

1

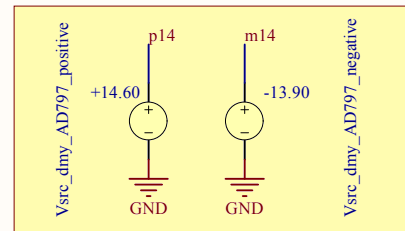
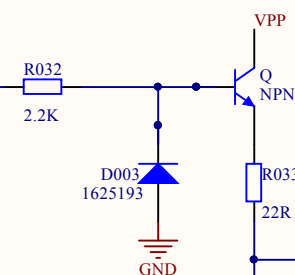
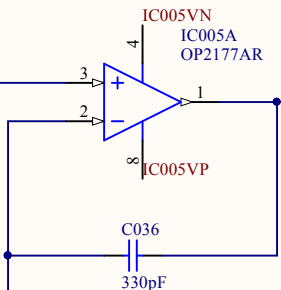
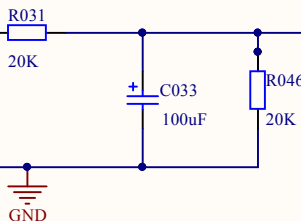
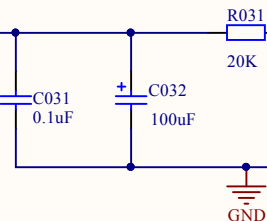
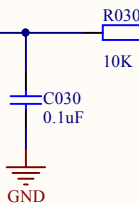
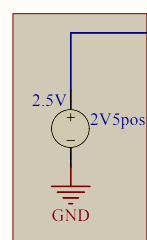
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4

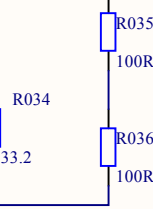
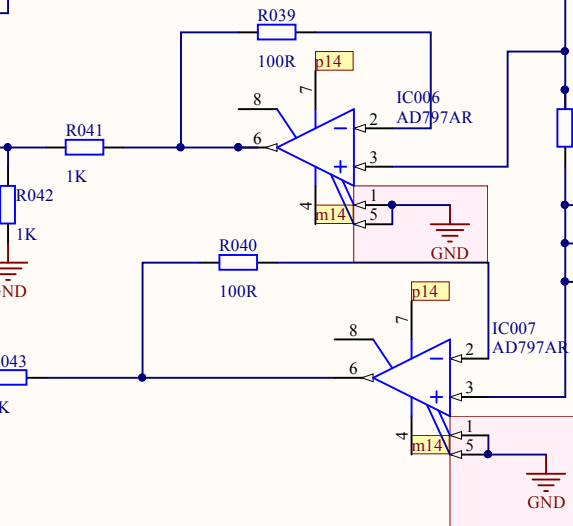
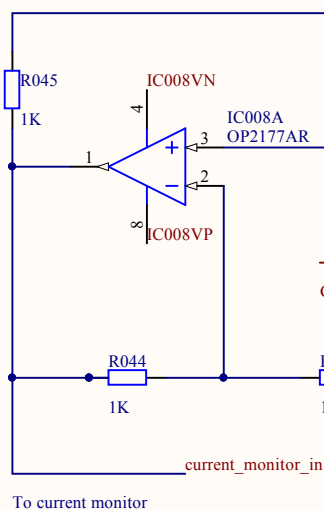
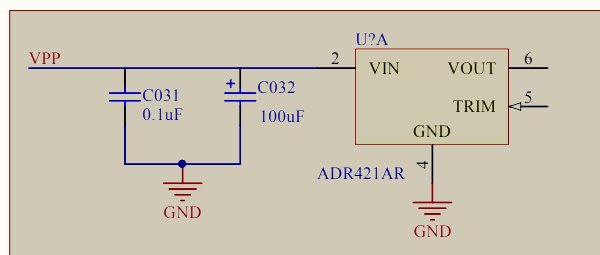
A

A



B

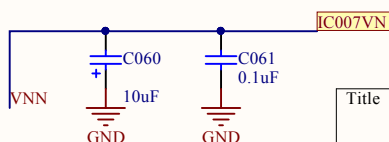
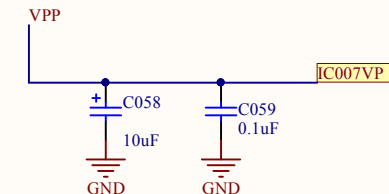
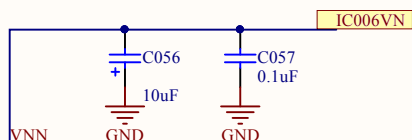
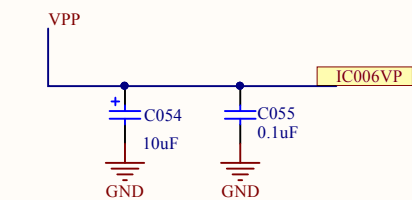
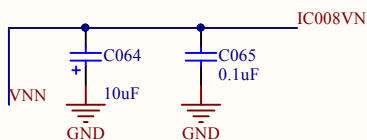
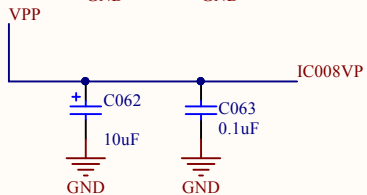
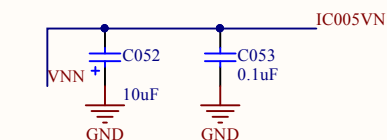
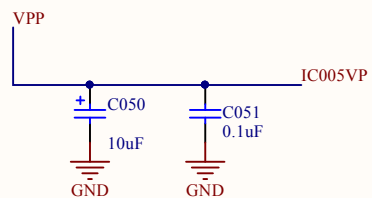
B



voltage_monitor_in
To voltage monitor

C

C



Title		
Size	Number	Revision
A4		
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File:	C:\Users\...\current_source_itself.SchDoc	Drawn By:

1

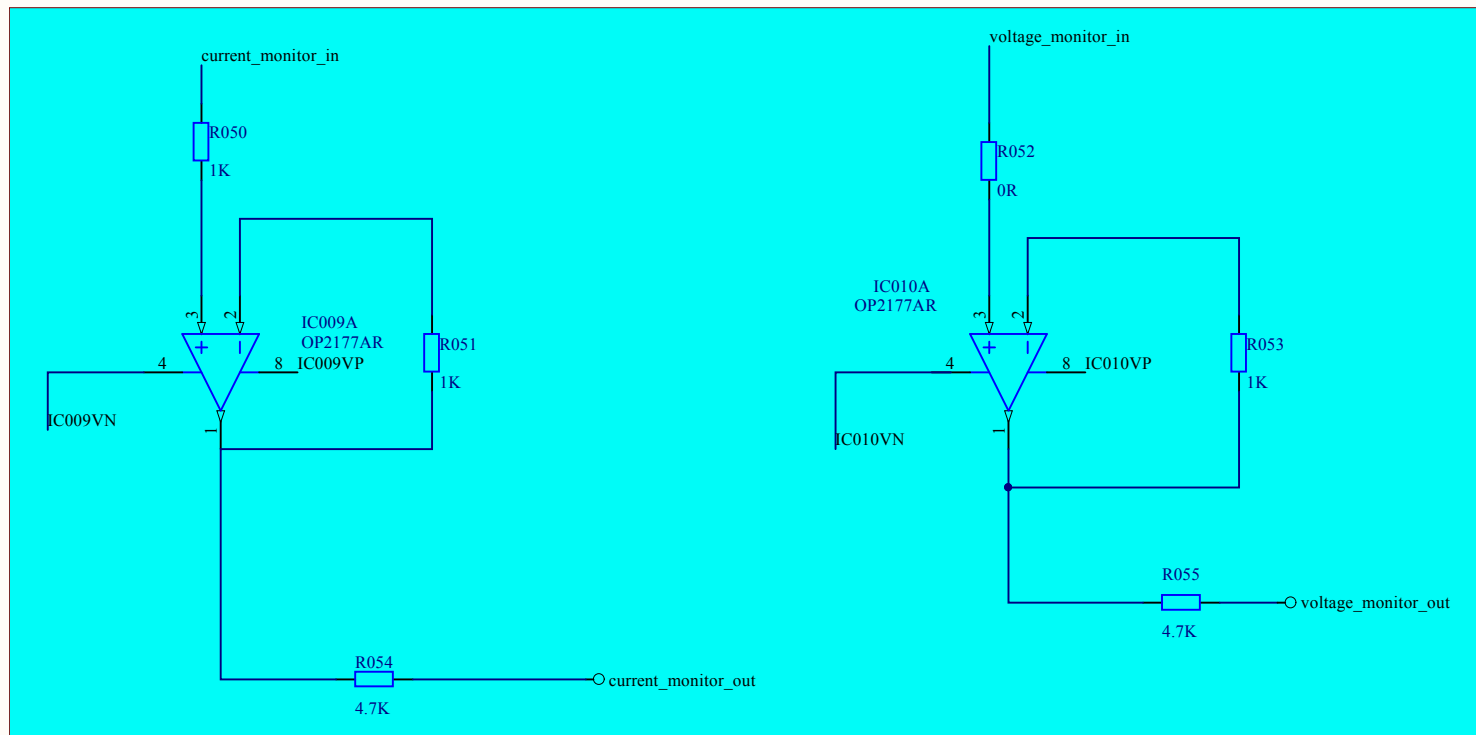
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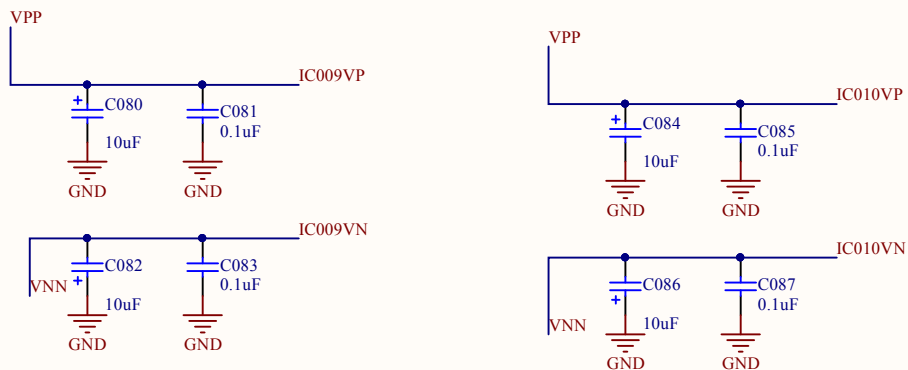
4

D

D



The above models of the current and voltage monitors are not functional yet according to the Spice model of the OP2177 used. Please, check whether this configuration is possible or not.

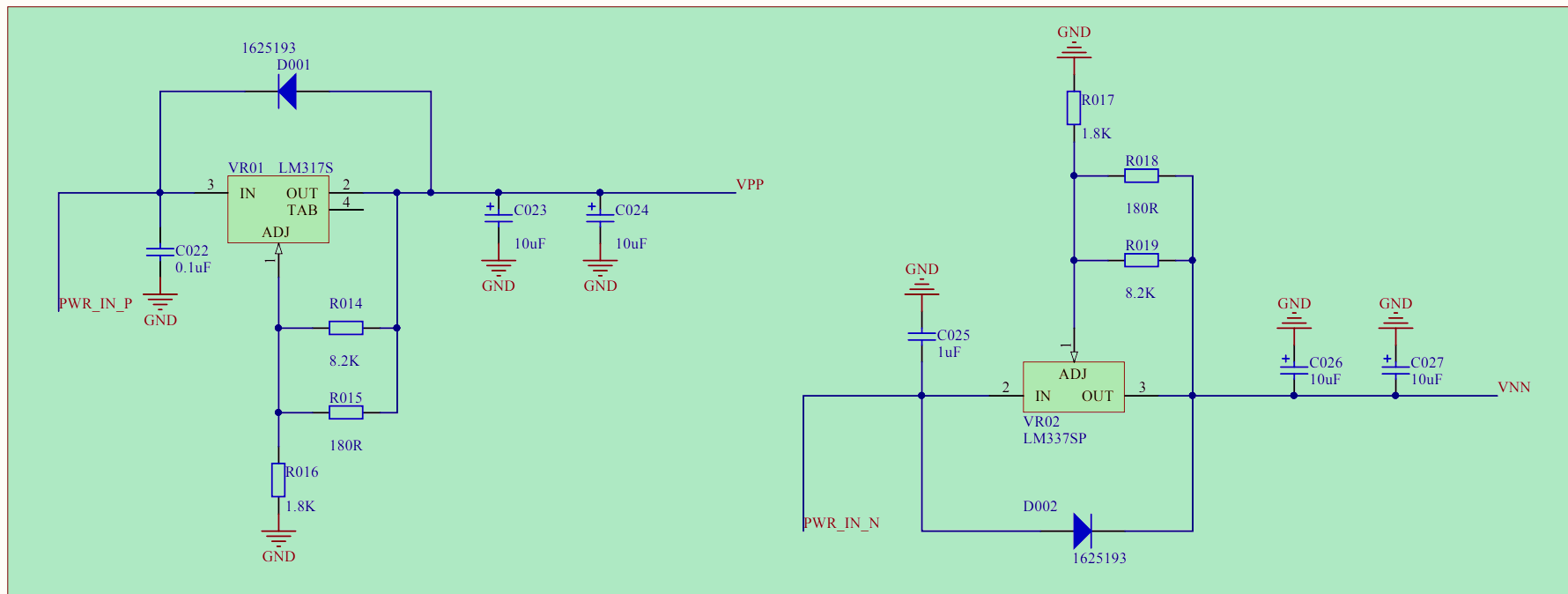


Title		
Size A4	Number	Revision
Date:	22/09/2014	Sheet of
File:	C:\Users\...\monitor.SchDoc	Drawn By:

	1	2	3	4	
A	<div>1. The Spice model used for the operational amplifiers IC006 and IC007 (both AD797) does not accept IC006VP, IC006VN, IC007VP and IC007VN as power supply terminals. Therefore, in order to make the simulation work, dummy voltage sources were introduced: Vsrc_dmy_AD797_positive and Vsrc_dmy_AD797_negative. Please, remove the dummy sources from the design and connect the ICs to their appropriate voltage sources.</div> <div>2. In IC006 and IC007, terminals 1 and 5 (offset null) are connected to ground in order to make the simulation work. Please connect them to whatever is more suitable for the circuit.</div> <div>3. Voltage source 2V5pos is a dummy source that must be replaced by the set of components shown in the diagram. This dummy source was used since the model of the ADR421 was not found.</div> <div>4. LED_OSEM will be within the vacuum chamber.</div> <div>5. This schematic diagram is based on the Satellite Box used in LIGO. See https://dcc.ligo.org/LIGO-D0901284-v1/public</div> <div>6. See the bill of metarials in the link above, where the Farnell part numbers of the components can be found. In Japan, Farnell is called Leocom (http://www.leocom.jp/).</div> <div>7. The current source provides 35 mA through LED_OSEM.</div>				A
B					B
C					C
D					D
	1	2	3	4	

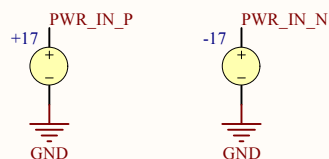
Title		
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A4		
Date:	22/09/2014	Sheet of
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Title		
Size	Number	Revision
A4		
Date:	22/09/2014	Sheet of
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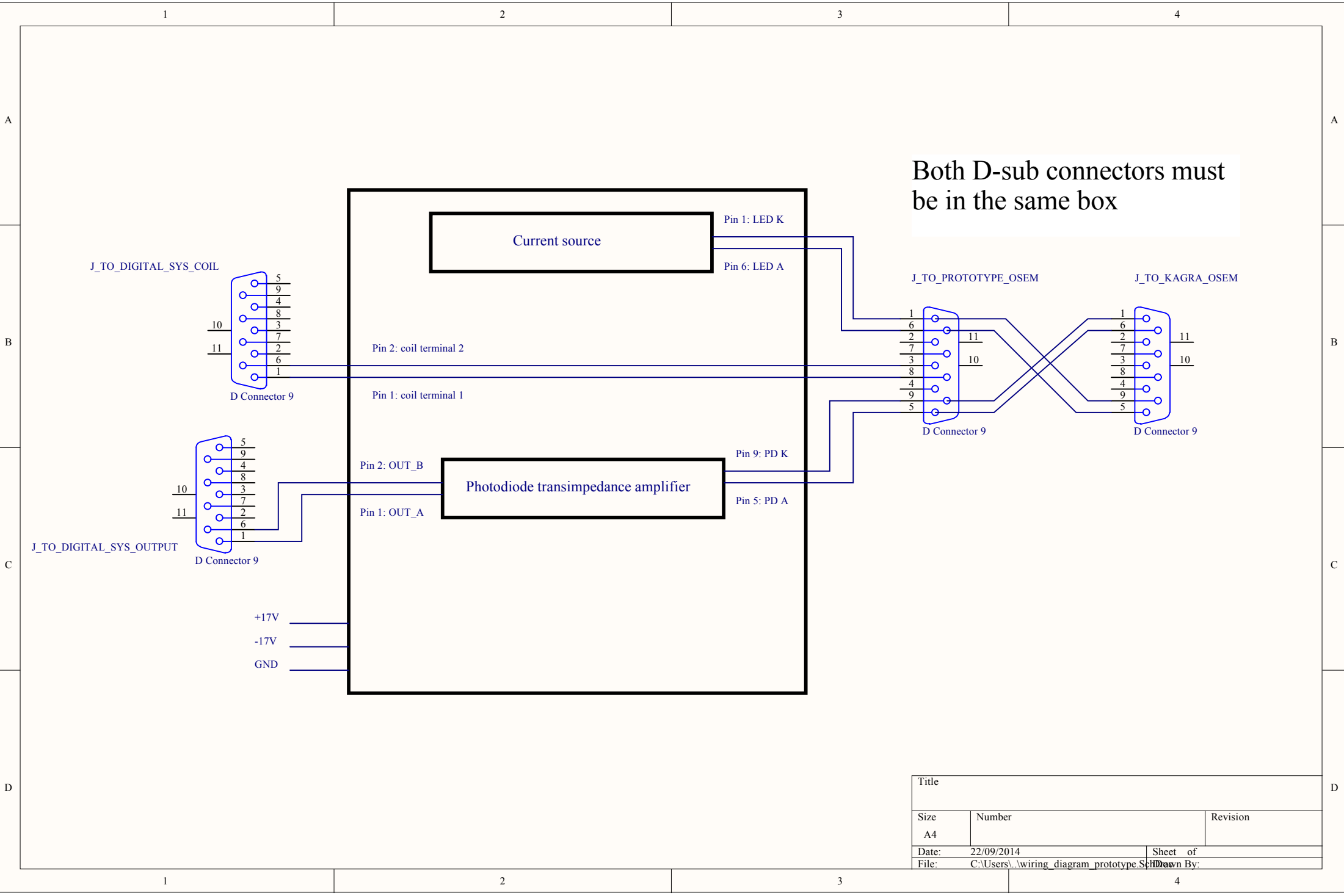


These circuits are common to the transimpedance readout amplifier of the photodiode in the OSEM, which si supplied in the separate Altium project.

The main power supply of +17V and -17V (PWR_IN_P and PWR_IN_N) must be supplied by the electronics rack in the site. These two are common with the transimpedance amplifier circuit.



Title		
Size	Number	Revision
A4		
Date:	22/09/2014	Sheet of
File:	C:\Users\...\voltage supply current source	DS-1101



Title		
Size	Number	Revision
A4		
Date:	22/09/2014	Sheet of
File:	C:\Users\...wiring_diagram_prototype.Sch	Drawn By: