



CMA-004-1



CMA-004-2

Specification

		CMA-004-1	CMA-004-2
Power Supply		220V~±10% 50Hz	220V~±10% 50Hz
Power Consumption		2.5VA	
Display		7 Segment, Size 0.39 Inch, 3 Digit, (2 Row for CMA-004-2) (1 Row for CMA-004-1)	
		1 LED (Show Output)	2 LED (Show Output)
		1 LED (Show Alarm)	2 LED (Show Alarm)
		1 LED (Show Power Supply)	
		1 LED (Show Communication)	
Temperature Range		-	0-80°C
Temperature Accuracy		-	±1°C
Relative Humidity Range		0-100% RH	
Relative Humidity Accuracy		±5% RH	
Response Time		5 Sec	
Output	Relay	1 Relay NO/NC 10A, 250VAC	2 Relay NO/NC 10A, 250VAC
	Alarm	1 Alarm NO 3A, 250VAC	2 Alarm NO 3A, 250VAC
Communi- cation	Protocol	Modbus RTU	
	Baud Rate	4800, 9600, 19200, 38400, 57600 bps	
	Parity	None, Odd, Even	
	Stop Bits	1 Bits, 2 Bits	
	Data Bits	8 Bits	
	Maximum Support Node	255	
Ambient Operation	Temperature	-20°C to 60°C	
	Humidity	85 % RH Non-Condensing	
Ambient Storage	Temperature	-20°C to 80°C	
	Humidity	85 % RH Non-Condensing	
Protection Degree		IP20	
Installation		DIN RAIL	
Material		PC-ABS (UL94V-0)	
Size (mm.)		90 x 55 x 61.5	
Weight (kg.)		166	

Description

- Digital Hygrostat And Thermostat : CMA-004-SERIES is a digital device for controlling humidity and temperature inside electrical cabinets, control cabinets. There are 2 types:
 - CMA-004-1 is for controlling Anti-Condensation Heater for eliminating humidity inside the control cabinet.
 - CMA-004-2 is for controlling Anti-Condensation Heater for eliminating humidity and controlling the cooling fan inside the control cabinet.
- Measured Range.
 - Humidity: 1 - 100% RH
 - Temperature: 0.00 - 80.0°C
- Relay Output and Alarm Output
 - CMA-004-1: 1 Output Relay , 1 Alarm Relay.
 - CMA-004-2: 2 Output Relay , 2 Alarm Relay.
- Direct Control (Cooling) and Reverse Control (Heating) controlling functions.
- Communicate to computer by RS-485 Modbus RTU Protocol.
- 7-Segment LED 3 digits.

Operation

CMA-004-SERIES is a digital device for controlling humidity and temperature in one device. It can be divided into 2 models according to the characteristic of use, as follows:

CMA-004-1 Digital Hygrostat Controller is a digital humidity control device. It has a humidity sensor probe inside the device for controlling Anti-Condensation Heater model CH-03/04 for eliminating humidity inside the control cabinet.

CMA-004-2 Digital Hygrostat And Thermostat Controller is a digital device for controlling humidity and temperature.

It has a humidity sensor probe inside the device for controlling Anti-Condensation Heater Model CH-03/04 for eliminating humidity. Measurement range: 1-100% RH. and a temperature probe to measure heat inside control cabinet measurement range 0.00 - 80.0°C.

It has 2 Relay Outputs of type NO/NC 10A/250VAC, and 2 Alarm Outputs of type NO 3A/250VAC (2 sets for humidity and temperature). Display uses 7-Segment LED 3 digits, 2 rows.

The operation of the Output can select 2 control functions, which are:

1. Direct Control (Cooling): The Output will operate when the measured value is higher than the set point (SP) value, and the Output will stop operating when the measured value is lower than the Setpoint (SP) value. (Refer to the graph showing the operation).

2. Reverse Control (Heating): The Output will operate when the measured value is lower than the Setpoint (SP) value, and the Output will stop operating when the measured value is higher than the Setpoint (SP) value. (Refer to the graph showing the operation).

Operation(Con)

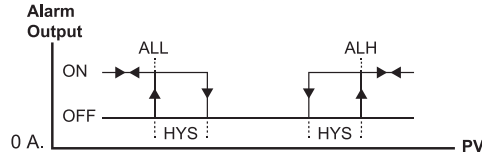
The CMA-004-SERIES can communicate with a computer for data logging or monitoring via RS-485 Modbus RTU Protocol.

The operation of the Alarm is of the Absolute type, whereby the value used for switching the Alarm operation is independent of the Setpoint Value (SP). This means that the temperature value for switching the Relay operation is determined without factoring in the SP value. The Absolute Alarm is divided into 4 types: High-Low Band Alarm, High Alarm, Low Alarm, and High-Low Range Alarm. You can view the operation graph in picture 1.

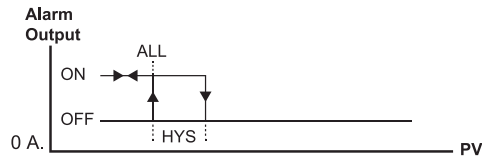
Alarm Function

Pic 1

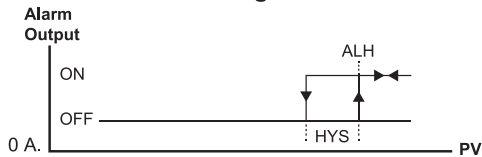
1. Absolute value High Low Band Alarm



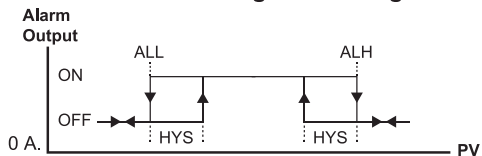
3. Absolute value Low Alarm



2. Absolute value High Alarm

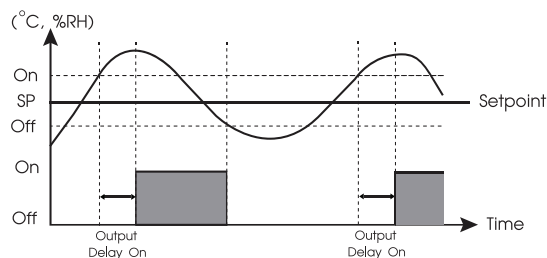


4. Absolute value High Low Range Alarm

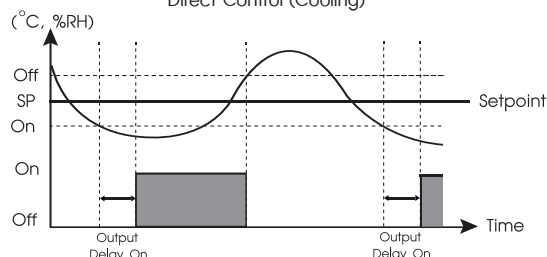


Graph showing the operation of the control function

Graph showing the operation of the Output Control Function.

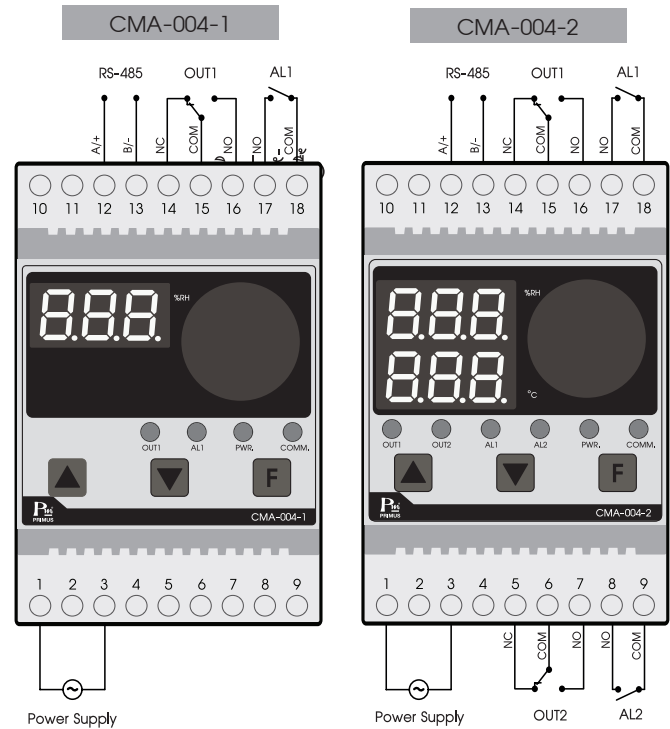


Direct Control (Cooling)



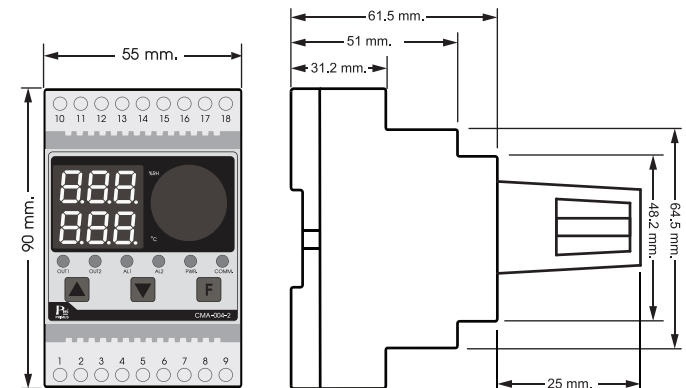
Reverse Control (Heating)

Wiring Diagram



- Make sure the correct wiring connection before turning on electricity. Mis-wiring may cause malfunction of the unit and fire.
- Never modify the unit to prevent damage or incident such as malfunction and fire etc.

Dimension



Order Code

Input		Option	
1	Hygrostat	NONE	NONE
2	Hygrostat And Thermostat	M	RS-485