Activity sheet 4
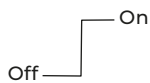
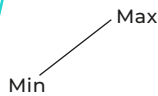## 4a. Sensors and output signals

List some sensors that produce each type of output.

Push switch	Variable resistor	Linear encoder
Sensors:	Sensors:	Sensors:

4b. Signal conditioning and analogue to digital conversion

What output voltage will each output current produce across a 250 (Ω) resistor?
What reading does each output current represent?
What resolution is possible with 256 steps?
What digital output would the ADC give for each reading?

Unit	Range	Output current	Output voltage	Reading	Resolution	Digital output
°C	0 to 100 °C	12 mA				
mm	0 to 200 mm	16 mA				
Bar	0 to 1 Bar	6 mA				

Activity sheet 5

Write down the correct sensor choice for each engineer.
Give your reason for choosing each one.

Process improvement engineer

Sensor:

Reason:

Design engineer

Sensor:

Reason:

CNC maintenance engineer

Sensor:

Reason:

HVAC engineer

Sensor:

Reason: