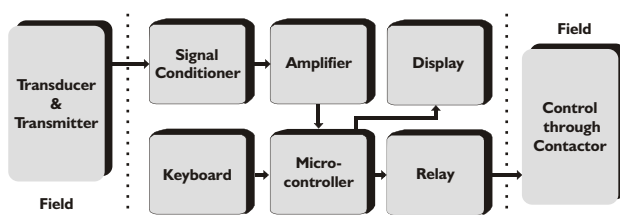## INTRODUCTION

Process Controllers play an important part in any process industry. Quick and accurate measurement / control of a process parameter will improve the final product quality, reliability and reduce rejection. Process indication and control is therefore one of the prime considerations in any process industry. The Sleek 90 series is microcontroller based programmable process indicator designed for fast and accurate measurement. The instrument is designed using highly reliable electronic components. The process value is displayed in digits, which gives better resolution compared to analog indicator. The ESD Sleek 90 series accepts all types of Pt - 100, Thermocouples, 0 - 20 mA as well as 4 - 20 mA as input. 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 lowest temperature coefficient ensure long and trouble free service. The instrument is tested for its performance under various climatic conditions. Wide ranges of measurements are available depending on the

PRINCIPLE OF OPERATION

The Sleek 90 series is based on the principle of a high input impedance amplifier feeding a microcontroller having an inbuilt ADC. The signal from 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 the 12 bit analog to digital convertor which is inbuilt the microcontroller. Linearisation of the transducer signal is done by software. The microcontroller also drives the LED display, indicating the temperature .

APPLICATION

The Sleek 90 series temperature controllers can be used in almost any industry, laboratory etc. where accurate process value measurement is needed to be carried out.
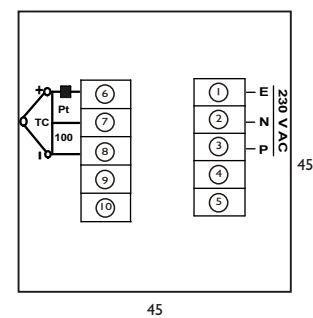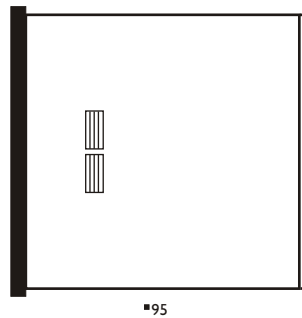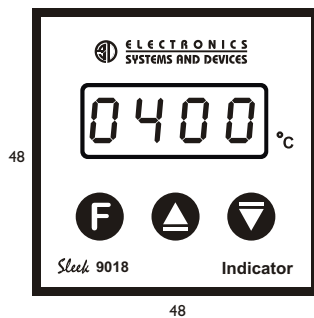
FEATURES

- ✓ Proven trouble free field performance
- ✓ Highly compact
- ✓ ABS plastic enclosure
- ✓ LED display gives better readability at long range
- ✓ Fast response time
- ✓ Highly accurate
- ✓ Available in different DIN std. cutouts
- ✓ Maximum MTBF and minimum MTTR
- ✓ Feather touch push button
- ✓ Wide supply variation and environmental band
- ✓ User friendly programming

SPECIFICATIONS

Model	: Sleek 9018
Ranges	: Refer chart below (other on demand)
Input	: Pt 100 / Thermocouple / 4-20mA
Indication	: 999.9 10 mm RED LED
Indication accuracy	: +/- 0.25 % of full scale +/- 1 digit
Least count	: Refer chart below (other on demand)
Power supply	: 230 V AC, +/- 10 %,50 Hz with earth
Relative humidity	: Less than 90 % non condensing
Ambient temperature	: 0 to 55°C
Ambient 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 using keypad
Programming	: Using 3 keys membrane keypad. Default password is 134
Power consumption	: 3 VA

Front facia	: ABS plastic suitable for IP 55 having size 48 x 48 mm
Mounting	: Flush panel
Enclosure	: ABS plastic
Panel cutout	: 45 x 45 mm
Weight	: 200 grams approximately
Optional	
Retransmission o/p	: Isolated 4 to 20 mA proportional to process value
Resolution	: 10 bit (0.016 mA step change)
Load resistance	: Maximum 500 ohms
Chart	

Input	Std. Ranges in °C	Least count
Pt-100	-100 to 200 0 to 400	0.1°C
J	0 to 600	
K	0 to 1200	1°C
R, S	0 to 1600	
mA / mV	Programmable from -999 to 9999	Settable

INSTALLATION

Sleek 9018 Indicator

■95
■Depth including terminals

ORDERING INFORMATION

Sleek 90 X1 X2 X3 X4 X5

X1 — Inputs
1 - One

X2 — Panel cutout
0 - 92 x 45
2 - 68 x 68
3 - 92 x 92
8 - 45 x 45

X3 — 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

X4 — Range
0 - -100 to 200°C
1 - 0 to 400°C
2 - 0 to 100%
3 - 0 to 600°C
4 - 0 to 1200°C
5 - 0 to 1600°C
6 - Other

X5 — Power supply
1 - 230 V AC
2 - 110 V AC
3 - 24 V AC
4 - 24 V DC
5 - Other

Ordering eg. Sleek 9018 - 11111
Digital Temp. Controller Sleek 90
Inputs   - One   (1)
Panel cutout - 45 x 45 mm   (8)
Input   - Pt - 100   (1)
Range   - 0°C to 400°C   (1)
Power supply- 230 V AC   (1)

ALSO SELECT ESD ...

BACK END
- ✓ Pt - 100
- ✓ Thermocouples
- ✓ Thermowells
- ✓ Compensating Cables

SAME RANGE
- ✓ Dual Channel Indicators
- ✓ Supersize Indicators
- ✓ Loop Powered Indicators
- ✓ Portable Indicators
- ✓ Field Mounting Indicators
- ✓ Flameproof Indicators
- ✓ Auto Manual Station

FRONT END
- ✓ ON OFF Controllers
- ✓ PI Controllers
- ✓ Process Scanners
- ✓ Automation Panels

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