



## 408-2IN

### Indicator Cum On-Off Controller

Masibus 408-2IN Indicator cum Controller has bright seven-segment 1.8" LED display for process value that can be monitored upto a distance of 20 meters. It has status LEDs for set point indication. Model 408-2IN accepts major industry standard inputs like RTD, thermocouples, mA, Volts etc.

It provides two relay outputs to perform various control and alarm functions. Intuitive configurations with three front keys ensure easy programming.

Process value can also be retransmitted to remote devices as standard current/voltage signals. Data acquisition can be done on SCADA/PLC applications through RS485 communication for further process automation.

Masibus 408-2IN model is designed using proven micro-controller technology. These controllers have been validated to perform accurate and reliable performance, reliable control for various process applications.

Alarm can be configured for two set points which are indicated on front Status LEDs. This Indicator has SMPS power supply for smooth and reliable performance. It is also equipped with transmitter power supply.

#### Features

- Universal Input (TC, RTD, Volts, mA)
- Bright Red seven segment
- Status Indication LEDs
- Display brightness control
- Transmitter Power Supply
- Accuracy: 0.25% of FS for TC & RTD Input / 0.1% of FS for Linear Input.
- Fail-safe design protecting the process in case of system malfunctioning
- Relay Output
- Retransmission Output (Optional)
- RS485 Modbus Communication Output (Optional)

#### Applications

- Temperature & process indication
- Pressure/ Level/ Flow Monitoring
- Plastics molding/extrusion temperature monitoring
- Heat treatment - furnace temperature monitoring
- Weighing platform
- Remote Process Supervision

# TECHNICAL SPECIFICATIONS

Input		Power Supply	
Input Type	Thermocouple (J, K, T, B, R, S), RTD (Pt100), Current, Voltage	Supply Voltage	85-265VAC/ 125-300VDC
Display Range	Refer Table-1	Power Consumption	10VA
Accuracy	±0.25% of FS ± 1 °C for TC & RTD Input ±0.1% of FS ±1 count for Linear Input	Isolation (Withstanding voltage) <ul style="list-style-type: none"> <li>Between primary terminals* and secondary terminals**: <b>At least 1500 V AC for 1 minute</b></li> <li>Between primary terminals* and grounding terminal: <b>At least 1500 V AC for 1 minute</b></li> <li>Between grounding terminal and secondary terminals**: <b>At least 1500 V AC for 1 minute</b></li> <li>Between secondary terminals**: <b>At least 500 V AC for 1 minute</b></li> </ul> * Primary terminals indicate power terminals and relay output terminals. ** Secondary terminals indicate analog I/O signal and Communication O/P. <b>Insulation resistance:</b> 50MΩ or more at 500 V DC between power terminals and grounding terminal	
ADC Resolution	16 bits	Physical	
Display Resolution	0.1°C / 1.0 °C	Dimensions (in mm)	96(H) x 192(W) x 70(D)
Sampling Rate	5 Samples/Sec	Panel Cutout (in mm)	92(H) x 188(W)
CJC Error	±2.0 °C	Weight	1 kg approx.
Sensor open	All inputs except 0-5V	Enclosure Material	MS powder coated
Sensor Burnout current	0.25uA	Enclosure color	Dark Gray
RTD excitation current	0.166 mA (Approx.)	Enclosure Protection	IP20 (except terminals)
NMRR	> 40 dB	Mounting	Panel mount / Grid mount compatible
CMRR	> 120 dB	Terminal Cable Size	2.5mm <sup>2</sup>
Temp-co	< 150ppm/°C	Environmental	
Input Impedance	> 1MΩ	Operating temperature	0 to 55 °C
Max Voltage	20VDC	Storage temperature	0 to 80 °C
<b>Display &amp; Keys</b>		Humidity	20-95 % RH non-condensing
Process Value	1.8", Red LED seven segment, 4 digits	Table-1: Display Range	
Status LEDs	Discrete RED LEDs for Relay & Communication		
Keys	SET, Increase, Decrease		
Output			
<b>Alarm Output</b>			
Relays	2 Nos.		
Type	Single Change over (C, NO, NC)		
Rating	2A @ 230VAC / 30VDC		
<b>Retransmission Output (Optional)</b>			
Current	0/4-20mA @500Ω Max.		
Voltage	0/1-5V, 0-10V @2KΩ Min.		
Accuracy	0.25% of FS		
<b>Communication Output (Optional in lieu of 2<sup>nd</sup> Retransmission O/P)</b>			
Interface	RS485		
Protocol	Modbus-RTU		
Baud Rate	9600, 19200, 38400		
Transmitter Supply	24VDC (±10%) @26mA (Current limited)		

## ORDERING CODE

Model	Input		Options			
408-2IN	2	J		Output - 1		Output - 2
	3	K	N	None	N	None
	4	T	1	4-20mA	1	4-20mA
	5	B	2	0-20mA	2	0-20mA
	6	R	3	1-5V	3	1-5V
	7	S	4	0-5V	4	0-5V
	9	Pt-100	5	0-10V	5	0-10V
	C	4-20mA			6	RS485
	D	0-20mA				
	E	1-5V				
	F	0-5V				