



8204

4-Channel Scanner/ DAQ Module

The most compact Multichannel Indicator with Alarms



8204 Scanner offers multi-channel monitoring with advanced functions and simple programming features in very compact 1/8 DIN size for monitoring process values and protection application.

8204 has flexible configuration option for 4 channels accepting universal input and 4 relays to serve various applications. The unit has separate Numeric displays for CH. No. and Process Value. All Configuration and Calibration can be done from front panel keypad.

8204 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. One discrete LED is provided per relay for indication.

8204 has built-in Isolated RS485 serial communication port with Modbus RTU protocol and provides optional analog retransmission output with Max/Min/Avg to further interface with PLC/DAS/DCS/SCADA.

The 8204 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 8204 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 1/8 DIN mounting
- Front Panel Programming
- Fast Sampling rate with instantaneous relay action
- Four relays for alarm/trip
- RS485 Serial communication port for remote monitoring
- Comprehensive Alarm/Trip logic programming
- Multiple Levels of configuration and password protection
- Retransmission output
- 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	4	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	<10VA	
Accuracy	±0.1% of FS ± 1 Count	Isolation (Withstanding voltage) <ul style="list-style-type: none">Between primary terminals* and secondary terminals**:At least 1500 V AC for 1 minuteBetween primary terminals* and grounding terminal: At least 1500 V AC for 1 minuteBetween grounding terminal and secondary terminals**:At least 1500 V AC for 1 minuteBetween secondary terminals**: At least 500 V AC for 1 minute * Primary terminals indicate power terminals and relay output terminals. ** Secondary terminals indicate Analog I/O signal and Communication O/P. Insulation resistance: 20MΩ @ 500V DC between power terminals and grounding terminal.		
ADC Resolution	17 bits			
Display Resolution	0.1 / 1.0°C			
Sampling Rate	TC and Linear Input :100mSec/channel RTD Input: 200mSec/channel			
CJC Error	±2.0°C			
Sensor Open	All inputs except 0-5VDC / 10VDC			
Sensor Burnout current	1.2µA			
RTD Excitation current	1 mA (Approx.)			
NMRR	> 40dB			
CMRR	> 120dB			
Temp-co	< 100ppm/°C			
Input Impedance	> 1MΩ			
Max Voltage	20VDC			
Display & Keys		Physical		
Process Value	4-digit, 0.56", Red seven segment LED	Dimension (in mm)	48(H) x 96(W) x 120(D)	
Channel No	1-digit, 0.56", Green seven segment LED	Front Bezel (in mm)	48(H) x 96(W)	
Status	4 Red LEDs for Relay status, 1 Red LED Manual mode status, 2 RED LEDs for Communication	Panel Cutout (in mm)	45(H) x 92(W)	
	Keys	Menu/Enter, Escape, Increment, Shift Key/Decrement	Depth behind Panel	112 mm
Output		Enclosure	ABS Molded	
		Weight	300 grams approx.	
Relay	Operation Mode Internal: Physical AI Values, Modbus AI Values External: Direct Commands Through Modbus Master	Protection	IP20	
No of Relays		Terminal Cable size	2.5 mm ²	
Type		Accessories	2 numbers mounting clamps	
Rating		Environmental		
Time Delay		Operating Temperature	0-55° C	
Operation Mode		Storage Temperature	0-80° C	
Retransmission Output		Humidity	30-95% RH non-condensing	
Current		Table 1: Display Range		
Voltage		Input Type Ranges		
Accuracy		Thermocouple	E	-200 °C to 1000 °C
Selection			J	-200 °C to 1200 °C
Operation Mode	K		-200 °C to 1370 °C	
	T		-200 °C to 400 °C	
Communication Output	B		450 °C to 1800 °C	
	R		0 to 1750 °C	
Interface	S		0 to 1750 °C	
Protocol	N	-200 °C to 1300 °C		
Baud Rate	RTD	Pt-100	-199.9 to 850.0° C	
	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)		
		0 - 5V		
		1 - 5V		
		0 - 10V		
	Serial (RS485)	PV write Facility	-1999 to 9999	

ORDERING CODE									
		Model	Input Types		Auxilliary Power Supply		Retransmission Output Type		
		8204	1	E	U1	85-265 VAC / 110-300VDC	N	None	
			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					

Busbar Temperature Sensor (Extra Cost)	
BSSRTD1-Busbar-LX	Busbar Temperature Sensor (PT100)