UniRec

PPI
The Perfection Experts

Process Data Recorder

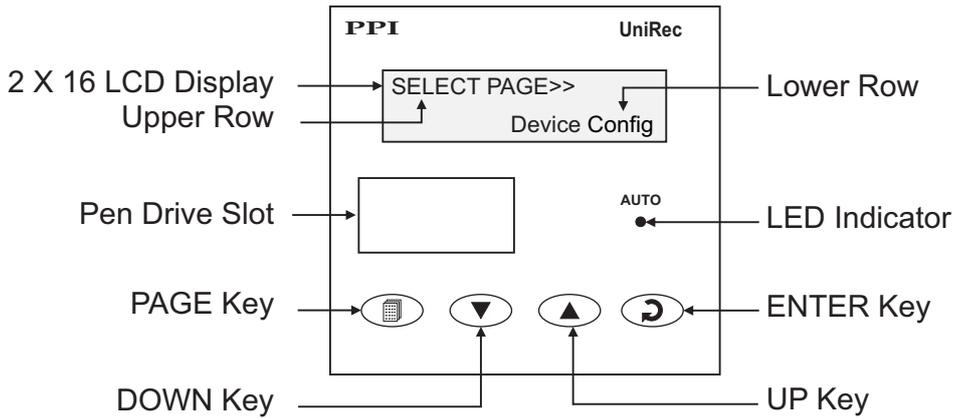HumiTherm-i

HumiTherm-c

HumiTherm-iS

HumiTherm-cS

Test Chamber 1
25.3 °C

UniRec

AUTO
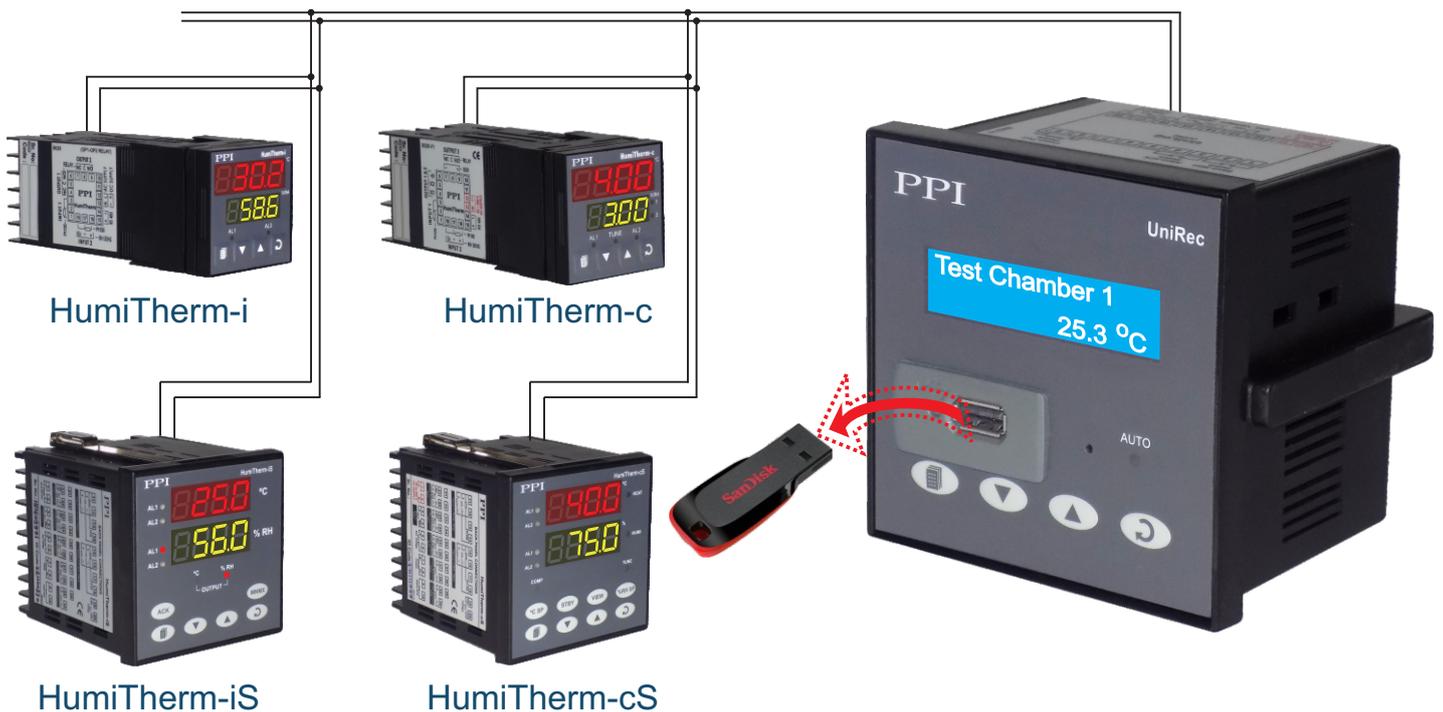
User Manual

CONTENTS

Section 1

FRONT PANEL : LAYOUT AND OPERATION

The front panel comprises of 2 X 16 (2 rows of 16 characters each) LCD Display, LED indicators, membrane keys, and a slot for Pen Drive. Refer Figure 1.1 below.

Figure 1.1

LCD DISPLAY

The LCD Display has 2 rows, the Upper Row & the Lower Row; each having 16 Characters. In normal mode of operation (Run Mode), the Upper Row displays the Channel Name and the Lower Row displays the corresponding Process Value followed by Units. Refer Figure 1.2 (a) below.

Figure 1.2(a)   *Figure 1.2(b)*

In Set-up Mode, the Upper Row displays the parameter *Name* and the Lower Row displays the corresponding parameter *Value*. Refer Figure 1.2(b) above.

LED INDICATOR

The front panel round LED lamp indicates the channel scan mode. LED glows ON if the channel scanning is in Auto mode.

KEYS

There are four tactile keys provided on the front panel for setting-up the parameter values and for other functions & commands. The Table 1.1 below lists each key and the associated function.

Table 1.1

Symbol	Key	Function
🔲	PAGE	Press to enter / exit Set-up Mode.
▼	DOWN	Press to decrease the parameter value. Pressing once decreases the value by one count; holding the key pressed speeds up the change.
▲	UP	Press to increase the parameter value. Pressing once increases the value by one count; holding the key pressed speeds up the change.
↺	ENTER	Press to store the set parameter value and to scroll to the next parameter.

PEN-DRIVE SLOT

A rectangular slot with USB connector type A is provided for Pen-Drive operation.

Section 2

BASIC OPERATION

POWER-UP

Upon switching on the power to the unit, the display shows model name on the Upper Row and the Firmware Version Number on the Lower Row for approximately 4 seconds as shown below.

```
UniRec          USB
Version       1.0.1.0
```

After the power-up display sequence, the UniRec starts showing the process values for all the Device Channels sequentially. This is the MAIN Display Mode that shall be used most often.

MAIN DISPLAY MODE

This is the default display mode. This mode actually comprises of 4 different screens providing different information. The 4 screens are described below. Use Enter key (press and release) to switch from one screen to the next. The multiple information within a selected screen can be viewed using UP / DOWN keys.

Process Value Screen

This is the default screen upon entering the Main Display Mode. The Upper Row shows the Device channel name and the Lower Row shows the corresponding process value along with user set Units as shown below.

Device Channel Name ──→ Oven Temp

──→ 120 ℃ ←── Units
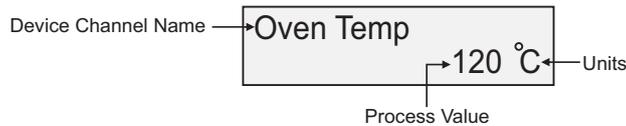
Process Value

In case of process value error, the Lower Row indicates the type of error in place of process value and units. The various errors and the respective causes are listed in Table 2.1.

Table 2.1

Error Message	Cause
Over Range	Process Value above Max. Range
Under Range	Process Value below Min. Range
Sensor Open	Thermocouple / RTD broken
Com. Fail	Communication Link with Device broken

The channel-wise process value updates depend upon the selected Auto / Manual scan mode. The scan mode can be toggled between Auto and Manual by holding the ENTER key pressed for approximately 5 Seconds. The front panel LED indicator glows ON in Auto mode and remains OFF in Manual mode. The channel update rate in Auto mode depends upon the set value (1 to 99 Sec.) for the parameter 'Scan Rate'. In Manual mode, the channels can be scrolled using UP and DOWN keys.

Alarm Status Information Screen

The UniRec monitors and stores the Alarm status for the first two Alarms of each connected Device Channels. If any one or more set Alarms for a channel is active, the channel is said to be under Alarm condition. The names for the channels under Alarm condition keep flashing on the Upper Row in Process Value screen.

The complete Alarm status information for the channels under Alarm condition is available on this Screen. For example; If Alarm1 (AL1) and Alarm2 (AL2) of a channel named 'Boiler Pressure' is active then the screen displays the following information.

```
┌─────────────────────────────┐
│ Boiler Pressure             │
│                    AL1 AL2  │
└─────────────────────────────┘
```

If multiple channels are under Alarm condition; use UP / DOWN keys to scroll through the various Device channels for viewing the individual Alarm status information.

Note: The front panel ENTER key can be used as Alarm - Acknowledge key. Use Alarm Acknowledgment feature to de-activate the Alarm relay. Note that acknowledging the Alarm(s) does not remove the Alarm condition(s).

Recording Information Screen

This screen facilitates viewing information related to the recording feature. Use UP/DOWN keys to scroll through the various information described below in Table 2.2.

Table 2.2

Information	**Sample Screen**
REMAINING BATCH TIME This information is available if 'Batch Recording' mode is selected and shows the remaining batch time in Hours:Minutes:Seconds (HH:MM:SS) format if the batch is in progress. Upon completion or prior to start of the batch, the remaining time is shown as 0:00:00.	Balance Time>> 1:12:36
NEW RECORDS IN MEMORY Shows the numbers of new records available in the recorder memory for copying (downloading) to Pen-Drive using 'Copy (New)' command.	New Records>> 12523
OLD RECORDS IN MEMORY Shows the numbers of old records available in the recorder memory that were copied (downloaded) in the previous session. These records can be re-copied using 'Re-copy (Old)' command.	Old Records>> 10067
FREE SPACE AVAILABLE FOR NEW RECORDS Shows the recorder memory space available for new records. That is, this information shows how many more new records can be stored in the memory before it gets full.	Free Space>> 3833410
DATE STAMP FOR THE FIRST NEW RECORD IN THE MEMORY This information shows the calendar date of recording of the first available new record in the memory. This information does not appear if there are no new records in the memory.	First Record>> Date: 01:01:11
TIME STAMP FOR THE FIRST NEW RECORD IN THE MEMORY This information shows the clock time of recording of the first available new record in the memory. This information does not appear if there are no new records in the memory.	First Record>> Time: 23:05:40

Information	Sample Screen
DATE STAMP FOR THE LAST NEW RECORD IN THE MEMORY This information shows the calendar date of recording of the latest available new record in the memory. This information does not appear if there are no new records in the memory.	Last Record>> Date: 02:01:11
TIME STAMP FOR THE LAST NEW RECORD IN THE MEMORY This information shows the clock time of recording of the latest record in the memory. This information does not appear if there are no new records in the available new	Last Record>> Time: 14:12:10

RTC Screen

This is a single screen providing the Real Time Clock (RTC) information as shown below. The upper row shows the current calendar date in dd/mm/yy format and the lower row shows the running clock time in hh:mm:ss (24 Hours) format.

Date: 16/05/11
Time: 08:56:00

Section 3

PEN-DRIVE OPERATIONS

UniRec can perform both, File Read and File Write, operations on the Pen Drive. The File Read Operation facilitates assigning user defined names to each of the connected Device channels while the File Write operation allows copying the Process Value records (stored inside the internal memory of UniRec) onto the Pen Drive for subsequent reading in Excel Sheet. The two file operations are described in detail in the following pages.

File System for Read Operation

UniRec continuously monitors and updates the Process Values (PVs) for each Device channel. The Process Values are displayed on the front panel 2 Rows LCD display. The Upper Row displays the channel name while the corresponding PV and measurement Units are shown on the Lower Row.

UniRec supports up to 30 single or dual channel devices. In 'Device Configuration' setup mode; the user needs to enter the Device Number, the Device Type and the Device Communication ID.

UniRec assigns default channel names depending upon the device number assigned by the user (in 'Device Configuration' set-up mode) and the numbers of channels (1 or 2) belonging to the selected device type. Refer following examples for clarification.

Example 1

Device Number	Device Type	Channels Per Device	Default Assignments by UniRec	
			Channel Number	Channel Name
1	Zenex	1	1	Channel-1
2	neuro102	1	2	Channel-2

Example 2

Device Number	Device Type	Channels Per Device	Default Assignments by UniRec	
			Channel Number	Channel Name
1	Zenex	1	1	Channel-1
2	Zenex	1	2	Channel-2
3	Clavex	1	3	Channel-3
4	HumiTherm-c	2	4	Channel-4
			5	Channel-5
5	neuro100	1	6	Channel-6

The user can, however, assign a more meaningful name (such as Boiler Pressure, Oil Temperature, etc.) to each device channel for easy identification of the process parameters that are being measured and displayed.

For channel name assignments, the user can create and save a text document file with the name *Set.txt* using Microsoft Notepad Application tool. The file needs to be saved on the Pen Drive in the main directory (outside of any folders). Follow the guidelines below for creating and/or editing the file (*Set.txt*) for channel name assignments. Refer Figure 3.1 for example file.

1. Open Microsoft Notepad Application Tool. A blank screen appears.

2. Type the desired name for Channel-1 in the top (first) line and press Enter key.

3. Type the desired name for Channel-2 in the next (second) line and press Enter key.

4. Repeat the procedure for other channels until names for all channels are assigned.

5. Open "File" menu and select "Save" option. In the open pop-up window, select appropriate directory, assign the file name *Set.txt* (or only *Set*) and press "Save" button.

6. Copy the file onto Pen Drive in the main directory (outside of any folders) for subsequent *File Read* operation by the UniRec.

Figure 3.1
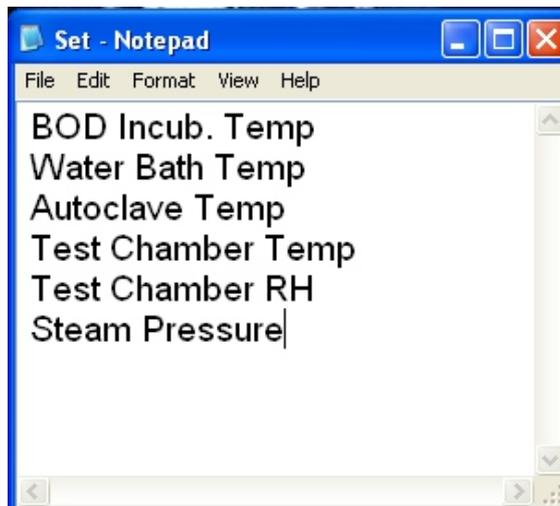
Notes:

1. All the channel names must be written in the sequence starting with name for channel-1 in the first (top) line.

2. Each channel name must be terminated with Enter key operation to indicate the end of the name and for moving to the next line. An Enter key operation is required for even the last channel name.

3. Do not leave any line space at the top of the file or between two consecutive channel names.

4. Each channel name must not exceed 16 characters. Any additional characters will be automatically ignored. The 16 characters are counted from the left-most screen position.

File System for Write Operation

UniRec continuously fetches the measured Process Values and Alarm Status from various device channels.

A set of Process Values along with the corresponding Alarm Status for all channels, stamped with the current Date and Time, is called a *Record*. UniRec stores such records in its internal memory at user set time interval, called *Recording Interval*. These stored records are then available for downloading to a Pen Drive via the front panel USB connector.

Each of the installed UniRec creates and maintains its own Record-Data file on Pen Drive using a file naming scheme

that involves an user assigned identification tag, called *Recorder ID*. The user can assign any numeric value, from 1 to 127, as *Recorder ID* to the UniRec for its unique identification. The file created by UniRec for downloading the stored records is named *recN.csv*; where *N* is the Recorder ID assigned to the UniRec. For example; the UniRec with Recorder ID 5, creates and maintains the file with the name *rec5.csv*. The records are downloaded to the file on Pen Drive in *Comma Separated Values (CSV)* format and thus the file is assigned the extension '*.csv*'.

Upon selecting the 'Copy (New)' or 'Re-copy (Old)' operation (explained later) after insertion of the Pen Drive; the UniRec first searches for any existing file with the name recN.csv (where, N is the Recorder ID assigned to the UniRec). If the file exists, the UniRec appends the available stored records to the file. If the file does not exist, the UniRec automatically creates a new file with the name recN.csv (where, N is the Recorder ID assigned to the UniRec) and then downloads the records.

Back-up File System

It is possible that a file-write operation may be interrupted due to reasons like sudden power-failure or removal (or, loose-contact) of the Pen Drive, resulting in partial transfer of records. An interrupted file-write operation makes the file unusable for appending any further records. Also, the partially transferred records in the interrupted file are lost (but are still retained inside the UniRec's internal memory). That is, the file on Pen Drive exists with the previous records intact (if any) and becomes a read-only file.

An interrupted file-write operation event is registered by the UniRec in its internal memory as well as on the Pen Drive that was being written. Upon resumption of operation, the UniRec prompts for Recovery of the interrupted operation. Upon selecting the "Recover" operation, the following sequence of steps is executed.

1. A back-up file of the existing interrupted file is created to retain the previous records.

   The back-up file is named bN_S.csv; where, 'N' is the Recorder ID and 'S' is the sequential number (1 to 250) assigned to the back-up file. For example; if the Recorder ID is 5 and there does not exist any previous back-up file, then the new back-up file is named b5_1.csv. If, however, there exists previous back-up file(s), then 'S' is assigned the lowest numeric value (in sequential order). For example; if a Pen Drive already contains back-up files – [b5_**1**.csv, b5_**4**,csv and b5_14.csv] – then the new back-up file is named b5_2.csv.

2. The existing interrupted file is deleted.

3. A new file with the same name (e.g. rec5.csv) is created.

4. All the records (including those that were already transferred during the interrupted operation) are downloaded to the new file.

PEN DRIVE (MEMORY-STICK) OPERATION

The UniRec is provided with a front panel USB port for file read and write operations using Pen Drive.

Pen Drive Checking

Upon inserting the Pen Drive into the USB port, the UniRec responds by displaying the following message on the LCD screen:

Please Wait....

During this time, the UniRec checks the file format on the Pen Drive and also searches for existence of *Set.txt* file (file containing channel names) and any interrupted file-write operation in the previous operation. The message may last for 5 to 60 seconds depending upon the disc size and occupancy percentage.

In case of any error in reading the Pen Drive or if the Pen Drive does not respond for more than 60 seconds, the following message is displayed:

<div style="text-align:center; border:1px solid #000; display:inline-block; padding:10px;">

Device Failure

</div>

Ensure proper insertion of the Pen Drive into the USB port and acknowledge the message by pressing front panel ENTER key. The UniRec repeats the device checking operation. If the error persists; remove the Pen Drive from the port and acknowledge the message (using ENTER key). The UniRec responds with the following message:

<div style="text-align:center; border:1px solid #000; display:inline-block; padding:10px;">

Insert Drive

</div>

Acknowledge the message to revert to normal RUN mode operation or insert a new Pen Drive and then acknowledge the message to continue with file read/write operations.

Select Operation

If the "Pen Drive checking" operation is successful; the UniRec presents one or more of the following options for the next operation:

> Recover
> Read Chan Names
> Copy (New)
> Re-copy (Old)

The option 'Recover' is presented only if the inserted Pen Drive contains an interrupted write-operation file. In this case, the 'Copy (New)' and 'Re-copy (Old) ' options are not presented.

The 'Read Chan Names' option is presented only if the inserted Pen Drive contains a file with the name *Set.txt*.

The 'Copy (New)' option is presented only if there are new records available in the internal memory and the 'Recover' option is not presented.

The 'Re-copy (Old)' option is presented only if there are old records available in the internal memory and the 'Recover' option is not presented.

Use UP/DOWN keys to select the desired option and then press ENTER key for the execution of the operation.

Recover, Copy & Re-copy Operations (New) (Old)

The 'Recover', 'Copy (New)' & 'Re-copy (Old)' options are similar in operations as they all download (copy) records available in the internal memory onto the inserted Pen Drive. The difference lies in the set of records that is downloaded.

The 'Copy (New)' operation downloads the records that are not yet downloaded even once, that is, "new" records. After successfully downloading the "new" records, the UniRec retains this set of records as "old" records until next successful 'Copy (New)' operation is executed.

The 'Re-Copy (Old)' operation downloads the set of records that were successfully copied during last 'Copy (New)' operation and thus retained as "old" records. This feature allows re-gaining the copied records in case of the Pen Drive failure / malfuncting after copying records or inadvertent deletion of the record file from the Pen Drive.

The 'Recover' operation copies the records that were being downloaded in the previous 'Copy (New)' or 'Re-copy (Old)' operation that was interrupted.

Upon selecting one of the above 3 operations, the UniRec opens an existing file or creates a new file for downloading the records (refer section "File System for Write Operation").

If there is an error in opening/creating a file or deleting/re-naming a file (while creating back-up file for 'Recover' operation) or any other errors encountered while downloading the records; the UniRec displays an appropriate error message. The Upper Row shows the message while the Lower Row shows the numbers of records pending for downloading.

For various error messages, the operation types for their occurrence and explanation, refer Table 3.1 below.

Table : 3.1

Error Message	Operation	What it Means
Cant Open File	Copy (New) Re-copy (Old) Recover	Unable to open an existing file or create a new file
Cant Write File Bal 1234	Copy (New) Re-copy (Old) Recover	Unable to write records in an Open file
Disc Full Bal 1234	Copy (New) Re-copy (Old) Recover	No space on Pen Drive to continue writing records in an Open file
Cant Close File	Copy (New) Re-copy (Old) Recover	Unable to close the file after successful downloading
Cant Rename File	Recover	Unable to rename an interrupted file for back-up
Cant Delete File	Recover	Unable to delete a back-up file

In case of any of the above Error Messages, make sure that the Pen Drive is firmly inserted in the USB port and retry the operation by acknowledging the error message through front panel ENTER key. If the error persists, replace the Pen Drive.

However, if no error is encountered while opening/creating a file for copying the records, the UniRec begins downloading the records with the following message screen.

Copying.....
Bal   1234

The upper row shows the operation type; Copying for 'Copy' operation or Re-copying for 'Re-copy' or 'Recover' operation. The Lower Row displays countdown of the numbers of balance records. Upon successful completion of the operation, the UniRec displays the total numbers of records copied (or, re-copied) through the following message:

> Records Copied
> 1234

Remove the Pen Drive and acknowledge the message using ENTER key. The UniRec reverts to normal RUN mode.

'Read Chan Names' Operation

Upon selecting 'Read Chan Names' operation, the UniRec opens the file named *Set.txt* for reading the user defined channel names (refer section "File System for Read Operation"). If there is an error in opening the file or any other errors encountered while reading the file; the UniRec displays an appropriate error message on the Upper Row of LCD display. For various error messages and their meaning, refer Table 3.2 below.

Table : 3.2

Error Message	What it Means
Cant Open File	Unable to open the *Set.txt* file or read the file size
Cant Read File	Unable to read the channel names from the file
Cant Close File	Unable to close the file after successful reading of channel names

In case of any of the above Error Messages, make sure that the Pen Drive is firmly inserted in the USB port and retry the operation by acknowledging the error message through front panel ENTER key. If the error persists, replace the Pen Drive.

However, if no error is encountered while opening, reading or closing the file, the UniRec displays the following message after successfully reading and assigning the user defined names to the channels.

> Names Assigned

USB Port Failure

In case of any failure of the USB port itself; depending upon the type of the error one of the following two messages may be displayed on the front panel LCD.

> Cant Sync USB   Cant Change Baud

Remove the Pen Drive and acknowledge the message using ENTER key. The UniRec reverts to normal RUN mode.

The UniRec needs servicing for any further Pen Drive operations.

Section 4
SET-UP MODE : ACCESS AND OPERATION

The UniRec requires various user settings that determine how the Recorder will function or operate. These settings are called Parameters.

The parameters are always presented in a fixed format: The Upper Row displays the *Parameter Name* and the Lower Row displays the options / set value. The parameters appear in the same sequence as listed in their respective sections.

For convenience and ease of memorizing, the various parameters have been arranged in different groups depending upon the functions the parameters represent. Each group is assigned a unique Page Header for its access.

SET-UP MODE

The Set-up Mode allows the user to view and / or modify the parameter values. Follow the steps below to open a desired Page Header for setting the parameter values.

1. Press and release PAGE key. The Upper Row shows SELECT PAGE and the Lower Row shows the name for the first available Page Header. See Figure below.

```
┌─────────────────────┐
│ SELECT PAGE>>       │
│         Operator Page│
└─────────────────────┘
```
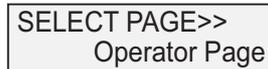
2. Select the desired Page Header / Sub-header name on the Lower Readout using the UP/DOWN keys.

3. Press and release ENTER key. The Upper Row shows the name of the first parameter listed in the selected Page Header / Sub-header and the Lower Row shows its current value.

Adjusting Parameter Values

Once a Page Header is accessed; step through the following sequence to adjust the values of the desired parameters.

1. Press and release the ENTER key until the name for the required parameter appears on the Upper Row. The last parameter in the list rolls back to the first parameter.

2. Use UP / DOWN keys to adjust the parameter value.

3. Press and release the ENTER key. The new value gets stored in the non-volatile memory and the next parameter in the list is displayed.

The figure 4.1 below illustrates how to access the desired Page Header and edit the parameter value. The illustration shows the example of altering the value for the parameter Recording Mode (available in sub-header "Recorder Configuration") from 'Continuous' to 'Batch'.

Figure 4.1
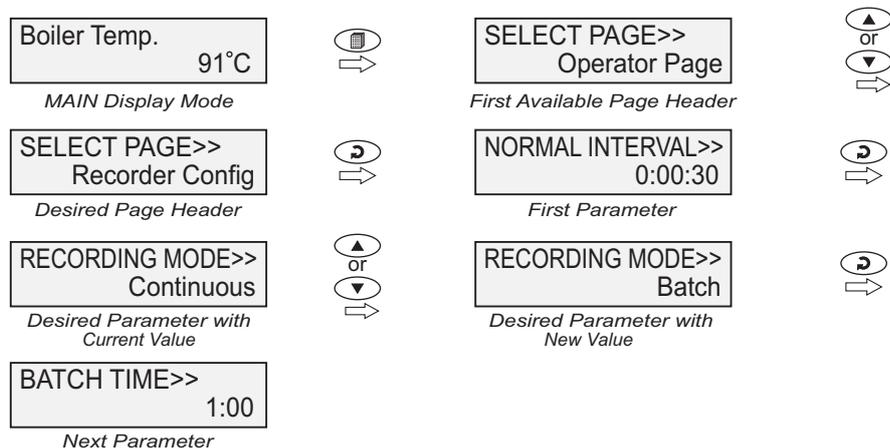
To exit the Set-up Mode and return to the MAIN Display Mode, press and release PAGE key.

Notes:

1.   It is a must to press the ENTER key after altering the value of a parameter else the new value will not be registered / stored. That is, a return to the MAIN Display Mode (by depressing PAGE key) without pressing the ENTER key will not store the altered value in the UniRec memory and the previous set value will be retained.

2. If the UniRec is left in Set-up Mode for more than 30 seconds without any key operation, it automatically exits the Set-up Mode and returns to the MAIN Display Mode.

Section 5
OPERATOR PARAMETERS

The Operator Page contains the parameters and the commands that are used most frequently for day-to-day operation. This page is not locked for editing by Master Lock. The Operator Page parameters are listed below.

Table : 5.1

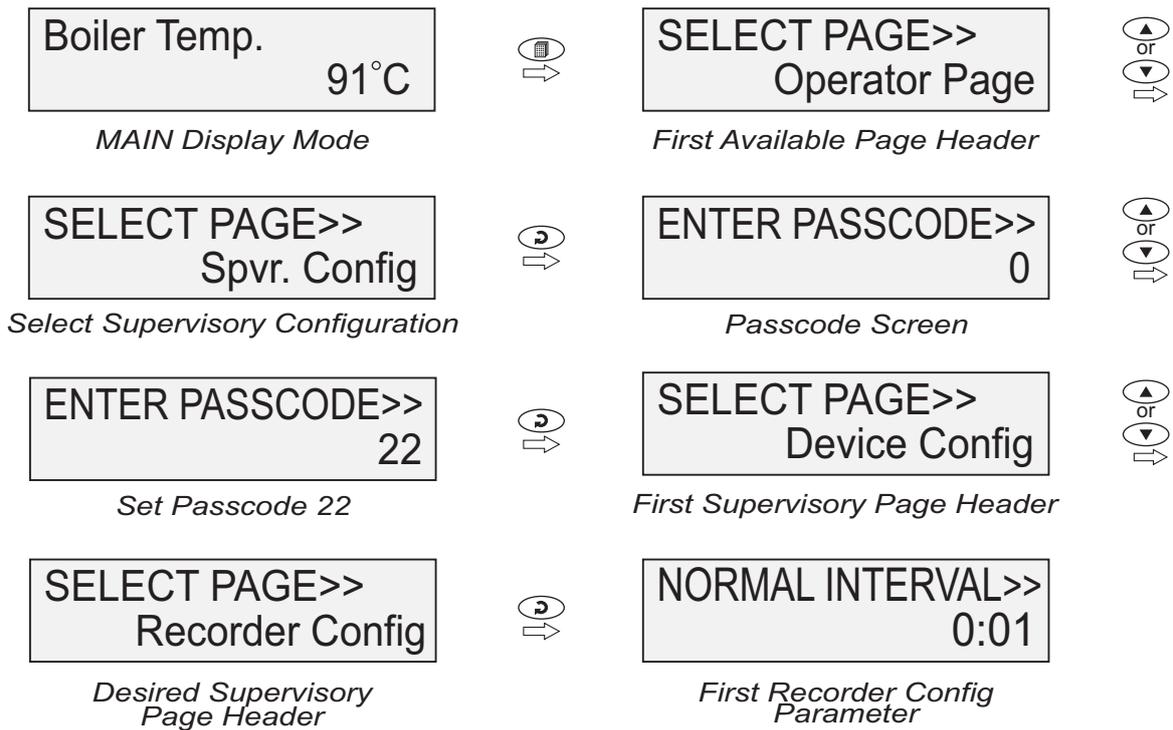| Parameter Description	Settings (Default Value)
SELECT OPTION FOR OPERATION ON PEN DRIVE `Select Option>>` `None` *(Available only when a Pen Drive is attached to the USB socket)* None No operation Copy (New) Download available New Records to Pen Drive. This option is not presented if there are no new records stored in the internal memory. Re-copy (Old) Download available Old Records to Pen Drive. This option is not presented if there are no old records stored in the internal memory. Read Chan Names Update channel names by reading the text file, *Set.txt*, from the Pen-Drive. This option is not presented if the Pen-Drive does not contain *Set.txt* file in its root (main) directory. Recover This option is presented only if a prior 'Copy (New)' or 'Recopy (Old)' operation was interrupted. The interrupted operation is resumed from the beginning.	None Copy (New) Re-copy (Old) Read Chan Names Recover (Default : None)
'START' COMMAND FOR BATCH RECORDING `BATCH START>>` `NO` *(Available if Batch Recording is selected)* Set to 'Yes' to start recording the data. This is usually issued at the begin of a time-slot recording.	No Yes (Default : No)
'STOP' COMMAND FOR BATCH RECORDING `BATCH STOP>>` `NO` *(Available if Batch Recording is selected)* Though the Batch Recording automatically stops at the end of the set time interval; it may be desired to abort recording any time during the batch. Set this command to 'Yes' to stop recording the data.	No Yes (Default : No)

Section 6

SUPERVISORY CONFIGURATION

The Page Header 'Spvr. Config' encompasses a subset of Page Headers containing parameters that are set less frequently. These parameters should only be accessible to Supervisory level and thus are protected by password. Upon entering the appropriate password for the parameter 'ENTER PASSCODE', the following list of Page Headers is available.

1. Device Configuration (Device Config)

2. Relay Configuration (Relay Config)

3. Recorder Configuration (Recorder Config)

4. RTC Settings (RTC Settings)

5. Utillites (Utillites)

The figure below illustrates how to access the parameters under the supervisory Page Header "Recorder Configuration". The parameters covered under each Page Header are described in detail in the following sections.

Figure 6.1

Boiler Temp. 91˚C		SELECT PAGE>> Operator Page
MAIN Display Mode		*First Available Page Header*
SELECT PAGE>> Spvr. Config		ENTER PASSCODE>> 0
Select Supervisory Configuration		*Passcode Screen*
ENTER PASSCODE>> 22		SELECT PAGE>> Device Config
Set Passcode 22		*First Supervisory Page Header*
SELECT PAGE>> Recorder Config		NORMAL INTERVAL>> 0:01
Desired Supervisory Page Header		*First Recorder Config Parameter*

Section 7
DEVICE CONFIGURATION

Table : 7.1

Parameter Description		Settings (Default Value)
ERASE ALL STORED RECORDS Setting this command to 'Yes', erases all the records stored in the internal memory.	DELETE RECORDS>> No	No Yes (Default : No)
CHANNEL UPDATE TIME IN AUTO SCAN MODE This parameter value sets the time interval for which each channel is displayed. In other words, the rate at which the channels are sequentially updated for indication.	SCAN RATE>> 3	1 Sec. to 99 Sec. (Default : 3 Sec.)
DEVICE IDENTIFICATION NUMBER This parameter assigns a unique identification number to the UniRec which is then used in file naming system for downloading the records to the Pen Drive.	RECORDER ID>> 2	1 to 127 (Default : 1)
TOTAL NUMBERS OF DEVICES The UniRec can fetch records from up to 30 devices. Set this parameter value in accordance with the actual numbers of devices connected.	TOTAL DEVICE>> 6	1 to 30 (Default : 1)
SELECT DEVICE NUMBER Select the device number that needs configuration for the parameters 'Device Type' and 'Device ID' (described next).	SELECT DEVICE>> 1	1 to Total Devices (Default : 1)

Parameter Description	Settings (Default Value)
(*) DEVICE TYPE ``` DEVICE TYPE>> Zenex ``` Set the device model name for the selected device number from the available list.	Zenex HumiTherm-C Clavex Neuro 100 Neuro 102 HumiTherm-i - RH Florex Neuro 100Z Neuro 105 Epsilon Delta - RTD Delta - TC Apex neuro 104 HumiTherm-i - DW neuro 100EX neuro 102EX neuro 102EX 3OP HumiTherm-c - DWON HumiTherm-c - RHON HumiTherm-c - DWPI Zenex-ultra HumiTherm-iS HumiTherm-cS (Default : Zenex)
DEVICE ID ``` DEVICE ID>> 3 ``` Set the unique communication ID that the UniRec will use to fetch the process information from the selected device.	1 to 127 (Default : 1)

(*)
The list for the Device Type is subjected to change (grow) as the UniRec is upgraded to support more models from PPI range of existing / future products.

Section 8
RELAY CONFIGURATION

The UniRec reads and stores the status of the first two Alarms from each of the connected devices. Relay-1 is actuated if the Alarm 1 of any one or more devices is activated. Similarly, Relay-2 is actuated if the Alarm 2 of any one or more devices is activated.

Table : 8.1

Parameter Description		Settings (Default Value)
RELAY-1 LOGIC	RELAY-1 LOGIC >> Normal	
RELAY-2 LOGIC	RELAY-2 LOGIC >> Normal	Normal Reverse (Default : Normal)
Normal : The Relay remains ON under Alarm condition; OFF otherwise. Useful for activating Audio / Visual Alarm. Reverse : The Relay remains OFF under Alarm condition; ON otherwise. Useful for Tripping the system under monitoring.		

Section 9
RECORDER CONFIGURATION

Table : 9.1

Parameter Description	Settings (Default Value)
NORMAL RECORDING INTERVAL NORMAL INTERVAL>> 0:02 The UniRec respects this parameter value for generating periodic records when none of the devices is under Alarm condition. For e.g., If this parameter value is set to 0:02, then a new record is generated every 2 Minute, if no alarm is active. Setting this parameter value to 0:00 disables normal recording.	0:00 (H:MM) to 2:30 (H:MM) (Default : 0:01)
ZOOM RECORDING INTERVAL ZOOM INTERVAL>> 0:01 The UniRec respects this parameter value for generating periodic records when one or more alarms of any device is active. For e.g., If this parameter value is set to 0:01, then a new record is generated every 1 Minute whenever one or more alarms is active. Setting this parameter value to 0:00 disables zoom recording.	0:00 (H:MM) to 2:30 (H:MM) (Default : 0:01)
RECORD GENERATION ON ALARM STATUS TOGGLE ALARM TOGGLE REC Disable Set to 'Enable' if a record is to be generated whenever the Alarm status for any of the devices is toggled (On-to-Off or Off-to-On).	Disable Enable (Default : Enable)
SELECT RECORDING MODE RECORDING MODE>> Continuous *Continuous* The UniRec keeps generating records indefinitely. There are no Start / Stop commands. *Batch* The UniRec generates records over a preset time interval. The recording begins upon issuance of Start command and continues until the user set time interval is elapsed. Suitable for Time-Slot recording.	Continuous Batch (Default : Continuous)
TIME INTERVAL FOR BATCH RECORDING BATCH TIME>> 1.00 *(Available for Batch Recording Mode)* Sets the time period in Hours:Minutes for which the recording is to take place from the time the Start command is issued.	0:01 (HH:MM) to 250:00 (HHH:MM) (Default : 1:00)

Parameter Description	Settings (Default Value)
'START' COMMAND FOR BATCH RECORDING `BATCH START>> NO` *(Available if Batch Recording is selected)* Set to 'Yes' to start recording the data. This is usually issued at the begining of a time-slot recording.	No Yes (Default : No)
'STOP' COMMAND FOR BATCH RECORDING `BATCH STOP>> NO` *(Available if Batch Recording is selected)* Though the Batch Recording automatically stops at the end of the set time interval; it may be desired to abort recording any time during the batch. Set this command to 'Yes' to stop recording the data.	No Yes (Default : No)

Section 10
RTC SETTING

Table : 10.1

Parameter Description		Settings
SET CLOCK TIME (HH:MM) Set current clock time in Hrs:Min (24 Hours format).	TIME (HH:MM)>> 15:53	0.0 to 23:59
SET CALENDAR DATE Set current calendar date.	DATE>> 23	1 to 31
SET CALENDAR MONTH Set current calendar month.	MONTH>> 11	1 to 12
SET CALENDAR YEAR Set current calendar year.	YEAR>> 2011	2000 to 2099

Section 11
UTILITIES

Table : 11.1

Parameter Description		Settings
MASTER LOCK ENABLE / DISABLE LOCK>> No UNLOCK>> No This parameter allows locking and unlocking of Alarm Setting parameters. Locking the parameters inhibits editing (modifying) of Alarm parameters to prevent any inadvertent changes by the operator. The Parameters 'Lock' and 'Unlock' are mutually exclusive.		No Yes
UIM DEFAULT UIM DEFAULT>> No Setting this command to 'Yes' resets all the recording related parameters to their default values. All the user set Channel Names are also reset to the default names (Channel-1, Channel-2, etc.).		No Yes

<div align="center">

Section 12
ELECTRICAL CONNECTION

</div>

The Electrical Connection Diagram is shown on the Top Side of the enclosure. The diagram shows the terminals viewed from the REAR SIDE with the front label upright. The terminal numbers are also embossed on the rear side of the enclosure. Refer figure 12.1.
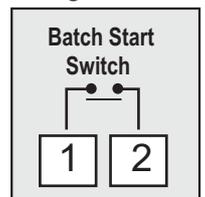
<div align="center">

Figure 12.1

</div>
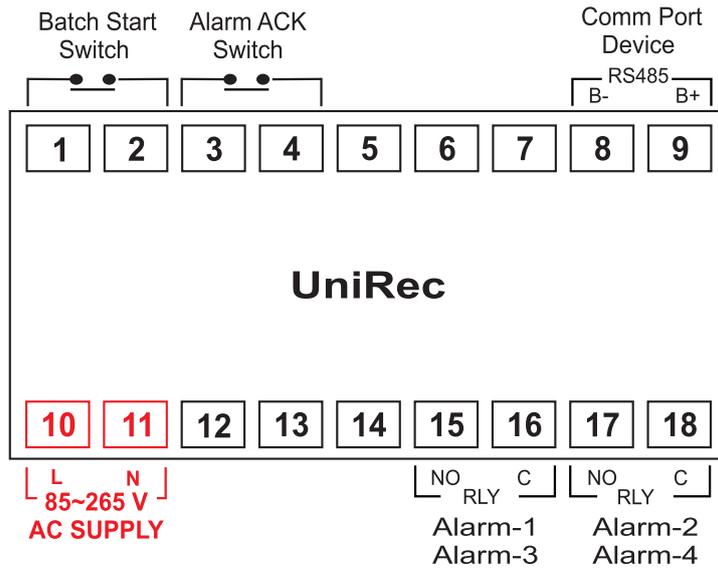
DIGITAL INPUT FOR BATCH START COMMAND

Connect a remote potential-free contact closure switch for the purpose of issuing the Batch - Recording START command. An 'OPEN' to 'CLOSE' change over of the contacts initiates time based batch recording. Once the recording starts, the change in the contact status has no effect.

Figure 12.2

DIGITAL INPUT FOR ALARM ACKNOWLEDGE

Connect a remote potential-free contact closure switch for the purpose of issuing Alarm Acknowledgment. An 'OPEN' to 'CLOSE' change over of the contacts acknowledges the alarm and mutes the alarm relay(s).
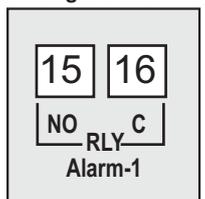

Figure 12.3
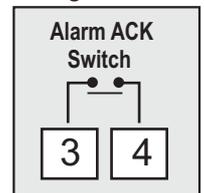
ALARM-1 RELAY OUTPUT

This relay output status is determined by logically ORing the Alarm-1 status of all the devices. Potential-free Relay changeover contacts NO (Normally Open) and C (Common) rated 2A/240 VAC (resistive load) are provided as Relay output.
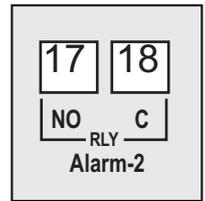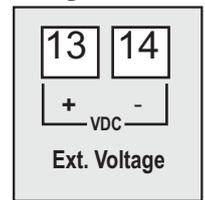

Figure 12.4

ALARM -2 RELAY OUTPUT

Figure 12.5

This relay output status is determined by logically ORing the Alarm-2 status of all the devices. Potential-free Relay changeover contacts NO (Normally Open) and C (Common) rated 2A/240 VAC (resistive load) are provided as Relay output.
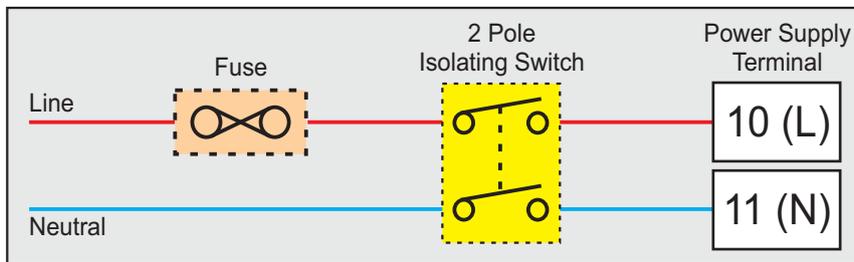
Figure 12.6

EXCITATION VOLTAGE OUTPUT

12 VDC is available for Buzzer excitation supply. Connect the (+) to terminal 13 and (-) to terminal 14.

POWER SUPPLY

Figure 12.7

As standard, the UniRec is supplied with power connections suited for 85 to 264 VAC line supply. Use well-insulated copper conductor wire of the 2 size not smaller than 0.5mm for power supply connections. Connect Line (Phase) supply line to terminal 10 and the Neutral (Return) supply line to terminal 11 as shown in Figure 12.7. The controller is not provided with fuse and power switch. If necessary, mount them separately. Use a time lag fuse rated 1A @ 240 VAC.

COMMUNICATION PORT FOR INTERFACING WITH DEVICES

Figure 12.8
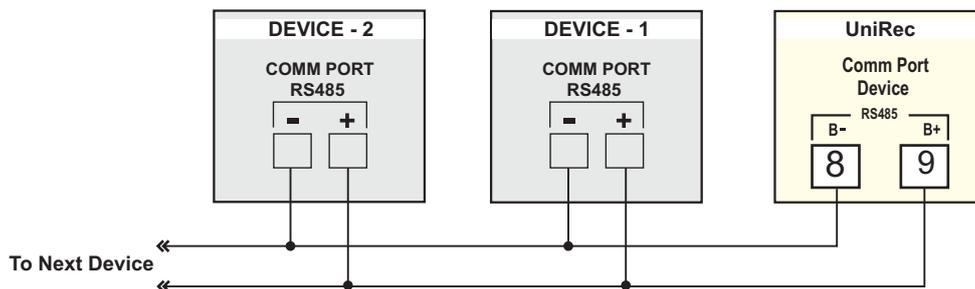
The UniRec is connected to 1 or more Devices using RS485 Serial Communication Port. The wiring connections for interfacing is shown in the figure 12.8. For reliable noise free communication, use a pair of twisted wires inside screened cable. The wire should have less than 100 ohms / km nominal DC resistance (Typically 24 AWG or thicker).

PPI

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