



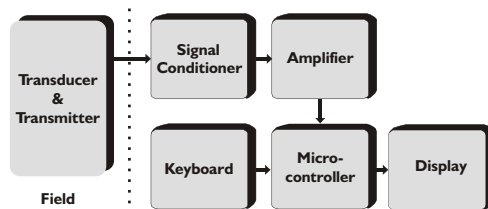
INTRODUCTION

Process indicators play an important part in any process industry. Quick and accurate measurement of a process parameter will improve the final product quality, reliability and reduce rejection. Process indication 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 parameter 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 sensor used.

PRINCIPLE OF OPERATION



The Sleek 90 series is based on the principle of high input impedance amplifier feeding an 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 digital display. The microprocessor then converts the signal into the range selected by the user and displays the value of the process parameter accordingly.

APPLICATION

The Sleek 90 series process indicators 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
- ✓ Dust and vermin proof enclosure with epoxy powder coating
- ✓ LED display gives better readability at long range
- ✓ Fast response time
- ✓ Highly accurate
- ✓ Available in different DIN std. cutouts
- ✓ Programmable range
- ✓ Decimal selection facility
- ✓ Maximum MTBF and minimum MTTR
- ✓ Feather touch push button
- ✓ Wide supply variation and environmental band
- ✓ User friendly programming

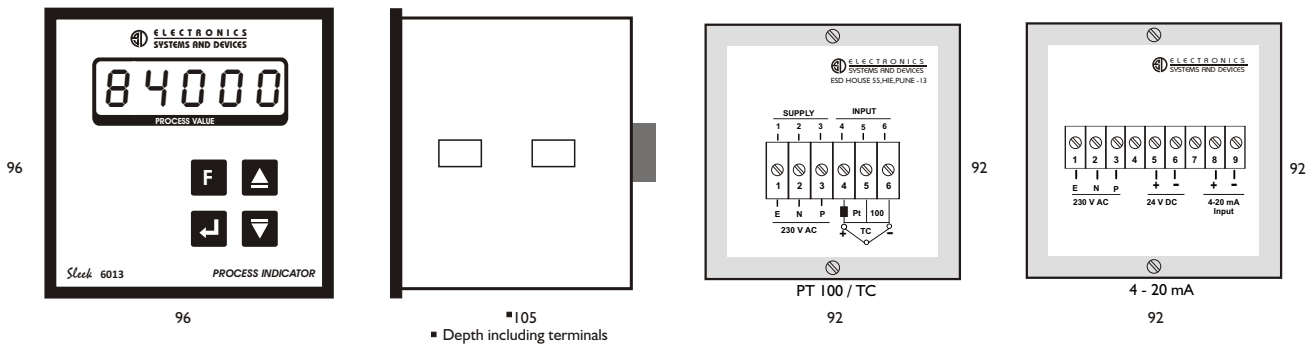
SPECIFICATIONS

Model	: Sleek 6013
Ranges	: Refer chart below (other on demand)
Input	: PT 100 / Thermocouple / 4 - 20 mA
Indication	: 9 9 9 . 9 9 12.5 mm RED LED display
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
Accuracy deviation due to	
a) Temperature change	: +/- 0.002 % /°C, ref at 25°C
b) Supply variation	: +/- 0.001 % / V
Sensor break indication	: O P E N
Input impedance	: < 10 Mohms, (only for T/C input)
Recalibration (if reqd)	: By software using keypad
Programming	: Using 4 keys membrane keypad. Default password is 134
Power consumption	: 5 VA
Transmitter supply	: 24 V DC @ 30mA (only for 4-20mA)
Front fascia	: ABS plastic suitable for IP 55 having size 96 x 96 mm

Panel cutout	: 92 x 92 mm
Mounting	: Flush panel
Enclosure	: Mild steel CRCA sheet with powder coating
Termination	: Screwed type suitable for 2.5mm ² wire
Weight	: 700 grams approximately
Optional	
A) Retransmission o/p	: Isolated 4 to 20mA proportional to process value
Resolution	: 10 bit (0.016 mA step change)
Load resistance	: Maximum 500 ohms
B) Serial interface	: Isolated RS 485(2 wire)/ RS 232
Protocol	: Modbus RTU
Chart	

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

INSTALLATION



ORDERING INFORMATION

Sleek 60	X1	X2	X3	X4	X5	Ordering eg. Sleek 6013 - 111 Digital Temp. Controller Sleek 60 Input - One (1) Panel cutout - 92 x 92 mm (3) Input - 4 to 20 mA (7) Range - 0°C to 400°C (1) Power Supply - 230 V AC (1)
	Inputs 1 - One	Panel Cutout 0 - 92 x 45 2 - 68 x 68 3 - 92 x 92 8 - 45 x 45	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 - Pt - 1000 9 - Other	Range 0 - -100 to 200°C 1 - 0 to 400°C 2 - 0 to 600°C 3 - 0 to 1200°C 4 - 0 to 1600°C 5 - Other	Power Supply 1 - 230 V AC 2 - 110 V AC 3 - 24 V AC 4 - 24 V DC 5 - Other	

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"> ✓ Dual Channel Indicators ✓ Supersize Indicators ✓ Loop Powered Indicators ✓ Portable Indicators 	<ul style="list-style-type: none"> ✓ Field Mounting Indicators ✓ Flameproof Indicators ✓ Auto Manual Station