



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 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 (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	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		
Relay No of Relays Type Rating Time Delay Operation Mode	4 Single Change over (C, NO or C, NC) 2A@230VAC/ 30VDC 1 to 99 secs Internal: Physical AI Values, Modbus AI Values External: Direct Commands Through Modbus Master	Weight	300 grams approx.		
		Protection	IP20		
		Terminal Cable size	2.5 mm ²		
		Accessories	2 numbers mounting clamps		
		Environmental			
			Operating Temperature	0-55° C	
			Storage Temperature	0-80° C	
			Humidity	30-95% RH non-condensing	
Table 1: Display Range					
			Input Type	Ranges	
			Thermocouple	E	-200 °C to 1000 °C
				J	-200 °C to 1200 °C
				K	-200 °C to 1370 °C
				T	-200 °C to 400 °C
				B	450 °C to 1800 °C
				R	0 to 1750 °C
				S	0 to 1750 °C
				N	-200 °C to 1300 °C
			RTD	Pt-100	-199.9 to 850.0° C
				-10 - 20mV	
				0 - 75mV	
				0 - 100mV	
			Linear	0.4 - 2V DC	
		4-20 mA (Ext.100Ω)		-1999 to 9999	
		0 - 2 VDC			
		0 - 20mA (Ext 100Ω)			
		0 - 5V			
		1 - 5V			
		0 - 10V			
		Serial (RS485)		PV write Facility	-1999 to 9999
Retransmission Output (Optional) Current Voltage Accuracy Selection Operation Mode					
0/4-20mA @ 500Ω Max 0/1-5V, 0-10V @3KΩ Min 0.25% FS Max or Min Reading of Channels Internal: Physical AI Values, Modbus AI Values External: Direct Commands Through Modbus Master					
Communication Output Interface Protocol Baud Rate					
RS485 Modbus RTU 9600, 19200					

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				