

Controller (Model 5006H)



Masibus' Model 5006H is a simple, tough, reliable and cost effective and yet a high performance indicating On/Off controller that has two programmable relay outputs. Relays can be configured either for alarm or control purpose. Model 5006H has one 4 digit display for process variable. This large display facilitates plant operator to read process value conveniently even from longer distance.

Control and programming of the unit is performed via the front panel tactile push buttons which click when operated. All the programme functions are contained in easy to understand menus. Programming and configuration modes are protected. The front panel is robust, easy to clean, non reflective membrane that provides an IP54 seal.

Model 5006H optionally provides transmitter power supply, eliminating the need for an additional power supply to excite field transmitters. Retransmission output can be provided for recording purpose or can work as cost effective signal converter. Serial communication option makes it a smart controller that can communicate with PC, either for remote configuration or data acquisition application.

Model 5006H is truly smart. While many programmable instruments do require hardware access for input type selection and calibration, Model 5006H totally eliminates any hardware access or switch settings by its unique single shot digital calibration technique - all it requires is just a few key strokes at the front panel keyboard. This unique feature enhances maintenance and operational reliability of the instrument.

This model is packaged in 96mm x 48mm x 175mm plastic enclosure and can also be packaged in weather proof IP 55 or flame proof enclosure in wall mounted.

Features

- *Micro-controller based cost-effective indicator/controller*
- *High performance*
- *Digital calibration*
- *Large, 20mm (0.8") Red LED display*
- *Two relay output*
- *On-site configurable and universal*
- *Options :*
 - *Transmitter power supply*
 - *Retransmission output (Isolated)*
 - *RS 485 serial communication*
 - *Weather proof/ flame proof enclosure*

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5006H

TECHNICAL SPECIFICATIONS		5006H
Number of Inputs		1
Input Type, Measurement Range & accuracy		As per table 1
Sampling Period		500 mS
Burn out detection		Available
Input Impedance		J, K , T TC : 77K ohms R, S TC : 37K ohms Voltage : 1.2 M ohms
Allowable Input Voltage		TC/RTD: $\pm 10V$ DC, Linear: $\pm 20V$ DC
Noise Rejection Ratio		
Common Mode		> 120 dB (50 Hz)
Normal Mode		> 40 dB (50 Hz)
Reference -junction compensation error		$\pm 2^\circ\text{C}$ (10 to 55°C)
Response time		
Input to relay o/p		<4 sec
Input to Analog o/p		3.5 second or less, 63% (10 - 90%)
Resolution		14½ bits
Outputs		
24V DC Loop Power Supply for sensor		Optional (24 VDC $\pm 5\%$ @ 30 mA)
Linear output signal (optional)		Isolated 4 to 20 mA (load > 450 Ω)
Output accuracy		$\pm 0.25\%$ FS (12 bits resolution)
Output regulation		0.02% for full load change
Relay output (usage)		Control /Alarm
Number of relay contact outputs		2 (Two)
Control type		ON-OFF control , Below ON set point / Above ON set point For heating / cooling
Alarm Types		Below ON set point/Above ON set point
Relay contact rating		230 Vac / 2Amp. (NO, NC, Common)
Serial communication		RS 485 MODBUS, on terminal
Baud rate		4800, 9600, 19200 bps, selectable
Data pattern		N, 8, 1 (distance max. 1200m)
Display Specification		
Process Value display		4- digit 7- segment Red LED (0.8")
Set Value / parameter display		Same PV display
Status Indicating lamp		Red LED's
Operation keys		INC, DEC (increase / decrease set points or various parameters) SET 1 (sets setpoint data or switches various parameters.)
Construction/Installation/Wiring		
Enclosure		General purpose
Body construction		Poly-carbonet Plastic
Case color		Dark Grey
Weight		Less than 1 Kg
Dimensions		96W X 48H X 175D (all in mm)
Panel Cut-out		92(W) X 45(H) (all in mm)
Wiring		2.5 sq.mm
Standard Accessories		2 mounting clamp
Power supply/Isolation		
Power supply		110/230 VAC $\pm 10\%$, 50Hz
Power consumption		< 8 VA

TECHNICAL SPECIFICATIONS		5006H
Memory backup		EEPROM
Isolation resistance		Between power supply terminal and ground terminal, 500V DC, 200 M Ω
Environmental Conditions		
Normal Operating conditions:		
Ambient Temperature:		0 to 55°C
Ambient humidity		< 95 % RH (Non-condensing)
Effect of Ambient temperature		For T/C input, $\pm 0.015\%$ of FS/ $^\circ\text{C}$ For linear input, $\pm 0.021\%$ of FS/ $^\circ\text{C}$ For RTD input, $\pm 0.025\%$ of FS/ $^\circ\text{C}$ For analog output, $\pm 0.02\%$ of FS/ $^\circ\text{C}$
Effect on power supply fluctuation (within rated voltage range)		For analog input, within $\pm 0.005\%$ of FS/ 10V For analog output, $\pm 0.01\%$ of FS/ 10V

TABLE 1

Input Type	Range	Measurement Accuracy
Thermocouples	J -100 to 1200 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
	K -100 to 1372 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
	T -100 to 400 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
	R 0 to 1768 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
	S 0 to 1768 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
RTD	Pt-100 -200 to 850 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
	-100.0 to 300.0 $^\circ\text{C}$	$\pm (0.25\%$ of FS ± 1 count)
Linear	0/1-5V -1999 to 9999	$\pm (0.1\%$ of FS ± 1 count)
	0/4-20mA -1999 to 9999	$\pm (0.1\%$ of FS ± 1 count)

ORDERING CODE

Model 5006H						
Input Type	APS		Mounting		Aux output	
X	XX		XX		X	
1 E	A1	110VAC	P0	Panel	N	None
2 J	A2	230VAC	W1	Wall-IP55	1	4-20 mA DC
3 K			FP	Wall-FLP	2	TPS - 24VDC @ 30mA
4 B					3	RS485
5 T						
6 R						
7 S						
9 Pt-100, 3W						
C 4-20mA						
D 0-20mA						
E 1-5VDC						
F 0-5VDC						

X - Specify from table

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