B

Bachelor of Engineering – Mechatronics Program

Programmable Logic Controllers: MENG 3500 Course

Quiz No. 3 [5 marks]

Time allocated: 20 minutes

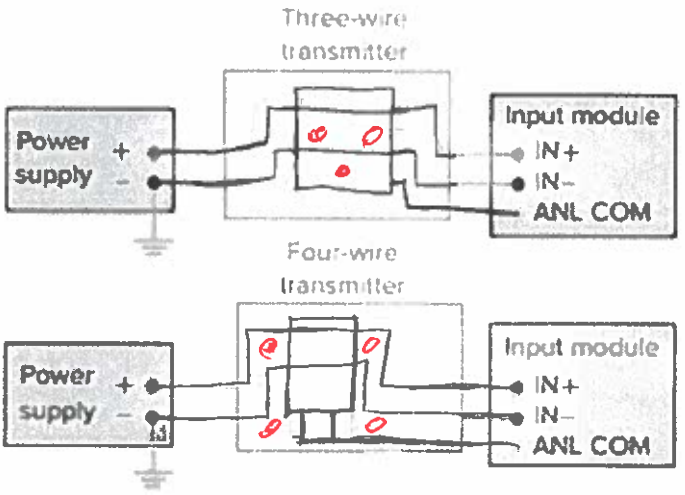
If you need more space for each question, please use the back of the sheet.

Student Name: Michael McCorkell

Student Number: N01500049

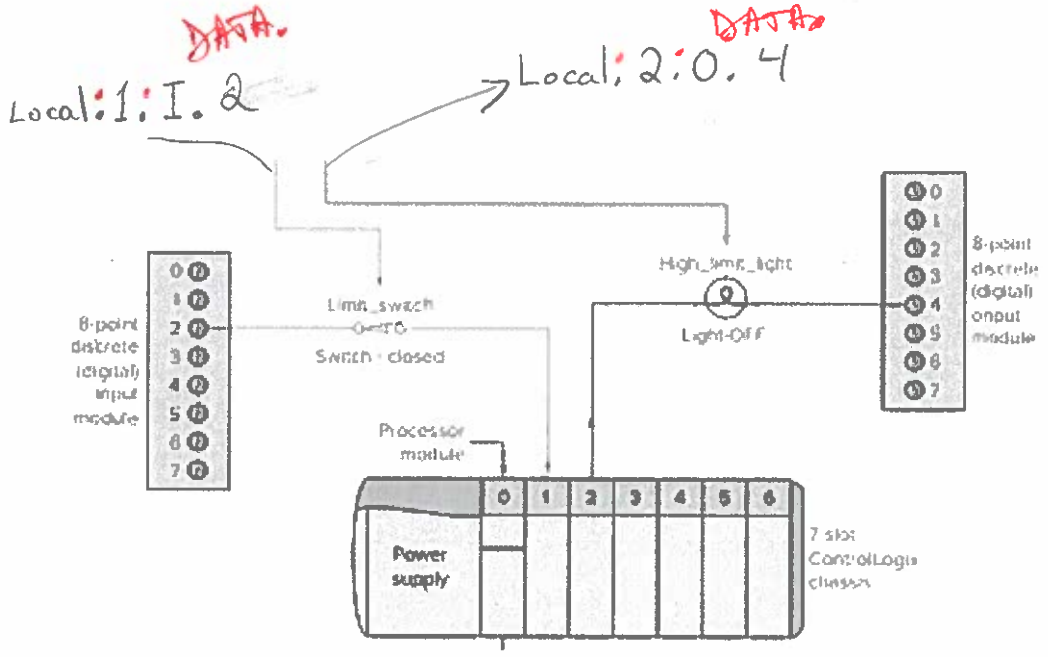
0,9/5

1. **Wire three -and four – sensor/transmitters into an analog module.** [0.5 mark]

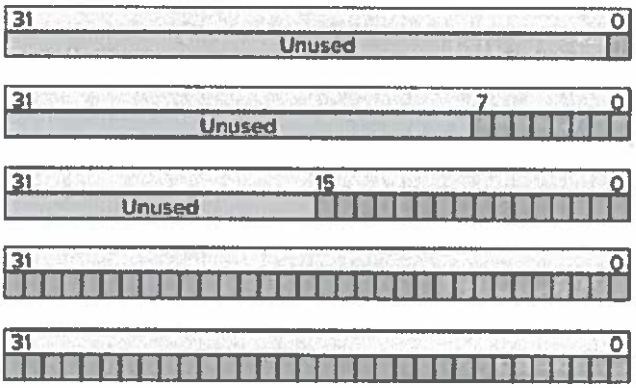


0,2

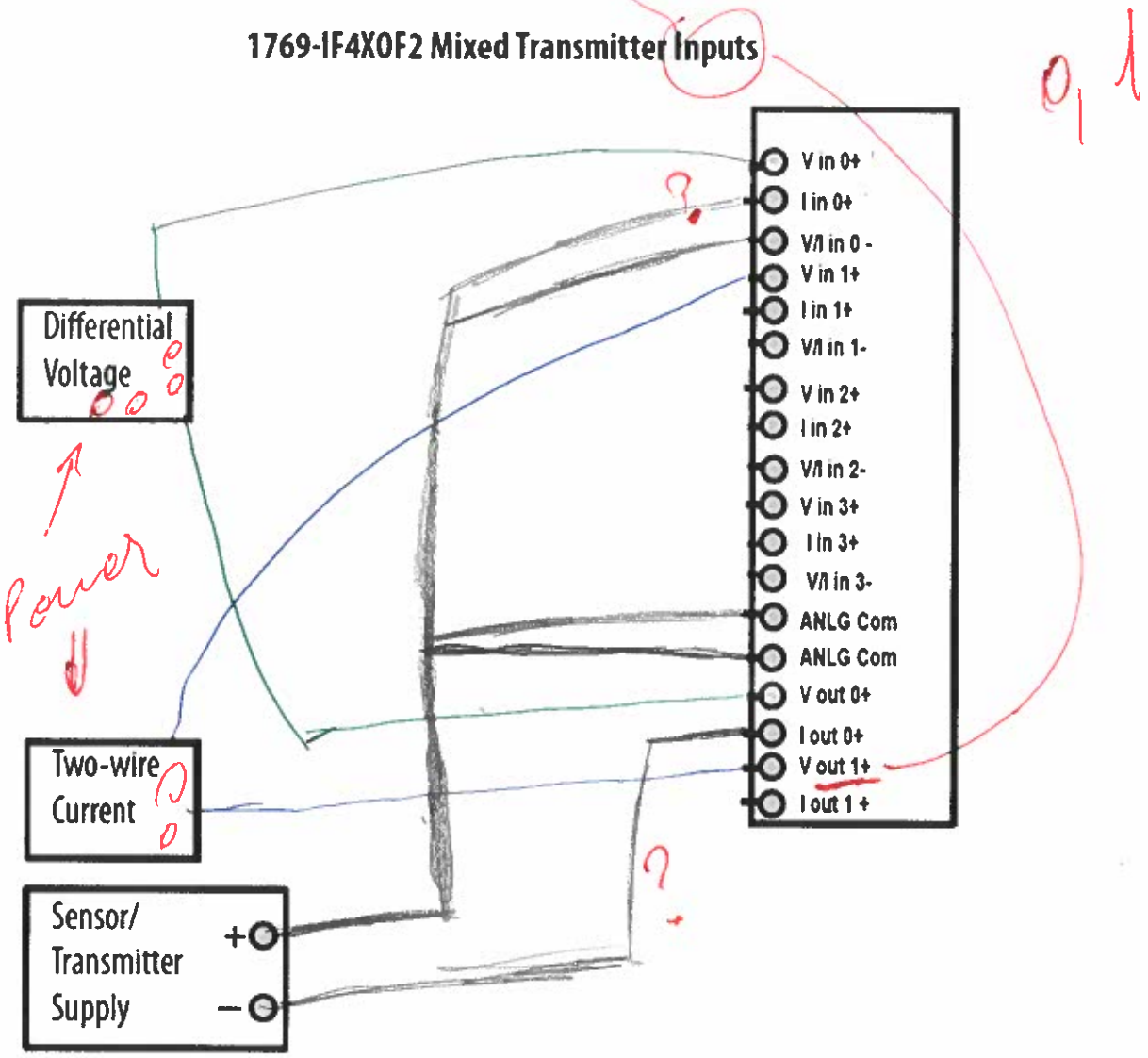
2. **Provide the addresses for the Limit_switch and the High_limit_light** [0.5 mark]



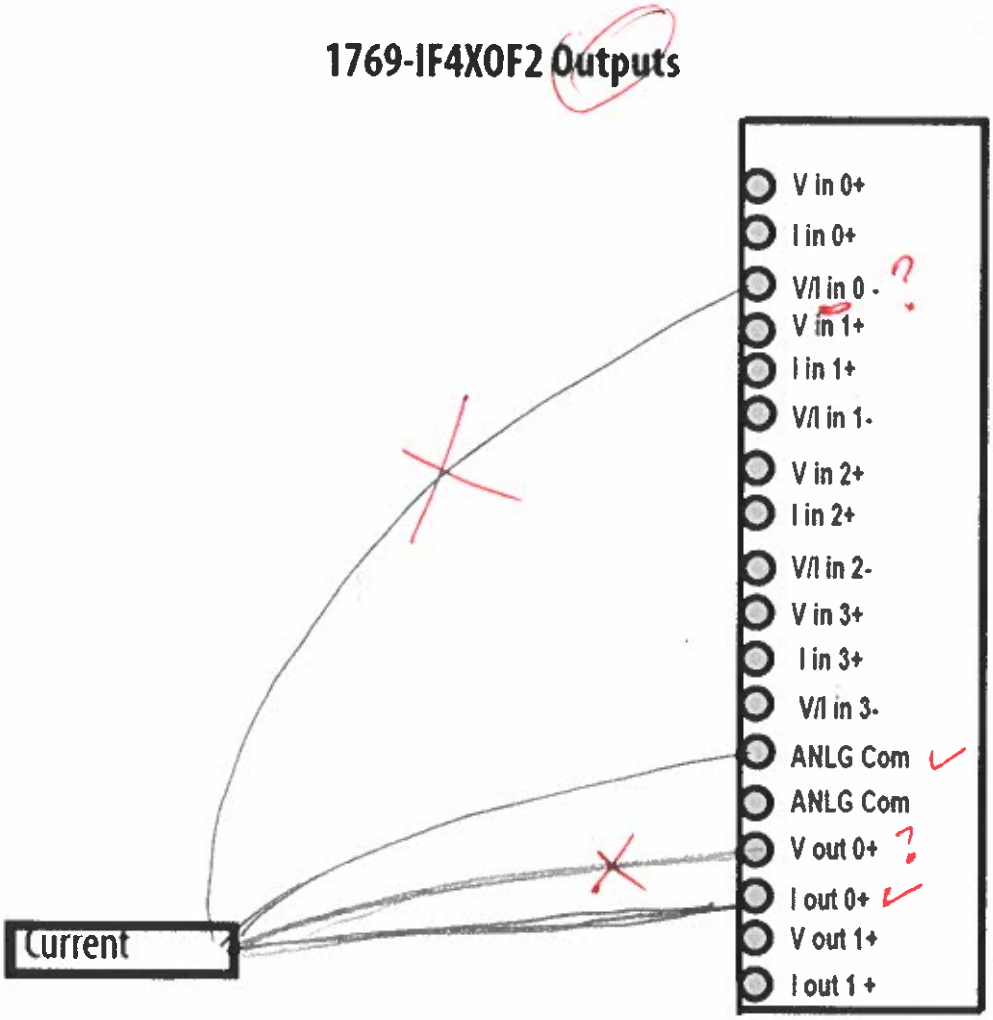
3. **Name the types of base tag data** [0.5 mark]



4. **Wire the four types of analog input transmitters** [1 marks]



5. **Wire the analog output transducer** [0.5 marks]



6. **A temperature transmitter provides a voltage signal in the range from 1 – 5 VDC for changes in temperature from 100^0 C – 200^0 C. The voltage signal is connected to an analog module PLC that has the specifications below (Bit 0 – Bit 6 are always 0, not used). Calculate the Temperature in engineering units. The requirements are for you to find a formula that will correlate the temperature in degrees Celsius with the digits received from the analog input module.** [2 marks]

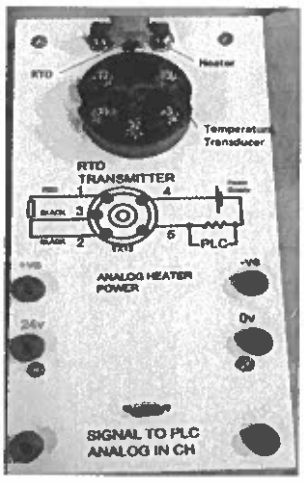
7. Full Module Range
0.0 to +10.5V dc

10.5 V – 32640 PLC UNITS

$100^{\circ}C = 4VDC$

BIT 15	BIT 14	BIT 13	BIT 12	BIT 11	BIT 10	BIT 9	BIT 8	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	
SIGN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	DECIMAL 0

BIT 15	BIT 14	BIT 13	BIT 12	BIT 11	BIT 10	BIT 9	BIT 8	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0	
SIGN	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	DECIMAL 32640



$100^{\circ}C = 4VDC$