



# 8208

## 8 Channel Scanner/ DAQ Module

Compact. Advanced. Fast



8208 Scanner offers multi-channel monitoring with advanced functions and simple programming features in very compact 1/4 DIN size for monitoring process values and protection application.

8208 has flexible configuration option for 8 channels accepting universal input and 4 relays to serve various applications. The unit has separate numeric displays for ch. no., group and process value. All configuration and calibration can be done from front panel keypad.

8208 has 4 relays with full mapping and logic flexibility. User has facility to program alarm, trip set-points and logic individually or group wise. Channels can be configured up to 4 groups with one relay per group: 2 groups with 2 relays per group or 1 group with 4 relays per group. Two discrete LEDs are provided per channel and one LED per relay for indication.

8208 has optional Isolated RS-485 serial communication port with Modbus RTU protocol and provides optional analog retransmission output with max./min. to further interface with PLC/DAS/DCS/SCADA.

### Features

- Universal input for each analog input
- Compact 1/4 DIN mounting
- Front panel programming
- Fast sampling rate with instantaneous relay action
- Four relays for alarm/trip
- RS-485 serial communication port for remote monitoring
- Comprehensive alarm/trip logic programming
- Multiple levels of configuration and password protection
- Retransmission output (Optional)

### Applications

- Generator monitoring and protection
- Monitoring of air compressor, pump, transformers, fans and blowers DG temperature monitoring
- Motor protection: Winding & bearing temperature
- Water and waste-water remote monitoring
- Electrical sub-station monitoring
- Drying ovens
- Fermentation processes
- Flow monitoring
- Retorts and cooking processes
- Heat treatment: to achieve desired result of hardening or softening material
- Power monitoring
- As a SCADA RTU
- Metal and mining applications
- Machine condition monitoring
- As a distributed I/O module for interface with PLC/DCS/DAS etc.

# TECHNICAL SPECIFICATIONS

Input		Power Supply	
No of Input	8	Standard	85-265VAC / 110-300VDC
Input Type	Thermocouple (E, J, K, T, B, R, S, N), RTD (Pt-100, 3W), current, voltage	Optional	18-36VDC
Display Range	Refer table-1	Power Consumption	<15VA
Accuracy	±0.1% of FS ± 1 count	<b>Isolation (Withstanding Voltage)</b>	
ADC Resolution	17 bits	Between primary terminals* and secondary terminals** <b>At least 1500 V AC for 1 minute</b>	
Display Resolution	0.1 / 1.0°C	Between primary terminals* and grounding terminal: <b>At least 1500 V AC for 1 minute</b>	
Sampling Rate	TC and linear input: 100m sec./channel RTD input: 200m sec./channel	Between grounding terminal and secondary terminals** <b>At least 1500 V AC for 1 minute</b>	
CJC Error	±2.0°C	Between secondary terminals** <b>At least 500 V AC for 1 minute</b>	
Sensor Open	All inputs except 0-5VDC / 10VDC	* Primary terminals indicate power terminals and relay output terminals.	
T/C Burnout Current	0.25µA	** Secondary terminals indicate analog I/O signal and communication O/P.	
RTD Excitation Current	1 mA (Approx.)	<b>Insulation resistance:</b> 20MΩ or more at 500V DC between power terminals and grounding terminal.	
NMRR	> 40dB	Physical	
CMRR	> 120dB	Dimension (in mm)	96(H) x 96(W) x 110(D)
Temperature-Co	< 100ppm/°C	Front Bezel (in mm)	96(H) x 96(W)
Input Impedance	> 1MΩ	Panel Cutout (in mm)	92.5(H) x 92.5(W)
Max. Voltage	20VDC	Depth Behind Panel	110 mm
Display & Keys		Enclosure	Molded ABS
Process Value	4-Digit, 0.56", red seven segment LED	Weight	500 Grams approx.
Channel No.	2-Digit, 0.56", green seven segment LED	Protection	IP20
Group No.	1-Digit, 0.56", red seven segment LED	Terminal Cable Size	2.5 mm <sup>2</sup>
Status	4 Red LEDs for relay status, 1 red LED auto/manual mode status, 2 green LEDs for communication, 1 red LED for fault, 16 red LEDs for alarms	Accessories	2 Numbers mounting clamps
Keys	Menu/enter, escape, A/M, increment, shift key/decrement	Environmental	
Output		Operating Temperature	0-55° C
<b>Relay</b>		Storage Temperature	0-80° C
No of Relays	4	Humidity	30-95% RH non-condensing
Type	Single change over (C, NO, NC)	Table 1: Display Range	
Rating	2A@230VAC / 30VDC	<b>Input Type</b>	<b>Range</b>
Time Delay	1 to 99 secs.	Thermocouple	E -200 °C to 1000 °C
<b>Retransmission Output (Optional)</b>			J -200 °C to 1200 °C
Current	0/4-20mA @ 500Ω max.		K -200 °C to 1370 °C
Voltage	0/1-5V, 0-10V @3KΩ min.		T -200 °C to 400 °C
Accuracy	0.25% of FS		B 450 °C to 1800 °C
Selection	Max. or min. reading of channels		R 0 to 1750 °C
<b>Communication Output (Optional)</b>			S 0 to 1750 °C
Interface	RS-485	RTD	N -200 °C to 1300 °C
Protocol	Modbus RTU		Pt-100 -199.9 to 850.0 °C
Baud Rate	9600, 19200	Linear	-10 - 20mV
			0 - 75mV
			0 - 100mV
			0.4 - 2V DC
			4-20 mA (Ext.100Ω)
			0 - 2 VDC
			0 - 20mA (Ext 100Ω)
			0 - 5V
			1 - 5V
			0 - 10V
			-1999 to 9999

## Ordering Code

Model	Input Type	Auxiliary Power Supply	Retransmission Output Type	Communication Output Type
8208	1 E	U1 85-265 VAC / 110-300VDC	N None	N None
	2 J	U2 18-36 VDC	1 4-20mA	Y 1 x RS-485
	3 K		2 0-20mA	
	4 T		3 1-5 V	
	5 B		4 0-5 V	
	6 R		5 0-10 V	
	7 S			
	8 N			
	9 Pt-100			
	A -10 to 20mV			
	B 0-75 mV			
	C 0-100 mV			
	D 0-2 V			
	E 0.4-2 V			
	F 0-5 V			
	G 1-5 V			
H 0-10 V				