## AME40453 – Score Sheet

C8 – PLC Thermostat

Name(s):_____

For more details on any of the items below, please refer to the lab handout.

**The following items will be *demonstrated* to the lab instructor during the allotted lab time. Credit will not be given for portions completed outside of lab.**

| Item and Description | Points Awarded | Possible Points |
|---|---|---|
| **Subsystem A: PLC**<br>The Opta PLC and 12VDC supply are correctly mounted to the DIN rail.<br>The PLC is correctly running the User Button example. | | 5 |
| **Subsystem B: Blower Fan Relay**<br>The blower fan is correctly wired up to the PLC relay and terminal blocks.<br>It cycles ON and OFF every 3 seconds. | | 5 |
| **Subsystem C: Thermistor**<br>The correct values of temperature are printed to the serial monitor. The voltage divider is correctly wired up using the DIN rail terminal blocks. | | 5 |
| **Design Challenge 1 – Thermostat**<br>The system correctly cycles between a high setpoint of 325K and low setpoint of 323K.<br>Everything is wired up correctly via the terminal blocks on the DIN rail. | | 7 |
| **Design Challenge 2 – User Control**<br>The set-point can be adjusted using a potentiometer. | | 4 |
| **Design Challenge 3 – Arduino PLC IDE**<br>The student is able to upload a program using the Arduino PLC IDE software and run it on the Opta PLC. | | 2 |
| **Clean-up**<br>The students returned the lab bench to its initial state. | | 2 |
| **TOTAL** | | 30 |