

HL8102 Digital Temperature Controller



General

- The HL8102 series digital temperature controller is a microprocessor-based controller with digital LCD display.
- The controller are used to control room temperature in industrial, commercial and residential environment via controlling electric modulating valve or damper with 0-10Vdc (4-20mA) signal or floating control.

- The controller provided proportional plus integral (PI) control with modulating and floating control output.

Application

- Temperature control for variable air volume (VAV) box
- Temperature control for VAV with reheat box
- Modulating / Floating valve

- Modulating / Floating damper
- Constant temperature control

Features

- Digital display of sensing temperature and user selected temperature setting on demand
- Proportional plus integral (PI) advanced control with analog signal output
- 0-5Vdc, 1-5 Vdc, 0-10Vdc or 2-10Vdc signal and floating output
- Direct / reverse acting output
- Output limited for over load protection
- Energy saving mode-external energy savings input (ESI) from card key or occupancy sensors
- Adjustable unoccupied setpoint for heating and cooling mode control
- Sleep mode control

- Model available for build-in or remote sensor (RS) function
- Remote control (RC) output for interlocking on / off control application
- Non-volatile memory (EEPROM) retains user settings during power loss
- Large LCD display with blue backlight
- °C or °F display unit
- Adjustable maximum and minimum setpoint limits
- Adjustable deadband (some dual outputs model)
- Control off output when system switch at "OFF" position
- RS-485 network interface
- Modbus RTU protocol

Technical data

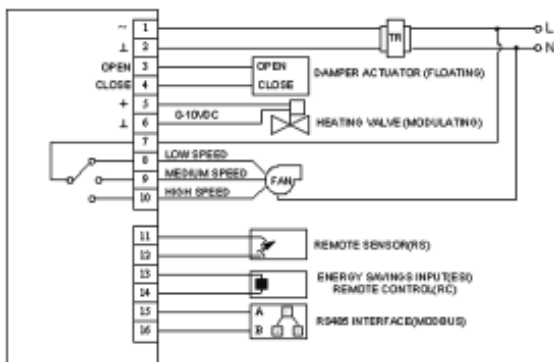
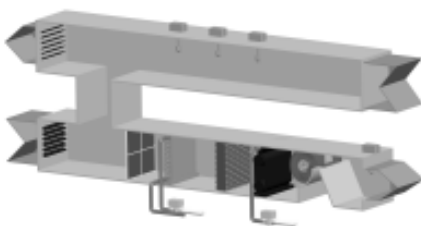
Power Supply:	24Vac ($\pm 10\%$), 50/60 Hz
Setpoint Range:	0 to 99.5°C (programmable)
Display Range:	0 to 50.0°C
Display:	LCD display
Sensor:	NTC
Setting Unit:	0.5°C / step
Indication Accuracy:	0.1°C
Electrical Rating:	0.8 A run, 5 A inrush up to 250Vac
Dimension:	86x86x23mm (H x W x D)

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Model Definitions

Model	Output signal		Fan (Single/ 3-speed)	RS485 Network	Remote Control	Remote Sensor
	Floating	Modulating				
HL8102A	Cooling/Heating				✓	✓
HL8102AN	Cooling/Heating			✓	✓	✓
HL8102B		Cooling/Heating			✓	✓
HL8102BN		Cooling/Heating		✓	✓	✓
HL8102C	Cooling/Heating		✓		✓	✓
HL8102CN	Cooling/Heating		✓	✓	✓	✓
HL8102D		Cooling/Heating	✓		✓	✓
HL8102DN		Cooling/Heating	✓	✓	✓	✓
HL8102E	Cooling	Heating	✓		✓	✓
HL8102EN	Cooling	Heating	✓	✓	✓	✓
HL8102F	Heating	Cooling	✓		✓	✓
HL8102FN	Heating	Cooling	✓	✓	✓	✓
HL8102I	Cooling & Heating		✓		✓	✓
HL8102IN	Cooling & Heating		✓	✓	✓	✓
HL8102K		Heating & Cooling	✓		✓	✓
HL8102KN		Heating & Cooling	✓	✓	✓	✓

Typical Application:



Control Performance :

Proportional plus integral (PI) control

Output Signal for Cooling Control :

Floating , 0-5Vdc,1-5 Vdc,0-10Vdc,2-10 Vdc

Output Signal for Heating Control :

0-5Vdc,1-5Vdc,0-10Vdc or 2-10Vdc

Maximum Output Load :

5 mA for 0-5Vdc,1-5Vdc,0-10Vdc or 2-10Vdc

Remote Control (RC) Output :

SPST normally open (N.O.) dry contact output

Norms and standards:

Low voltage directive 73/23/EEC and 93/68/EEC