



TEMPERATURE SCANNER



SCN525

FEATURES

- Microcontroller based design.
- Accepts RTD, Thermocouple, mV, mA
- High Accuracy with software linearisation
- Multiplexing by Analog switches
- Channel pause & Hold facility
- Two set points per channel
- Over range & Open sensor indication
- Programmable scan time, set point & channel pause
- Alarm and Trip indication for each channel
- Error compensation at site
- Digital calibration for each channel
- Optional : PC Interface
- Optional : Relay output - Max.32 through external relay unit
- Compact in size / Modular construction
- EERAM storage, no battery required
- Protection against EMI/Stray noise
- Built-in Watchdog Timer
- 2 or 4 Relay output

APPLICATION

- Winding temperature monitoring of High Rating Motors, Power Generators and transformers
- Various parts of Engine bed, Ball bearings, Water and Steam pipe of boilers
- Various points in Sugar mills, Food processing, Chemical, Cement, Fertilizer & Pharmaceutical Industries

GENERAL DESCRIPTION

ICD Temperature Scanner Model No. SCN525 is capable to measure and control the Temperature upto 16 points. It accepts temperature sensors like RTDs, Thermocouple, mV and mA signals from Transmitters. The Scanner is completely user programmable like High/Low set point control action, Auto/Manual operation, Channel grouping, Hold, Pause etc.

The Scanner is a single board construction with the latest integrated circuit, so as to reduce component counts. Fast AD converter is used for quick refreshing of all the channels input and output. Digital Zero / Span calibration eliminates trim pot adjustments and settings are made through key pad.

Maximum 4 relay outputs are given for Alarm & Trip controls. Channel grouping (optional) and control modes are programmable.

The Scanner scans all the channels continuously on the background while displaying and generates the Alarm & Trip outputs after comparison with respective settings.

The Scanner has two modes of operation:

1. Operator Level and
2. Superior Level

The operator level permits channel display selection in Auto, Manual, Hold mode and Alarm acknowledge. Whereas supervisory level access, Alarm & Trip setting, group configuration, output delay adjustments, channel pause function, scan time etc.,

Optionally, external relay box containing Max. 32 relays can be connected through serial link. The scanner is housed in 96 x 192 x 250 mm flush mounting enclosure.

TECHNICAL SPECIFICATION

Type	: Temperature Scanner
Circuit Design	: Microcontroller based Design
No. of Inputs	: 6, 8, 12 and 16
Type of Inputs	: a) Direct RTD (PT-100 ohms or 46 ohms) b) Thermocouple (Type J, K, R, S) c) mV (Please specify the range) d) mA (4 - 20 mA or 0-20 mA)
Resolution	: 0.1°C for RTD, 1°C for thermocouple and 0.1 or 1 unit for other inputs as per range
Accuracy	: $\pm 0.25\%$ over full scale
Type of A/D Converter	: 12 bit fast AD Converter
Sampling Time	: 16 Channel / Second

DISPLAY

No. of Digits	: Six (2 digit for channel number and 4 digit for parameter)
Type of Display	: 7 Segment 0.5" Red LED
Scan Time	: 1 to 30 Seconds, Programmable
Scanning Mode	: Auto / Manual
Auto Mode	: For Automatic scrolling of a Channel
Manual Mode	: For Continuous indication of a Channel selected and stepping one by one.
CJC & BTC Function	: Available for thermocouples
Over Range Display	: Available
Open Sensor Display	: Available
Channel Skip Facility	: Available
Channel Hold Facility	: Available
Zero & Span Calibration	: Digital Calibration available for each input through key pad
Type of PCB	: Single board construction
Mains Failure	: A non volatile EEPROM is used to store the set points, scan time and zero & span calibration constants

ALARM / TRIP CONTROL

No. of Set Points	: 2 Per Channel for Low & High, High & High High or Low & Low Low control action
Setting Means	: Through Key pad
Control Output	: Common Relay output 1 No. each for two of the set points. Optionally, more relay outputs by grouping the channels or individual alarm output for each input with common trip relay output or individual trip output with common alarm output

Contact Rating	: 3 Amps, at 240V AC
Alarm Acknowledge Facility	: Available
Status Indication	: Normal - No Indication 1st Set Point - Green 2nd Set Point - Red Program, Auto, Manual & Hold mode by Red LED Indication
Watch dog Timer	: Available
Supply brown out protection	
Operating Temperature	: 55°C Max.
Power Supply	: 240V AC \pm 10% 50 Hz
Option	: 110V / 415V AC or DC supply with SMPS
Box Dimension	: 96(W) x 192(H x 250(D) mm

COMMUNICATION (Option)

Type	: RS485
Protocol	: MODBUS - RTU
Isolation	: Provided
Traffic Status	: Indicated through TXD, RXD LED

RELAY BOX

No. of Relays	: 16 or 32. Two relays per channel or one relay per channel with common alarm relay for all 16 channels.
Input	: Logic signal from scanner unit through 9 pin 'D' type connector
Operating Voltage	: 240V AC \pm 10% 50 Hz
Relay Type	: PCB soldered 12V DC operated OEN relay
Contact Rating	: 3 Amps at 240AC
Box Dimension	: 225(W) x 180(H) x 55(D) mm

NOTE

1. We also supply 16 - 32 channel Temperature Scanner in 144(W) x 288(H) x 300(D) mm enclosure
2. 32 - 100 channel Temperature Scanner can be supplied in 4U & 6U size 19" Rack with several built in features

DATA LOGGER

The Data Logger is designed to monitor various process parameters like Flow, Pressure, Speed and Temperature in respective Engineering Units. It accepts MA / MV / Voltage from external signal transducers and converts them to full scale values. The Low and High range of each input channel is programmable.

The Data Logger is Provided with optically isolated RS485 serial port supporting MODBUS RTU Protocol. Each data logger can monitor 16 process inputs and multiple Data Loggers can be networked together to access more inputs.

(Up to 256 points are possible with 16 Data Loggers connected in a single network)

An user friendly software package can be supplied to view online data, Real time Trends, Historic Trends and various graphical representations.

Also useful database and reports on the performance of the process can be generated.

Note: Technical Specification are same as that of Temperature Scanner



LOG530



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