

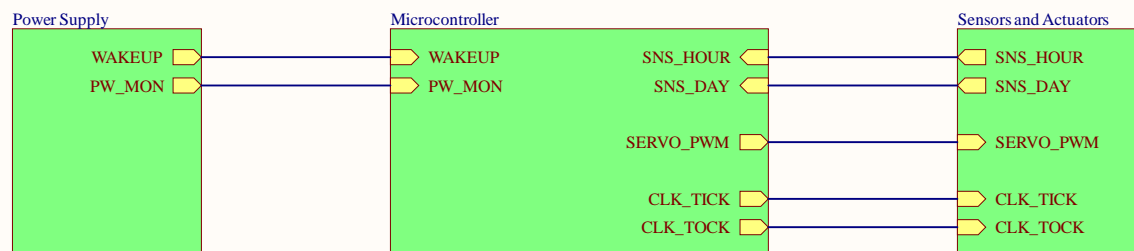
REVISION HISTORY

DATE	PAGES	REVISION
Jun-01-2021	N/A	Initial release A
Jul-01-2021	PCB	Swapped label R17 - C16
Jul-01-2021	PCB	Swapped position C3 with C4
Jul-01-2021	PCB	Swapped connector position of Hour with Day
Jul-01-2021	4	Swapped SW_DIO with SW_CLK of the PROG connector to mimic Blue Pill prog. connector
Jul-01-2021	5	Changed pinout of sensors connectors, so in case of misplacement there will be no damage. Separated sower suply from sensors and servo

Project: <i>Solari Cifra 5 Control STM32-G031K8</i>		Revision: <i>B</i>
Title: Revision History		
Sheet: 2 of 6	Author: Alfredo Cortellini	
Date: July-01-2021	License: CC BY-NC-SA 4.0	



BLOCK DIAGRAM



Local Fiducials



Project: *Solari Cifra 5 Control STM32-G031K8* Revision: *B*

Title: **Block Diagram**

Sheet: 3 of 6

Author: Alfredo Cortellini

Date: July-01-2021

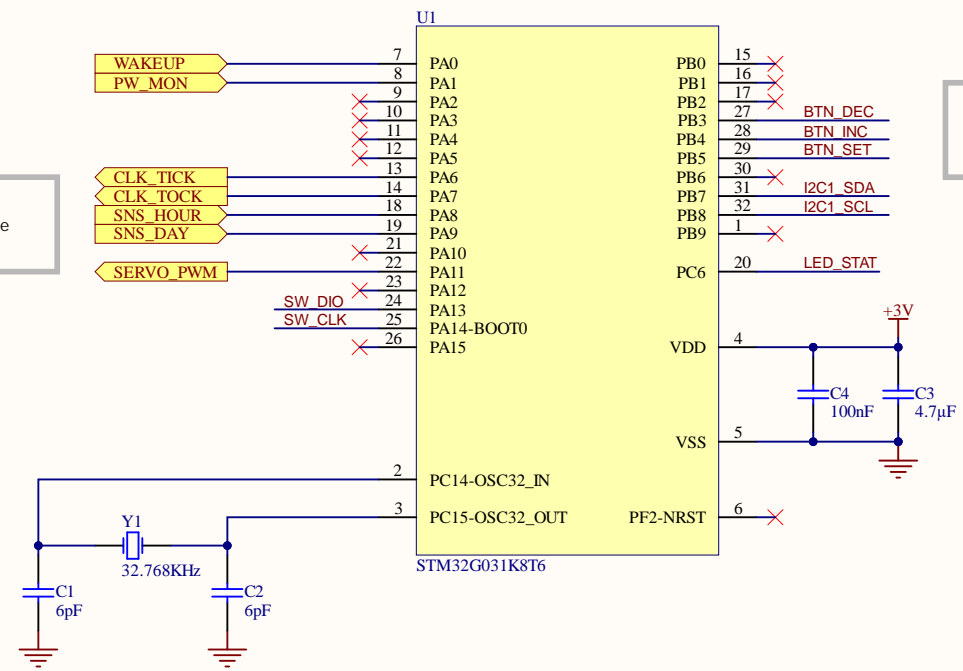
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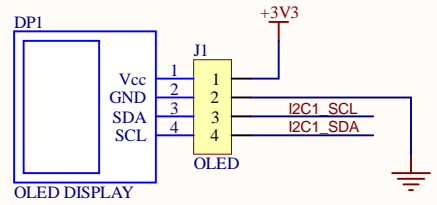
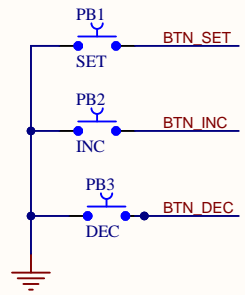
Main microcontroller

DESIGN NOTE:
Inputs PA8 and PA9 need to be configured with pull up.

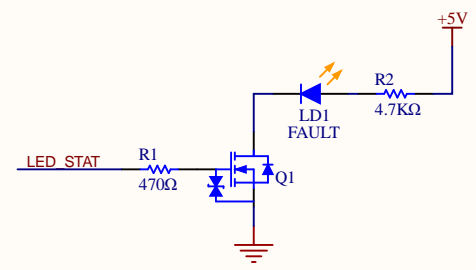
DESIGN NOTE:
Inputs PB3, PB4 and PB5 need to be configured with pull up.



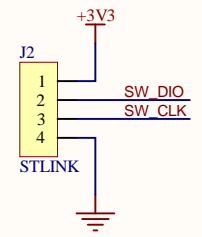
Human Interface



LED Status interface



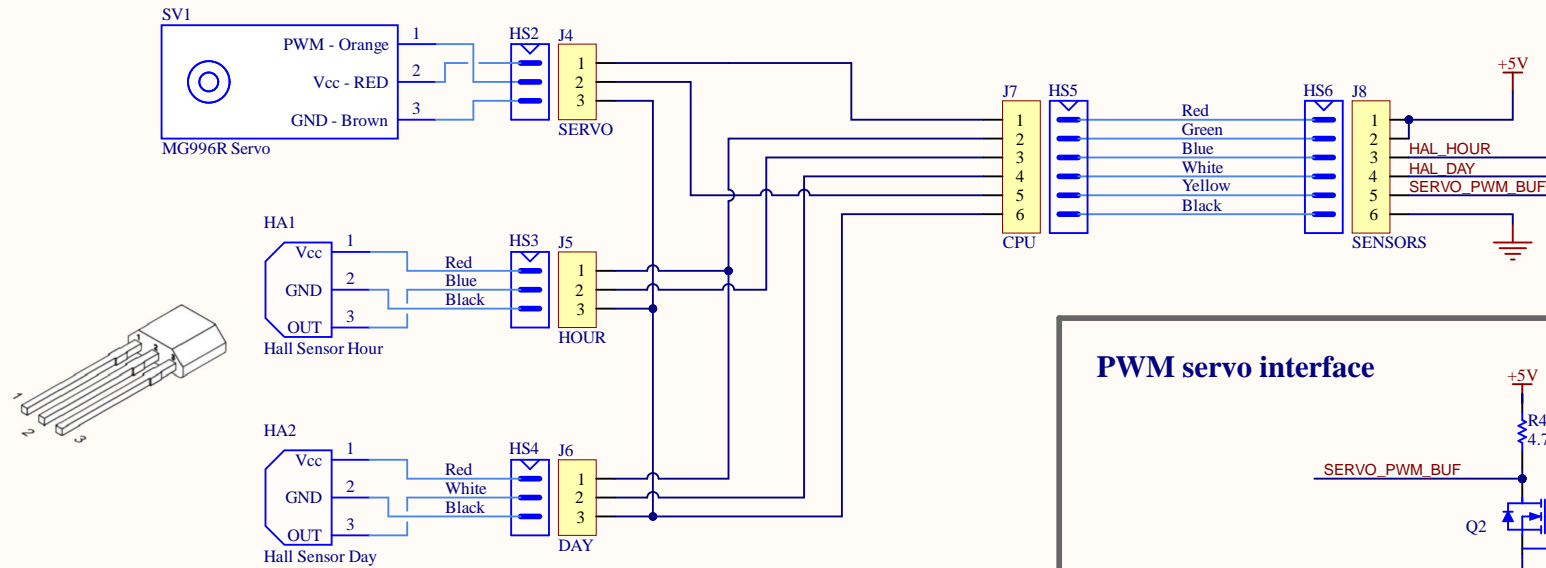
Program Connector



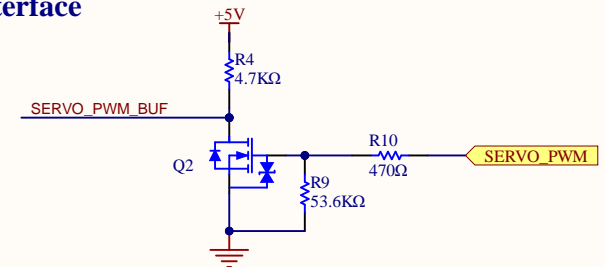
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Title: Microcontroller		
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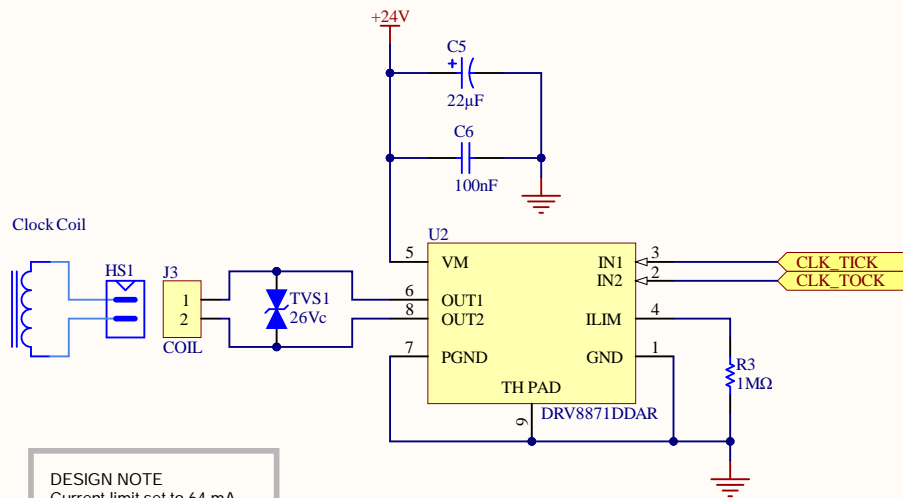
Clock sensor and actuators cable harness



PWM servo interface

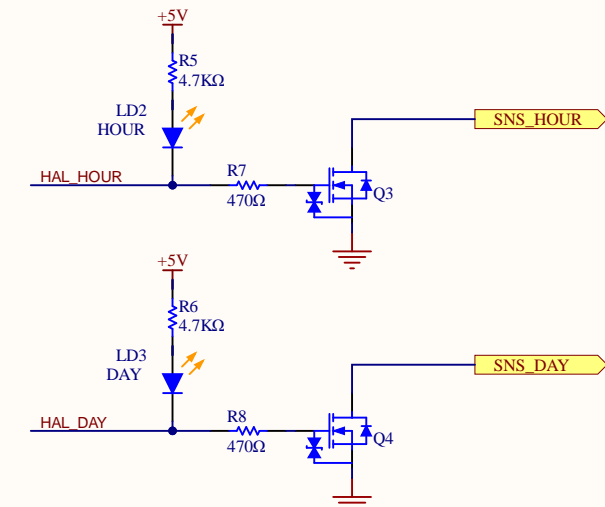


Clock coil actuator



DESIGN NOTE
Current limit set to 64 mA
Ilim = 64000 / R3

HAL Sensor interface



Project: *Solari Cifra 5 Control STM32-G031K8*

Revision: *B*

Title: **Sensors and Actuators**

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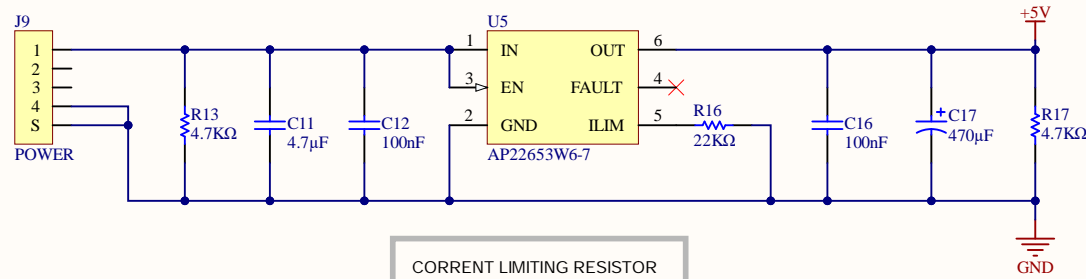
Author: Alfredo Cortellini

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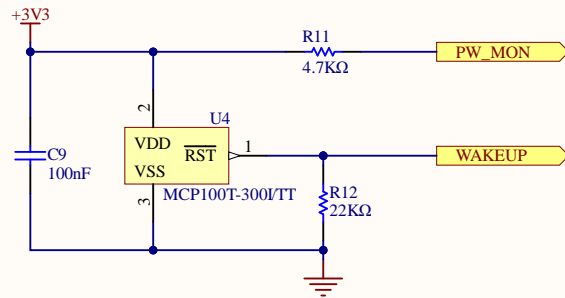


USB current limiter

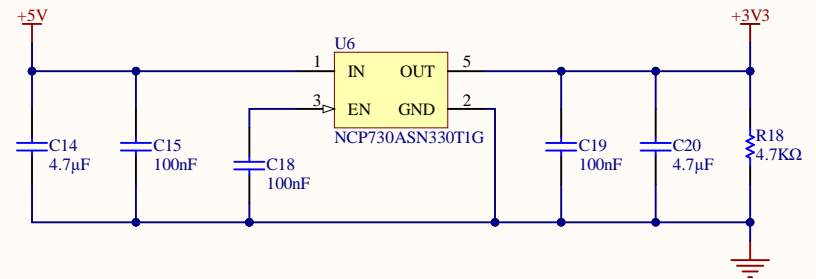


CORRENT LIMITING RESISTOR
 $I_{min} = 28955 / 22KR = 1.31 \text{ Amp}$
 $I_{typ} = 30321 / 22KR = 1.37 \text{ Amp}$
 $I_{max} = 31033 / 22KR = 1.41 \text{ Amp}$

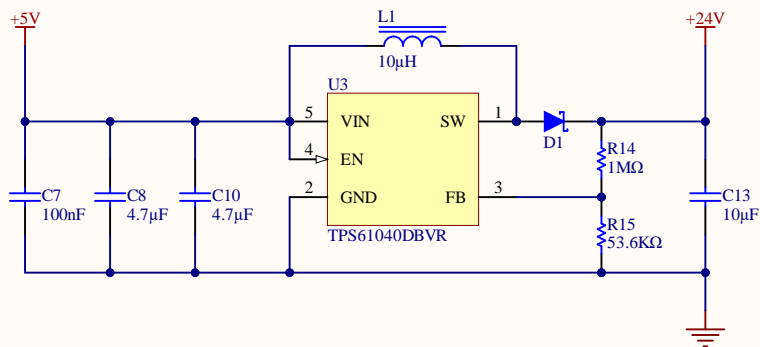
Wake-Up signal generator



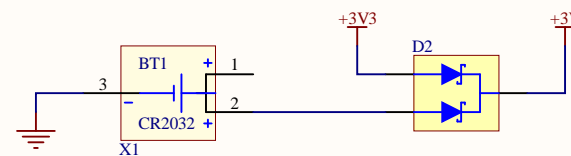
LDO 3.3 Volt power supply



Boost converter 24 Volt power supply



Litium battery power supply



Project: *Solari Cifra 5 Control STM32-G031K8*

Revision: *B*

Title: **Power Supply**

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