masibus


Type-1

Type-2

# 8208-XP

## 8-Channel Ex-Proof Scanner

Masibus model 8208-XP Scanner, is the Ex-proof version of model 8208, and is certified for use in Hazardous areas and is available in two types of enclosures.

8208-XP is the most compact multi-point scanner available in the market; designed with the latest Touch Sense Keys to give full programmability and ease of operation.

8208-XP comes in density of 4 or 8 channels; each channel input type is universal and has 4 fully programmable relay output for Alarm/Trip purpose. The unit has separate Numeric displays for Channel, Group and PV. All Configuration and Calibration can be done from front panel keypad

The 4 relays can be freely mapped as Alarm, Trip or control set point. User has option to program 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 status indication.

8208-XP has built-in Isolated RS485 serial communication port with Modbus RTU protocol and provides optional analog retransmission output with group Max/ Min to further interface with PLC/DAS/DCS/ SCADA.

8208-XP is available in two options Type-1 and Type-2 Wall Mount Enclosure. 8208-XP Type-1 Enclosure has maximum 8 glands possibility, whereas 8208-XP Type-2 Enclosure has maximum of 12 glands possibility and also has Rotary Switch for on/off.

### Features

- Universal input per channel
- Ex-proof protection for Gas groups IIA & IIB, IP65, Zone-1 (optional: IIC group)
- Operation by front Touch sense keys
- 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
- Analog Retransmission (Optional)

### Applications

- Hazardous areas like Chemical / Oil & Gas Petrochemical Industries
- Pharma application
- Gas compressors
- Mining Equipment monitoring and protection
- Gas detection
- Fire detection and annunciation
- As a distributed I/O module for interface with PLC/DCS/DAS etc

# TECHNICAL SPECIFICATIONS

## Input

| | |
|---|---|
| No of Input | 4 or 8 |
| Input Type | Thermocouple (E, J, K, T, B, R, S, N), RTD (Pt100), Current, Voltage |
| Display Range | Refer Table-1 |
| ADC Resolution | 17 bits |
| Display Resolution | 0.1 / 1.0°C |
| Sampling Rate | TC and Linear Input :100mSec/per channel<br>RTD Input: 200mSec/per channel |
| Accuracy | ±(0.1% of Full Scale +1digit) |
| CJC Error | ±2.0° C |
| 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, Escape / A/M, Increment, Shift/Down/ ACK |

## Output

| | |
|---|---|
| **Relay** | |
| No of Relays | 4 |
| Type | Single Change over (C, NO, NC) |
| Rating | 2A@250VAC / 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, 19.2K |

## Power Supply

| | |
|---|---|
| Standard | 85-265VAC @ 50 Hz / 60 Hz, 110-290VDC |
| Optional | 18-36VDC |
| Consumption | 15VA Max |

**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 I/O signal and Communication O/P.
**Insulation resistance:** 50MΩ @ 500V DC or more between power terminals and grounding terminal.

## Physical

| | |
|---|---|
| Enclosure | Aluminium Alloy LM-6<br>**Type-1*:** Type-1 Enclosure do not have Rotary Switch and max upto 8 glands only possible<br>**Type-2:** Type-2 Enclosure has On/Off Rotary Switch and max upto 12 glands possible |
| Weight (without glands) | 8208-XP Type 1: 5 Kg<br>8208-XP Type 2: 8 Kg |
| Dimension in mm (HxWxD) | 8208-XP Type 1: 220 X 220 X 140<br>8208-XP Type 2: 265 X 265 X 150 |
| Type of Protection | Gas Groups IIA & IIB, IP65, Zone: 1, 2<br>Optional: Group IIC |
| Cable Entry Size | 3/4" ET |
| Cable Entry No | 8208-XP Type 1: Max 8 glands<br>8208-XP Type 2: Max 12 glands |
| Mounting | Wall Mount |

## Environmental

| | |
|---|---|
| Operating Temperature | 0-70° C |
| Storage Temperature | 0-80° C |
| Humidity | 30-95% RH non-condensing |

## Table 1: Display Range

| Input Type | | Range |
|---|---|---|
| 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 |
| Linear | 0 - 75mV | -1999 to 9999 |
| | 0 - 100mV | |
| | 0.4 - 2V DC | |
| | 4-20 mA (Ext.100Ω) | |
| | 0 - 2 VDC | |
| | 0 - 20mA (Ext.100Ω) | |
| | 0 - 5V | |
| | 1 - 5V | |
| | 0 - 10V | |
| | -10 - 20mV | |

## ORDERING CODE

| Model | No of Input | | Enclosure Type | | Input Type | | Auxilliary Power Supply | | No of Glands | | Retransmission Output Type | | Gas Group | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8208-XP | 4 | 4 Channels | T1 | Type-1* | 1 | E | U1 | 85-265 VAC / 110-290VDC | 4 | 4 Glands | N | None | 1 | IIA/IIB |
| | 8 | 8 Channels | T2 | Type-2 | 2 | J | U2 | 18-36 VDC | 6 | 6 Glands | 1 | 4-20mA | 2 | IIC |
| | | | | | 3 | K | | | 8 | 8 Glands | 2 | 0-20mA | | |
| | | | | | 4 | T | | | 12 | 12 Glands# | 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 | 0.4-2 V | | | | | | | | |
| | | | | | E | 0-2 V | | | | | | | | |
| | | | | | F | 0-5 V | | | | | | | | |
| | | | | | G | 1-5 V | | | | | | | | |
| | | | | | H | 0-10 V | | | | | | | | |

* Max upto 8 glands only possible in Type-1 Enclosure
\# 12 glands is possible only in Type-2 Enclosure

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