



On/Off Controllers

5006RN

Single Display On-Off Controller

LC5296H

Compact On-Off Controller

Accurate, reliable control of various process applications is provided by Masibus series of On/Off controllers with enhanced hardware capabilities in compact enclosure of different size.

Masibus Series of On/Off Controllers are available in various options having display size of bright seven-segment 0.56" and 0.8" LED display for process value.

It accepts universal input and provides two relay outputs to perform various control and alarm functions. Intuitive configurations with four front tactile 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 for further process automation.

Designed using proven micro-controller technology, these controllers have been validated to perform accurate and reliable performance in harsh field environments.

Features

- Universal input (TC, RTD, Volts, mA)
- Fail-safe Design protecting the process in case of system malfunctioning
- Bright Red seven segment LED Display
- Display brightness control
- Status Indication LEDs
- Relay Output
- Retransmission output (optional)
- RS485 Modbus Communication (optional)
- Transmitter Power Supply

Applications

- Heat treatment furnaces
- Water heating boilers
- Chillers
- Oven control

TECHNICAL SPECIFICATIONS

Input		Power Supply	
Input type	Thermocouple (J, K, T, R, S), RTD (Pt100), Current, Voltage	Standard	85-265VAC/ 100-300VDC
Display Range	Refer Table-1	Optional	18-36VDC
Accuracy	±0.25% of FS ±1 degree for TC & RTD input ±0.1% of FS ±1 count for linear input	Power Consumption	10VA Approx
ADC Resolution	16 bits	Isolation (Withstanding voltage)	
Display Resolution	0.1 / 1.0 °C	▪ Between primary terminals* and secondary terminals**: At least 1500 VAC for 1 minute	
Sampling Rate	5 Samples/Sec	▪ Between primary terminals* and grounding terminal: At least 1500 VAC for 1 minute	
CJC Error	±2.0 °C	▪ Between grounding terminal* and secondary terminals**: At least 1500 VAC for 1 minute	
Sensor open	All inputs except 0-5V,0-10V	▪ Between secondary terminals**: At least 500 VAC for 1 minute	
Sensor Burnout Current	0.25µA	* Primary terminals indicate power terminals and relay output terminals.	
RTD Excitation Current	0.166mA (Approx)	** Secondary terminals indicate Analog input/output signal and Communication output.	
NMRR	> 40dB	Insulation resistance: 50MΩ or more at 500 V DC between power terminals and grounding terminal	
CMRR	> 120dB		
Temp-co	<100ppm for Input to Display <150ppm for Input to retransmission Output		
Input Impedance	> 1MΩ		
Max Voltage	20VDC		
Display & Keys		Physical	
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Process Value	0.56" 7 segment, Red LED, 4 digits	0.56" or 0.8" 7 segment, Red LED, 4 digits	
Status LEDs	Relay & Communication		
Keys	SET1, SET2, Increase, Decrease		
Output		Dimensions:	
Control Output			
Relays	2 Nos.		
Type	Single Change over (C, NO, NC)		
Rating	5A @ 230VAC / 30VDC		
Control mode	Heat or Cool with time delay		
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	RS485		
Protocol	Modbus-RTU		
Baud Rate	9600, 19200, 38400		
Transmitter Supply	5006RN: 24VDC (±10%) @26mA (Current limited) LC5296H: 24VDC (±10%) @50mA (Current limited)		
		5006RN	LC5296H
Dimension (H x W x D) (in mm)		96 x 96 x 75	48 x 96 x 85
Front Bezel (H x W) (in mm)		96 x 96	48 x 96
Panel Cutout (in mm)		92 x 92	45 x 92
Depth Behind Panel (in mm)		65	75
Weight		300 g approx.	300 g approx.
Enclosure Material		Molded ABS	
Enclosure Protection		IP20	
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	Input Type	Range	
Thermocouple	J	-200 to 1200 °C	
	K	-200 to 1372 °C	
	T	-200 to 400 °C	
	R	0 to 1768 °C	
	S	0 to 1768 °C	
RTD	PT-100 (3 wire)	-200 to 850 °C, -199.0 to 850.0 °C	
Linear	1-5V/0-5V/0-10V DC 0/4-20mA (Ext 250 Ω)	-1999 to 9999	

Ordering Code

Model	Input	Auxiliary Power Supply	Options				Display (Only in LC5296H)
			Output-1		Output-2*		
5006RN	1 J	U1 85-265VAC/ 100-300VDC	N	None	N	None	5 0.56"
LC5296H	2 K	U2 18-36VDC	1	4-20 mA	1	4-20 mA	8 0.8"
	3 T		2	0-20 mA	2	0-20 mA	
	4 R		3	1-5 V	3	1-5 V	
	5 S		4	0-5 V	4	0-5 V	
	6 Pt-100		5	0-10 V	5	0-10 V	
	C 4-20 mA		6	RS485			
	D 0-20 mA						
	E 1-5 V						
	F 0-5 V						
	G 0-10 V						
	X Default I/P type ^a						

Accessories: Two numbers mounting clamps

*Output-2 = 2nd Retransmission o/p not possible in LC5296H model; only optional RS485 is possible in same.

^aDefault I/P type configured from factory is 1-5VDC