

# TEMPERATURE/PROCESS SCANNER



## PROSCAN

### PROCESS DATA ACQUISITION & CONTROL SYSTEM



Proto   
Control

**PROTOCONTROL** offers complete range of Process /Temperature Scanners Series **PROSCAN**. All possible varieties from simple indicating type to fully programmable Microcontroller based models with PC interface output are available . Standard Data Acquisition and Control software, which can be downloaded in PC to observe hystorical tends / tables/ graphs etc.. is also available. Unit can accept all varieties of electrical inputs like mV, mA, V, I. These units can be used for individual control units and also can be coupled together or expandable to from a complete package as per requirement. Full range is available to suit each and every requirement in industry. Special models for sectors like, dry cast resign transformers & motor manufacturers, boilers, chemical, Power, cement, sugar, & battery industries etc. are available in all possible sizes and mounting. Protocontrol also offers total automation package related to all Process Scanners including communication Scada/ Ethernet / Wireless control automation etc. with control, field, Installation, programming software etc . Special models with universal input, isolated inputs etc. can be available against specific enquiry / requirement. Industry proven technology, rugged mechanical design with experienced and highly experienced and fully technically skilled backup / support are the basic features of PROSCAN. High accuracy and less drift is achieved due to specially developed analog & multiplexing design in PROSCAN. The series **PROSCAN is offered in Two main different varieties.**

### μ Series : microcontroller based models

Fully programmable versatile design. Standard and optional features are listed as below :-

#### Standard features :-

- μ Controller based with / without Password provision for setting.
- With / without control action.
- Setting by front keys by means of increment, decrement, program, enter keys.
- Channel no. indication, Group no, temperature indication on digital display.
- Separate Scan rate
  - a) Internal for control action. & b) External for display.
- Control action is independent of channel being scanned.
- Channel Skip / channel bypass facility.
- Alarm trip status by Individual LED per channel.
- Built in CJC for TC. Built in cable compensation for RTD.
- Linearised Circuit with accuracy <0.5% guaranteed.
- Settable hysteresis. (0.1 to 9.9 °C)
- Resolution 0.1 Deg. C. for RTD & 1 Deg. C. for Thermocouple input.
- Can accept any one type of sensor / Transmitter input.
- Available sizes mm.: 96x96.(upto 6 channel), 96 x 192, 72x144,144x144, 192x192. Panel mounting.
- Enclosure :M.S. fabricated/ Cast Al. / flameproof with IP55 / IP65 protection.

#### SPECIAL /OPTIONAL FEATURES

- Fan relay output for cooling action.
- RS232, RS485 output port provision for PC interface with Std. Protocol (modbus) and with other Protocol on request RS 232 is to be used when 'PC' is located very near to instrument (< 10 ft.) RS485 is to be used when 'PC' is located away from instrument or if "multidrop's communication with other instrument is required.
- 4-20mA / 0-10 V DC Isolated output.  
Following options are available  
Output proportional to process vau (temp.) of
  - 1 Channel being scanned
  - 2 Any one channel selected.
  - 3 Max. temperature of any one channel.
  - 4 Max. temperature in memory at any instant for any channel.

- Built in memory for Max. temperature recorded (channel wise)
- Built in LED fault annunciation / accept / reset facility.
- Any channel can be connected to any group & any group can be connected to any relay.
- Sensor brake / short (or not connected at all) indication by LED's or RELAY
- Special model with all inputs isolated from each other.
- For universal input model unit can accept
  - a) PT-100 (3 WIRE), 2 WIRE, RTD.
  - b) Thermocouple:- J,K,R, S,T (B, E optional)
  - c) mV, Voltage input : range : 0-100mV / 1-5 V DC / 0-5 V/0-10V DC
  - d) mA Input:4-20mA,0-20mwithexternal resistance.(typical value 250 Ohms MFR)
- Input sensors as per group / common for all channels/ same but universal/ different but universal options.
- Special models for other parameters like pressure, level, flows, current (AC or DC) battery voltage. etc..
- RS 485/ 232 Output with / optional SCADA software specially developed for Process industry. (PROSOFT)
- Individual relay output (per channel One / Two relays) for all channels.
- Relay status programmable. Any relay can be kept energized or de-energized below/ above set point.
- If Number of channels / relays are more external back connector facility for extra relays. With special external "Patch panel / Relay board to be mounted separately in panel.
- For very high speed applications PROTOCONTROL offers special hardware And software package with suitable signal conditioning / electrical panel with all Built in hardware and suitable programmable software/automation package.
- Built in instant relay output and time delayed relay output forTRIP action to avoid Unnecessary tripping with advance emergency warning relay for external hooters, PLC / DCS signal etc.
- Built in SMPS for supply voltage. Variation from 90-270 V AC/DC models.
- Calibration facility on front keys for field calibration without opening cover. Additional calibration facility "internal" for fine calibration once in month/year.
- Customised / user defined models.

### D Series. : digital model

Digital design. Economical series.

Standard & optional features are as listed below.

#### Standard features:-

- It can accept only one type of input.
- No channel skip facility.
- Standard accuracy <1%. Optional accuracy <0.5% for mA, mV, RTD
- Channel no. indication by LED or special model with digital display for channel number.
- Scan rate : 1- 10 Secs adjustable by potentiometer.
- Control action : Is possible for channel being scanned at any instant
- Setting : Potentiometric (multiturn) for alarm , trip and scan rate.
- Auto/ Manual Alarm, trip, scan rate by a) Toggle switch. & b) Front keys
- Internal calibration facility.
- Alarm relay normally ON & Trip relay normally OFF below set point to

achieve fail safe operation .

- Alarm and trip latch reset facilities on front key.
- Available size 96 x 96 (upto 6 channels) 96x192, 72x144mm
- Enclosure : M.S. fabricated / Cast Al./ Flameproof with IP 55 / IP 65 versions protection.

#### Optional features

- a) Group wise setting with 2 Nos. relays per group. (max. two groups available)
- b) 4-20 mA. Output.
  - I) Proportional to any one internally selected channel process value.
  - II) Proportional to channel Process value, being scanned at any instant.
- c) 'Fan' relay output with separate Temp.setting by front potentiometer.

**MODEL SELECTION CHART :  $\mu$  series. MICROCONTROLLER BASED MODELS**

	PROSCAN	1	2	3	4	5	6	7	8	9	10
1	Series	$\mu$									
2.	<b>No. of channels</b>										
	04	04									
	06	06									
	08	08									
	10	10									
	12	12									
	16	16									
	20	20									
	24	24									
	32	32									
3	<b>Type of sensor</b>										
	PT-100			P							
	Thermocouple			T							
	(Please specify TYPE separately)										
	mV/Volt			V							
	mA			M							
	Universal (*1)			U							
4	<b>Sensor input</b>										
	Common to all channels			C							
	Group wise			G							
	Universal Input same for all channels			S							
	Universal I/P different for every chnl..			I							
5	<b>Supply voltage</b>										
	230V AC				A						
	110V AC				B						
	90-270 V AC /DC				C						
	Any other				D						
6	<b>Communication Port</b>										
	With RS 485/ RS232 (MODBUS)					R					
	Without communication port					N					
7	<b>Control action</b>										
	Common to all channels						C				
	Group wise setting (*2)						G				
	Individual setting						I				
8	<b>Retransmission output</b>										
	4-20mA (*3)							R			
	No retransmission output							O			
9	<b>Peak temperature</b>										
	Max. peak temp. required (*4)								S		
	No peak temp. storage facility								O		
10	<b>Fan relay</b>										
	With fan relay output									F	
	Without fan relay output									O	



**OPTION  $\mu$  SERIES**

\*1 . For Universal model, for current input 100 Ohms (0-20mA or 4-20mA) external 250 Ohms / MFR resistor is to be connected.

\*2. Please specify details

- A) Any relay can be assigned to any group and any channel can be assigned to any group.
- B) Alarm and trip relay output per group.
- C) No. of groups available. 2, 3, 4, 6.
- D) No. of relays as per requirement.

- \*3. Please specify  
Output proportional to
- a. Channel being scanned
  - b. Any one channel selected.
  - c. Max. temperature of any one channel.
  - d. Max. temperature in memory at any instant for any channel.

\*4.

- a) Channel wise Max. temperature in memory.
- b) One peak reading max. value from all channels in universal memory.

## DIGITAL MODELS

### MODEL SELECTION CHART : D Series

	DIGITAL MODELS	1	2	3	4	5	6	7
1	<b>PROSCAN</b> Series	D						
2.	<b>No. of channels</b> 04 06 08 10 12 16		04 06 08 10 12 16					
3	<b>Type of sensor</b> PT-100 Thermocouple (Pl. specify type) mV mA			P T V M				
4	<b>No. of groups</b> One Two				C G			
5.	<b>Supply voltage</b> 230V AC 110 V AC 90-270 V AC /DC Any other					A B C D		
6	<b>Retransmission output</b> 4-20mA (*1) No retransmission output						R O	
7	<b>Fan relay</b> With fan relay output (*2) No fan relay output							F O



- \*1 Option :  
a) Output proportional to channel being scanned  
b) Output proportional to any one selected channel.
- \*2 Option :  
Fan relay setting is common for all channels and groups.

#### OTHER RELATED PRODUCTS :

Interfacing Units

Mux Units

Data Acquisition & Control Software: PROSOFT

Signal Conditioning Units

Temp Sensors/ Transmitters

PID Controllers

Pressure / Level Transmitters

RS 232 To RS 485 Convertors

'Protocol' Convertors

Signal Conditioners/ Isolators

Turn Key Automation Projects



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