND   GND GND GND   GND   GND GND   GND GND GND   GND GND

R5
10

R6
10

+12V

R15
0R

R11
10

D2
SCHOTTKYSOD123

C6
100n

B

IC3
1 VCC VB 8
2 IN HO 7
3 SD VS 6
4 GND LO 5
IR2104

PWM
SD

C7
1u

C5
100n

GND GND   GND

BATTERY
X1-1 Battery
X1-2
GND

Digital2

Digital1

RS RW E

SD PWM D4 D5 D6 D7

C

PANNEL
X2-1 Pannel
X2-2
GND

+5V +12V

Power

Analog

LCD1G$1   LCD_2X16
LCD DISPLAY 16x2

+5V

R12
0R

+5V

220 R9

DRILL@1
DRILL@2
DRILL@3
DRILL@4

+12V

Supply
X3-1
X3-2
GND

GND

VOUT_SENSE
IOUT_SENSE
IIN_SENSE
VIN_SENSE

D

R10
10k
CCW
CCW
WIPER

C10
100n

GND   GND GND

RS RW E

D4 D5 D6 D7

GND

GND

LCD pins: GND VCC CONTR RS R/W E D0 D1 D2 D3 D4 D5 D6 D7 LED+ LED-
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

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