Process Controller (Model 5007)

Masibus' Model 5007 is the most industry popular high performance indicating On/Off controller having dual display for PV and SV. Model 5007 is available in dual programmable relay output version to suit OEM / Panel manufacturers requirement as much as it meets the end user needs. Relays can be configured either for alarm or control purpose. Model 5007 has two 4 digit display.

Control and programming of the unit is performed via the front panel tactile push buttons which clicks when operated. All the programme functions are contained in easy to understand menus. The front panel is robust, easy to clean, non reflective membrane.

Model 5007 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 5007 is truly smart. While many programmable instruments do require hardware access for input type selection and calibration, Model 5007 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 96mm x 120mm plastic enclosure and can also be packaged in weather proof IP 55 or flame proof enclosures in wall mounted.

Features

- *Micro-controller based cost-effective dual display controller*
- *Field selectable universal input*
- *Digital calibration*
- *Dual relay output*
- *Dust protected tactile keys*
- *On-site configurable*
- *Options :*
  - *Transmitter power supply*
  - *Retransmission output (Isolated)*
  - *RS 485 serial communication*
  - *Weather proof/ flame proof enclosure*

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TECHNICAL SPECIFICATIONS	5007
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: ±10V DC, Linear: ±20V DC
Noise Rejection Ratio	
Common Mode	> 120 dB (50 Hz)
Normal Mode	> 40 dB (50 Hz)
Reference-junction compensation error	± 2 °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 ± 5% @ 30 mA)
Linear output signal (optional)	Isolated 4 to 20 mA (load > 500Ω)
Output accuracy	±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 (optional)	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 (0.56")
Set Value / parameter display	4 digit 7 - segment Red LED (0.28")
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/Wiiring	
Enclosure	General purpose
Body construction	Poly-carbonet Plastic
Case color	Dark Grey
Weight	Less than 1 Kg
Dimensions	96W X 96H X 120D (all in mm)
Panel Cut-out	92(W) X 92(H) (all in mm)
Wiring	2.5 sq.mm
Standard Accessories	2 mounting clamp
Power supply/Isolation	
Power supply	110/230 VAC ±10%, 50Hz
Power consumption	< 8 VA

TECHNICAL SPECIFICATIONS	5007
Memory backup	EEPROM
Isolation resistance	Between power supply terminal and ground terminal, 500V DC, 200 MO
Environmental Conditions	
Ambient Temperature:	0 to 55 ºC
Ambient humidity	< 95 % RH (Non-condensing)
Effect of Ambient temperature	For T/C input, ± 0.015% of FS/ °C
	For linear input, ± 0.021% of FS/ °C
	For RTD input, ± 0.025% of FS/ °C
	For analog output, ± 0.02% of FS/ °C
Effect on power supply fluctuation (within rated voltage range)	For analog input, within ± 0.005 % of FS/ 10V
	For analog output, ± 0.01% of FS/ 10V

TABLE 1

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

ORDERING CODE

Model 5007

Input Type		APS		Mounting		Aux output	
X		XX		XX		X	
1	J	A1	110VAC	P0	Panel	N	None
2	K	A2	230VAC	W1	Wall-IP55	1	4-20 mA DC
3	T	A3	24VDC	FP	Wall-FLP	2	TPS - 24VDC
4	R					3	RS485
5	S						
6	Pt-100, 3W						
C	4-20mA						
D	0-20mA						
E	1-5VDC						
F	0-5VDC						

X - Specify from table

Doc.ref.CB-2/5007/R2/0110