

## AME30358 – Score Sheet

### M12 – 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
<b>Subsystem A: PLC</b> The Opta PLC and 12VDC supply are correctly mounted to the DIN rail. The PLC is correctly running the User Button example.		5
<b>Subsystem B: Blower Fan Relay</b> The blower fan is correctly wired up to the PLC relay and terminal blocks. It cycles ON and OFF every 3 seconds.		5
<b>Subsystem C: Thermistor</b> 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
<b>Design Challenge 1 – Thermostat</b> The system correctly cycles between a high setpoint of 325K and low setpoint of 323K. Everything is wired up correctly via the terminal blocks on the DIN rail.		7
<b>Design Challenge 2 – User Control</b> The set-point can be adjusted using a potentiometer.		4
<b>Design Challenge 3 – Arduino PLC IDE</b> The student is able to upload a program using the Arduino PLC IDE software and run it on the Opta PLC.		2
<b>Clean-up</b> The students returned the lab bench to its initial state.		2
<b>TOTAL</b>		30