Appendices

Appendix 1: Materials

Table 1. Materials List. This table contains a list of important electronics components used in the setup with manufacturer name and parts numbers.

Material Description	Material Name	Manufacturer	Location	Parts Number/Product ID	Technical Specs
Heating cables	NA	Decochip	Netherlands	7423418520541	18W/m
Power supply	NA	Mean Well	USA	LRS-350-24	AC/DC converter 24V 350W
Microcontroller	Adafruit Feather HUZZAH with ESP8266	Adafruit	New York, NY, USA	2821	NA
MOSFET	NA	Infineon	Germany	IRLZ34NPbF	NA
SD logger + RTC	Adalogger FeatherWing - RTC + SD	Adafruit	New York, NY, USA	2922	NA
Thermocouple Amplifier	Adafruit MCP9600 I2C Thermocouple Amplifier - K, J, T, N, S, E, B and R Type T	Adafruit	New York, NY, USA	4101	NA
Type T Thermocouple	NA	Labfacility	Dinnington, UK	Z2-T-2M (IEC)	NA
Multicore cable	NA	Multicomp Pro	NA	3183Y-1.50MMWHT	3 core, 1.5mm^2, unscreened
6 core ribbon cable	NA	Pro Power	NA	R2651DTSY06SC85	28 AWG, unscreened
Cooling fans	NA	Sinwan	Taipei, Taiwan	S938AP-22-1	230V AC
Computer fan	NA	Multicomp	NA	MC001581	24V DC
Screw terminal block	NA	Amphenol Anytek	NA	TJ045153000AG	4 wire
Screw terminal header	NA	Amphenol Anytek	NA	OQ045450000AG	4 wire
IDC connector	NA	Amphenol	NA	T812106A100CEU	6 wire
Pin header	NA	Amphenol	NA	T821106A1R100CEU	6 wire

Appendix 2: Circuit Diagram

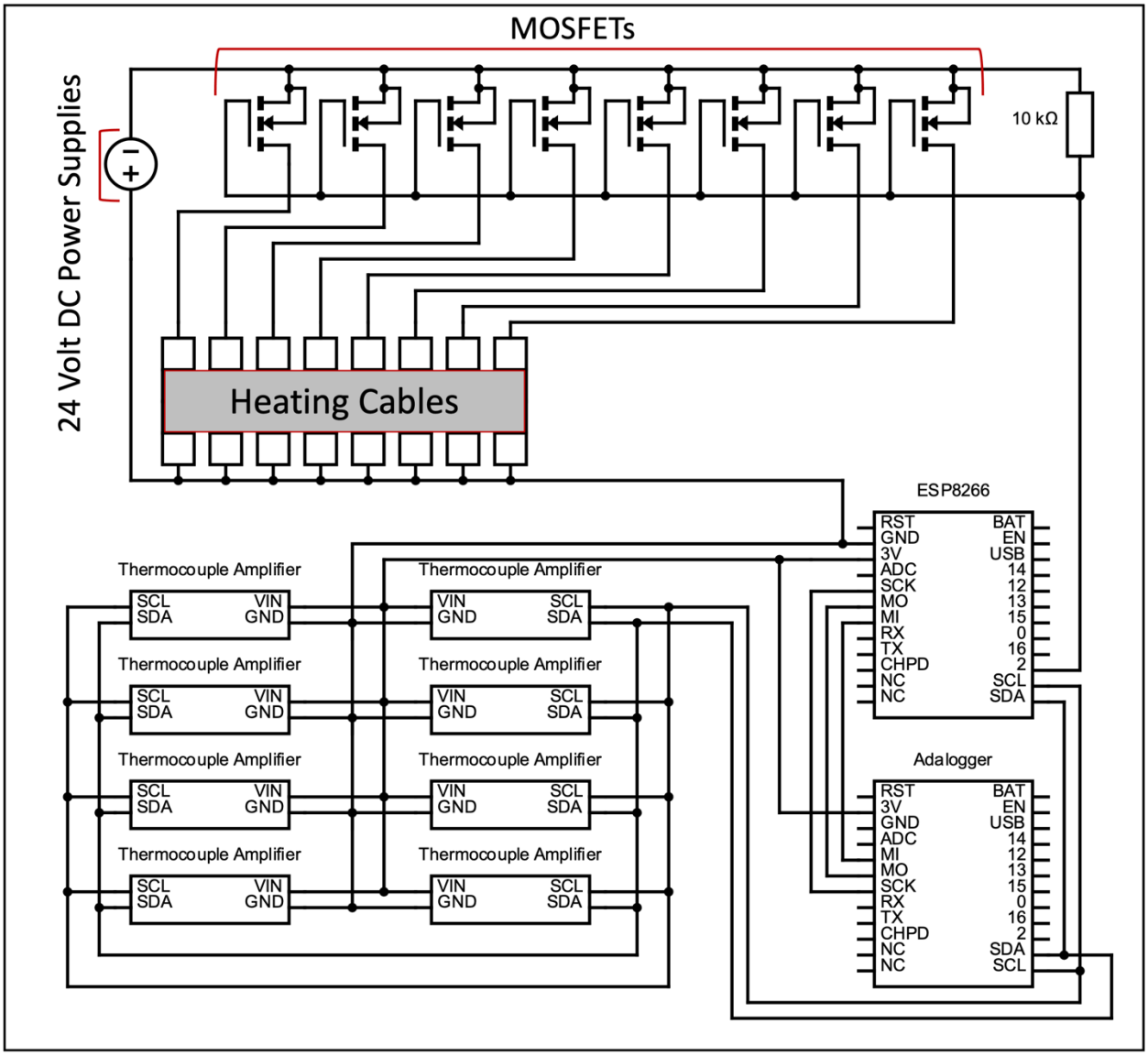

Figure S1. Simplified circuit diagram of the electronics setup. Not pictured: 3V power supplied to the microcontroller and AC power connected to the DC power supply.

Appendix 3. Supplemental Photos

Figure S2. Outside view of the white electronics box on location in the experimental plot. A) Side view of the box. OTCs can be seen behind it. B) Front view of the box. ventilation fan can be seen (blue bracket).

Figure S3. Views of the outdoor experimental plot. A) Empty plot. B) Plot with OTCs, heating cables, and electronics box.

Figure S4. View of middle OTC (heated) with plants.