



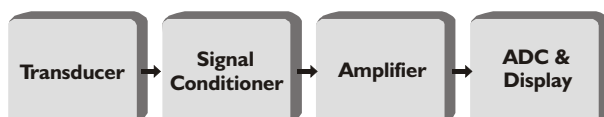
INTRODUCTION

Temperature indicators in temperature measurement play an important part in any process industry. Quick and accurate measurement of process temperature will improve the final product quality, reliability and reduce rejection. Temperature indication is therefore one of the prime considerations in any process industry. The ESD 901A digital temperature indicator is designed for fast and accurate temperature measurement. The instrument is designed using highly reliable electronic components. The process temperature is displayed directly in digits, which gives better resolution compared to analog indicator. The ESD 901 series accepts all types of Thermocouples, Pt - 100 and 4 - 20 mA as input. Wide ranges of measurements are available depending on the sensor used. The instrument is immune to mechanical vibrations. Even the mounting position will not affect the measurement accuracy. Large



display size of seven segment RED LED allows long distance readability. Use of highly reliable electronic components with low temperature coefficients ensure long and trouble free service. The instrument is tested for its performance under various climatic conditions.

PRINCIPLE OF OPERATION



The ESD 901 series is based on the principle of a high input impedance amplifier feeding an analog to digital convertor. The input signal generated by the transducer is fed to a sensor compensation circuit, where automatic ambient compensation in case of thermocouple & lead resistance compensation in case of Pt-100 is achieved. Duly compensated signal is fed to a signal conditioning amplifier, output of which is given to digital display. The linearisation of the input signal from the transducer is done by hardware in the input circuit. This gives a standardized signal to the analog to digital convertor which drives the seven segment LED display, indicating the temperature directly.

APPLICATION

The ESD 901 series temperature indicator can be used in almost any industry where long distance visibility is required so as to enable viewing by everybody on the shop floor.

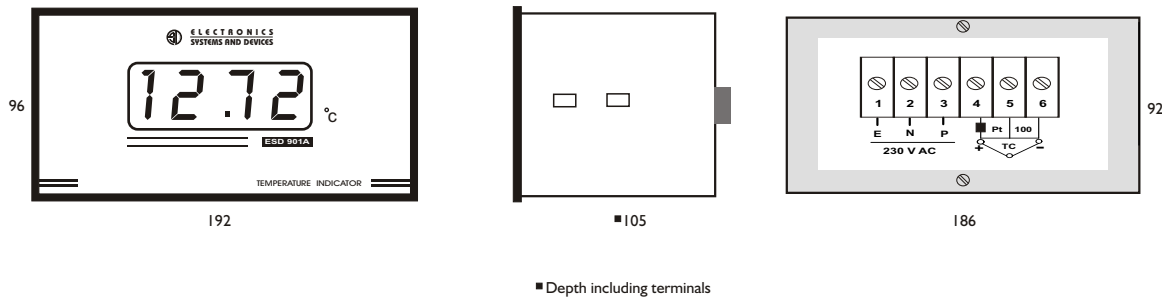
FEATURES

- ✓ Proven trouble free field performance
- ✓ Dust and vermin proof enclosure with epoxy powder coating
- ✓ Large LED display gives better readability at long range
- ✓ Fast response time
- ✓ Available in five different display heights
- ✓ Designed for Pt-100, Thermocouples and 4 - 20 mA input
- ✓ Maximum MTBF and minimum MTTR
- ✓ Wide supply variation and environmental band

SPECIFICATIONS

Model	: ESD 901A	Sensor break indication	: Up scale [1 _ _ _] (Down on demand)
Ranges	: Std. as per chart below (other on demand)	Input impedance	: < 10 Mohms, (only for T/C input)
Input	: Pt - 100 / Thermocouple / 4 - 20 mA	Power consumption	: 3 VA
Indication	: 199.9 7 segment 25 mm RED LED display	Front facia	: ABS plastic suitable for IP 55 having size 192 x 96 mm
Indication accuracy	: +/- 0.5 % of full scale +/- 1 digit	Mounting	: Flush panel
Least count	: 0.1°C up to 200°C, 1°C above 200°C	Enclosure	: Mild steel CRCA sheet with powder coating
Power supply	: 230 V AC, +/- 10 % , 50 Hz with earth	Panel cutout	: 186 x 92 mm
Relative humidity	: Less than 90 % non condensing	Termination	: Screwed type suitable for 2.5 mm ² wire
Ambient temperature	: 0 to 55°C	Weight	: 1 kg approximately
Recalibration (if reqd)	: By zero and span potentiometers inside	Optional	: 4-20 mA retransmission output
Amb. Temp. compensation	: Built in up to 55°C		
Accuracy deviation due to			
a) Temperature change	: +/- 0.002 % / °C , ref at 25°C		
b) Supply variation	: +/- 0.001 % / V		

INSTALLATION



■ Depth including terminals

ORDERING INFORMATION

ESD 90	X1	X2	X3	X4	X5																													
	Input I - One	Display Size A - 25 mm B - 50 mm C - 100 mm D - 150 mm E - 200 mm	Input 1 - Pt - 100 2 - J type T/C 3 - K type T/C 4 - R type T/C 5 - S type T/C 6 - 0 to 20 mA 7 - 4 to 20 mA 8 - 0 to 2V DC 9 - Other	Range 0 - -50 to 50°C 1 - 0 to 100°C 2 - 0 to 200°C 3 - 0 to 100% 4 - 0 to 400°C 5 - 0 to 600°C 6 - 0 to 800°C 7 - 0 to 1000°C 8 - 0 to 1200°C 9 - Other	Power Supply 1 - 230 V AC 2 - 110 V AC 3 - 24 V AC 4 - 24 V DC 5 - Other	<table border="1"> <thead> <tr> <th>Input</th> <th colspan="3">Standard Ranges in °C</th> </tr> </thead> <tbody> <tr> <td>Pt-100</td> <td>-50 - 50</td> <td>0 - 100</td> <td>0 - 200</td> </tr> <tr> <td>J</td> <td>0 - 200</td> <td>0 - 400</td> <td>0 - 600</td> </tr> <tr> <td>K</td> <td>0 - 200</td> <td>0 - 400</td> <td>0 - 600</td> </tr> <tr> <td></td> <td>0 - 800</td> <td>0 - 1000</td> <td>0 - 1200</td> </tr> <tr> <td>R, S</td> <td colspan="3">800 - 1600</td> </tr> <tr> <td>mA / mV</td> <td colspan="3">0 to 100 % or process value</td> </tr> </tbody> </table>	Input	Standard Ranges in °C			Pt-100	-50 - 50	0 - 100	0 - 200	J	0 - 200	0 - 400	0 - 600	K	0 - 200	0 - 400	0 - 600		0 - 800	0 - 1000	0 - 1200	R, S	800 - 1600			mA / mV	0 to 100 % or process value		
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						<p>Ordering eg. ESD 901A - 101 Digital Temp. Indicator ESD 90 No of inputs - One (1) Panel cutout - 186 x 92 mm (A) Input - Pt - 100 (1) Range - -50°C to 50°C (0) Power Supply - 230 V AC (1)</p>																												

Note : For display size above one inch please refer our Sleek series catalog for super size displays.

ALSO SELECT ESD ...	BACK END	SAME RANGE	FRONT END
	<ul style="list-style-type: none"> ✓ Pt - 100 ✓ Thermocouples ✓ Thermowells ✓ Compensating Cables 	<ul style="list-style-type: none"> ✓ Single Input Indicators ✓ Multi Input Indicators ✓ Multi Channel Indicators 	<ul style="list-style-type: none"> ✓ Flameproof Indicator ✓ Portable Indicator ✓ Field Mounting Indicators



**ELECTRONICS
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