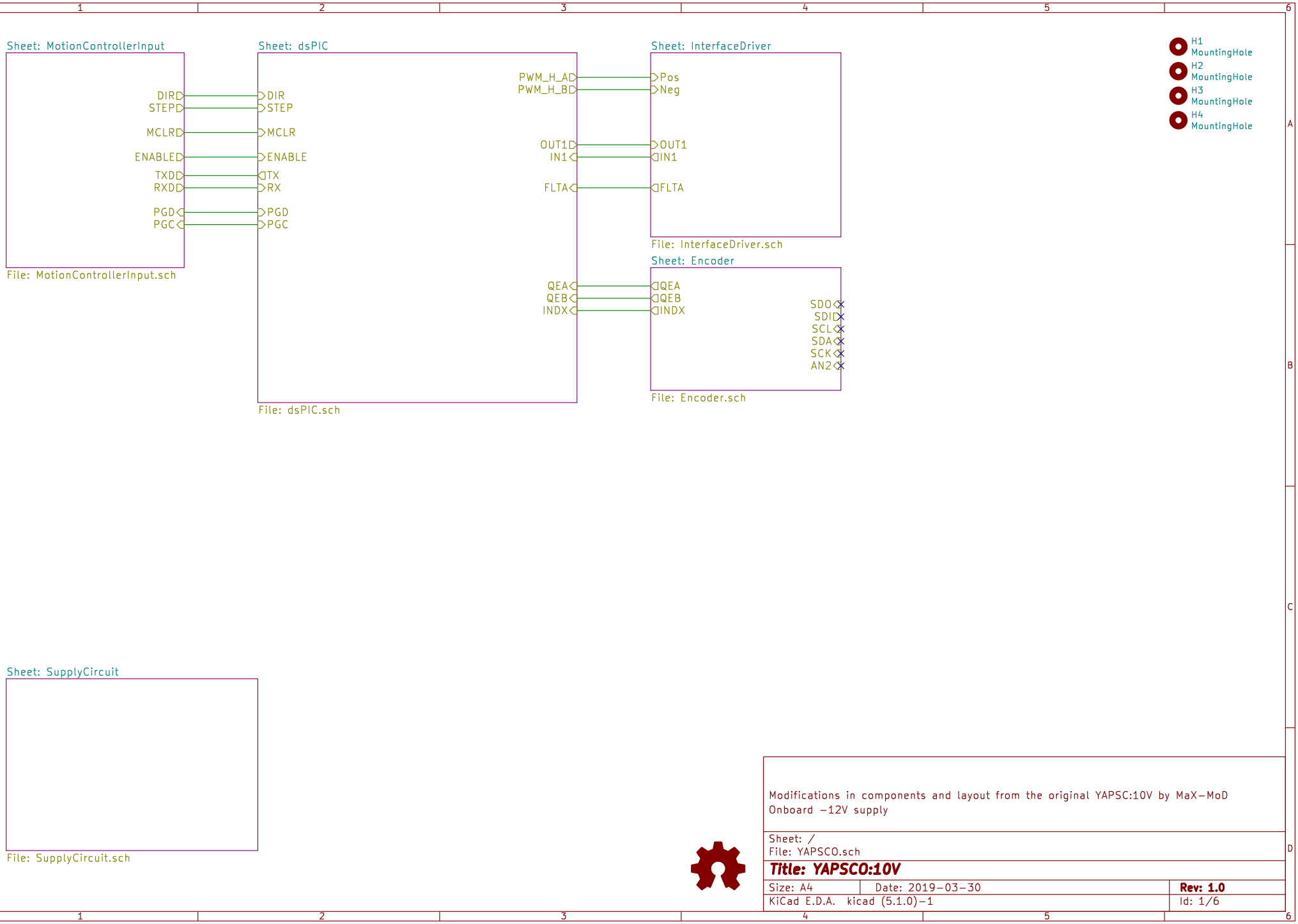


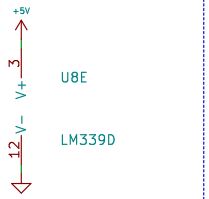

Modifications in components and layout from the original YAPSC:10V by MaX-MoD
Onboard -12V supply

Sheet: /
File: YAPSCO.sch

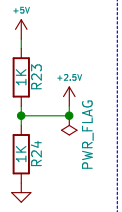
**Title: YAPSCO:10V**

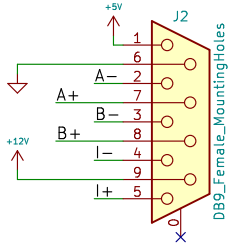
| Size: A4 | Date: 2019-03-30 | **Rev: 1.0** |
|---|---|---|
| KiCad E.D.A. kicad (5.1.0)-1 | | Id: 1/6 |

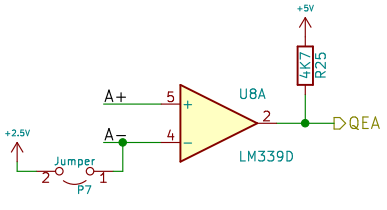
Power for the comparator

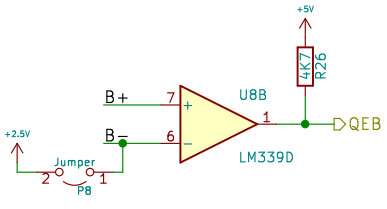


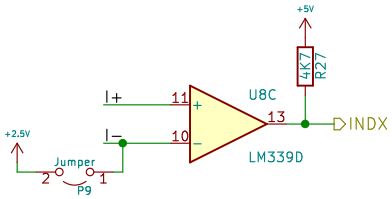

2.5V reference



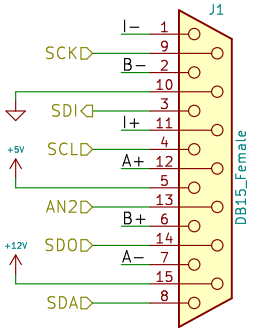



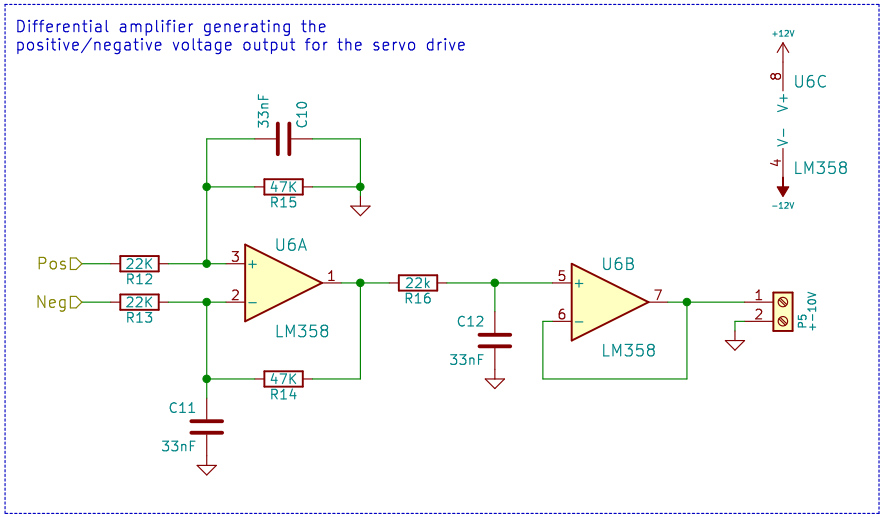




NOTE: J1 is optional
For compatibility with
YAPSC:V2 (same pinout)




| | | |
|---|---|---|
| Sheet: /Encoder/ | | |
| File: Encoder.sch | | |
| **Title: YAPSCO:10V** | | |
| Size: A4 | Date: 2019-03-30 | **Rev: A.1** |
| KiCad E.D.A. kicad (5.1.0)-1 | | Id: 2/6 |

Differential amplifier generating the
positive/negative voltage output for the servo drive



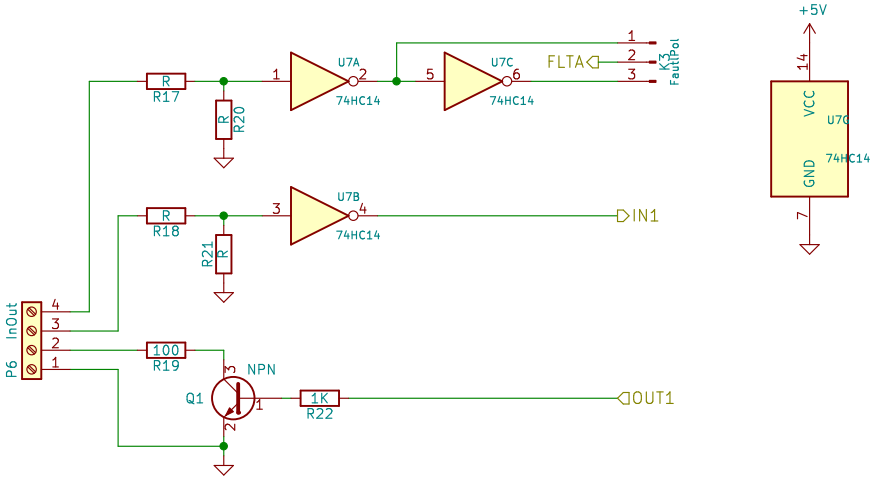

From the YAPSC:10V manual

### 4.2 Inputs

There are two Schmitt-trigger (digital) inputs which can be configured.

By changing the values of (R17,R20) and (R18/R21) the two inputs can work with 5V, 12V or 24V logic:

| 5V logic | 24V logic |
|---|---|
| R17 = R18 = 1KΩ | R17 = R18 = 39,2KΩ |
| R20 = R21 = 47KΩ | R20 = R21 = 10KΩ |
| Low level : L = 2,5V | Low level : L = 12V |
| High level : H = 3V | High level : H = 15V |





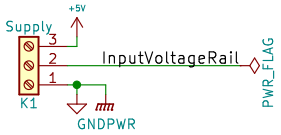


Sheet: /InterfaceDriver/
File: InterfaceDriver.sch

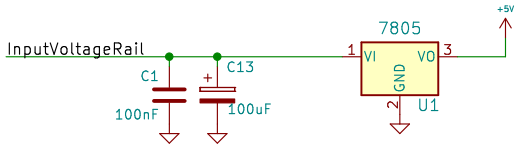
**Title: YAPSCO:10V**

| Size: A4 | Date: 2019-03-30 | **Rev: A.1** |
|---|---|---|
| KiCad E.D.A. kicad (5.1.0)-1 | | Id: 3/6 |

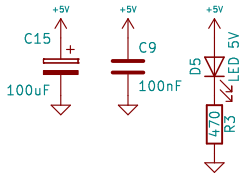
Input voltage connector with 5V out



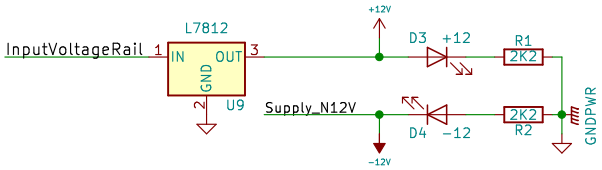

5V supply rail



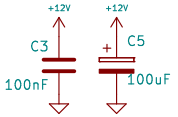

Bypass 5V rail



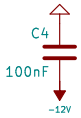

+12V/−12V supply rail



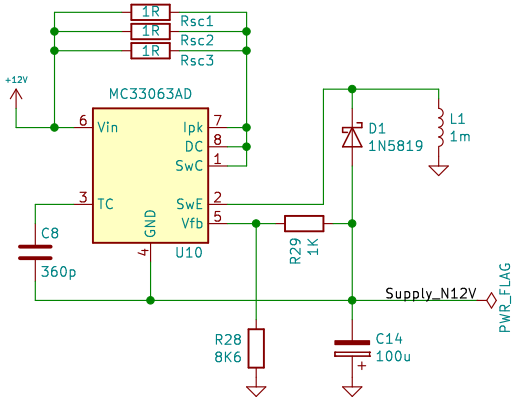

Bypass +12V rail




Bypass −12V rail



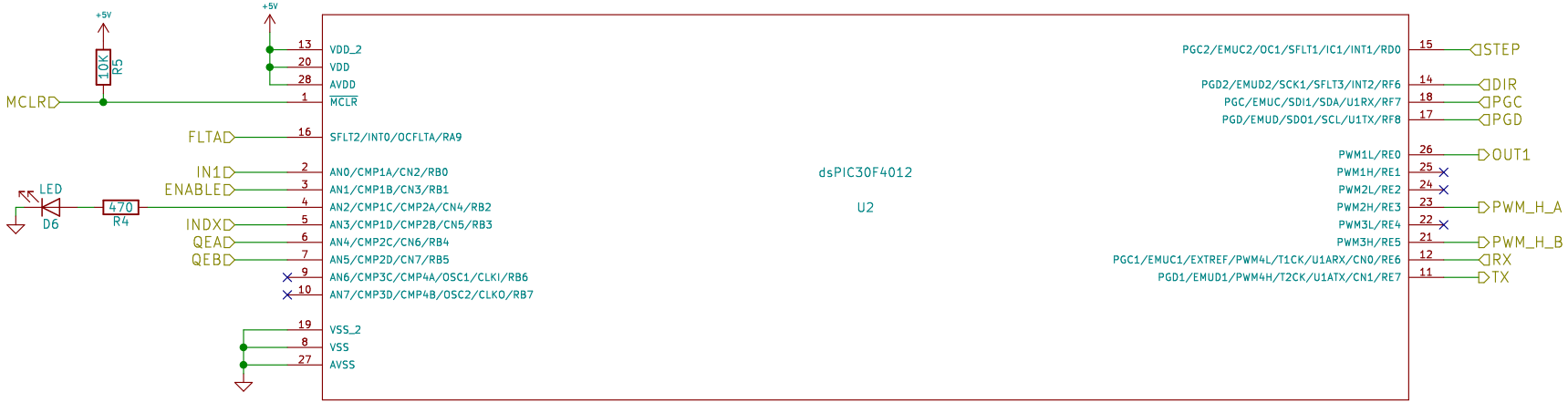

−12V onboard power supply
(Not needed if −12V is supplied directly from connector)
Component values are calculated with SMath−sheet




Sheet: /SupplyCircuit/
File: SupplyCircuit.sch

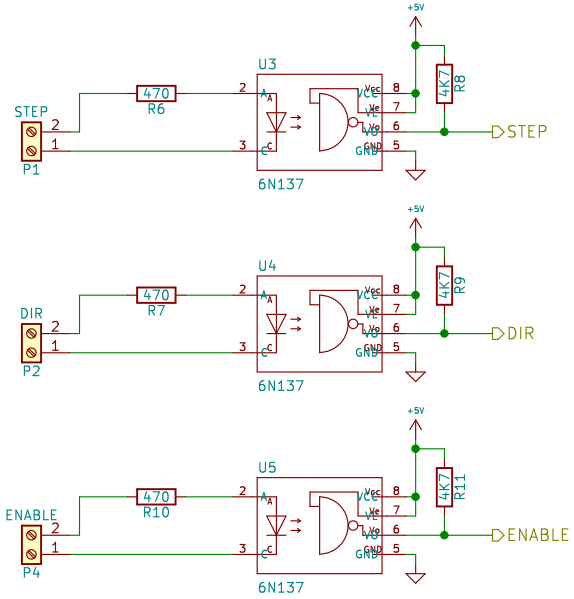
**Title: YAPSCO:10V**

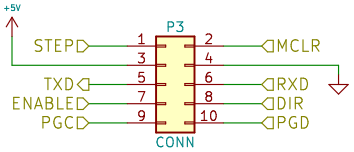
| Size: A4 | Date: 2019−03−30 | **Rev: A.1** |
|---|---|---|
| KiCad E.D.A. kicad (5.1.0)−1 | | Id: 4/6 |




| | | |
|---|---|---|
| Sheet: /dsPIC/<br>File: dsPIC.sch | | |
| **Title: YAPSCO:10V** | | |
| Size: A4 | Date: 2019-03-30 | **Rev: A.1** |
| KiCad E.D.A. kicad (5.1.0)-1 | | Id: 5/6 |

Output from motion controller
– optically coupled for isolation




TXD, RXD are data pins for normal COMport.
MCLR, PGC, PGD are ICSP programming pins for dsPIC.

| | | |
|---|---|---|
| Sheet: /MotionControllerInput/ | | |
| File: MotionControllerInput.sch | | |
| **Title: YAPSCO:10V** | | |
| Size: A4 | Date: 2019-03-30 | **Rev: A.1** |
| KiCad E.D.A. kicad (5.1.0)-1 | | Id: 6/6 |