



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

TI-P322-06 / 408280A 1/2

MI Issue 6



CHRYSsafidis

## EL2270 and EL2271 Temperature Probes

### Description

This range of temperature probes offers a range of Pt100 platinum resistance sensors and a range of 4-20 mA temperature transmitters. All probes are available in several insertion lengths and separate pockets are available for applications that require the probe to be removed from the pipe without depressurising the process.

#### EL2270

The EL2270 is a Pt100 platinum resistance temperature sensor designed for general industrial use. The sensing device is a 3 wire device that meets BS EN 60751:1996 Class B (DIN 43760 Class B). This sensor can be connected directly to any temperature indicator or controller that has a three wire Pt100 input. A quick response version is also available for applications such as plate heat exchanger control.

#### EL2271

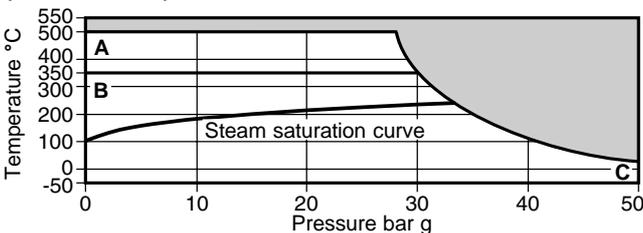
The EL2271 is a combined Pt100 sensor and transmitter assembly. The sensing element is a 3 wire device that meets BS EN 60751:1996 Class A (DIN 43760 Class A) and the transmitter has a 4-20 mA output. The in-head transmitter incorporates the latest digital technology to ensure accurate drift free linearisation and can be calibrated on site to any range from -50°C to +350°C. (contact Spirax Sarco for further details). The 4-20 mA output can be connected directly to any temperature indicator, controller or flow computer that has a 4-20 mA input. A range of calibrated transmitters are available on request.

The **EL2810** is a stand alone 4-20 mA temperature transmitter for general industrial use. The transmitter accepts a Pt100 input and converts it to a 4-20 mA output. The 4-20 mA output can be connected directly to any temperature indicator, controller or flow computer that has a 4-20 mA input.

### Operating range

The **EL2270** and **EL2271** temperature probes can be used in applications where the process temperature is within the following limits. Where greater temperatures and pressures are present, the temperature probe should be fitted with an additional pocket. For air and steam applications, flow velocities must be below 45 ms<sup>-1</sup>. For liquids a recommended velocity is 5 ms<sup>-1</sup> (700 mm and 200 mm non flow applications only).

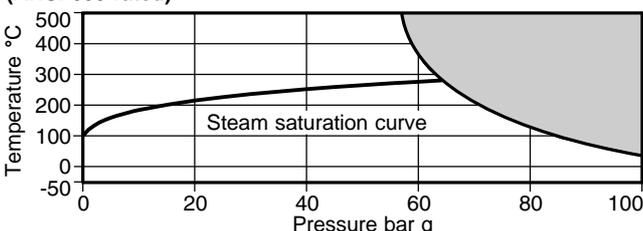
#### Pressure and temperature limits of temperature probe. (ANSI 300 rated)



The product must not be used in this region.

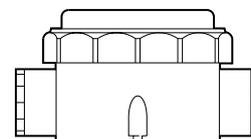
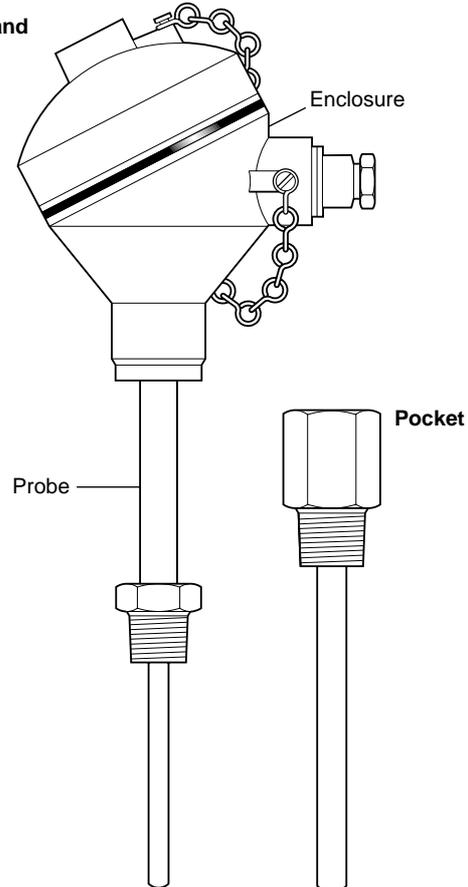
A - C 500°C probe  
B - C 350°C probe

#### Pressure and temperature limits of additional 350°C pocket. (ANSI 600 rated)



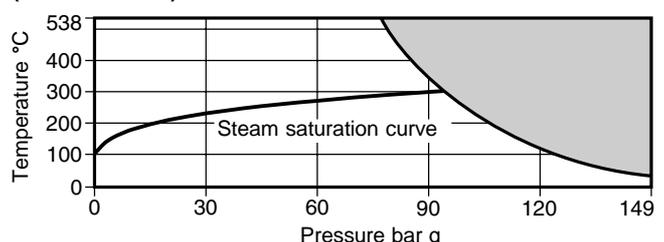
The product must not be used in this region.

EL2270 and EL2271



**EL2810**  
Remote temperature transmitter

#### Pressure and temperature limits of additional 500°C pocket. (ANSI 900 rated)



The product must not be used in this region.

Local regulations may restrict the use of this product to below the conditions quoted. In the interests of development and improvement of the product, we reserve the right to change the specification.

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## Mechanical data

Product range	<b>EL2270*</b> A quick response version of the EL2270 is also available on request	<b>EL2271</b>	<b>EL2810</b>	<b>Pockets 350°C and 500°C</b>
Enclosure	Epoxy coated aluminium alloy	Epoxy coated aluminium alloy	ABS plastic	-
Probe	316 Stainless steel	316 Stainless steel	-	316 Stainless steel
Process connection	½" NPT	½" NPT	-	½" NPT
Electrical connection	M20 with cable gland fitted	M20 with cable gland fitted	M20	-
Enclosure rating	IP65	IP65	IP65	-
Maximum ambient temperature	70°C	55°C	70°C	-

\*The EL2270 quick response sensor has a time constant of 1.7 secs.

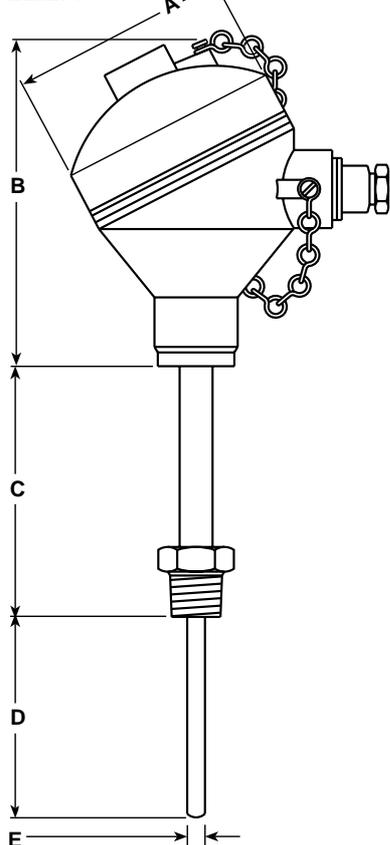
## Electrical data

Available ranges	-50°C to +350°C -50°C to +500°C	-50°C to +50°C 0°C to 100°C 100°C to 250°C	0°C to 100°C 0°C to 150°C 0°C to 200°C 0°C to 250°C 100°C to 250°C 100°C to 400°C 150°C to 300°C 200°C to 350°C 200°C to 500°C 250°C to 400°C	-
Output	Pt100 to BS EN 60751: 1996 Class B	Loop powered 4-20 mA	Loop powered 4-20 mA	-
Output on sensor failure	-	22 mA	30 mA	-
Supply	-	8 to 30 Vdc	10 to 30 Vdc	-
Maximum loop resistance	-	800 Ω at 24 Vdc	700 Ω at 24 Vdc	-
Accuracy	-	±(0.1°C + 0.1% of reading)	±(0.1°C + 0.1% of reading)	-

## Approvals

I.S. approval	-	-	EEX ia. iic. T5	-
EMC emissions	-	BS EN 50081-1	BS EN 50081-1	-
EMC susceptibility	-	BS EN 50082-2	BS EN 50082-1	-

EL2270 and EL2271



## Dimensions (approximate) in mm

Product range	EL2270	EL2271	EL2810	350°C	Pockets 350°C taper	500°C
A	88	88	58	-	-	-
B	130	130	106	8	18 - 12	13
C	75	75	71	-	-	-
D	25, 50, 75, 125, 225, 725	25, 50, 75, 125	M20 1.5	25, 50, 200†, 700†	100	50
E	6	6	-	-	-	-

**Note:** The quick response EL2270 is only available with an insertion length of 40 mm and without a pocket.

A pocket length 25 mm shorter than the probe length should be selected, i.e. for an EL2270 with a 100 mm probe, a 75 mm pocket is required.

† 200 mm and 700 mm pockets should only be used for non-flow applications.

