E1.1

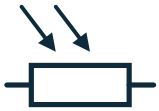
UNIT E1 · WORKSHEET

Input devices

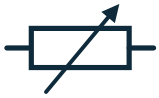
UNIT PROGRESS

Core BUILD THE BASICS

C1 **State** the name of this symbol. **[1]**



C2 **State** the name of this symbol. **[1]**



C3 **State** what a thermistor senses. **[1]**

C4 **State** whether a switch is a manual input or a sensor. **[1]**

C5 **State** the input device that senses light. **[1]**

C6 **State** the input device that senses temperature. **[1]**

C7 **State** what happens to the resistance of an LDR when it gets darker. **[1]**

C8 Use the graph in the notes. **State** the LDR resistance at 50 lux. **[1]**

C9 **State** the input device used to set a switching level. **[1]**

Input devices

Stretch GO FURTHER

S1 **State** a suitable input device for each product: (a) street light (b) burglar alarm button (c) volume control (d) kettle that switches off when it boils. **[4]**

S2 **Explain** why an LDR on its own cannot switch on a lamp. **[2]**

S3 **Justify** the choice of input device for an automatic garden light. **[2]**

S4 **Justify** the choice of input device for a door-open alarm on a cold store. **[2]**

S5 **Describe** how the resistance of an NTC thermistor changes as it gets hotter. **[1]**

Exam Ready QUALIFICATIONS SCOTLAND STYLE

E1 A lighthouse lamp must switch on at dusk. **State** a suitable input device and **justify** your choice. **[2]**

E2 **Complete** a sub-system diagram for a frost alarm: input, process and output blocks with arrows. **[3]**

Input devices

E3 **Explain** one advantage of using a sensor instead of a manual switch for a street light. **[2]**

E4 A ski centre wants to make snow only when it is cold. **Justify** a suitable input device. **[2]**

E5 **Explain** why a variable resistor is used with an LDR in a street lamp circuit. **[2]**

E6 Use the LDR graph. **State** the light level when the resistance is 20 kΩ. **[1]**

Total: 32 marks. Use the Data Booklet. Show your working and give units.