SCANNER

SMART C104

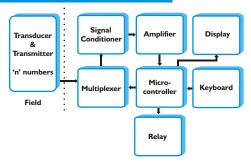
INTRODUCTION

Temperature Indicators and Controllers play an important part in any process industry. Quick and accurate measurement and control of a process temperature will help to improve the final product quality, reliability and reduce rejection. Temperature indication and control is therefore one of the prime considerations in any process industry.

The ESD Process Scanner With Controller series is based on microcontroller and is designed for fast and accurate measurement and control of temperature. The instrument is designed using highly reliable electronic components. The process temperature is displayed directly in digits, which gives better resolution.

ESD offers different application oriented models

PRINCIPLE OF OPERATION



The ESD Process Scanner With Controller series is based on the principle of 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 CPU through ADC.

The linearization of the input signal from the transducer is done by software. This linearized signal is directly displayed on the display and compared with the set value by processor. Depending upon the status of input w.r.t. set point output to the relay driver is activated.

The processor scans all the inputs at a very fast rate and stores it in the memory. This stored data and programmed set values are displayed automatically as per the preset scan times.



like only scanner, scanner with common alarm, scanner with group alarm, scanner with controller. All above models are available in different DIN standard cutouts suitable for 8 and 16 channels.

This series accepts all types of Thermocouples, Pt - 100, 0 to 20 mA as well as 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. The large bright red LED seven segment display allows long distance readability. Use of highly reliable electronic components with low temperature coefficient ensure long and trouble free service. The instrument is tested for its performance under various climatic conditions.

FEATURES

- ✓ Proven troublefree 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
- ✓ Designed for Pt-100, Thermocouples and
 - 4 20 mA input
- ✓ Maximum MTBF and minimum MTTR
- ✓ Feather touch push button
- ✓ Wide supply variation and environmental band
- ✓ User friendly programming



SPECIFICATIONS

: Smart C104 Model No. of Inputs

Ranges : Refer chart below (other on demand) Input : Pt - 100 / Thermocouple / 4 - 20 mA : 9 9 9 . 9 12.5 mm RED LED display

Indication Number of digits : 5 (I for channel number, 4 for process

value)

Indication accuracy : +/- 0.25 % of full scale +/- I digit : Refer chart below (other on demand) Least count LED indication : 4 nos of 3 mm RED LEDs for setpoint

status

Power supply : 230 V AC, \pm /- 10 % , 50 Hz with earth : Less than 90 % non condensing Relative humidity

Ambient temperature : 0 to 55°C

Amb temp compensation: Built in up to 55°C

Accuracy deviation due to

: +/- 0.002% /°C, ref at 25°C a) Temperature change

: +/- 0.001% / V b) Supply variation Sensor break indication : OPEN

: < 10 Mohms, (only for T/C input) Input impedance Recalibration (if reqd) : By software using keypad. To be done on

channel I only

: Using 4 keys membrane keypad. Default Programming

password is 134

Power consumption : 6 VA

Channel skip : By setting scan time as zero : 0.5 seconds/channel Display response time

: Individually adjustable from 0-99 seconds Scan time : One nos. per channel individually settable Setpoint

Relay logic : User selectable high or low

Output : I nos. potential free relay contacts rated 5

amp resistive at 230 V AC per setpoint

Number of outputs

Front facia : ABS plastic having size 96 x 96 mm

Panel cutout : 92 x 92 mm Mounting : Flush panel

: Mild steel CRCA sheet with powder Enclosure

coating

Termination : Screwed type suitable for 2.5mm² wire

Weight : I kg approximately

Optional

Serial interface : Isolated RS 485 (2 wire) / RS 232

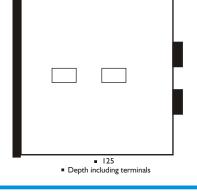
Protocol : Modbus RTU

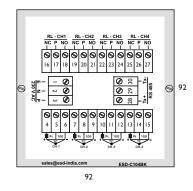
Chart

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

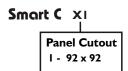
INSTALLATION







ORDERING INFORMATION





Input I - Pt - 100

X3

- J type T/C 3 - K type T/C
- 4 R type T/C
- 4 to 20 mA 9 - Other

Range

- 0 -100 to 200°C
- I 0 to 400°C 2 - 0 to 600°C
- 3 0 to 1200°C 4 - 0 to 1600°C
- 5 Other

X5 Power Supply

- I 230 V AC 2 - 110 V AC
- 3 24 V AC
- 4 24 V DC 5 - Other

Ordering eg. Smart C104 - 111 Digital Temp. Scanner Smart C104 Panel cutout - 92 x 92 mm

No of inputs - Four (04)- Pt - 100 Input (1) - 0°C to 400°C (1)

FRONT END

ON OFF Controllers

Power Supply - 230 V AC

BACK END

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

SAME RANGE

- **Dual Channel Indicators**
- - Supersize Indicators

- ✓ Field Mounting Indicators
 - √ Flameproof Indicators
- Loop Powered Indicators ✓ Auto Manual Station

✓ Portable Indicators

Automation Panels

Process Scanners

✓ PI Controllers

"Cell phones, mobile, e-mail, and all the other cool and slick gadgets can cause massive losses in our creative output and overall productivity...."

Robin Sharma

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