

# DEI-106H / DEI-106HN Operation Manual

Version 02

5INSLLO0333

## 1. Cautions :

- 1.1 Before wiring, please make sure that power is switched off to prevent from getting electric shock.
- 1.2 The product should be avoided to be installed at humid environment.
- 1.3 To prevent the controller from damaged, please make sure the water-proof procedures are undertaken.
- 1.4 Please install controller according to the wiring diagram.
- 1.5 Before supplying the power, please always check if the wiring and input power is connected correctly.
- 1.6 Please always read this instruction carefully before installation. The controller is beyond our warranty if any damaged is caused by wrong wiring.

## 2. Specification :

- 2.1 Front panel size : 36mm ( H ) × 80mm ( L ) ± 1mm.
- 2.2 Mounted hole size : 30mm ( H ) × 72mm ( L ) × 30mm ( D ) ± 1mm.
- 2.3 Ambient temperature : -5°C ~ 55°C , 23°F ~ 131°F , < 90%RH ( Non - condensing ).
- 2.4 Storage temperature : -10°C ~ 65°C , 14°F ~ 149°F , < 90%RH ( Non - condensing ).
- 2.5 Power supply : AC230V ± 10% single phase 50 / 60Hz.
- 2.6 Power consumption : Maximum 5 watts ( Controller only ).
- 2.7 Temperature display range : 0°C ~ 105°C , Accuracy ± 1°C.
- 2.8 Temperature display range : 32°F ~ 221°F , Accuracy ± 2°F.
- 2.9 Sensor : NTC , PVC lead , with 1.5M.
- 2.10 Output / Input :
  - 2.10.1 Heater output relay : 10A / 250VAC.
  - 2.10.2 Alarm : Buzzer

## 3. Functions :

- 3.1 Temperature display while controller turned on :
  - 3.1.1 Display controller's version after power is supplied, wait 3s to display IP00, meanwhile, press UP / DOWN key to set IP ( 00 - 63 ) address.
  - 3.1.2 To finish IP setup :
    - 3.1.2.1 If IP is not set as "00", wait 3s to finish IP setting.
    - 3.1.2.2 Press "SET" key to finish IP setting directly.
    - 3.1.2.3 Once IP setup has been finish, IP address will saved in memory, it will display temperature and start normal operation.
  - 3.1.3 IP setup is only required when it to be connected to DEI-950 network system.
  - 3.1.4 To view IP address : Hold pressed "LOG" and "UP" for 3s to display IP address. Wait 3s, it will return to display room temperature.
- 3.2 Disable heater : When room temperature  $\geq$  Set point ( tS ), heater will be turn off.
- 3.3 Enable heater : When room temperature  $\leq$  Set point ( tS ) – differential ( td ), heater will be turned on.
- 3.4 Button operation :
  - 3.4.1 SETUP mode ( Pls. Refer to parameter list ) :
    - 3.4.1.1 Hold pressed "SET" key for 3s to enter setup mode, tS displayed and "SET" indicator blinks.
    - 3.4.1.2 Under setup mode, press "UP" or "DOWN" to adjust different parameters in sequence : tS \ td \ AU \ AL \ HS \ LS \ Ad \ Cr \ CS \ Ot \ Ut \ OU .
  - 3.4.2. To view or adjust parameter values :
    - 3.4.2.1 Selecting the parameter code, press "SET" to display parameter value.
    - 3.4.2.2 Press "UP" or "DOWN" key ( Hold pressed for rapid adjustment ) to adjust a proper value, then press "SET" to save the value and return to parameter codes.
    - 3.4.2.3 Select "OU" and press "SET" to save all parameter values to exit.
    - 3.4.2.4 Under setup mode, wait 10s to terminate setup mode and save parameter values, then return to operation mode, displaying room temperature.
- 3.5 Maximum and minimum temperature record : After temperature reaches set point, it starts to record maximum temperature and minimum temperature. Under operation mode, press "LOG" to view and to switch maximum and minimum temperature. Hold pressed "LOG" for 3s, the records will be refreshed as current temperature and be ready for new records.

## 3.6 Rapid setting :

- 3.6.1 Press "DOWN" key for 3s to enter set temperature mode, meanwhile, "set" indicator blinks.
- 3.6.2 Press "DOWN" or "up" key to adjust set point ( tS ).
- 3.6.3 Press "SET" key or press no key for 5s, the new set values will be stored and back to operation mode.

## 3.7 Lock parameters :

- 3.7.1 Press "SET" key and "DOWN" key simultaneously for 3s to lock parameters. It displays "LC".
- 3.7.2 when parameters are locked, only "tS" can be adjusted, the rest of parameters can only be viewed.
- 3.7.3 To unlock parameters, press "SET" key and "down" key simultaneously for 3s. It displays "UL".

## 3.8 Restore default parameters :

- 3.8.1 Press "SET" key and "LOG" key simultaneously before supplying power, it will restore default parameters. It displays "rS", and be back to operation model after 2s.

## 3.9 LED indicator :

- 3.9.1 Heater : The indicator is ON when heater is ON, it is OFF when heater is OFF.
- 3.9.2 Alarm : The indicator blinks on any failure or alarm status.
- 3.9.3 Set : The indicator blinks on setting mode.

## 3.10 DEI-106H / DEI-106HN Parameter list :

Code	Function	Setting range		Default	Unit	Description
		Min.	Max.			
tS	Set Point	LS	HS	65 150	°C °F	Heater's stop temperature.
td	Differential	1 1	10 20	4 8	°C °F	The heater starts when room temperature = tS - td.
AU	Maximum alarm temperature	AL+0.5 AL+1	105 220	105 220	°C °F	This feature is effective when room temperature has once reached set point. When room temperature $\geq$ AU, "UA" and room temperature display in turns.
AL	Minimum alarm temperature	0 32	AU-0.5 AU-1	20 70	°C °F	This feature is effective when room temperature has once reached set point. When room temperature $\leq$ AL, "LA" and room temperature display in turns.
HS	User's maximum set point	tS	100 210	100 210	°C °F	To limit user's maximum set point.
LS	User's minimum set point	0 32	tS	30 85	°C °F	To limit user's minimum set point.
Ad	Alarm Delay	0	60	3	Min	Alarm delay time; If it is set as "0", alarm output without delay.
Cr	Heater runtime when controller failure	0	30	3	Min	Heater's runtime when controller in a failure.
CS	Heater stop time when controller failure	0	30	3	Min	Heater's stoptime when controller in a failure. If it is set as "0", heater will not operate when controller has a failure.
Ot	Temperature calibration	-10 -20	10 20	0 0	°C °F	Temperature calibration.
Ut	Resolution	°F	°C	-	-	To switch resolution.
OU	Exit	-	-	-	-	To terminate setup mode, save parameter values and return to operation mode.

## 4. Error solutions :

### 4.1 Error code :

- 4.1.1 "E1" indicates sensor failure. ( To inspect if sensor is well connected or to replace a new sensor )
- 4.1.2 "EE" indicates parameter memory failure. ( To turn power off and on for restoring default setting )
- 4.1.3 "EC" indicates communication failure. ( To inspect if communication wire is well connected or replace with new one )

### 4.2 Alarm code : ( The following alarms are effective after room temperature ever reached set point. )

- 4.2.1 "UA" indicates room temperature is exceeding over maximum alarm temperature.
- 4.2.2 "LA" indicates room temperature is lowering than minimum alarm temperature.

### 4.3 Alarm output : ( Output 1 second ON / OFF )

- 4.3.1 When alarm delay time is up, buzzer will be ON : Press "DOWN" key to pause buzzer, if the alarm status has not been eliminated, press "DOWN" key again to activate buzzer.