



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 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.

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
- RS485 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 | |
|------------------------|---|
| No of Input | 8 |
| Input Type | Thermocouple (E, J, K, T, B, R, S, N), RTD (Pt-100, 3W), Current, Voltage |
| Display Range | Refer Table-1 |
| Accuracy | ±0.1% of FS ± 1 Count |
| 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 |
| T/C Burnout current | 0.25µA |
| RTD Excitation current | 1 mA (Approx.) |
| NMRR | > 40dB |
| CMRR | > 120dB |
| Temp-co | < 100ppm/°C |
| Input Impedance | > 1MΩ |
| Max Voltage | 20VDC |

| Display & Keys | |
|----------------|---|
| Process Value | 4-digit, 0.56", Red seven segment LED |
| Channel No. | 2-digit, 0.56", Green seven segment LED |
| Group No. | 1-digit, 0.56", Red seven segment LED |
| 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 |
| Keys | Menu/Enter, Escape, A/M, Increment, Shift Key/Decrement |

| Output | |
|--------------|--------------------------------|
| Relay | |
| No of Relays | 4 |
| Type | Single Change over (C, NO, NC) |
| Rating | 2A@230VAC / 30VDC |
| Time Delay | 1 to 99 secs |

| Retransmission Output (Optional) | |
|----------------------------------|--------------------------------|
| 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 |

| Communication Output | |
|----------------------|------------|
| Interface | RS485 |
| Protocol | Modbus RTU |
| Baud Rate | 9600,19200 |

| Power Supply | |
|--------------|------------------------|
| Standard | 85-265VAC / 110-300VDC |
| Optional | 18-36VDC |
| Consumption | <15VA |

Isolation (Withstanding voltage)

- Between primary terminals* and secondary terminals**: At least 1500 V AC for 1 minute
- Between primary terminals* and grounding terminal: At least 1500 V AC for 1 minute
- Between grounding terminal and secondary terminals**: At least 1500 V AC for 1 minute
- Between 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 or more at 500V DC between power terminals and grounding terminal.

| Physical | |
|----------------------|---------------------------|
| Dimension (in mm) | 96(H) x 96(W) x 110(D) |
| Front Bezel (in mm) | 96(H) x 96(W) |
| Panel Cutout (in mm) | 92.5(H) x 92.5(W) |
| Depth behind Panel | 110 mm |
| Enclosure | Molded ABS |
| Weight | 500 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 |
| RTD | N | -200 °C to 1300 °C |
| | 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 | |

Ordering Code

| Model | Input Type | Auxilliary Power Supply | Retransmission Output Type |
|----------|---------------|----------------------------|----------------------------|
| 8208 | 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 | | | |