

Diagram showing the connection of four fiducial markers (H1 M3, H2 M3, H3 M3, H4 M3) to a common ground (GND) via a green line. Below the diagram is a legend: FID1 (red circle), FID2 (orange circle), FID3 (red circle), FID4 (orange circle), and Fiducial (orange circle). To the right are two empty boxes labeled 'lion' and 'sw\_source' with corresponding file names: 'File: lion.kicad\_sch' and 'File: sw\_source.kicad\_sch'.

The circuit diagram is divided into three main sections: Input, Output, and Power.

- Input Section:** Features three push buttons (SW1, SW2, SW3) connected to the microcontroller pins SKRTLAE010, KMT031, and SKRTLAE010 respectively. Each button is pulled up to +3.3V by resistors R1B (10k), R2B (10k), and R2C (10k). The other ends of the buttons are connected to GND.
- Output Section:** Includes a buzzer connected to pin BTN\_USER\_A and an LED (EXT\_DETECTION\_CHARGER) connected to pin BTN\_USER\_B. Both are controlled by the microcontroller.
- Power Section:** Shows three LEDs (LED\_U1, LED\_U2, LED\_U3) connected to pins Q1, Q3, and Q2 (all BC817-25) respectively. Each LED is pulled up to +3.3V by resistors R19 (1k), R31 (1k), and R20 (1k). The LEDs are connected to GND.

[illegible][illegible][illegible]

Operating mode: ~7 mA

3.3V

R40

RST#

C12

4u7

RST#\_P

4

RESET

39

VCC

17

VCC

5

VCC

27

AVCC

7

XTAL2

8

XTAL1

AREF

29

PWR\_FLAG

U8

ATMEGA1284P-UI

37

EXT\_A0

36

EXT\_A1

35

EXT\_PWR\_5v\_EN

34

EXT\_DETECTION\_MCU

33

#CTS

32

#RTS

31

BTN\_USER\_A

30

BTN\_USER\_B

40

EXT\_B0

41

EXT\_B1

42

EXT\_PWR\_3v3\_EN

43

mode

44

CS\_SD

1

MOSI\_MCU

2

MISO\_MCU

3

SCLK\_MCU

19

SCL\_MCU

20

SDA\_MCU

21

SPL\_MUX\_SEL

22

3v3\_SD\_CTRL

23

EXT\_I2C\_EN

24

#ENUM\_FTDI\_USB

25

EXT\_C0

26

EXT\_C1

9

USB\_TXD

10

USB\_RXD

11

EXT\_RX

12

EXT\_TX

13

LED\_U1

14

LED\_U2

15

LED\_U3

16

buzzer

37

EXT\_A0

36

EXT\_A1

35

EXT\_PWR\_5v\_EN

34

EXT\_DETECTION\_MCU

33

#CTS

32

#RTS

31

BTN\_USER\_A

30

BTN\_USER\_B

40

EXT\_B0

41

EXT\_B1

42

EXT\_PWR\_3v3\_EN

43

mode

44

CS\_SD

1

MOSI\_MCU

2

MISO\_MCU

3

SCLK\_MCU

19

SCL\_MCU

20

SDA\_MCU

21

SPL\_MUX\_SEL

22

3v3\_SD\_CTRL

23

EXT\_I2C\_EN

24

#ENUM\_FTDI\_USB

25

EXT\_C0

26

EXT\_C1

9

USB\_TXD

10

USB\_RXD

11

EXT\_RX

12

EXT\_TX

13

LED\_U1

14

LED\_U2

15

LED\_U3

16

buzzer

39

VCC

28

VCC

18

VCC

6

VCC

3

MISO\_MCU

2

MOSI\_MCU

1

MISO\_MCU

SW4

KMT031

GND

3.3V

C10

100n

C13

100n

GND

GND

15p

C14

15p

GND

C11

10u

C15

100n

GND

GND

8 MHz

Y2

GND

1

3

5

4

J3

3.3V

4

MOSI\_MCU

3

SCLK\_MCU

2

MISO\_MCU

1

MISO\_MCU

SW4

KMT031

GND

3.3V

R40

RST#

C12

4u7

RST#\_P

4

RESET

39

VCC

17

VCC

5

VCC

27

AVCC

7

XTAL2

8

XTAL1

AREF

29

PWR\_FLAG

U8

ATMEGA1284P-UI

37

EXT\_A0

36

EXT\_A1

35

EXT\_PWR\_5v\_EN

34

EXT\_DETECTION\_MCU

33

#CTS

32

#RTS

31

BTN\_USER\_A

30

BTN\_USER\_B

40

EXT\_B0

41

EXT\_B1

42

EXT\_PWR\_3v3\_EN

43

mode

44

CS\_SD

1

MOSI\_MCU

2

MISO\_MCU

3

SCLK\_MCU

19

SCL\_MCU

20

SDA\_MCU

21

SPL\_MUX\_SEL

22

3v3\_SD\_CTRL

23

EXT\_I2C\_EN

24

#ENUM\_FTDI\_USB

25

EXT\_C0

26

EXT\_C1

9

USB\_TXD

10

USB\_RXD

11

EXT\_RX

12

EXT\_TX

13

LED\_U1

14

LED\_U2

15

LED\_U3

16

buzzer

39

VCC

28

VCC

18

VCC

6

VCC

3

MISO\_MCU

2

MOSI\_MCU

1

MISO\_MCU

SW4

KMT031

GND

3.3V

C10

100n

C13

100n

GND

GND

15p

C14

15p

GND

C11

10u

C15

100n

GND

GND

8 MHz

Y2

GND

1

3

5

4

J3

3.3V

4

MOSI\_MCU

3

SCLK\_MCU

2

MISO\_MCU

1

MISO\_MCU

SW4

KMT031

GND

3.3V

R40

RST#

C12

4u7

RST#\_P

4

RESET

39

VCC

17

VCC

5

VCC

27

AVCC

7

XTAL2

8

XTAL1

AREF

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PWR\_FLAG

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33

#CTS

32

#RTS

31

BTN\_USER\_A

30

BTN\_USER\_B

40

EXT\_B0

41

EXT\_B1

42

EXT\_PWR\_3v3\_EN

43

mode

44

CS\_SD

1

MOSI\_MCU

2

MISO\_MCU

3

SCLK\_MCU

19

SCL\_MCU

20

SDA\_MCU

21

SPL\_MUX\_SEL

22

3v3\_SD\_CTRL

23

EXT\_I2C\_EN

24

#ENUM\_FTDI\_USB

25

EXT\_C0

26

EXT\_C1

9

USB\_TXD

10

USB\_RXD

11

EXT\_RX

12

EXT\_TX

13

LED\_U1

14

LED\_U2

15

LED\_U3

16

buzzer

39

VCC

28

VCC

18

VCC

6

VCC

3

MISO\_MCU

2

MOSI\_MCU

1

MISO\_MCU

SW4

KMT031

GND

3.3V

C10

100n

C13

100n

GND

GND

15p

C14

15p

GND

C11

10u

C15

100

Active: 4.5 mA  
Shutdown: 30 uA

Active: 4.5 mA  
Shutdown: 30 uA

Pin connection diagram for the Molex 46436-9327 module. The module is a yellow rectangle labeled "MOLEX 46436-9327" with a connector "J4".

**Power Connections:**

- +BATT (Red):** Connected to pins P1, P2, P3, and P4 (Green).
- GND (Green):** Connected to pins A1, A3, A4, A5, B1, B2, B3, B4, B5, and B6.

**Signal Connections:**

- C1:** SCL\_OUT (Red)
- C2:** SDA\_OUT (Red)
- C3:** (Green)
- C4:** (Green)
- C5:** RST# (Red)
- C6:** (Green)
- D1:** SCLK\_OUT (Green)
- D2:** MISO\_OUT (Green)
- D3:** MOSI\_OUT (Green)
- D4:** EXT\_A0 (Green)
- D5:** EXT\_A1 (Green)
- D6:** EXT\_DETECTION (Green)

**Bottom Pins:**

- E1:** EXT\_C0
- E2:** EXT\_C1
- E3:** EXT\_TX
- E4:** EXT\_RX
- E5:** EXT\_B0
- E6:** EXT\_B1

[illegible]

Active: 68  $\mu$ A  
Disabled: 15  $\mu$ A

U7  
TMUX1574YYR

+3.3V

+3.3V

C19  
1u

R39  
10k

~~SPI\_MUX\_SEL~~

GND

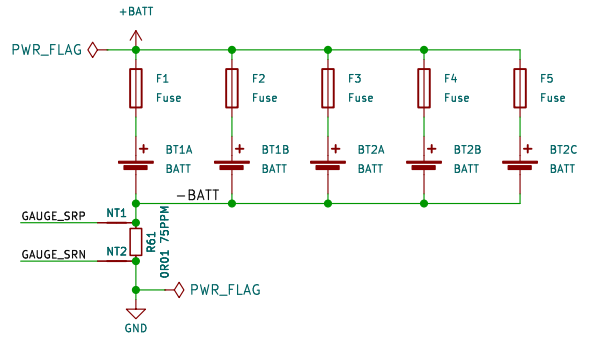
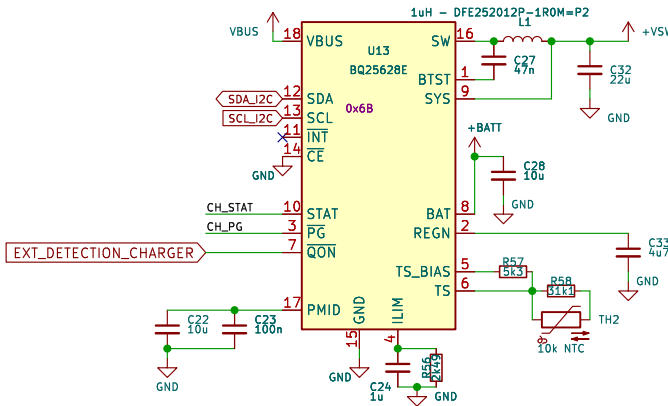
	1	2	3	4	5	6	7	8	SEL	VDD	16	15	14	13	12	11	10	9
MOSI_SD									S1A	EN						S4A	S4B	D1
MOSI_OUT									S1B							S4B	D4	S2A
MISO_MCU									D1							D4	S2A	S2B
MISO_SD									S2A							S3A	S3B	D2
MISO_OUT									S2B							D2	S3B	D2
MISO_MCU									D2							S3B	D2	D3
									GND							SCLK_SD	SCLK_OUT	SCLK_MCU

GND

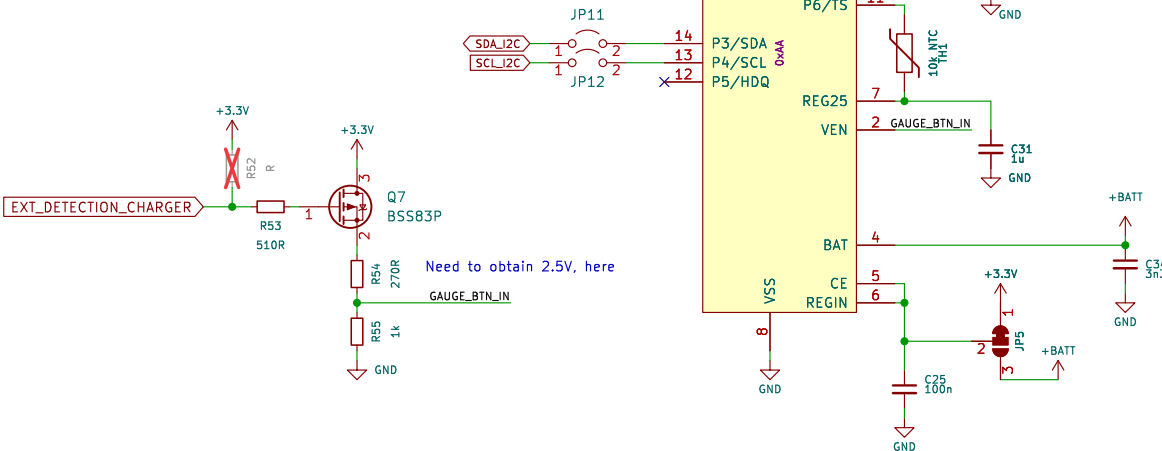
Size: A3	Page: 1/3	Date: 11-2023
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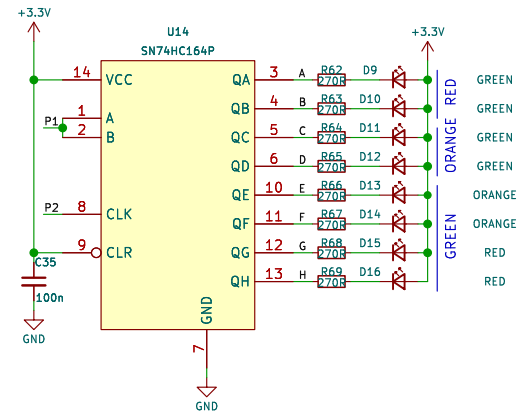
# BATTERY CHARGER



## FUEL GAUGE



## Battery Status Indicator



Doodhadnout optimální hodnoty odporů k LEDkám

**Title: BATDATUNT101**

Universal battery and data storage unit.

Author: MLAB.cz

Size: A4

Page: 2/3

Date:



