

# UniLog / UniLog Plus with AIS



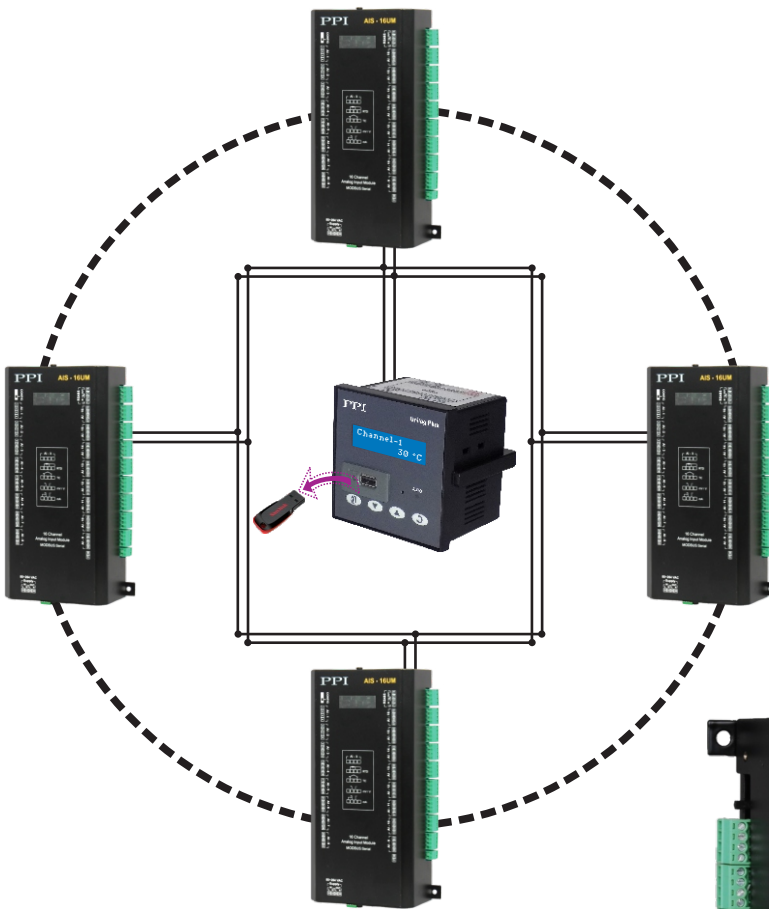
**PPI**

The Perfection Experts

## Universal Process Data Recorder Pen-Drive Version

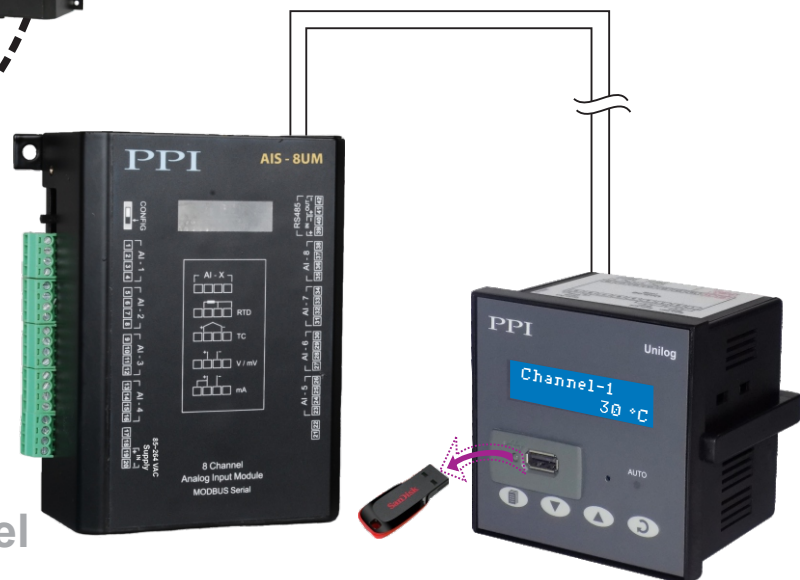
### UniLog Plus

8 to 128 Channel  
Expandable Version



### UniLog

Fixed 8/16 Channel



# User Manual

## CONTENTS

### For UniLog

1.	FRONT PANEL : LAYOUT AND OPERATION	1
2.	BASIC OPERATION	2
3.	PEN-DRIVE OPERATION	5
4.	SET-UP MODE ACCESS AND OPERATION	11
5.	OPERATOR PARAMETERS	13
6.	ALARMS SETTINGS	14
7.	SUPERVISORY CONFIGURATION	16
8.	DEVICE CONFIGURATION	17
9.	CHANNEL CONFIGURATION	18
10.	ALARMS CONFIGURATION	24
11.	RECORDER CONFIGURATION	25
12.	RTC SETTINGS	26
13.	UTILITIES	27
14.	ELECTRICAL CONNECTIONS	28

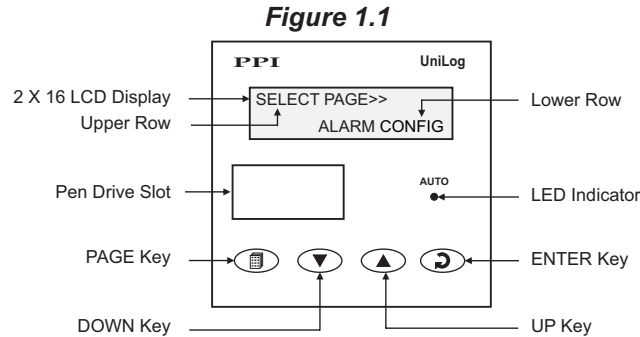
### For UniLog Plus

15.	COMMUNICATION PORT FOR INTERFACING WITH AIS(S)	33
-----	--	----

---

## Section 1 FRONT PANEL : LAYOUT AND OPERATION

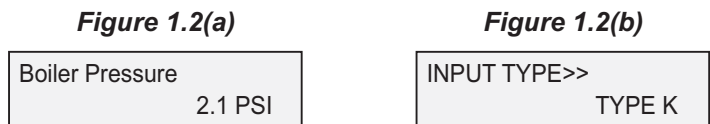
The front panel comprises of 2 X 16 (2 rows of 16 characters each) LCD Display, LED indicators, membrane keys, and a slot for Pen Drive. Refer Figure 1.1 below.



### 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.



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. The 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 Version Number on the Lower Row for approximately 4 seconds as shown below.

UNILOG	USB
Version	1.0.1.0

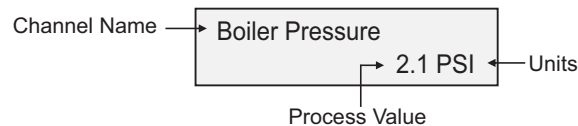
After the power-up display sequence, the UniLog starts showing the process values for all the channels sequentially. This is the MAIN Display Mode that shall be used most often.

### 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 channel name and the Lower Row shows the corresponding process value along with user set Units as shown below.



In case of process value error, the Lower Row indicates the type of error in place of process value and units. The various error 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 CIM broken

The channel-wise process value indication update depends 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

There are up to 4 soft Alarms (AL1, AL2, AL3 and AL4) provided for each channel. 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 Alarm3 (AL3) of a channel named 'Boiler Pressure' is active then the screen displays the following information.

<b>Boiler Pressure</b> AL1 AL3
-----------------------------------

If multiple channels are under Alarm condition; use UP / DOWN keys to scroll through the various 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	
<p><b>REMAINING BATCH TIME</b></p> <p>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.</p>	<table border="1"> <tr> <td>           Balance Time&gt;&gt;            1:12:36         </td> </tr> </table>	Balance Time>> 1:12:36
Balance Time>> 1:12:36		
<p><b>NEW RECORDS IN MEMORY</b></p> <p>Shows the numbers of new records available in the recorder memory for copying (downloading) to Pen-Drive using 'Copy (New)' command.</p>	<table border="1"> <tr> <td>           New Records&gt;&gt;            12523         </td> </tr> </table>	New Records>> 12523
New Records>> 12523		
<p><b>OLD RECORDS IN MEMORY</b></p> <p>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.</p>	<table border="1"> <tr> <td>           Old Records&gt;&gt;            10067         </td> </tr> </table>	Old Records>> 10067
Old Records>> 10067		
<p><b>FREE SPACE AVAILABLE FOR NEW RECORDS</b></p> <p>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.</p>	<table border="1"> <tr> <td>           Free Space&gt;&gt;            3833410         </td> </tr> </table>	Free Space>> 3833410
Free Space>> 3833410		
<p><b>DATE STAMP FOR THE FIRST NEW RECORD IN THE MEMORY</b></p> <p>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.</p>	<table border="1"> <tr> <td>           First Record&gt;&gt;            Date: 01:01:11         </td> </tr> </table>	First Record>> Date: 01:01:11
First Record>> Date: 01:01:11		
<p><b>TIME STAMP FOR THE FIRST NEW RECORD IN THE MEMORY</b></p> <p>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.</p>	<table border="1"> <tr> <td>           First Record&gt;&gt;            Time: 23:05:40         </td> </tr> </table>	First Record>> Time: 23:05:40
First Record>> Time: 23:05:40		

Information	Sample Screen
<p><b>DATE STAMP FOR THE LAST NEW RECORD IN THE MEMORY</b></p> <p>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.</p>	<div data-bbox="1050 389 1358 465" style="border: 1px solid black; padding: 5px;">           Last Record&gt;&gt;            Date: 02:01:11         </div>
<p><b>TIME STAMP FOR THE LAST NEW RECORD IN THE MEMORY</b></p> <p>This information shows the clock time 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.</p>	<div data-bbox="1050 604 1358 680" style="border: 1px solid black; padding: 5px;">           Last Record&gt;&gt;            Time: 14:12:10         </div>

### RTC Screen

This is 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

UniLog 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 8 or 16 input channels while the *File Write* operation allows copying the Process Value records (stored inside the internal memory of UniLog) 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

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

UniLog is shipped from the factory with each of the 8 or 16 channels assigned a factory set default name in accordance to the numbers assigned to the channels. That is, Channel-1, Channel-2, and so on.

The user can, however, assign a more meaningful name (such as Boiler Pressure, Oil Temperature, etc.), to each 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. User will have feature of giving its own unique Instrument name and Output file name through USB. That file name will have same name as *Set.txt*. Its format will be as follow.

[Instrument Name]

Name to be given

[File name]

Name to be given

[channel name]

Name to be given1

Name to be given2

.

.

Name to be given128

NOTE – maximum length of **Instrument Name** is **16** character.

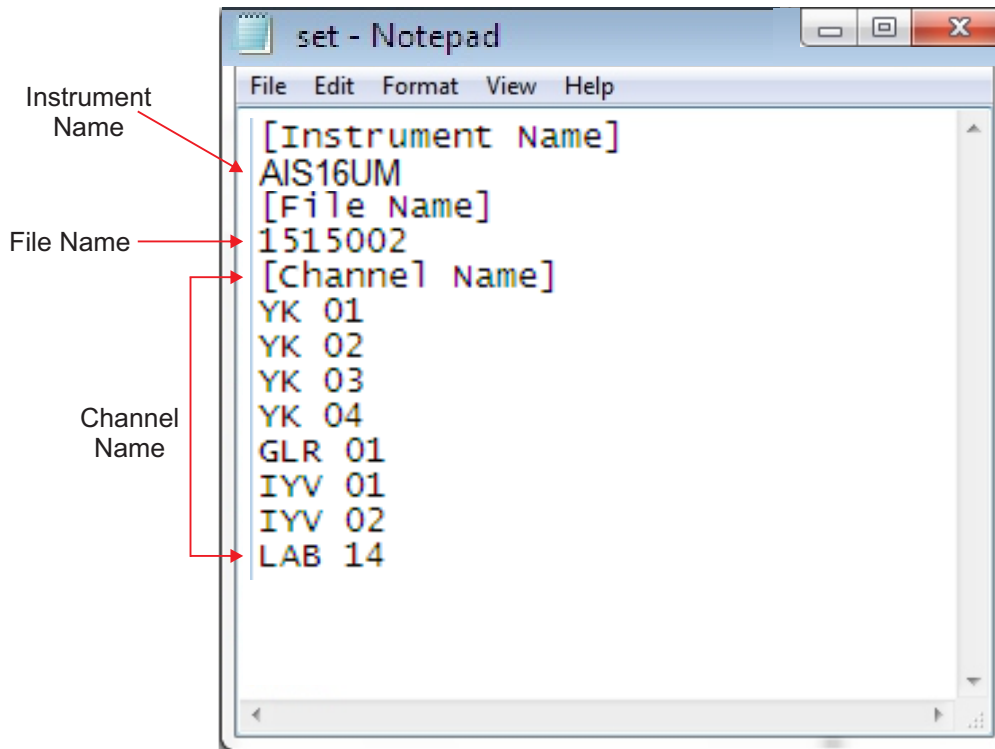
maximum length of **File name** is **8** character.

maximum length of **channel name** is **16** character.

#### IMPORTANT NOTE –

Order of giving name is not important e.g. you can give first **[File name]** then **[channel name]** then **[Instrument Name]** only care must be taken that after last channel name there should not be any gape or enter.

Figure 3.1



As shown above after file name there is gape or enter but after last channel name there is no gape or enter. After instrument name you can give gape or enter. If channel name is last in text file then after channel name do not give enter.

2. Now Output file have this unique name assign by user. If he doesn't assign any name then it will have default file name as "Rec" followed by last 5 digit of unique ID. Example- Rec54892.csv,Rec12902.csv etc..
3. In pen drive version It will not append data to file of one unit to other unit with same file name. For checking it will first match its unique ID. If ID doesn't match it will give error.
4. User given or default instrument name will be append with unique ID as header in file. Example - 12345678 Furnace  
Here **Furnace** is instrument name and **12345678** is unique ID. As shown above unique ID appear on top and instrument name appear on next line and after that Recorder header will appear.
5. In output file Previously, counts are shown in case of sensor open, under range or over range there will .So now it will show "OPEN", "OVER", "UNDER" in case of sensor open, under range or over range. In case of channel skip "-" shown.

### File System for Write Operation

UniLog continuously monitors and measures the process values for various channels and compares these values with the user set Alarm limits to generate Alarm Status.

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*. UniLog 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 UniLog 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 UniLog for its unique identification. The file created by UniLog for downloading the stored records is named *recN.csv*; where N is the Recorder ID assigned to the UniLog. For example; the UniLog with Recorder ID 5, creates and maintains the file with the name *rec 5.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 UniLog first searches for any existing file with the name *recN.csv* (where, N is the Recorder ID assigned to the UniLog). If the file exists, the UniLog appends the available stored records to the file. If the file does not exist, the UniLog automatically creates a new file with the name *recN.csv* (where, N is the Recorder ID assigned to the UniLog) 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 UniLog’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 UniLog in its internal memory as well as on the Pen Drive that was being written. Upon resumption of operation, the UniLog 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 files 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 UniLog 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 UniLog responds by displaying the following message on the LCD screen :

Please Wait....

During this time, the UniLog 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

Device Failure

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

Insert Drive

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 UniLog 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(New), & Re-copy(Old) Operations

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 UniLog 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 the Pen Drive fails or malfunction after copying records or after 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 UniLog 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 UniLog 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 the meaning of the errors, refer Table 3.1 below.

**Table : 3.1**

<b>Error Message</b>	<b>Operation</b>	<b>What it Means</b>
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 UniLog 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 UniLog 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 UniLog reverts to normal RUN mode.

#### 'Read Chan Names' Operation

Upon selecting 'Read Chan Names' operation, the UniLog 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 UniLog 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 <i>Set.txt</i> 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 UniLog displays the following message after successfully reading and assigning the user defined names to the channels.

Names Assigned

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

#### 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

The UniLog needs servicing for any further Pen Drive operations.

## Section 4

### SET-UP MODE : ACCESS AND OPERATION

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

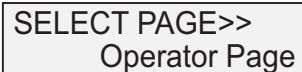
The parameters are always presented in a fixed format : The Upper Row displays the *Parameter Name* and the Lower Row displays the options / set value. The parameters appear in the same sequence as listed in their respective sections.

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 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 and the Lower Row shows its current value.

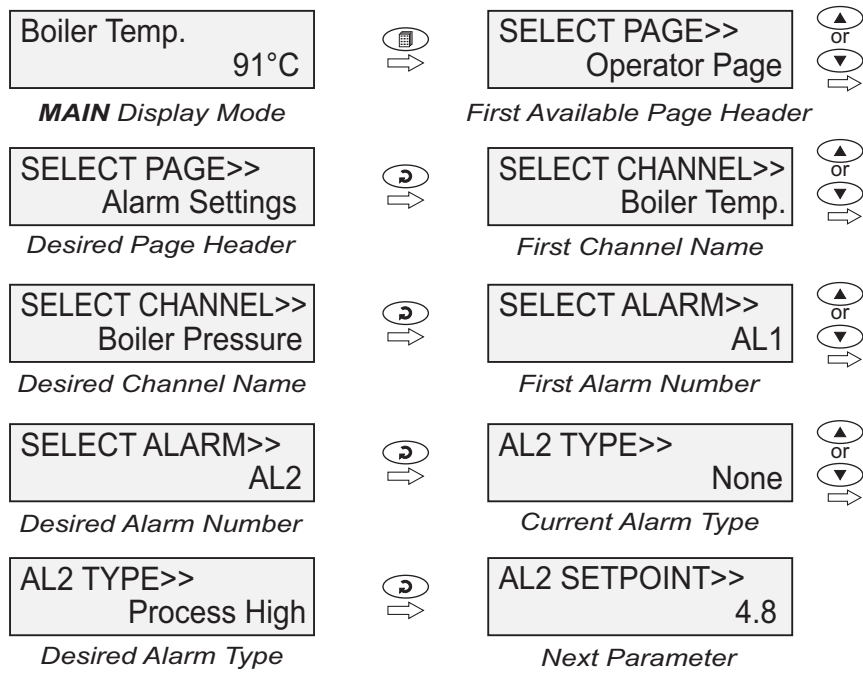
#### Adjusting Parameter Values

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 Alarm-2 Type from 'None' to 'Process High' for the channel name 'Boiler Pressure'.

Figure 4.1



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

**Notes :**

1. The UniLog communicates with the remote Channel Interface Module (CIM) using 2-wire link. If the link is broken or open, the parameter values can only be viewed and can not be set / altered.
2. It is a must to press the ENTER key after altering the value of 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 UniLog memory and the previous set value will be retained.
3. If the UniLog 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 that are used most frequently and the commands that are required 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)
<p><b>SELECT OPTION FOR OPERATION ON PEN DRIVE</b> <span style="border: 1px solid black; padding: 2px;">Select Option&gt;&gt; None</span></p> <p><i>(Available only when a Pen Drive is attached to the USB socket)</i></p> <p><b>None</b> No operation</p> <p><b>Copy (New)</b> Download available New Records to Pen Drive. This option is not presented if there are no new records stored inside internal memory.</p> <p><b>Re-copy (Old)</b> Download available Old Records to Pen Drive. This option is not presented if there are no old records stored inside internal memory.</p> <p><b>Read Chan Names</b> Update channel names by reading the text file, <i>Set.txt</i>, from the Pen-Drive. This option is not presented if the Pen-Drive does not contain <i>Set.txt</i> file in its root (main) directory.</p> <p><b>Recover</b> This option is presented only if a prior 'Copy (New)' or 'Recopy (Old)' operation was interrupted. The interrupted operation is resumed from the beginning.</p>	<ol style="list-style-type: none"> <li>1. None</li> <li>2. Copy (New)</li> <li>3. Re-copy (Old)</li> <li>4. Read Chan Names</li> <li>5. Recover</li> </ol> <p style="text-align: center;">(Default : None)</p>
<p><b>'START' COMMAND FOR BATCH RECORDING</b> <span style="border: 1px solid black; padding: 2px;">BATCH START&gt;&gt; NO</span></p> <p><i>(Available if Batch Recording is selected)</i></p> <p>Set to 'Yes' to start recording the data. This is usually issued at the begin of a batch process.</p>	<p>No Yes (Default : No)</p>
<p><b>'STOP' COMMAND FOR BATCH RECORDING</b> <span style="border: 1px solid black; padding: 2px;">BATCH STOP&gt;&gt; NO</span></p> <p><i>(Available if Batch Recording is selected)</i></p> <p>Through 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.</p>	<p>No Yes (Default : No)</p>

## Section 6 ALARM SETTINGS

This Page Header presents a list of parameters that define the Alarm function for the selected channel.

*Table : 6.1*

Parameter Description	Settings (Default Value)
<p><b>CHANNEL NAME FOR ALARM SETTINGS</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">SELECT CHANNEL&gt;&gt; Channel-1</div> <p>Select the desired Channel Name whose Alarms parameters are to be set.</p>	<p>User defined or default names for channel-1 to channel-8 / 16 (Default : NA)</p>
<p><b>SELECT ALARM</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">SELECT ALARM&gt;&gt; AL 1</div> <p>Select the desired Alarm Number whose parameters are to be set.</p>	<p>AL1, AL2, AL3, AL4 (The actual available options depends on the numbers of Alarms set per channel on Alarm configuration page)</p>
<p><b>ALARM TYPE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">AL1 TYPE&gt;&gt; None</div> <p><i>The parameter name depends upon the Alarm selected (AL1 TYPE, AL2 TYPE, etc.).</i></p> <p><b>None :</b> Disable Alarm.</p> <p><b>Process Low :</b> The Alarm activates when the PV equals or falls below the 'Alarm Setpoint' value.</p> <p><b>Process High :</b> The Alarm activates when the PV equals or exceeds the 'Alarm Setpoint' value.</p>	<p>None Process Low Precess High (Default : None)</p>
<p><b>ALARM SETPOINT</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">AL1 SETPOINT&gt;&gt; 0</div> <p><i>The parameter name depends upon the Alarm selected (AL1 Setpoint, AL2 Setpoint, etc.).</i></p> <p>Setpoint Value for 'Process High' or 'Process Low' Alarm.</p>	<p>Min. to Max. of selected input type range (Default : 0)</p>
<p><b>ALARM HYSTERESIS</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-left: 20px;">AL1 HYSTERESIS&gt;&gt; 2</div> <p><i>The parameter name depends upon the Alarm selected (AL1 Hysteresis, AL2 Hysteresis, etc.).</i></p> <p>This parameter Value sets a differential (dead) band between the ON and OFF Alarm states.</p>	<p>1 to 3000 <b>or</b> 0.1 to 3000.0 (Default : 2 <b>or</b> 2.0)</p>



Parameter Description	Settings (Default Value)
<p><b>ALARM INHIBIT</b></p> <div data-bbox="651 342 957 421" style="border: 1px solid black; padding: 2px; display: inline-block;">AL1 INHIBIT&gt;&gt; Yes</div> <p><i>The parameter name depends upon the Alarm selected (AL1 Inhibit, AL2 Inhibit, etc.).</i></p> <p><b>No :</b> The Alarm activation is suppressed until the PV is within Alarm limits from the time the Recorder is switched ON.</p> <p><b>Yes :</b> The Alarm is not suppressed during the start-up Alarm conditions.</p>	<p>No Yes (Default : No)</p>



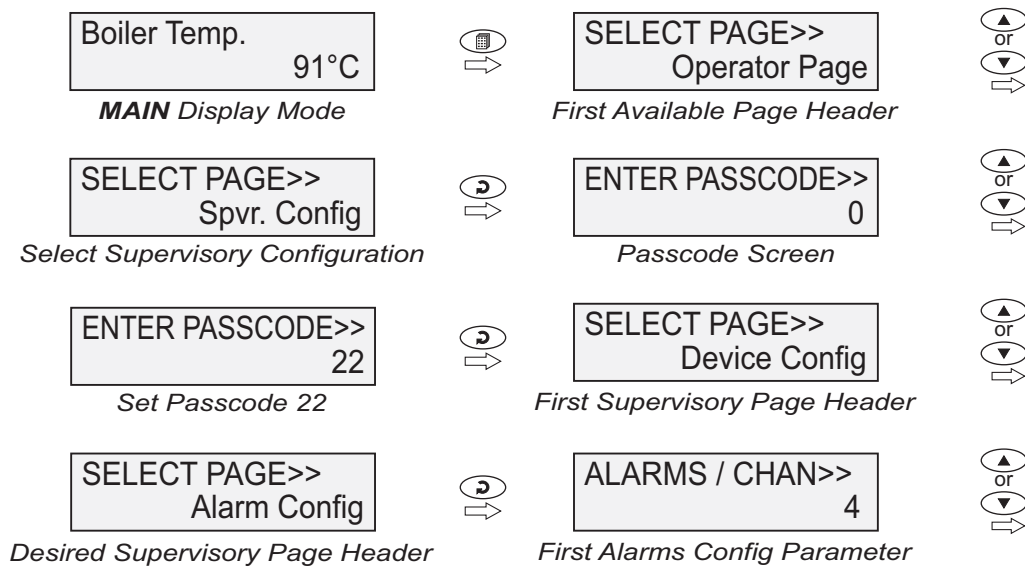
## Section 7 SUPERVISORY CONFIGURATION

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 Header is available.

1. Device Configuration (*Device Config*)
2. Channel Configuration (*Channel Config*)
3. Alarm Configuration (*Alarm Config*)
4. Recorder Configuration (*Recorder Config*)
5. RTC Settings (*RTC Settings*)
6. Utilites (*Utilites*)

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

**Figure 7.1**



## Section 8 DEVICE CONFIGURATION

*Table : 8.1*

Parameter Description	Settings (Default Value)
<p><b>CHANNEL UPDATE TIME IN AUTO SCAN MODE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">SCAN RATE&gt;&gt; 3</div> <p>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.</p>	<p>1 Sec. to 99 Sec. (Default : 3 Sec.)</p>
<p><b>DEVICE IDENTIFICATION NUMBER</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RECORDER ID&gt;&gt; 2</div> <p>This parameter assigns a unique identification number to the UniLog which is then used in file naming system for downloading the records to the Pen Drive.</p>	<p>1 to127 (Default : 1)</p>
<p><b>SELECT TOTAL NUMBERS OF CHANNELS</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">TOTAL CHANNELS&gt;&gt; 16</div> <p>The UniLog is shipped with either 8 or 16 channel interface module. Set this parameter value accordingly.</p>	<p>1. 8 2. 16 (Default : 16)</p>
<p><b>ERASE ALL STORED RECORDS</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">DELETE RECORDS&gt;&gt; No</div> <p>Setting this command to 'Yes', erases all the records stored in the internal Memory.</p>	<p>No Yes (Default : No)</p>



## Section 9 CHANNEL CONFIGURATION

The Channel configuration parameters are listed in Table below and are generally required to be set only at the time of installation.

**Table : 9.1**

Parameter Description	Settings (Default Value)
<p><b>SELECT CHANNEL NAME</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">SELECT CHANNEL&gt;&gt; Channel-1</div> <p>Select the channel name for which the parameter values are to be set.</p>	<p>User defined or default names for channel-1 to channel-8 / 16 (Default : NA)</p>
<p><b>SKIP CHANNEL FOR DISPLAY</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">SKIP&gt;&gt; No</div> <p>Select to 'Yes' if the selected channel is not to be indicated on display.</p>	<p>No Yes (Default : Yes)</p>
<p><b>SIGNAL INPUT TYPE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">INPUT TYPE&gt;&gt; Type K (Cr-Al)</div> <p>Set the type of Thermocouple / RTD / DC Linear signal input type connected to the selected channel.</p>	<p>Refer Table 9.2 (Default : Type K (Cr-Al))</p>
<p><b>DISPLAY RESOLUTION FOR MEASURED PV</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RESOLUTION&gt;&gt; 0.1 Unit</div> <p>Set the decimal point position for the PV indication on the display. This is applicable only for DC Linear signal input. The temperature value measured from Thermocouple / RTD is always indicated with 0.1 resolution.</p>	<p>1 Unit 0.1 Unit 0.01 Unit* 0.001 Unit* (Default : 0.1 Unit) (*for 4-20mA)</p>
<p><b>DISPLAY UNITS FOR MEASURED PV</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">UNITS&gt;&gt; °C</div> <p>Select the Units that shall be displayed along with the measured PV on the display. For temperature input (Thermocouple &amp; RTD), only °C and °F units are available and represent actual converted values. All other units available for DC Linear signal input are for indication purpose only and correspond to the units measured by the transmitter.</p>	<p>Refer Table 9.3 (Default : °C)</p>
<p><b>RANGE LOW</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RANGE LOW&gt;&gt; 0</div> <p><i>(Available for 4-20mA inputs)</i> The Range Low value sets the process value corresponding to the minimum DC Linear signal of the selected input type (that is, 0 V or 1V or 0mA or 4mA).</p>	<p>-19999 to 30000 Counts with Selected Resolution (Default : 0.0)</p>

Parameter Description	Settings (Default Value)
<p><b>RANGE HIGH</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">RANGE HIGH&gt;&gt; 1000</div> <p><i>(Available for 4-20mA inputs)</i> The Range High value sets the process value corresponding to the maximum DC Linear signal of the selected input type (that is, 50mV or 200mV or 1.25V or 5V or 10V or 20mA).</p>	<p>-19999 to 30000 Counts with Selected Resolution (Default : 100.0)</p>
<p><b>APPLY LOWER CLIP ON DISPLAYED PV</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">LOW CLIPPING&gt;&gt; Disable</div> <p><i>(Available for 4-20mA inputs)</i> Setting this parameter to 'Enable' clips the lower Process Value indication to a preset minimum level.</p>	<p>Disable Enable (Default : Disable)</p>
<p><b>PRESET LOWER CLIP LEVEL</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">LOW CLIP VAL&gt;&gt; 0.0</div> <p><i>(Available for 4-20mA inputs)</i> When Low Clip is enabled; the minimum displayed PV is clipped (restricted) to this parameter value. For example; if Low Clip value is set to 0.0 then all measured values below 0 are displayed as 0.0.</p>	<p>-19999 to 30000 (Default : 0)</p>
<p><b>APPLY UPPER CLIP ON DISPLAYED PV</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">HIGH CLIPPING&gt;&gt; Disable</div> <p><i>(Available for 4-20mA inputs)</i> Setting this parameter to 'Enable' clips the upper Process Value indication to a preset maximum level.</p>	<p>Disable Enable (Default : Disable)</p>
<p><b>PRESET UPPER CLIP LEVEL</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">HIGH CLIP VAL&gt;&gt; 100.0</div> <p><i>(Available for 4-20mA inputs)</i> When High Clip is enabled; the maximum displayed PV is clipped (restricted) to this parameter value. For example; if High Clip value is set to 100.0 then all measured values above 100 are displayed as 100.0.</p>	<p>-19999 to 30000 (Default : 100.0)</p>
<p><b>ZERO OFFSET</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">ZERO OFFSET&gt;&gt; 0</div> <p>This value is algebraically added to the measured PV for removal of any known sensor calibration error.</p>	<p>-1999 / 3000 <b>or</b> -1999.9 / 3000.0 (Default : 0)</p>
<p><b>USER - LINEARISATION</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">LINEARISATION&gt;&gt; Disable</div> <p><i>(Available for DC Linear Inputs)</i> Set this parameter to 'Enable' if user linearisation co-ordinates are to be applied on the measured PV from DC Linear signal input.</p>	<p>Disable Enable (Default : Disable)</p>

Parameter Description	Settings (Default Value)
<p><b>TOTAL BREAK - POINTS</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">BREAK POINTS&gt;&gt; 2</div> <p>Select numbers of segments for the purpose of input PV curve-linearisation by setting the number of total break points.</p>	<p>2 to 32 (Default : 2)</p>
<p><b>SELECT BREAK - POINT NUMBER FOR SETTING</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">SELECT POINT&gt;&gt; 1</div> <p>Select the break-point for which the X, Y co-ordinates are to be set.</p>	<p>1 to Set Numbers of Break-points (Default : NA)</p>
<p><b>X CO-ORDINATE VALUE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">X-VALUE&gt;&gt; 0</div> <p>Set the actual measured (X co -ordinate) value.</p>	<p>-19999 to 30000 (Default : 0)</p>
<p><b>Y CO-ORDINATE VALUE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">Y-VALUE&gt;&gt; 0</div> <p>Set the computed or derived (Y co -ordinate) value.</p>	<p>-19999 to 30000 (Default : 0)</p>

**Table 9.2**

<b>Option</b>	<b>Range (Min. to Max.)</b>	<b>Resolution &amp; Unit</b>
Type J (Fe-K)	0.0 to +960.0°C / +32.0 to +1760.0°F	1 °C/°F or 0.1 °C/°F
Type K (Cr-Al)	-200.0 to +1376.0°C / -328.0 to +2508.0°F	
Type T (Cu-Con)	-200.0 to +387.0°C / -328.0 to +728.0°F	
Type R (Rh-13%)	0.0 to +1771.0°C / +32.0 to +3219.0°F	
Type S (Rh-10%)	0.0 to +1768.0°C / +32.0 to +3214.0°F	
Type B	0.0 to +1826.0°C / +32.0 to +3218.0°F	
Type N	0.0 to +1314.0°C / +32.0 to +2397.0°F	
Reserved for customer specific Thermocouple type not listed above. The type shall be specified in accordance with the ordered (optional on request) Thermocouple type.		
RTD Pt100	-199 to +600°C / -328 to +1112°F or -199.9 to +600.0°C / -328.0 to +1112.0°F	1°C/°F or 0.1 °C/°F
0 to 20 mA	-19999 to 30000 units	1 0.1 0.01 0.001 units
4 to 20 mA		
0 to 50 mV		
0 to 200 mV		
0 to 1.25 V		
0 to 5 V		
0 to 10 V		
1 to 5 V		

Table 9.3

Option	Description
°C	Degree Centigrade
°F	Degree Fahrenheit
(none)	No Unit (Blank)
°K	Degree Kelvin
EU	Engineering Units
%	Percentage
Pa	Pascals
Mpa	Mpascals
kPa	Kpascals
bar	Bar
mbar	Milli bar
psi	PSI
kg/sq.cm	kg/cm <sup>2</sup>
mmH <sub>2</sub> O	mm water gauge
inH <sub>2</sub> O	Inches water gauge
mmHg	mm mercury
Torr	Torr
litre/hr	Litres per hour
litre/min	Litres per minute
%RH	% Relative Humidity
%O <sup>2</sup>	% Oxygen
%CO <sup>2</sup>	% Carbon di-oxide
%CP	% Carbon Potential
V	Volts
A	Amps



<b>Option</b>	<b>Description</b>
mA	Milli Amps
mV	Milli Volts
ohm	Ohms
ppm	Parts per million
rpm	Revolutions per minute
mSec	Milli seconds
Sec	Seconds
min	Minutes
hrs	Hours
PH	PH
%PH	%PH
miles/hr	Miles per hour
mg	Milli grams
g	Grams
kg	Kilo grams



## Section 10

### ALARM CONFIGURATION

The parameters presented on this page allow configuration of the number of Alarms per channel and Alarm output functions. Relay-1 is a common output for Alarm-1 Ored Alarm-3 of all channels. Relay-2 is a common output for Alarm-2 Ored Alarm-4 of all channels.

**Table : 10.1**

Parameter Description	Settings (Default Value)
<p><b>ALARMS PER CHANNEL</b> <span style="border: 1px solid black; padding: 2px;">ALARMS / CHAN &gt;&gt; 4</span></p> <p>The UniLog is provided with 4 independently settable soft Alarms per channel. However, the actual number of Alarms required per channel may vary from application to application. This parameter allows selecting the exact number of Alarms required per channel.</p>	<p>1 to 4 (Default : 4)</p>
<p><b>RELAY-1 LOGIC</b> <span style="border: 1px solid black; padding: 2px;">RELAY-1 LOGIC &gt;&gt; Normal</span></p> <p><b>RELAY-2 LOGIC</b> <span style="border: 1px solid black; padding: 2px;">RELAY-2 LOGIC &gt;&gt; Normal</span></p> <p><b>Normal :</b> The Relay remains ON under Alarm condition; OFF otherwise. Useful for activating Audio / Visual Alarm.</p> <p><b>Reverse :</b> The Relay remains OFF under Alarm condition; ON otherwise. Useful for Tripping the system under monitoring.</p>	<p>Normal Reverse (Default : Normal)</p>



## Section 11 RECORDER CONFIGURATION

*Table : 11.1*

Parameter Description	Settings (Default Value)
<p><b>NORMAL RECORDING INTERVAL</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">           NORMAL INTERVAL&gt;&gt; 0:00:30         </div> <p>The UniLog respects this parameter value for generating periodic records when none of the channels is under Alarm. For e.g., If this parameter value is set to 0:00:30, then a new record is generated every 30 Sec. if no channel is in Alarm.</p> <p>Setting this parameter value to 0:00:00 disables normal recording.</p>	0:00:00 (H:MM:SS) to 2:30:00 (H:MM:SS) (Default : 0:00:30)
<p><b>ZOOM RECORDING INTERVAL</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">           ZOOM INTERVAL&gt;&gt; 0:00:01         </div> <p>The UniLog respects this parameter value for generating periodic records when any one or more channels are under Alarm. For e.g., If this parameter value is set to 0:00:10, then a new record is generated every 10 Sec. whenever there is any channel(s) is in Alarm.</p> <p>Setting this parameter value to 0:00:00 disables zoom recording.</p>	0:00:00 (H:MM:SS) to 2:30:00 (H:MM:SS) (Default : 0:00:01)
<p><b>RECORD GENERATION ON ALARM STATUS TOGGLE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">           ALARM TOGGLE REC Disable         </div> <p>Set to 'Enable' if a record is to be generated every time the Alarm status for any of the channels is toggled (On-to-Off or Off-to-On).</p>	Disable Enable (Default : Enable)
<p><b>SELECT RECORDING MODE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">           RECORDING MODE&gt;&gt; Continuous         </div> <p><b>Continuous</b> The UniLog keeps generating records indefinitely. There are no Start / Stop commands. Suitable for continuous processes.</p> <p><b>Batch</b> The UniLog 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 batch processes.</p>	Continuous Batch (Default : Continuous)
<p><b>TIME INTERVAL FOR BATCH RECORDING</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block;">           BATCH TIME&gt;&gt; 1.00         </div> <p><i>(Available for Batch Mode Only)</i></p> <p>Sets the time period in Hours:Minutes for which the recording to take place from the time the Start command is issued.</p>	0:01 (HH:MM) to 250:00 (HHH:MM) (Default : 1:00)

## Section 12 RTC SETTING

*Table : 12.1*

Parameter Description	Settings
<p><b>SET CLOCK TIME (HH:MM)</b>      <span style="border: 1px solid black; padding: 2px;">TIME (HH:MM)&gt;&gt; 15:53</span></p> <p>Set current clock time in Hrs:Min (24 Hours format).</p>	<p>0.0 to 23:59</p>
<p><b>SET CALENDAR DATE</b>      <span style="border: 1px solid black; padding: 2px;">DATE&gt;&gt; 23</span></p> <p>Set current calendar date.</p>	<p>1 to 31</p>
<p><b>SET CALENDAR MONTH</b>      <span style="border: 1px solid black; padding: 2px;">MONTH&gt;&gt; 11</span></p> <p>Set current calendar month.</p>	<p>1 to 12</p>
<p><b>SET CALENDAR YEAR</b>      <span style="border: 1px solid black; padding: 2px;">YEAR&gt;&gt; 2011</span></p> <p>Set current calendar year.</p>	<p>2000 to 2099</p>

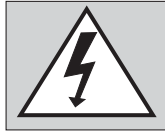


Section 13  
UTILITIES

Table : 13.1

Parameter Description	Settings
<p><b>MASTER LOCK ENABLE DISABLE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">LOCK&gt;&gt; No</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">UNLOCK&gt;&gt; No</div> <p>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.</p> <p>The Parameters 'Lock' and 'Unlock' are mutually exclusive.</p>	<p>No Yes</p>
<p><b>UIM DEFAULT</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">UIM DEFAULT&gt;&gt; No</div> <p>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.).</p>	<p>No Yes</p>
<p><b>CIM DEFAULT</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">CIM DEFAULT&gt;&gt; No</div> <p>Setting this command to 'Yes' resets all the Channel-configuration and Alarm related parameters to their default values.</p>	<p>No Yes</p>
<p><b>MAKE CIM &amp; UIM COMPATIBLE</b></p> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">CPY CIM TO UIM&gt;&gt; No</div> <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">CPY UIM TO CIM&gt;&gt; No</div> <p>The Channel-configuration and Alarm related parameters that are set via UIM are stored both in UIM &amp; CIM memory. For any reason if either of the units is to be replaced; one of the copy commands can be used to make the changed pair compatible without the need of re-programming all the parameter values.</p> <p>Use 'CPY CIM TO UIM' if a User Interface Module (UIM) is replaced.</p> <p>Use 'CPY UIM TO CIM' if a Channel Interface Module (CIM) is replaced.</p>	<p>No Yes</p>

## Section 14 ELECTRICAL CONNECTIONS



**WARNING**  
MISHANDLING / NEGLIGENCE CAN RESULT  
IN PERSONAL DEATH OR SERIOUS INJURY.

**Caution**

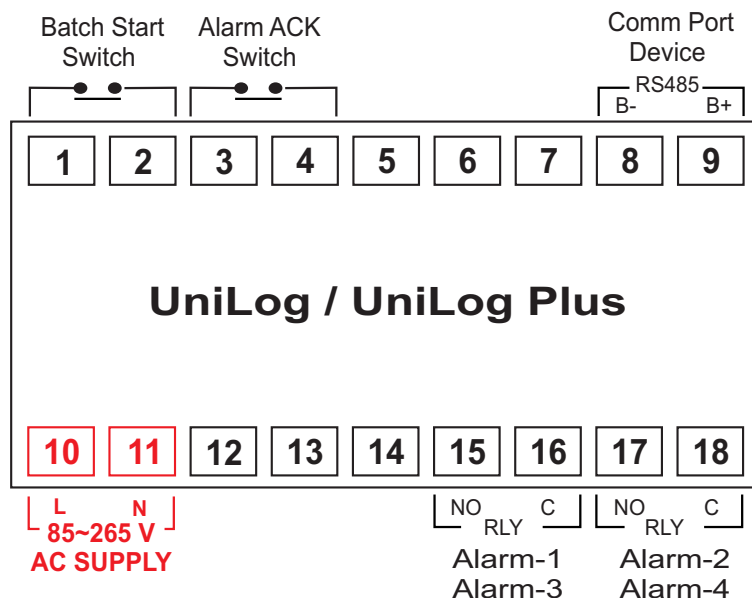
The controller is designed for installation in an enclosure which provides adequate protection against electric shock. Local regulations regarding electrical installation should be rigidly observed. Consideration should be given to prevention of access to the Power Supply terminals by unauthorized personnel.

1. The user must rigidly observe the Local Electrical Regulations.
2. Do not make any connections to the unused terminals for making a tie-point for other wires (or for any other reasons) as they may have some internal connections. Failing to observe this may result in permanent damage to the recorder.
3. Run power supply cables separated from the low-level signal cables (like Thermocouple, RTD, DC Linear Current / Voltage, etc.). If the cables are run through conduits, use separate conduits for power supply cable and low-level signal cables.
4. Use appropriate fuses and switches, wherever necessary, for driving the high voltage loads to protect the recorder from any possible damage due to high voltage surges of extended duration or short-circuits on loads.
5. Take care not to over-tighten the terminal screws while making connections.
6. Make sure that the power supply is switched-off while making / removing any connections.

### USER INTERFACE MODULE (UIM) : CONNECTION DIAGRAM

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 14.1.

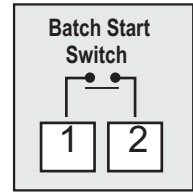
*Figure 14.1*



**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.

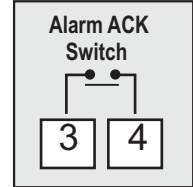
**Figure 14.2**



**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)

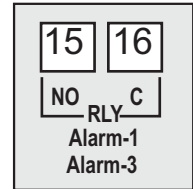
**Figure 14.3**



**ALARM - 1 / ALARM - 3 COMMON RELAY OUTPUT**

This relay output status is determined by logically Oring the Alarm-1 and Alarm-3 status of all the channels. Potential-free Relay changeover contacts NO (Normally Open) and C (Common) rated 2A/240 VAC (resistive load) are provided as Relay output.

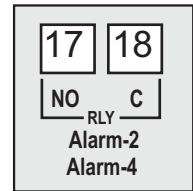
**Figure 14.4**



**ALARM - 2 / ALARM - 4 COMMON RELAY OUTPUT**

This relay output status is determined by logically Oring the Alarm-2 and Alarm-4 status of all the channels. Potential-free Relay changeover contacts NO (Normally Open) and C (Common) rated 2A/240 VAC (resistive load) are provided as Relay output.

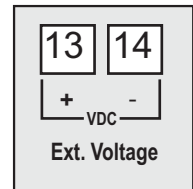
**Figure 14.5**



**TRANSMITTER EXCITATION VOLTAGE OUTPUT**

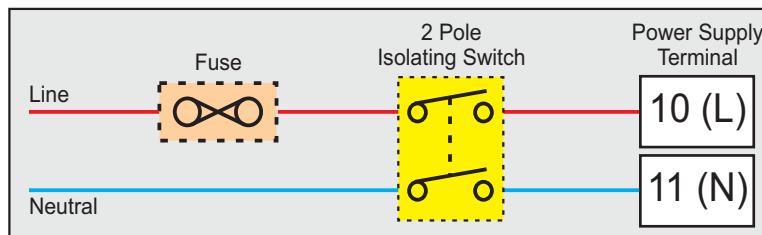
12 VDC is available for transmitter excitation supply. Connect the transmitter (+) to terminal 13 and (-) to terminal 14.

**Figure 14.6**



**POWER SUPPLY**

**Figure 14.7**

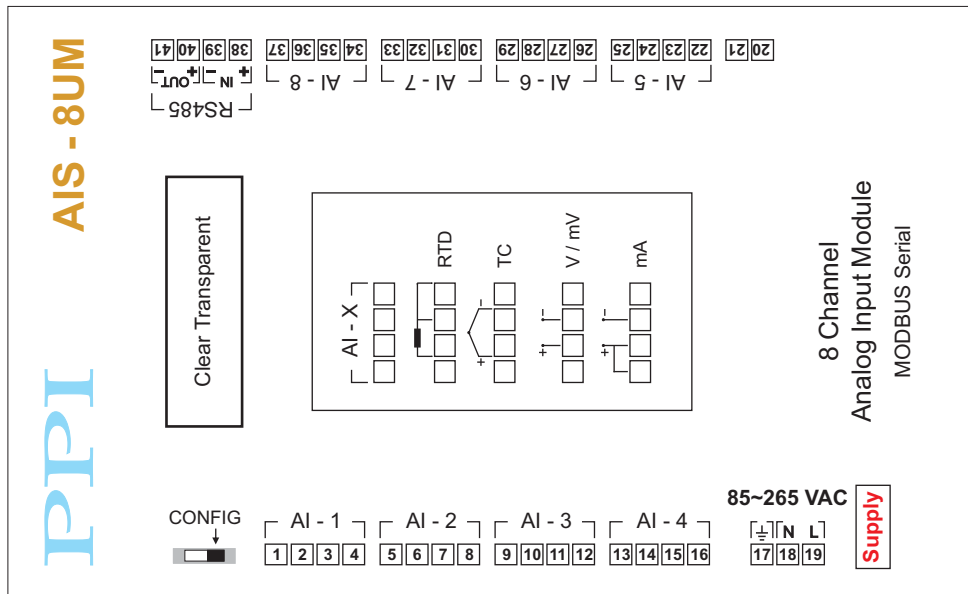


As standard, the controller is supplied with power connections suited for 85 to 264 VAC line supply. Use well-insulated copper conductor wire of the size not smaller than 0.5mm<sup>2</sup> for power supply connections. Connect Line (Phase) supply line to terminal 10 and the Neutral (Return) supply line to terminal 11 as shown in Figure 14.7. The controller is not provided with fuse and power switch. If necessary, mount them separately. Use a time lag fuse rated 1A @ 240 VAC.

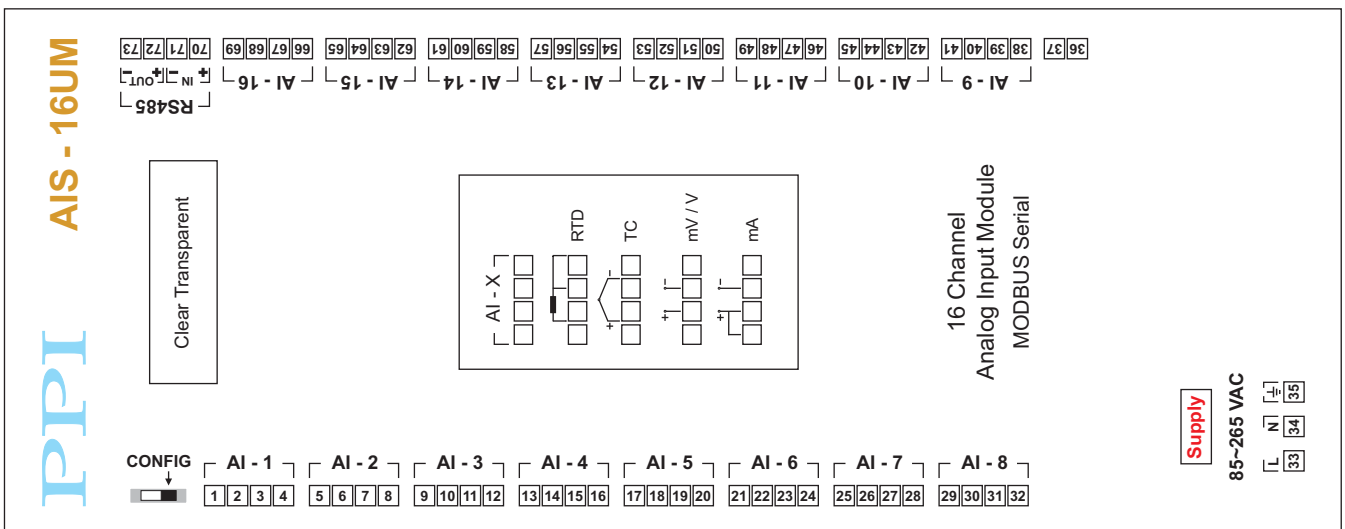
**ANALOG INTERFACE MODULE (AIS) : CONNECTION DIAGRAM**

The Electrical Connection Diagram is shown right above the terminals. The figure 14.8(a) : **AIS-8UM**, figure 14.8(b) : **AIS-16UM** shows illustrates the terminal positions on the Left, Right and Top sides of the AIS.

**Figure 14.8(a) : AIS-8UM**



**Figure 14.8(b) : AIS-16UM**





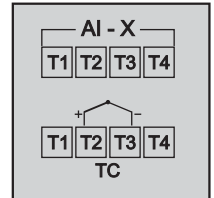
**Input Channels** (1 to 8 OR 1 to 16)

Each of the 8 or 16 input channels are identical from wiring connection viewpoint. For explanation purpose, the 4 terminals pertaining to each channel have been marked as T1, T2, T3 & T4 in the following pages. The descriptions below apply to all the channels with no deviations.

**Thermocouple**

Connect Thermocouple Positive (+) to terminal T2 and Negative (-) to terminal T3 as shown in **Figure 14.9(a)**. Use the correct type of Thermocouple extension lead wires or compensating cable for the entire distance ensuring the correct polarity throughout. Avoid joints in the cable.

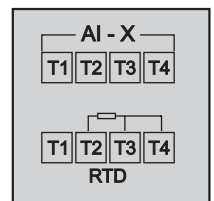
**Figure 14.9(a)**



**RTD Pt100, 3-wire**

Connect single leaded end of **RTD** bulb to terminal T2 and the double leaded ends to terminals T3 and T4 (interchangeable) as shown in **Figure 14.9(b)**. Use copper conductor leads of very low resistance ensuring that all 3 leads are of the same gauge and length. Avoid joints in the cable.

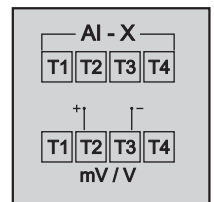
**Figure 14.9(b)**



**DC Linear Voltage (mV / V)**

Use a shielded twisted pair with the shield grounded at the signal source for connecting mA / mV / V source. Connect common (-) to terminal T3 and the signal (+) to terminal T2, as shown in **Figure 14.9(c)**.

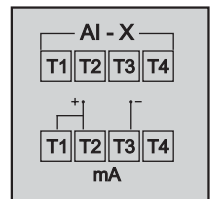
**Figure 14.9(c)**



**DC Linear Current (mA)**

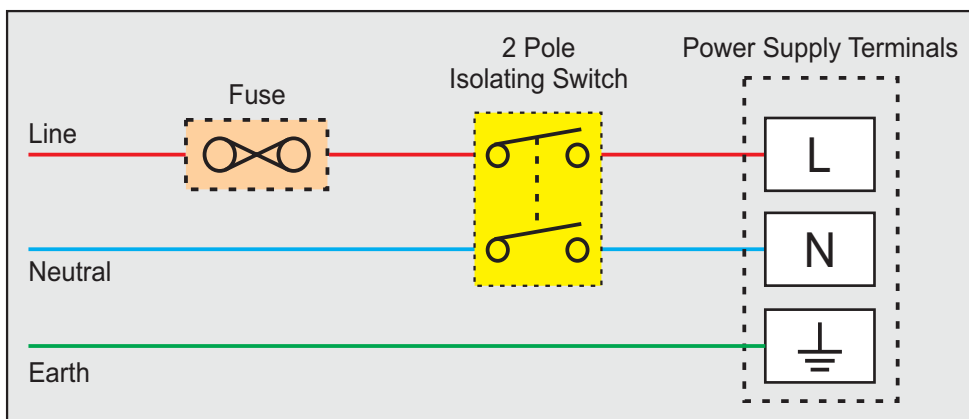
Use a shielded twisted pair with the shield grounded at the signal source for connecting mA source. Connect common (-) to terminal T3 and the signal (+) to terminal T2. Also **short** terminals T1 & T2. Refer **Figure 14.9(d)**.

**Figure 14.9(d)**



**POWER SUPPLY**

**Figure 14.10**



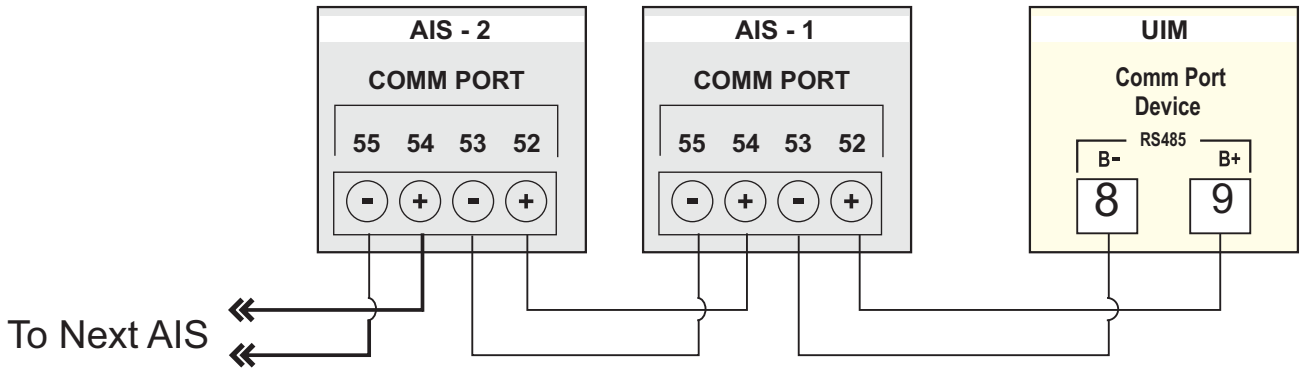
As standard, the module is supplied with power connections suited for 85 to 264 VAC line supply. Use well-insulated copper conductor wire of the size not smaller than 0.5mm<sup>2</sup> for power supply connections ensuring proper polarity as shown in Figure 1.6. The module is not provided with fuse and power switch. If necessary, mount them separately. Use a time lag fuse rated 1A @ 240 VAC.



Section 15  
**COMMUNICATION PORT FOR INTERFACING WITH AIS(S)**

Applicable only for **UNILOG PLUS**

*Figure 15.1*



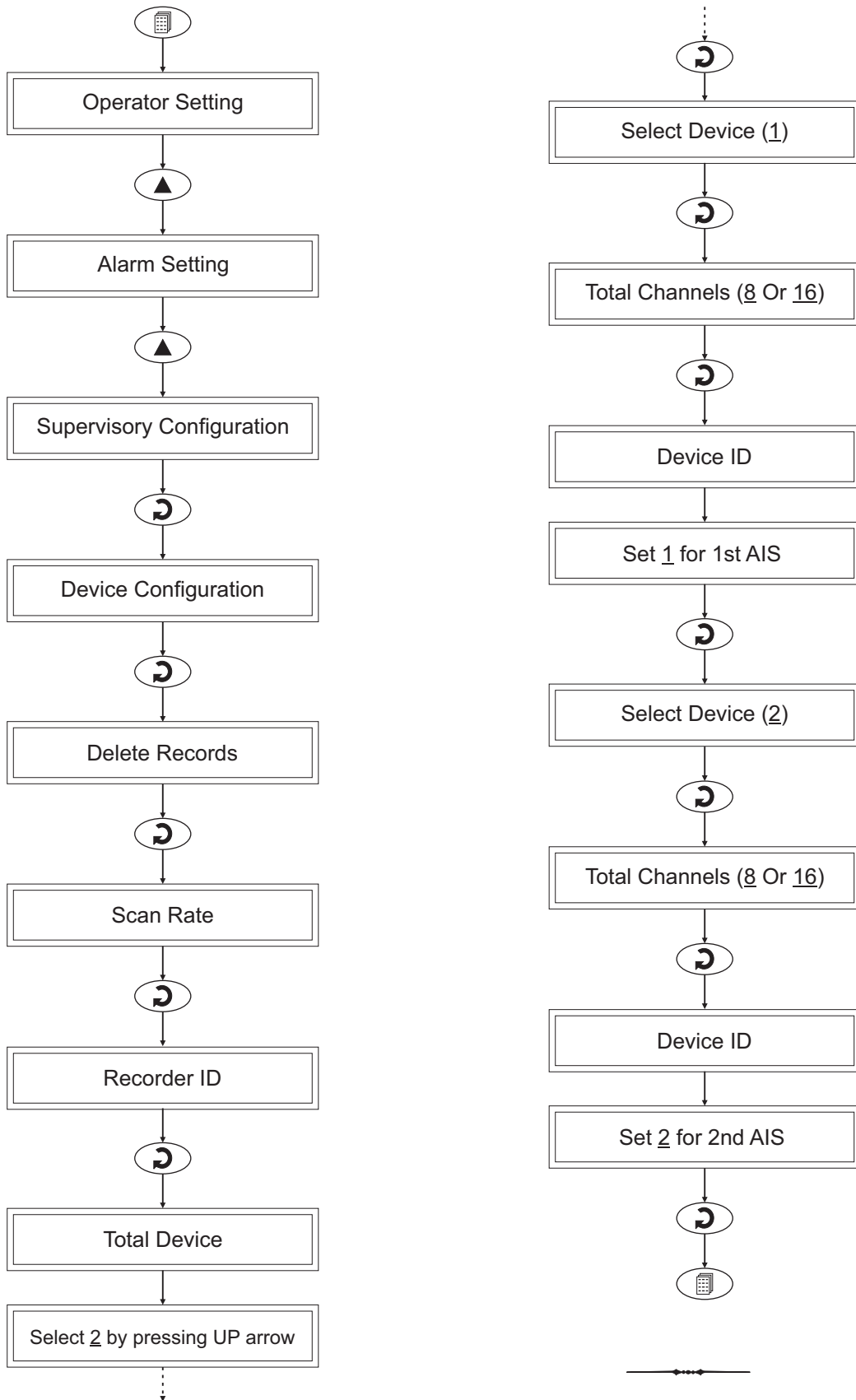
The UIM is connected to 1 or more AISs using RS485 Serial Communication Port. The wiring connections for interfacing the UIM with AIS(s) is shown in the figure 15.1.

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).

Section 15.1

**ID SETTING FOR MORE THAN 1 AIS**

Applicable only for **UNILOG PLUS**





**PPI**  
The Perfection Experts

## Process Precision Instruments

101, Diamond Industrial Estate, Navghar, Vasai Road (E),  
Dist. Palghar - 401 210. Maharashtra, India



Sales : 8208199048 / 8208141446

Support : 07498799226 / 08767395333



[sales@ppiindia.net](mailto:sales@ppiindia.net), [support@ppiindia.net](mailto:support@ppiindia.net)