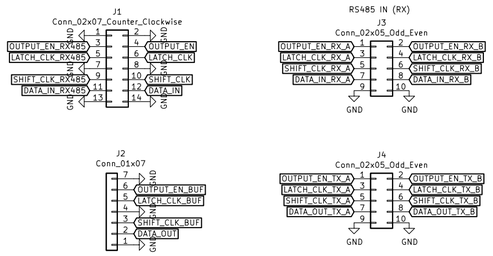
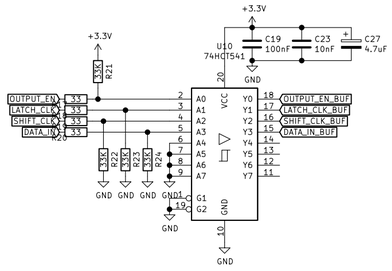
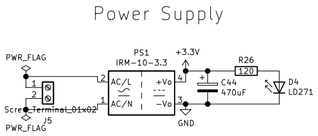
Input/Output signals



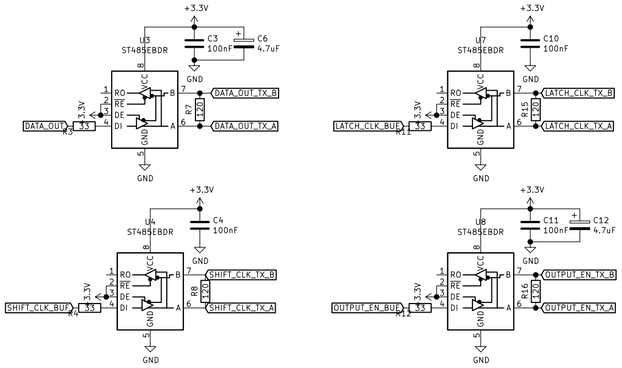
Signal buffering



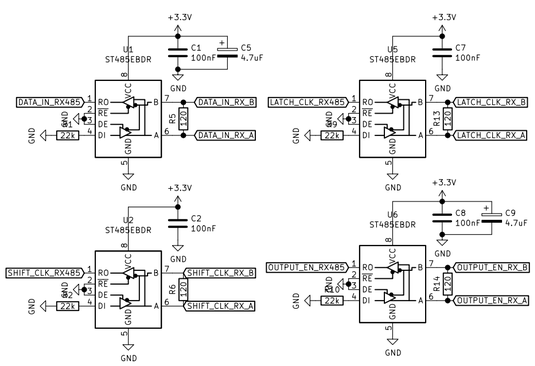
Power Supply



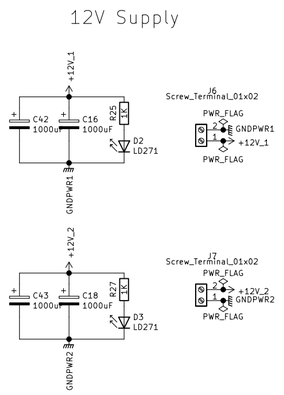
RS485 TX Drivers



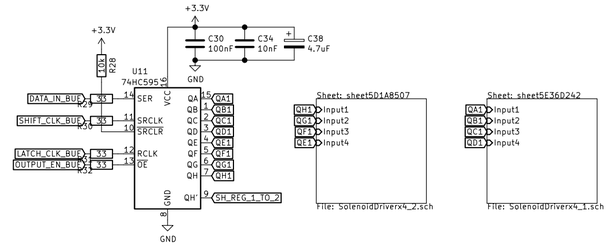
RS485 RX Drivers

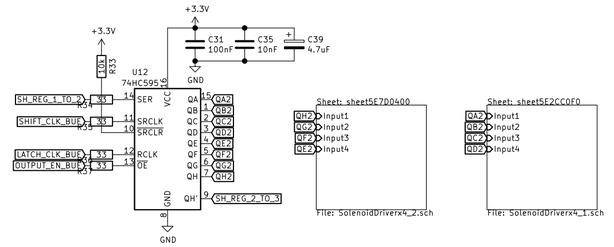


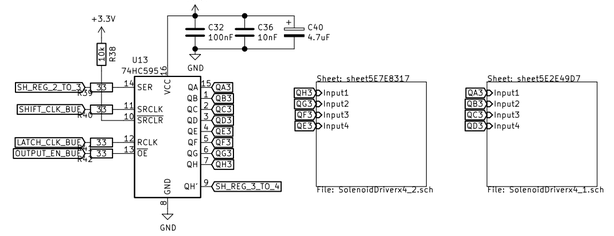
12V Supply

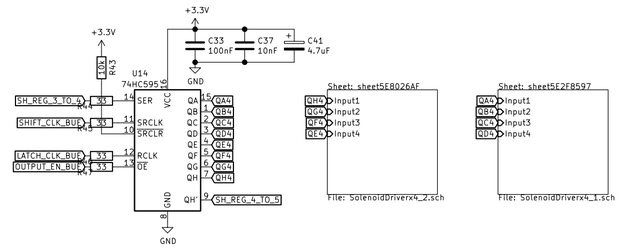


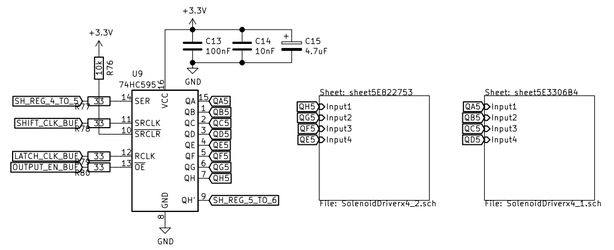
HC595 and solenoid drivers

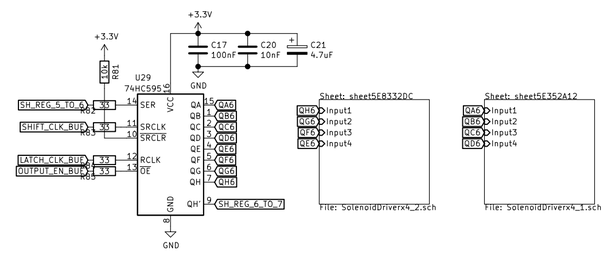


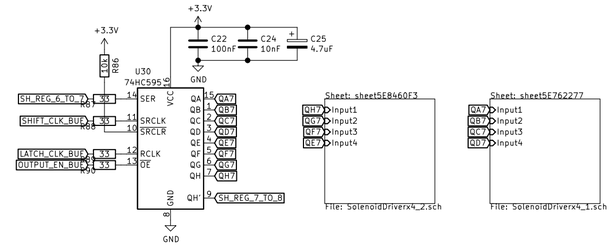


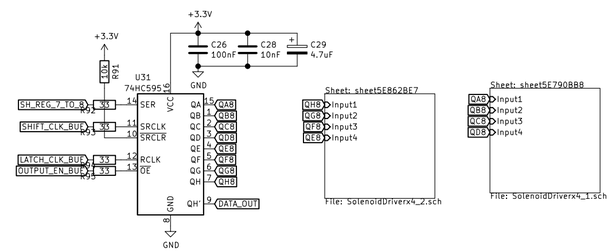




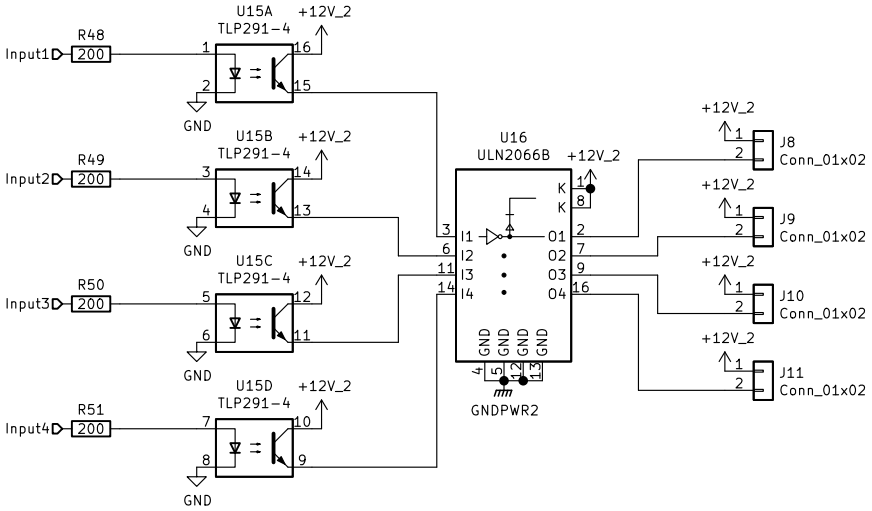








Cristian Ilea		
Sheet: /		
File: Hc595_Solenoid_Driver.sch		
Title: Isolated solenoid HC595 driver		
Size: A2	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 1/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

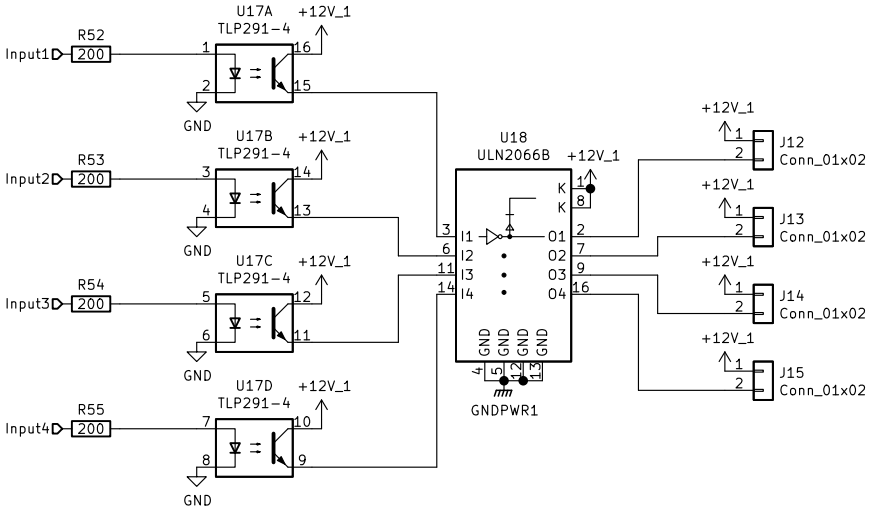
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5D1A8507/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 2/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

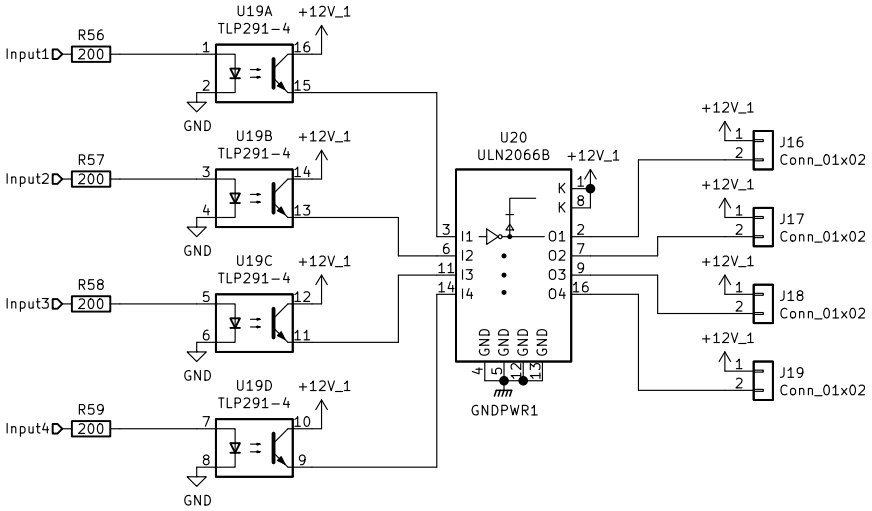
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E36D242/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 3/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

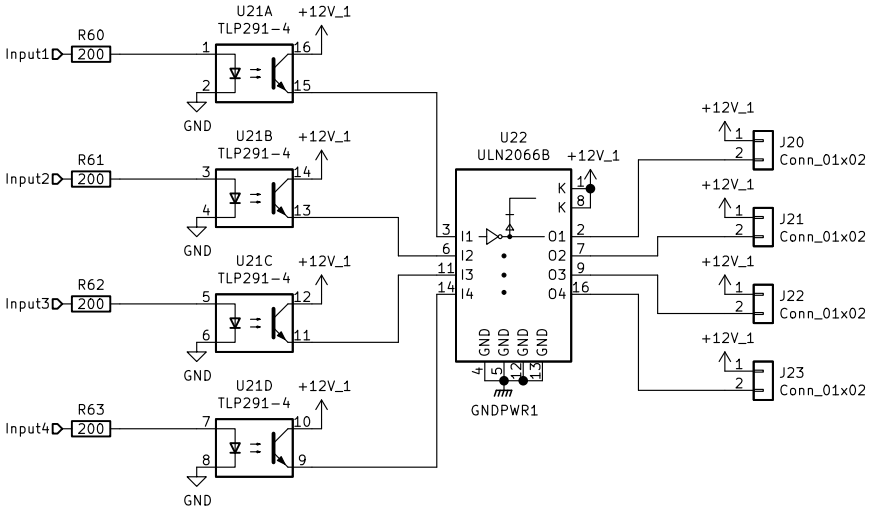
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E2CC0F0/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 4/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

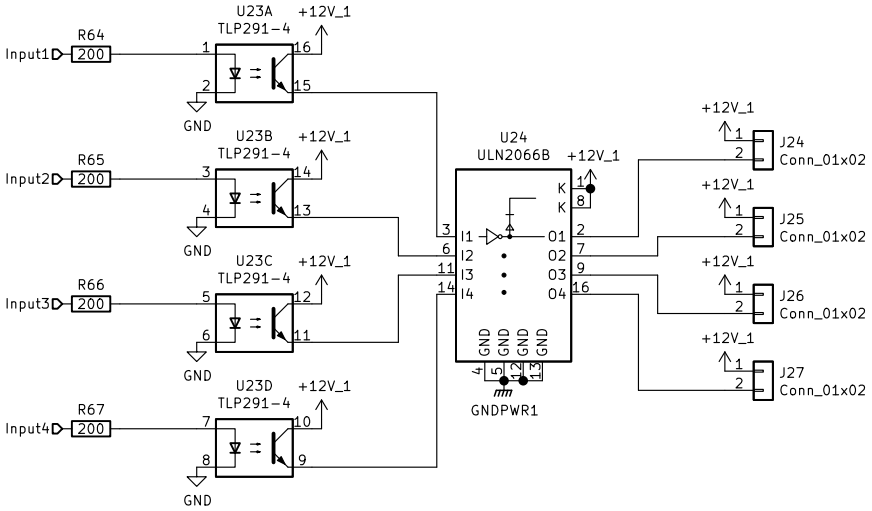
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E2E49D7/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 5/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

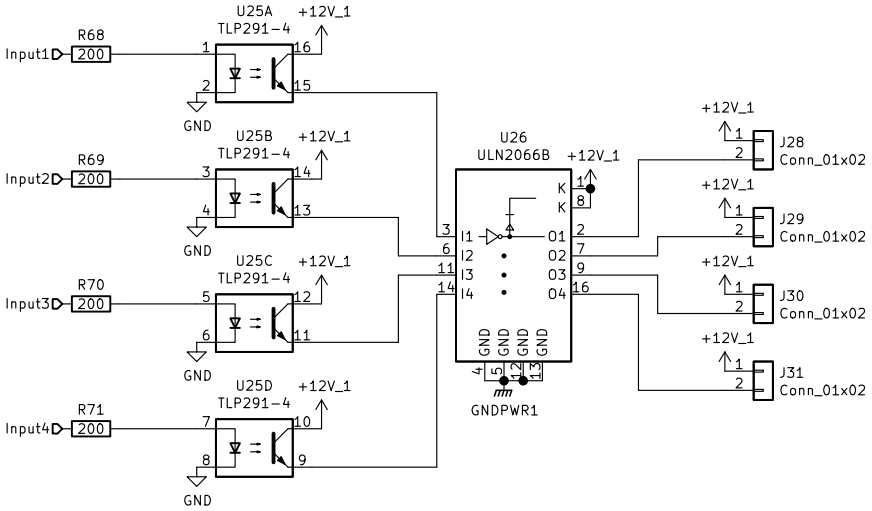
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E2F8597/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 6/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

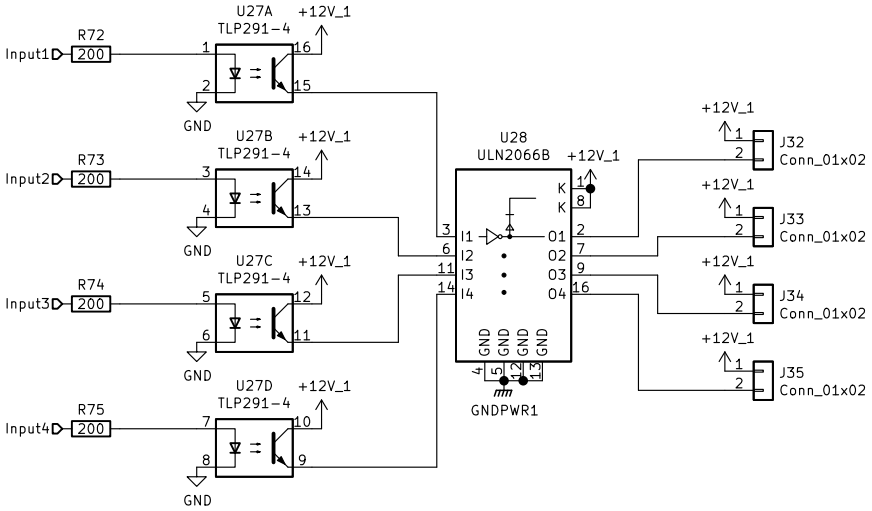
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E3306B4/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 7/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

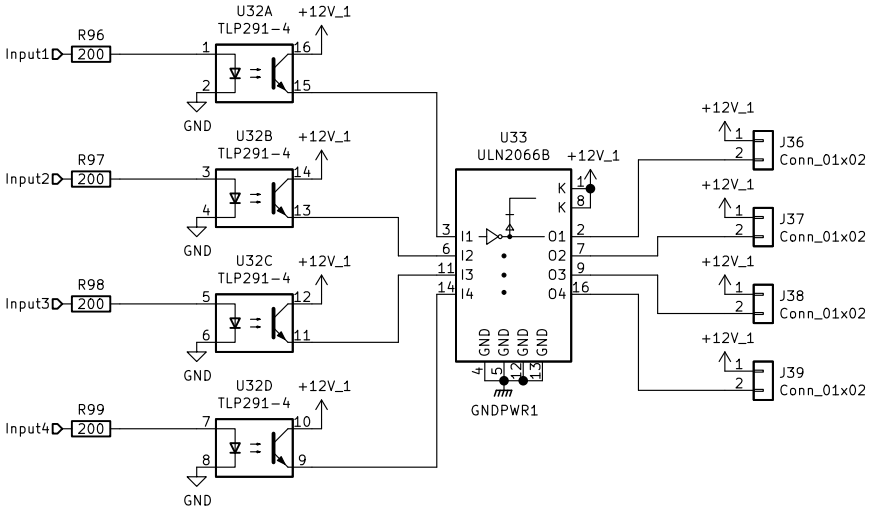
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E352A12/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 8/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

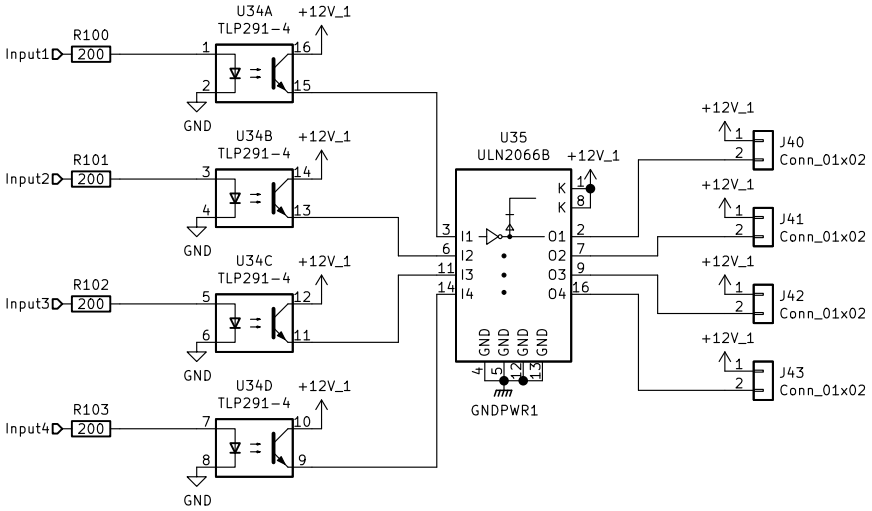
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E762277/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 9/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

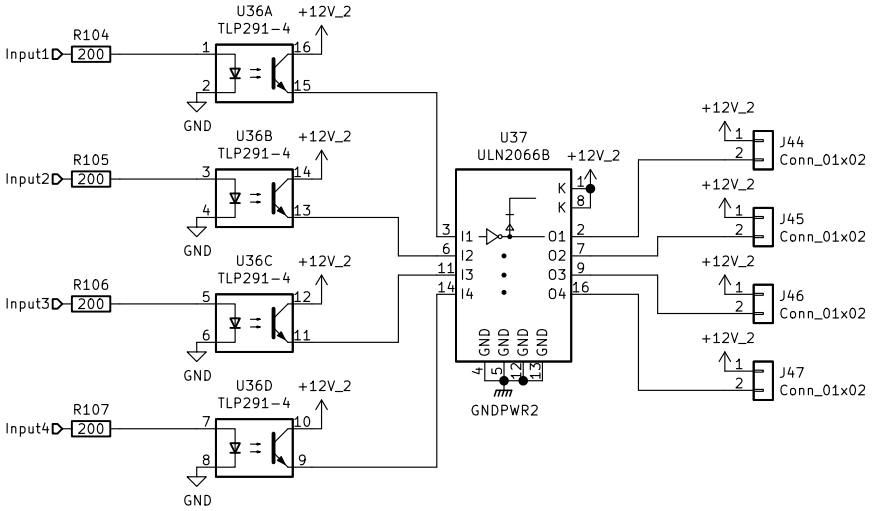
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E790BB8/ File: SolenoidDriverx4_1.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 10/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

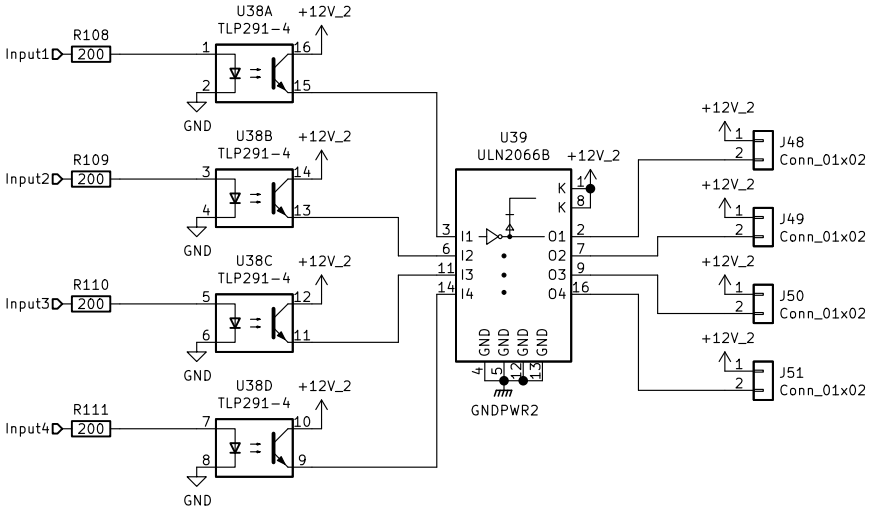
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E7D0400/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 11/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

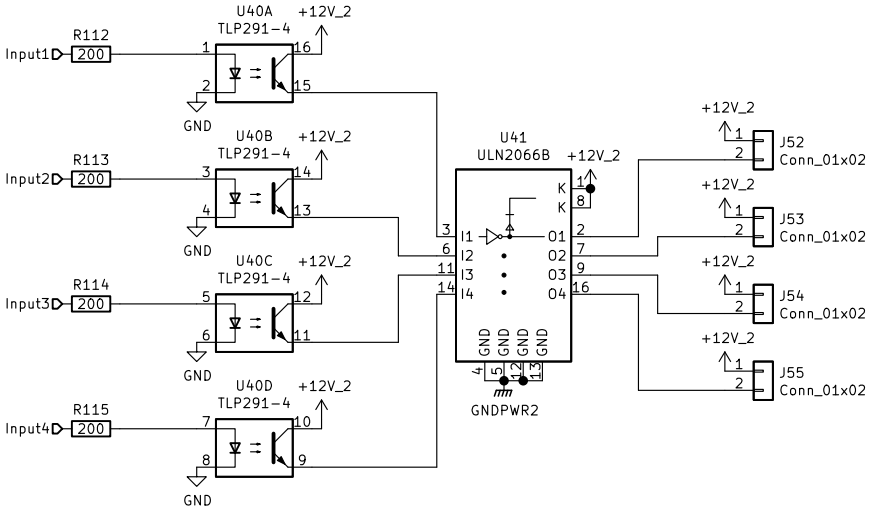
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E7E8317/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 12/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

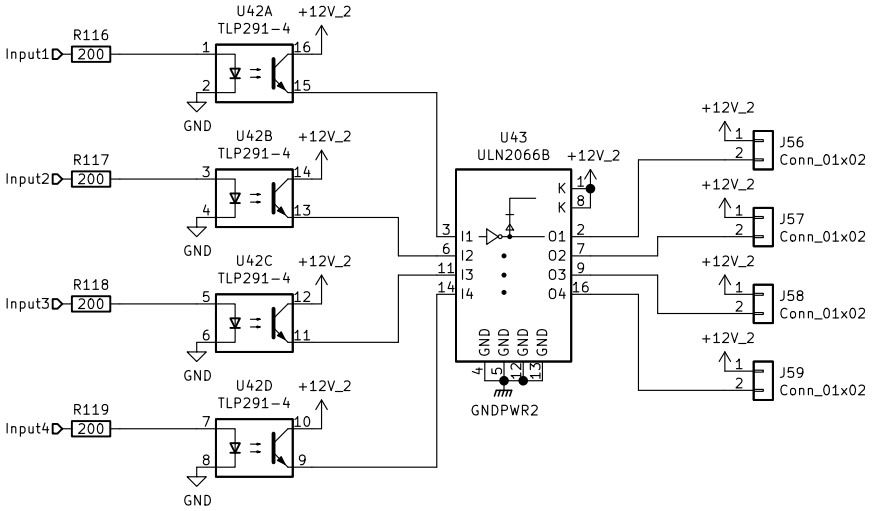
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E8026AF/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 13/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

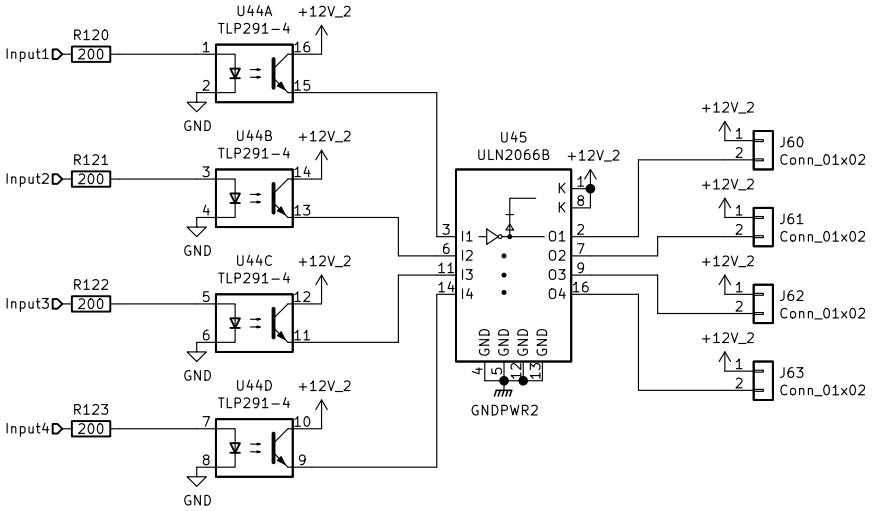
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E822753/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 14/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

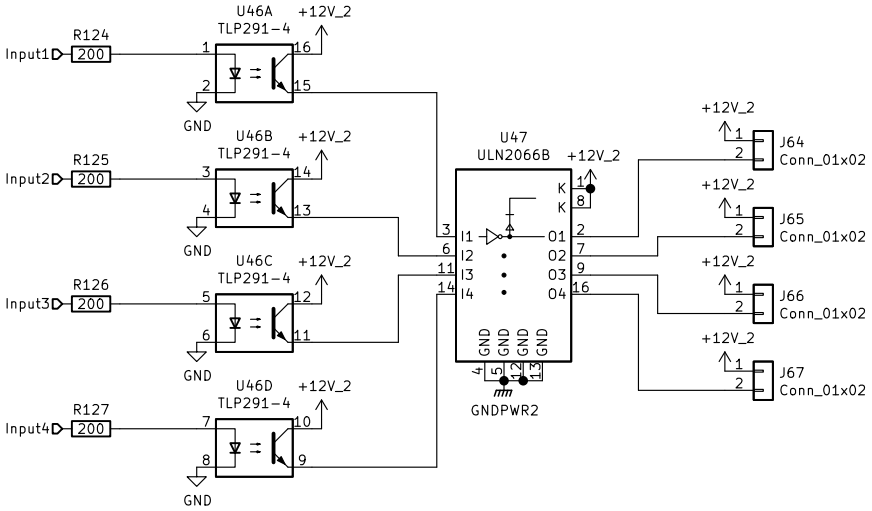
R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E8332DC/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 15/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

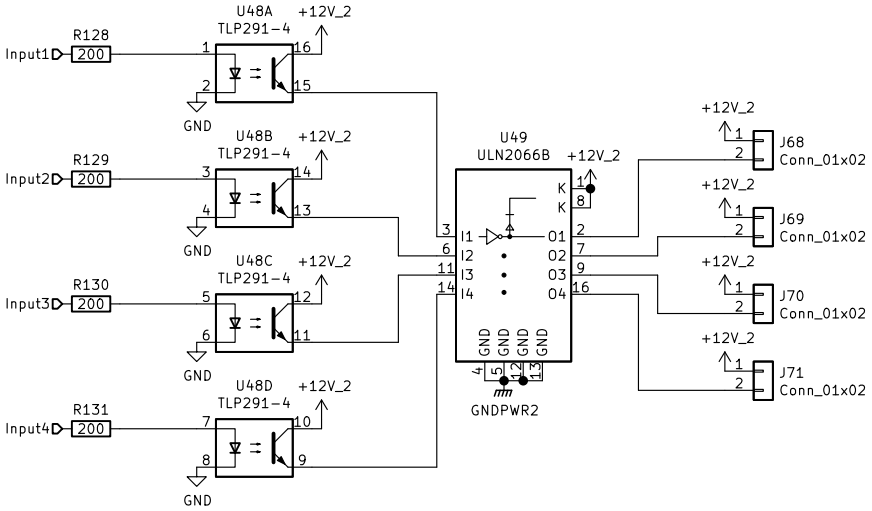
Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E8460F3/
File: SolenoidDriverx4_2.sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 16/17



TLP292-4

Vf = 1.2V (125 degC)
Vf = 1.4V (-55 degC)

R = (3.3V - 1.2V) / 10mA = 210
R = (3.3V - 1.4V) / 10mA = 190

TLP291-4

Vf = 1.175V (100 degC)
Vf = 1.3V (-50 degC)

R = (3.3V - 1.175V) / 10mA = 212
R = (3.3V - 1.3V) / 10mA = 200

Sheet: /sheet5E862BE7/ File: SolenoidDriverx4_2.sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.9)-1		Id: 17/17