MTC35-F30 Humidity Controller

Instruction Manual

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1. Introduction

The MTC35-F30 Humidity Controller is a particularly flexible controller, which allows ON/OFF control of your dehumidification or humidification plant.

The controller has one output and one alarm output which are controlled by a MCU according to value programmed for the parameters in Parameter List.

Humidity sensor: HM1500, range: 0~100% RH.

To get the best performance, before installing and using it, read this instruction manual carefully.

2. Coding

MTC35-F30-1H-2R-220V
① ② ③ ④

① Software Function

F30	Single input humidity controller

② Input

1H	1 humidity sensor

③ Output

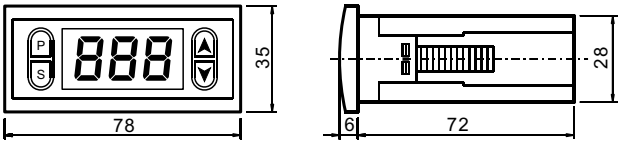
1R	1 Relay
2R	2 Relays

④ Power Supply

24V	24V AC/DC
220V	220V AC

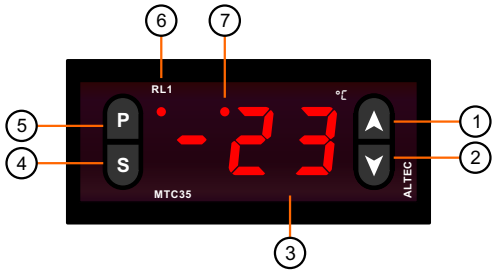
3. Dimensions and Mounting

1) Prepare a rectangular cut-out in the mounting panel to the size 72×30mm.
2) Insert the controller from the front panel cut-out.
3) From behind of the panel, slide the mounting brackets into the guides on the side of the housing. The flat faces of the mounting brackets must lie against the housing.
4) Push the mounting brackets up to the back of the panel, and tighten them evenly.



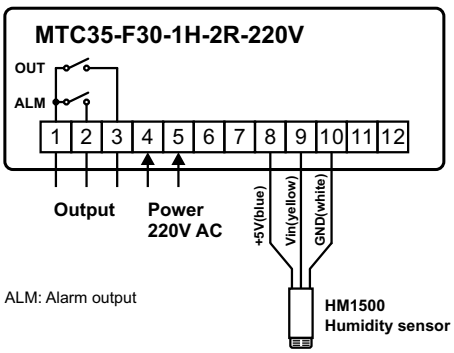
Note:
Please completes waterproof processing properly, in order to avoid seeps causes the instrument damage.

4. Front Panel Layout



①. Up Key
②. Down Key
③. Dispaly
Indicates PV, Parameters and Values
④. Setting Key(S)
⑤. Parameter Key(P)
⑥. Output indicator(RL1)
lit when OUT is 'ON'
⑦. Alarm output indicator
lit when ALM is 'ON'

5. Electrical Connection



6. Operation

6.1 Viewing the PV

Mounting and wire up the controller and switch on, 3 seconds later, the measured humidity(PV) will appear on the display.

6.2 Setpoint Adjusting

During the basic functioning, press key 'P' and hold for 1 second, setpoint LI appears on the display. Press key 'S', the value of LI appears; press keys ▲ or ▼ to increase or decrease setpoint. Keeping it pressed results in a progressively faster variation. Press key 'P' again, next parameter HYS appears, setting its value in the same way.

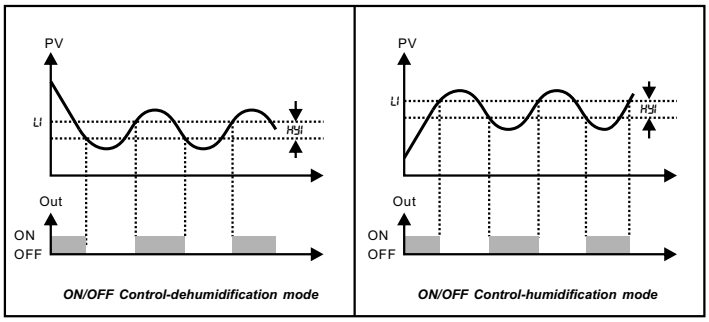
6.3 Output Action

AC1 = dir, OUT as dehumidification control output;

AC1 = rEU, OUT as humidification control output;

While the controller was configured for dehumidification applications, to avoid compressor switch off and on frequently, must set the minimum off time(rT1) between the switch OFF and switch ON, regardless of the input value.

The control algorithm is ON/OFF, humidity setpoint is L1, hysteresis is HY1.



ON/OFF Control-dehumidification mode *ON/OFF Control-humidification mode*

6.4 Parameter List

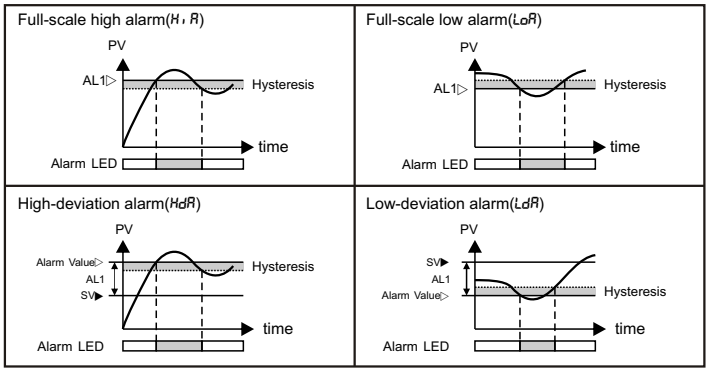
Switch off the controller; press keys ▲ and ▼ at the same time and hold on, then switch the controller on again. Parameter SPH appears on display. Parameter selection and the display of the value is obtained by pressing key P repeatedly; change with keys ▲ and ▼ and store with S.

SN	Mnemonic	Parameter	Adjustable Range	Parameter Description
1	L 1	Humidity setpoint	SPL~SPH	Operation parameter
2	HY1	Hysteresis	1~5% RH	
3	AL1	Alarm value	0~100% RH	
4	SPH	Setpoint high limit	0~100% RH	limit the humidity setpoint
5	SPL	Setpoint low limit	0~100% RH	adjustable range L1
6	rT1	OUT relay minimum off time	0~10 minutes	Compressor protection
7	PF1	Humidity sensor failure output	on OFF	OUT 'ON' while sensor failure OUT 'OFF' while sensor failure
8	AdJ	Humi. sensor adjustment	-5~5% RH	
9	Act	Output action	dir rEU	Direct(dehumidification) Reverse(humidification)
10	ALo	Alarm mode	OFF HiA LoA HdA LdA	Alarm off Full-scale high alarm Full-scale low alarm High-deviation alarm Low-deviation alarm
11	HY2	Alarm hysteresis	1~5% RH	

6.5 Alarms

Four different types of alarm can be configured with ALo: HiA, LoA, HdA, LdA as the right table shows. The hysteresis is HY2.

Hysteresis is used to provide a definite indication of the alarm condition and to prevent alarm relay chatter.



6.6 Sensor Failure

While humidity sensor connection breakdown error code E00 is displayed, or while overrange O is displayed.

In this case, control output(OUT) is determined by PF1 as shown in the parameter list.

Technical Data

Measurement range	0~100% RH
Resolution	1% RH
Sample rate	125ms
Humidity sensor	HM1500
Relay contact rating	5(8)A/250VAC
Control algorithm	ON/OFF
Power supply	220V AC, 24V AC/DC, ≤2.0W
Dimensions	W78×H35×D78mm
Environmental	Temp: 0~50 °C, Rel. Humidity: ≤85%