



**ENERGY CONTROLS AND SPARES LIMITED**  
**UNIT 4 KINGS CASTLE BUSINESS PARK**  
**THE DROVE**  
**BRIDGWATER**  
**SOMERSET TA6 4AG**



**FEATURES**

- **IP65 Housing**
- **Thermistor or Platinum sensing element**
- **200mm Probe**
- **Non standard lengths available**
- **Compatibility with all major BMS manufacturers**

**INTRODUCTION**

The ECS/TD duct temperature sensors contain either high quality Thermistor or platinum sensing element.

Sensing elements, compatible with all major BMS manufacturers, are mounted in a 6.4mm diameter stainless steel probe which is 200mm long with 300 and 450mm length options. Non-standard lengths can be also be provided to order.

The ECS/TC has an IP65 rated enclosure with mounting lugs and the gasket provided ensures a good seal.

**SPECIFICATIONS**

<b>Outputs:</b>	Thermistor	-	See Page xx for system compatibility	<b>Ambient:</b>	0°C to 70°C, 0-95%RH
	RTD	-	PT100 PT1000	<b>Mechanical:</b>	6.4mm Ø stainless steel probe 200mm long IP65 Housing
<b>Accuracy:</b>	Thermistor	-	±0.2°C	<b>Length Options:</b>	300mm and 450mm
	RTD	-	±0.35°C		

**ORDER INFORMATION**

<b>ECS/TD/T</b>	-	Duct temperature sensor 200mm , Trend compatible
<b>ECS/TD/A</b>	-	Duct temperature sensor 200mm , Andover/York <40 °C compatible
<b>ECS/TD/H</b>	-	Duct temperature sensor 200mm , Honeywell 20K compatible
<b>ECS/TD/SAT</b>	-	Duct temperature sensor 200mm , Satchwell compatible
<b>ECS/TD/T1</b>	-	Duct temperature sensor 200mm , Staefa compatible
<b>ECS/TD/TAC</b>	-	Duct temperature sensor 200mm , TAC compatible
<b>ECS/TD/3K</b>	-	Duct temperature sensor 200mm , Alerton compatible
<b>ECS/TD/PT100</b>	-	Duct temperature sensor 200mm , Serck compatible
<b>ECS/TD/PT1000</b>	-	Duct temperature sensor 200mm , Cylon compatible
<b>ECS/TD/*/300</b>	-	Duct temperature sensor 300mm , Specify element
<b>ECS/TD/*/450</b>	-	Duct temperature sensor 450mm , Specify element

**ECS/TD DUCT TEMPERATURE SENSORS**

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**INSTALLATION**

The duct type probes are installed through a 1/4" hole in the side of the duct to monitor a single point temperature within the duct. Since the probes are tip sensitive, select a probe length that places the sensor well into the duct to avoid errors due to laminar flow. Install the probes in a straight section of duct away from heating, cooling or humidifier elements.

**WIRING & COLOUR CODING**

All two-wire sensors (thermistors) are polarity insensitive. The three-wire sensors (RTDs) have the following color code:

<u>Connection</u>	<u>Duct Wire Color</u>
EXCitation	RED
SENse	GREEN
NEGative	BLACK

To connect a three-wire sensor as a two-wire, tie the EXCitation and SENse lines together. All connections should be made using either butt-splices or soldering. The use of wire nuts is not recommended.

**TYPICAL WIRE RESISTANCE VALUES**

When using low resistance sensors (i.e. 100 ohm RTD), long wire runs can add significant error to the readings. Use the following chart to determine errors due to wire resistance or consider using a 1000 ohm sensor or a transmitter for better accuracy. Locate the type of wire being used. Multiply the total length of the wire (distance from the controller to the sensor and back) by the number found in the following chart for total resistance.

GAUGE	18 AWG	22 AWG	24 AWG
STRANDED	5.85 mW	14.75 mW	23.29 mW
SOLID	6.4 mW	15.85 mW	25.72 mW

**ECS/RTD DUCT TEMPERATURE SENSORS**