



## On/Off Controllers/Transducer

# 5006RN

Single Display On-Off  
Controller/Transducer

# LC5296H

Compact On-Off  
Controller/Transducer



Accurate, reliable control of various process applications is provided by Masibus series of On/Off controllers/transducer 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 RS-485 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, resistance)
- 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)
- RS-485 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, resistance	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	<b>Isolation (Withstanding voltage)</b>	
Display Resolution	0.1 / 1.0 °C	<ul style="list-style-type: none"> <li>▪ Between primary terminals* and secondary terminals**: <b>At least 1500 VAC for 1 minute</b></li> <li>▪ Between primary terminals* and grounding terminal: <b>At least 1500 VAC for 1 minute</b></li> <li>▪ Between grounding terminal* and secondary terminals**: <b>At least 1500 VAC for 1 minute</b></li> <li>▪ Between secondary terminals**: <b>At least 500 VAC for 1 minute</b></li> </ul>	
Sampling Rate	5 Samples/sec.	* Primary terminals indicate power terminals and relay output terminals.	
CJC Error	±2.0 °C	** Secondary terminals indicate analog input/output signal and communication output.	
Sensor Open	All inputs except 0-5V,0-10V	Insulation resistance: 50MΩ or more at 500 V DC between power terminals and grounding terminal	
Sensor Burnout Current	0.25µA	Physical	
RTD Excitation Current	0.166mA (Approx.)	Dimensions:	
NMRR	> 40dB		
CMRR	> 120dB	5006RN	
Temp-Co	<100ppm for input to display <150ppm for input to retransmission output	LC5296H	
Input Impedance	> 1MΩ	Dimension (H x W x D) (in mm)	96 x 96 x 75
Max Voltage	20VDC	Front Bezel (H x W) (in mm)	48 x 96
Display & Keys		Panel Cutout (in mm)	92 x 92
		Depth Behind Panel (in mm)	65
		Weight	300 g approx.
		Enclosure Material	Molded ABS
		Enclosure Protection	IP20
		Terminal Cable Size	2.5mm <sup>2</sup>
		Environmental	
		Operating Temperature	0 to 55 °C
		Storage Temperature	0 to 80°C
		Humidity	20-95% RH (Non-condensing)
Output		Table-1: Display Range	
<b>Control Output</b>		Input	Input Type
Relays	2 Nos.		Range
Type	Single Change over (C, NO, NC)	Thermocouple	J
Rating	5A @ 230VAC / 30VDC		K
Control Mode	Heat or cool with time delay		T
<b>Retransmission Output (Optional)</b>			R
Current	0/4-20mA @500Ω max.		S
Voltage	0/1-5V, 0-10V @2KΩ min.	RTD	PT-100 (3 wire)
Accuracy	0.25% of FS		
<b>Communication Output (Optional in lieu of 2nd Retransmission o/p)</b>		Linear	1-5V/0-5V/0-10V DC 0/4-20mA (Ext 250 Ω)
Interface	RS-485		
Protocol	Modbus-RTU		
Baud Rate	9600, 19200, 38400		
<b>Transmitter Supply</b>	24VDC (±10%) @26mA (Current limited)		

## Ordering Code

Model	Input	Auxiliary Power Supply	Options				Display (Only in LC5296H)
			Output-1	Output-2*	Output-2*	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 <sup>#</sup>						

Accessories: Two numbers mounting clamps

\*Output-2 = 2<sup>nd</sup> Retransmission o/p not possible in LC5296H model; only optional RS-485 is possible in same.

<sup>#</sup>Default I/P type configured from factory is 1-5VDC