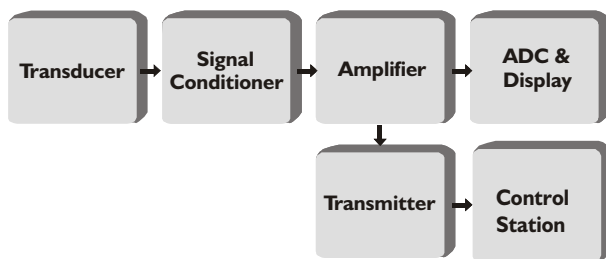## INTRODUCTION

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 Sleek 90F series Digital temperature indicators are 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 Sleek 90F series accepts all types of Thermocouples, Pt - 100 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. The large bright red LED seven segment display 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.

This model is also available with retransmission current or voltage output.

PRINCIPLE OF OPERATION

The Sleek 90F 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 90F series temperature indicator can be used in almost any industry where local indication is necessary in the field and also where retransmission signal is needed for control room.
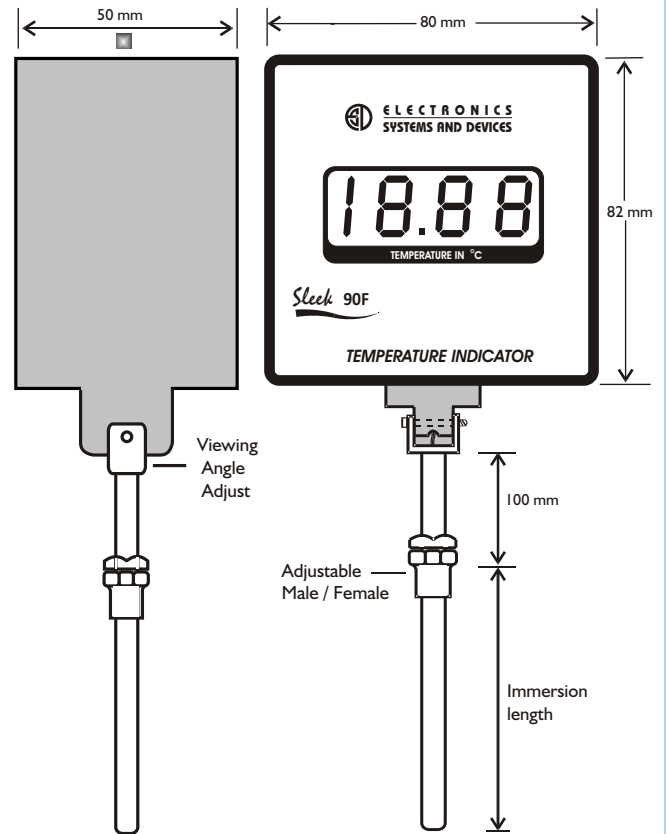
FEATURES

✓ Proven trouble free field performance

✓ Highly compact

✓ Dust and vermin proof enclosure with epoxy powder coating

✓ LED display gives better readability at long range

✓ Fast response time

✓ Designed for Pt-100, Thermocouples and 4 - 20 mA input

✓ Maximum MTBF and minimum MTTR

✓ Wide supply variation and environmental band

✓ Provision for retransmission output

SPECIFICATIONS

Model	: Sleek 90F
Ranges	: Std. as per chart below
	(other on demand)
Input	: Pt - 100 / Thermocouple
Indication	: 199.9 12.5 mm RED LED display
Indication accuracy	: +/- 0.25 % of full scale +/- 1 digit
Least count	: 0.1°C up to 400°C, 1°C above 400°C
Power supply	: 230V AC, +/- 10 % ,50 Hz with earth
Relative humidity	: Less than 90 % non condensing
Ambient Temperature	: 0 to 55°C
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
Sensor break indication	: OPEN
Input impedance	: < 10 Mohms, (only for T/C input)
Recalibration (if reqd)	: By software
Power consumption	: 3 VA
Enclosure	: ABS plastic
Mounting	: Direct on location
Mounting accessories	: 1/2" BSP M/F (std)
	(for other refer ordering information)
Termination	: Input direct, Supply through 3 core cable
Dimensions (mm)	: 80 x 82 x 55 (Depth)
Sensor	As per ordering information
Optional output	: 4-20mA/ 0-2V/ 1mV/°C

INSTALLATION

ORDERING INFORMATION

Sleek 90F   **X1**   **X2**   **X3**   **X4**   **X5**

X1 – Input
1 - Pt - 100
2 - J type T/C
3 - K type T/C
4 - Other

X2 – Range
0 - -100 to 100°C
1 - 0 to 400°C
2 - 0 to 600°C
3 - 0 to 800°C
4 - Other

X3 – Power Supply
1 - 230 V AC
2 - 110 V AC
3 - 24 V AC
4 - 24 V DC
5 - Other

X4 – Sensor Dimensions
1 - 6 x 200
2 - 8 x 300
3 - 8 x 400
4 - 10 x 300
5 - 10 x 400
6 - 12 x 400
7 - Other

X5 – Mounting
1 - 1/2" BSP M/F
2 - 3/4" BSP M/F
3 - 1" BSP M/F
4 - 1/2" NPT M/F
5 - 3/4" NPT M/F
6 - 1" NPT M/F
7 - Other

Input	Standard Ranges in °C		
Pt-100	-50 - 50	0 - 100	0 - 200
J	0 - 200	0 - 400	0 - 600
K	0 - 400	0 - 600	0 - 800

Ordering eg. Sleek 90F - 11111
Digital Temp. Indicator ESD 90 F
Input   - Pt - 100   (1)
Range   - 0°C to 400°C   (1)
Power Supply - 230 V AC   (1)
Sensor dimensions - 8 x 200 mm (1)
Mounting   - 1/2" BSP M/F   (1)

ALSO SELECT ESD ...

BACK END
✓ Thermowells

SAME RANGE
✓ Temperature Indicators
✓ Dual Channel Indicators
✓ Supersize Indicators
✓ Loop Powered Indicators
✓ Portable Indicators
✓ Flameproof Indicators
✓ Auto Manual Station

FRONT END
✓ Temperature Controllers
✓ Scanners and DAS
✓ Alarm Annunciators
✓ Automation Panel

Unspecified dimensions are in mm.   Photos not to the scale.   Due to continuous development above details are likely to change.