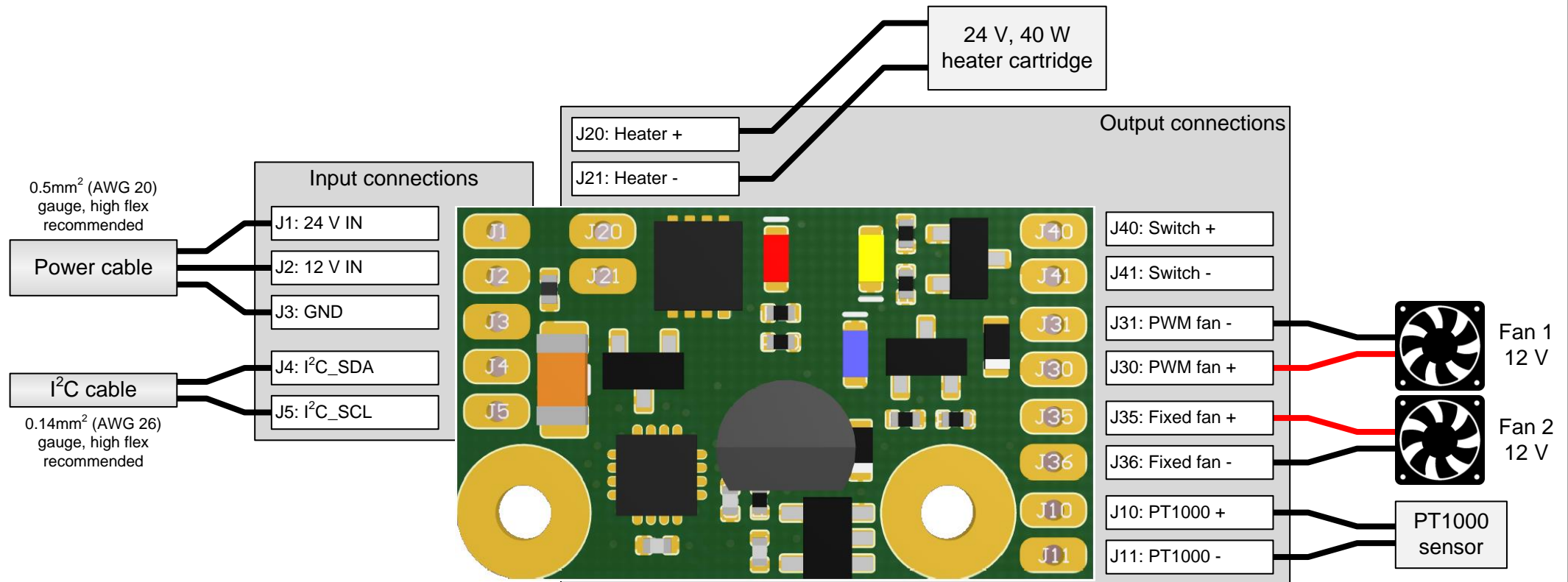


# Dual-supply mode: 24 V heater cartridge and 12 V fans (recommended)

- + Best performance
- Needs 3 power wires



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## Notes:

- Fan 1 is the printhead (nozzle) fan.
- Fan 2 is an optional - always on - hotend fan (e.g. for E3D)
- Temperature sensor: **only** PT1000 RTD sensors are supported!
- Heater cartridge and PT1000: Polarity doesn't matter
- Mounting holes are M2 size, the pads are not electrically connected
- Integrate a strain relief for the input cables into the printhead!

Title <b>Printhead controller</b>			Document type <b>Wiring</b>		
Document number	Rev <b>-00</b>	Release state <b>Prototype</b>	Date <b>2015-06-17</b>		
Drawn by <b>J. Bischof</b>	Checked by <b>-</b>	Size <b>A4</b>	Scale <b>-</b>	Sheet <b>1/1</b>	

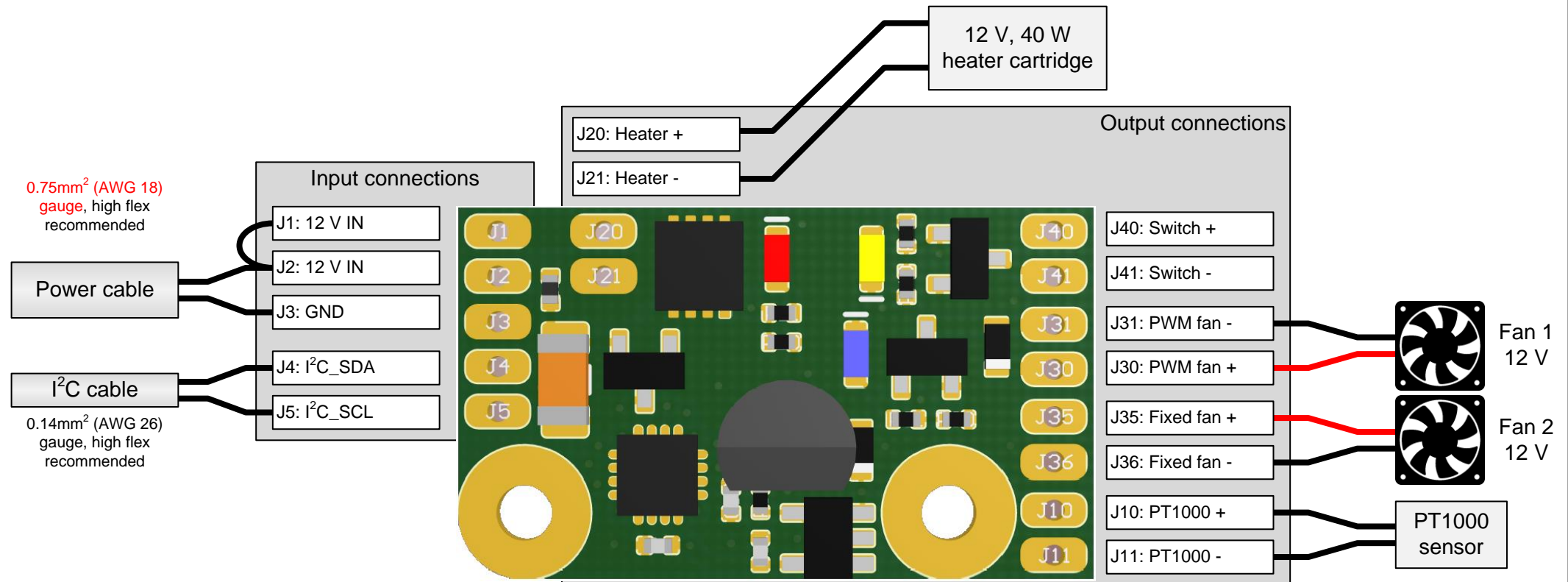
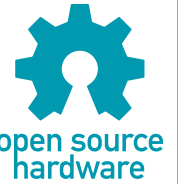
**NEMESIS**  
3D printer project

# Single-supply mode 1: 12 V heater cartridge and 12 V fans

- + Needs only 2 power wires
- Doubles the current on the power wires!



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Document number	Rev	Release state	Date		
	-00	Prototype	2015-06-17		
Drawn by	Checked by	Size	Scale	Sheet	
J. Bischof	-	A4	-	1/1	

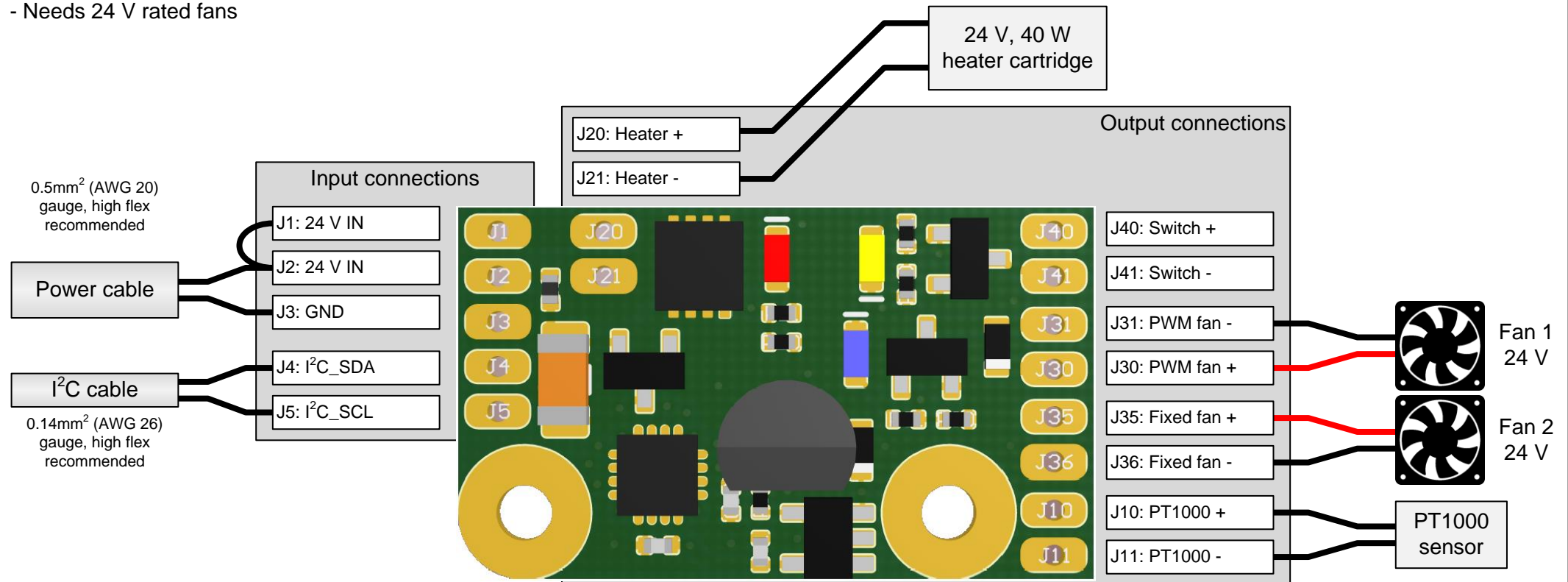
**NEMESIS**  
3D printer project

# Single-supply mode 2: 24 V heater cartridge and 24 V fans

- + Needs only 2 power wires
- + Same current draw as dual-supply mode
- Voltage regulator might get hot (needs testing)
- Needs 24 V rated fans



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Title <b>Printhead controller</b>			Document type <b>Wiring</b>		
Document number	Rev <b>-00</b>	Release state <b>Prototype</b>	Date <b>2015-06-17</b>		
Drawn by <b>J. Bischof</b>	Checked by <b>-</b>	Size <b>A4</b>	Scale <b>-</b>	Sheet <b>1/1</b>	