masibus
A Sonepar Company

408-2IN

Indicator Cum On-Off Controller

RoHS

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 protection the process in case of system malfunctioning
- Relay Output
- Retransmission Output (Optional)
- RS-485 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

Input Type	Thermocouple (J, K, T, B, R, S), RTD (Pt100), current, voltage
Display Range	Refer table-1
Accuracy	±0.25% of FS ± 1 °C for TC & RTD Input ±0.1% of FS ±1 count for linear input
ADC Resolution	16 bits
Display Resolution	0.1°C / 1.0 °C
Sampling Rate	5 Samples/Sec.
CJC Error	±2.0 °C
Sensor Open	All inputs except 0-5V
Sensor Burnout Current	0.25uA
RTD excitation Current	0.166 mA (Approx.)
NMRR	> 40 dB
CMRR	> 120 dB
Temp-co	< 150ppm/°C
Input Impedance	> 1MΩ
Max Voltage	20VDC

Display & Keys

Process Value	1.8", Red LED seven segment, 4 digits
Status LEDs	Discrete RED LEDs for relay & communication
Keys	SET, increase, decrease

Output

Alarm Output	
Relays	2 Nos.
Type	Single change over (C, NO, NC)
Rating	2A @ 230VAC / 30VDC
Retransmission Output (Optional)	
Current	0/4-20mA @500Ω Max.
Voltage	0/1-5V, 0-10V @2KΩ Min.
Accuracy	0.25% of FS
Communication Output (Optional in lieu of 2nd Retransmission O/P)	
Interface	RS-485
Protocol	Modbus-RTU
Baud Rate	9600, 19200, 38400
Transmitter Supply	24VDC (±10%) @26mA (Current limited)

Power Supply

Supply Voltage	85-265VAC/ 125-300VDC
Power Consumption	10VA

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: 50MΩ or more at 500 V DC between power terminals and grounding terminal

Physical

Dimensions (in mm)	96(H) x 192(W) x 70(D)
Panel Cutout (in mm)	92(H) x 188(W)
Weight	1 kg approx.
Enclosure Material	MS powder coated
Enclosure Color	Dark gray
Enclosure Protection	IP20 (except terminals)
Mounting	Panel mount / Grid mount compatible
Terminal Cable Size	2.5mm^2

Environmental

Operating Temperature	0 to 55 °C
Storage Temperature	0 to 80 °C
Humidity	20-95 % RH non-condensing

Table-1: Display Range

Input Type		Range
Thermocouples	J	-200 to 1200°C
	K	-200 to 1372°C
	T	-200 to 400°C
	B	450 to 1820°C
	R	0 to 1768°C
	S	0 to 1768°C
RTD	Pt-100	-200 to 850.0°C -199.9 to 850.0°C
Linear	0/1-5V	-1999 to 9999
	0/4-20 mA (Ext 250 Ω)	

Ordering Code

Model		Input		Options		
				Output - 1		Output - 2
408-2IN	2	J	N	None	N	None
	3	K	1	4-20mA	1	4-20mA
	4	T	2	0-20mA	2	0-20mA
	5	B	3	1-5V	3	1-5V
	6	R	4	0-5V	4	0-5V
	7	S	5	0-10V	5	0-10V
	9	Pt-100			6	RS-485
	C	4-20mA				
	D	0-20mA				
	E	1-5V				
	F	0-5V				

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