



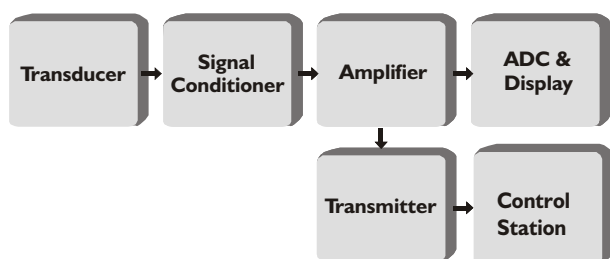
## INTRODUCTION

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 LCD 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.

## 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 LCD display, indicating the temperature directly.

## APPLICATION

The Sleek 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.

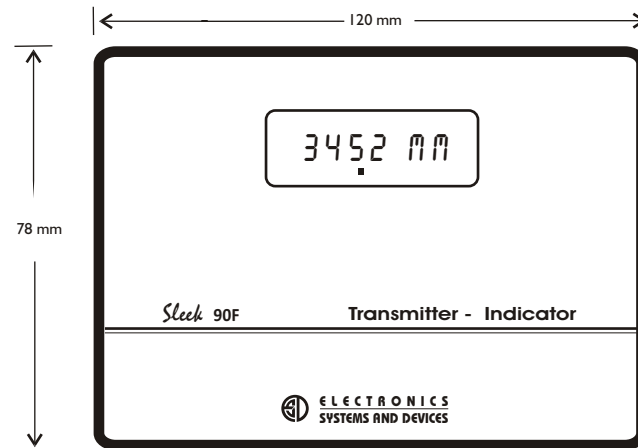
## FEATURES

- ✓ Proven trouble free field performance
- ✓ Highly compact
- ✓ Dust and vermin proof enclosure with epoxy powder coating
- ✓ LCD 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(Loop Powered)	Recalibration (if reqd)	: By software using keypad
Ranges	: Programmable 0 to 99999	Programming	: Using 4 keys membrane keypad. Default password is 134
Input	: 4 - 20 mA		
Indication	: 8 x 1 Alfa numeric LCD display	Dimensions (mm)	: 80(H) x 120(L) x 55 (Depth)
Character size	: 4.5 (W) x 8 (H) mm	Mounting	: 2 inch pipe mounting
Indication accuracy	: +/- 0.25 % of full scale +/- 1 digit	Enclosure	: IP 65 ABS Plastic
Least count	: Selectable	Termination	: Screwed type suitable for 2.5mm <sup>2</sup> wire
Power supply	: 24 V DC, loop powered	Weight	: 250 grams approximately
Input load resistance	: 50 ohms		
Maximum voltage drop	: 3.8 V		
Current consumption	: Less than 3 mA		
Relative humidity	: Less than 90% non condensing		
Ambient temperature	: 0 to 55°C		
Accuracy deviation due to			
a) Temperature change	: +/- 0.02 % /°C, ref at 25°C		
B) Supply Variation	: +/- 0.01 % /V		

## INSTALLATION



Note: All models from loop powered indicator series are mentioned in the chart below

	Field mounting indicators	Panel mounting indicators	Flameproof indicators
LED display	Sleek 90LF	Sleek 9013LP	Sleek 90LX
LCD display	Sleek 70LF	Sleek 7013LP	Sleek 70LX

ALSO SELECT ESD ...	BACK END	SAME RANGE		FRONT END
	<ul style="list-style-type: none"> <li>✓ Thermowells</li> </ul>	<ul style="list-style-type: none"> <li>✓ Temperature Indicators</li> <li>✓ Dual Channel Indicators</li> <li>✓ Supersize Indicators</li> <li>✓ Loop Powered Indicators</li> </ul>	<ul style="list-style-type: none"> <li>✓ Portable Indicators</li> <li>✓ Flameproof Indicators</li> <li>✓ Auto Manual Station</li> </ul>	<ul style="list-style-type: none"> <li>✓ Temperature Controllers</li> <li>✓ Scanners and DAS</li> <li>✓ Alarm Annunciators</li> <li>✓ Automation Panel</li> </ul>



**ELECTRONICS  
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