

HEATER STATUS MONITOR

Operation Manual



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Heater Status Monitor

1. General description

ICD's Heater status monitor is a microcontroller based instrument which accepts 0 - 5A input and shows the corresponding value linearly in display window. It has the operational security of extensive measuring system and self-monitoring. All data of the measuring system is safely stored (without batteries) in the EEPROM.

The measured informations are shown on a 2 row 16 character LCD display with backlit. Four keys are provided on the front panel of the meter to access these information easily and quickly. The front panel is provided with antiglare feature for improved readability.

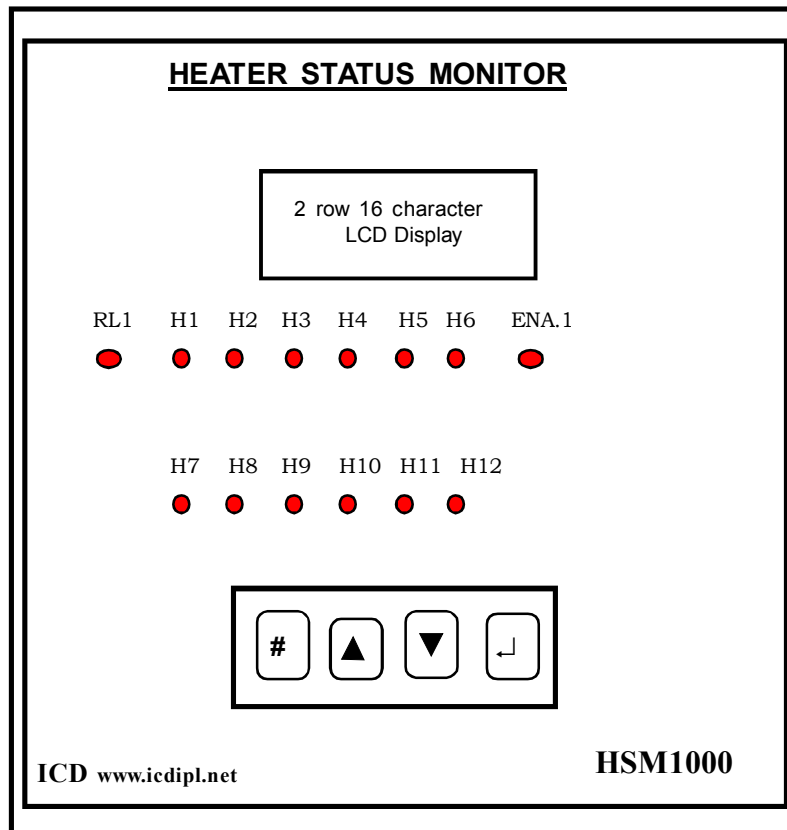
The instruments is designed to control relay outputs. heater(H1,H2,H3,H4,H5,H6 up to H12)provided for the heater status monitor.CT ratio provided for each set point .(RL1)3mm red colour led indicate for relay output status.Enable 1 led indication for enable status

The instrument is powered by 90 - 270 V AC auxiliary supply and is housed in an plastics case enclosure of size 144(H) x 144(W) x 160(D) mm dimension and is suitable for panel mounting.

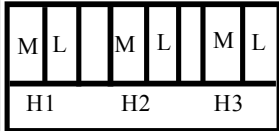
2.Front Panel and Terminal Details

The front panel of Instrument has display window, 1 x 4 matrix key pad Which is kept front of the device .

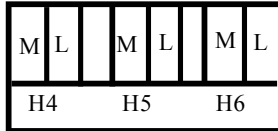
1. Display window houses 2 row 16 character LCD display.
2. The 1 x 4 matrix keypad is designed for programming the parameters.
3. 12no's of bi colour (Red & Green) LED is provided to indicate input status



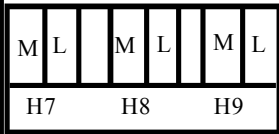
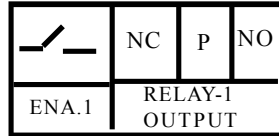
REAR TERMINALS



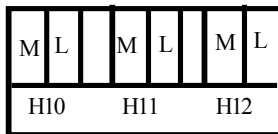
0 - 5A



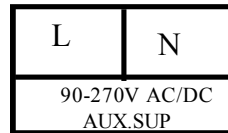
0 - 5 A



0 - 5A

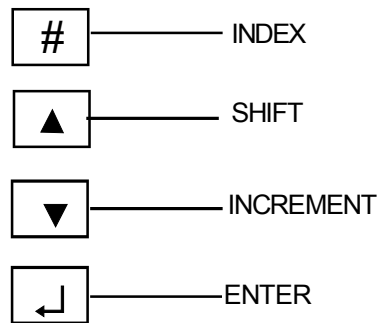


0 - 5 A



3. Matrix Keypad Description

These key switches are provided in bottom side of front facia . The four key switches are designated as



1. Index key (#)

The index (#) key operates in Program mode and in run mode . By pressing this key displays the configuration Item display pages.

2. Shift key

The shift (▲) key is used to select the digit one by one on pressing it. The selected digit is shown by flashing that digit.

3 .Incrementkey

The Increment (▼)key is used to Increment the selected digit. The Increment key Increments the digit from 0 to 9 and then wraps down once again.

4. Enter key (↵)

Once the required values are set in the configuration items, press the Enter (↵) key to store it in memory. If the change is accepted the display Indicates 'E' otherwise an error message is displayed as 'Err'.

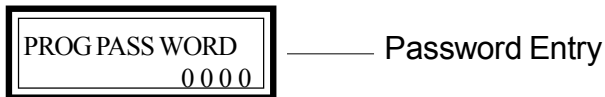
4. Programming Instruction

The meter is to be programmed properly to work in a particular installation. The various items that are to be programmed are given below.

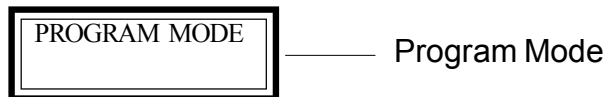
1. New Password (0000 - 9999), 2. CT Set current for each heaters (0-5.00)Amps
- 3) Relay ON Delay (000 - 999)Secs

The meter is provided with password facility to prevent alteration of configuration items by unauthorised persons. The configuration items can be changed by following the procedure given below,

With power applied to the meter hold the ► and ▲ keys together for 3 seconds, the display indicates enter password, where user has to enter the valid password.



The valid password is set in the configuration item. New password has to be entered by using Shift (►), Incr (▲) and Enter (↵) Keys or else display will show 'Err' (Error). After the valid password is entered the unit enters into program mode by showing it in display



Special Note:

If the user enters the 'enter password' for the first time or if the user fails to remember the password entered in 'New password', the default password of '0386' can be entered.

5. Program Mode Display Pages

In program mode, the configuration items can be selected by using Index (#) key. The display pages for various configuration items are given below, Any changes done can be stored using Enter Key.

NEW PASSWORD 0 0 0 0

Press # Key

SET CURRENT 01 2.00

Set curent for 1 CT ratio

Press # Key

SET CURRENT 02 2.00

Set curent for 2 CT ratio

Press # Key

SET CURRENT 03 2.00

Set curent for 3 CT ratio

Press # Key

SET CURRENT 04 2.00

Set curent for 4 CT ratio

Press # Key

SET CURRENT 05 0.50

Set curent for 5 CT ratio

Press # Key

Press # Key

SET CURRENT 07
3.00

Set curent for 6 CT ratio

up to 12 Current set point

SET CURRENT 12
3.00

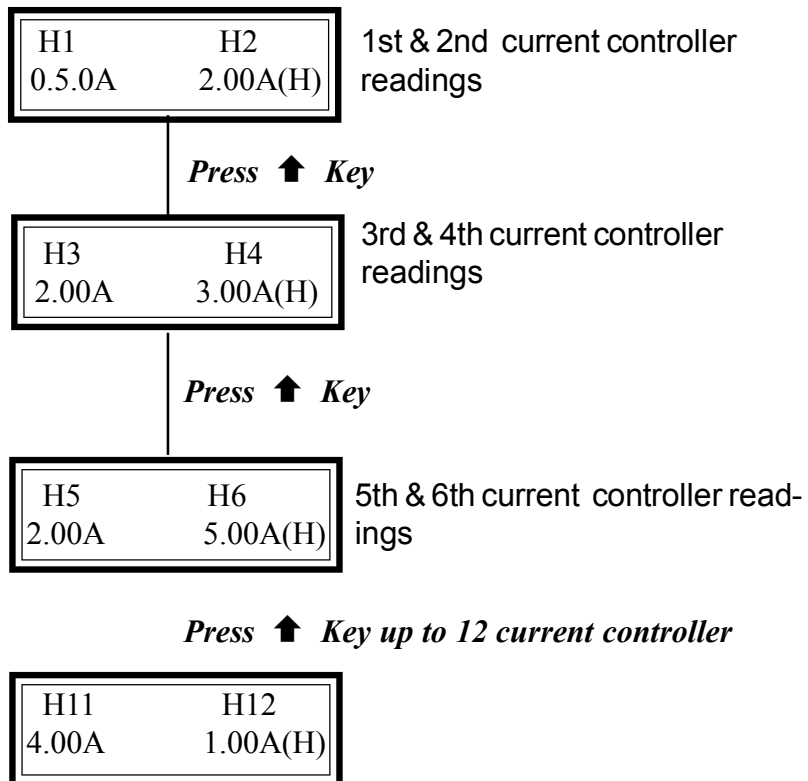
Press # Key

RELAY ON DELAY
005

relay ON delay
range upto 000-999 secs

6.Run Mode display pages

Once the unit is powered, it displays the AC Current controller , various run mode display pages are shown in next page.



Control Action:

When the process value falls below the Low current set then the heater status is in fault condition and parallelly red indication (LED) will glow after the time set delay for that particular heater and the corresponding relay gets energised .

If the process value goes above the Low current set then the heater is in healthy condition and parallelly green indication will glow after the time set delay for that particular heater and the corresponding relay get de-energises.

Note:

No control action will happens when the enable input contact is open.

7. Technical Specification

Type	: ICD Make HEATER STATUS MONITOR
Maximum current rating	: 5 Amps
Accuracy	: class0.5
No of Heater	: 12
CT ratio	: (0 - 5.00Aprog)
Maximum voltage rating	: 240V AC
Current sensing	: By CT
Control output	: Potential free contact
Status indication	: 12no's of LED indication has provided. when heater is ON green LED glows. When heater is fails red LED glows.
Relay output	: 1
Enable	: 1
Display	: 2 row 16 character LCD
Auxiliary supply	: 90 - 270V AC
Box dimension	: 144(W) X 144(H) X 160(D) mm

8. Commissioning of Heater status monitor

Before fixing the unit into the panel

- ★ Thoroughly read the operating manual, if queries arised contact ICD's sales representative.
- ★ Visualize the unit for any physical damage, which may be caused during transit.
- ★ If severely damaged, unpack the instrument and contact ICD's factory or its representative.
- ★ After physical inspection, complete the external wiring and switch ON the unit for preliminary check (if necessary).
- ★ The display page shows the process .
- ★ Program the required Setting parameters.
- ★ After complete satisfaction, fix the instrument into the panel and complete the external wiring.

Excess voltage can damage the instrument ,
lesser voltage can cause improper functioning.