



# 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.

The 8208 supports both physical analog inputs (from sensors like thermocouples, RTDs, current, or voltage) and serial inputs via Modbus RTU over RS-485. Its analog outputs can be controlled by internal logic (Physical AI Values, Modbus AI Values) or Modbus commands over RS485. The relay outputs can be activated based on process values (Physical AI Values, Modbus AI Values) or direct commands from Modbus over RS485. This makes the 8208 ideal for tasks like alarm control, process switching, and automation. With the ability to handle both physical and serial I/O at the same time, it easily fits into SCADA systems, PLCs, and other control setups.

### 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)
- Multi-mode Analog Input: Physical Sensor Input and Serial Input via Modbus RS485
- Modbus compatible DO & AO control Operation

### 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, Serial Input	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	<b>Physical</b>		
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	
<b>Display &amp; Keys</b>		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	
		<b>Environmental</b>		
		Operating Temperature	0-55° C	
Keys	Menu/enter, escape, A/M, increment, shift key/decrement	Storage Temperature	0-80° C	
<b>Output</b>		Humidity	30-95% RH non-condensing	
Relay		<b>Table 1: Display Range</b>		
No of Relays	4	<b>Input Type</b>		
Type	Single change over (C, NO, NC)	<b>Range</b>		
Rating	2A@230VAC / 30VDC	Thermocouple	E	-200 °C to 1000 °C
Time Delay	1 to 99 secs.		J	-200 °C to 1200 °C
Operation Mode	<b>Internal:</b> Physical AI Values, Modbus AI Values <b>External:</b> Direct Commands Through Modbus Master		K	-200 °C to 1370 °C
<b>Retransmission Output (Optional)</b>	Current 0/4-20mA @ 500Ω max. Voltage 0/1-5V, 0-10V @3KΩ min. Accuracy 0.25% of FS Selection Max. or min. reading of channels		T	-200 °C to 400 °C
			B	450 °C to 1800 °C
			R	0 to 1750 °C
Operation Mode	<b>Internal:</b> Physical AI Values, Modbus AI Values <b>External:</b> Direct Commands Through Modbus Master		S	0 to 1750 °C
		N	-200 °C to 1300 °C	
		RTD	Pt-100	-199.9 to 850.0 °C
<b>Communication Output (Optional)</b>	Interface RS-485 Protocol Modbus RTU Baud Rate 9600, 19200	Linear	-10 - 20mV	-1999 to 9999
			0 - 75mV	
			0 - 100mV	
			0.4 - 2V DC	
			4-20 mA (Ext.100Ω)	
			0 - 2 VDC	
			0 - 20mA (Ext 100Ω)	
Serial (RS485)	0 - 5V	PV write Facility	-1999 to 9999	
	1 - 5V			
	0 - 10V			

Ordering Code

Model	Input Type	Auxilliary Power Supply	Retransmission Output Type	Communication Output Type
8208	1 E	U1 85-265 VAC / 110-300VDC	N None	Y 1 x RS-485
	2 J	U2 18-36 VDC	1 4-20mA	
	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			
	S Serial RS485			