SHIVAKI®
Process Control Instruments

INSTRUCTION MANUAL

TOUCH SCREEN DATA LOGGER

CONTENTS

1. WHEN YOU RECEIVE THIS INSTRUMENT...

Thank you for purchasing. Please read the instruction manual carefully and use instrument correctly.

SHIVAKI assumes no liability to any party for any loss or damage, direct or indirect, caused by the use or any unpredictable defect of the product.Cleaning of the front panel should be limited to wiping lightly with a dry cloth.

CHECKING ACCESSORY ITEMS
Check that all of the following items are present.

SERIES DL-35W unit
Mounting Clamp – 1 pair
Serial link cable between data logger/Recorder & PC
Software CD

2.INSTALLATION

2.1 Installation Location
Install the instrument in a location that meets the following criteria.
(1) Little or no mechanical vibration.
(2) No corrosive gases.
(3) Minimal temperature fluctuations and near normal temperature.
(4) Not directly subject to radiant heat.
(5) Not subject to strong electromagnetic field.
(6) No direct exposure to water.

2.2 Installation procedure

1) Prepare the panel cutout on to the panel door with size – 92mm (H) X 92mm (V)
2) Insert the rear of the instrument through the front of the prepared hole.
3) With the front bezel of the instrument held tightly against the front of the panel, position the instrument and attach the mounting clamp from rear side (inside panel) The clamp may be mounted on sideways or top-bottom in pair.
4) Tighten the clamps on both side equally. DO NOT OVERTIGHTEN THESE CLAMPS.
5) Wire up the terminals as per wiring diagram.

2.3 Mounting Dimensions

Panel Cutout:- 92 X 92 mm ; Depth 140mm
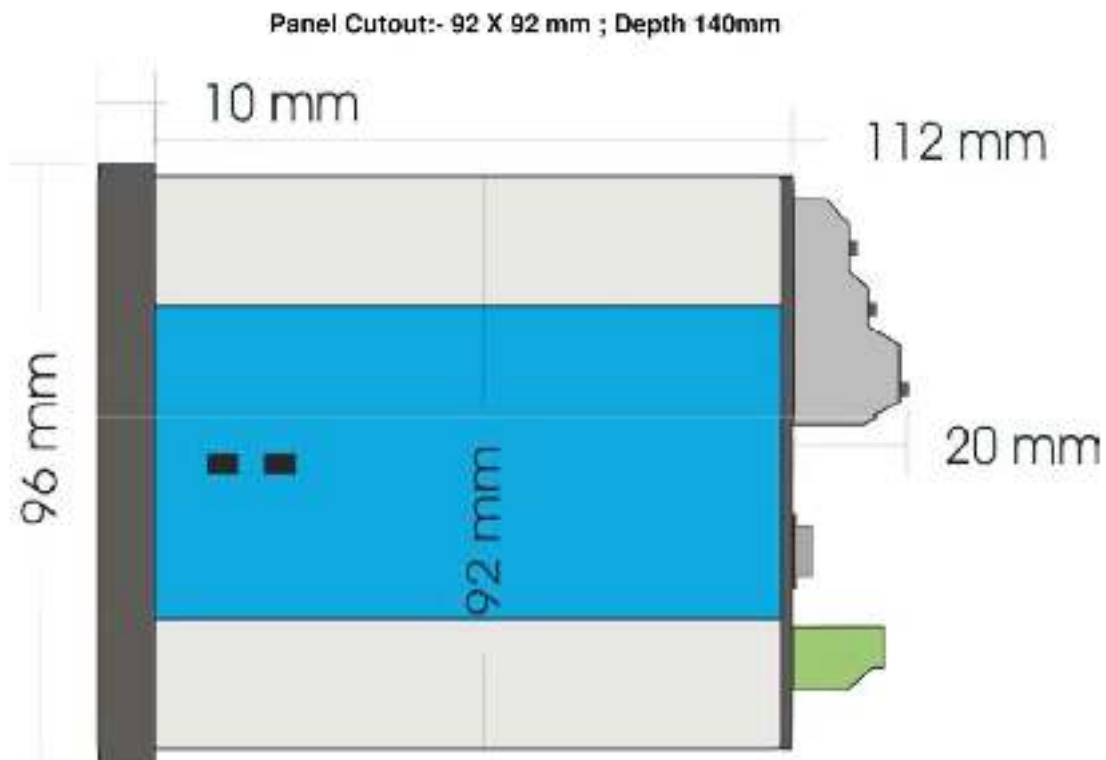
3. WIRING

Terminal Details for input signal connectors CH-1 to CH-16

As per Sticker Provided.

1 ->> (+) RTD or (-) 4-20mA/mV/T/c

2 ->> (-) RTD or (+) 4-20mA/mV/T/c

3 ->> (-) RTD or not connected –

Terminal Details for RS-232 port signal

Rx – 9 pin D Pin no - 2

Tx – 9 pin D Pin no - 3

Gnd – 9 pin D Pin no – 5

Terminal Details for Power IN

L – 230Vac Phase IN

N – 230Vac Neutral IN

E – Earth

Terminal Details for Relay contacts (5A 230Vac Resistive load only)

NC – Normally connected to Common terminal

CM – Common terminal

NO – Normally Open terminal

3.1 Wiring precautions

While wiring take the following precautions.

(1) Field wiring to the instrument, should be placed so as to avoid blocking the air flow, yet
   Provide a suitable service loop to allow easy removal of unit with wiring attached.

(2) Wires should be tied to maintain their order in the event they must be disconnected for
   any reason.

(3) For connecting the wiring to the terminals, we recommend use of crimp terminal lugs
   with Insulated sleeves.

(4) Route the input circuit wiring away as possible from the power and ground circuits to
   avoid Noise pickup.

(5) Use proper-shielded wire to avoid electromagnetic interference.

(6) Use of Auxiliary relay is recommended if load exceeds the output relay contact rating
   (230vac, 5A resistive load).

(7) For using an inductive load such as Auxiliary relay on output relay contact, use a diode
   (For DC) or an RC filter (for AC) in parallel as a surge suppressor circuit.

4. Operation

4.1 General Description

FRONT PANEL FEATURES

8 CHANNEL DATALOGGER

SHIVAKI®
Process Control Instruments

Web.:- www.shivaki.in

DIGITAL READOUTS

CH.	Readout	CH.	Readout
1			
2			
3			
4			
5			
6			
7			
8			

CONFIG   MEM. COUNT

- ✓ Capacitive touch screen display for easy handling.
- ✓ Brilliant : 3.5" Capacitive Touch Screen Display as a frontend display for optimum readability.
- ✓ USB 2.0 Port for data retrieval.
- ✓ All Channels digital readouts at a glance.

If you view the logger from the front in normal mode ON The Top Right side figure is the Date (i.e:-01/04/14) & extreme right is the time (i.e: 14:34) Then you will see the table with channel number & their corresponding value in Black color. If this value crosses high set point then the color of value shown turns to RED color, and if it falls below the low set point, it turns to Blue Color. The Bottom most value in 1 inch size shows CONFIG AND SCAN Option. Below that there is memory count, which indicates total no of reading. The logger can store Maximum 25000 readings per channel. Once the memory is full it will indicate " MEMORY COUNT" in RED color.

4.2 DISPLAY MODE SETTING

The DL-35W unit has two major display modes. Normal display mode and Individual channel display mode. In normal display mode the measured value for all the 16 channels is displayed in tabular form. The Individual channel display mode can be achieved by pressing SCAN. The channel No & its corresponding value is scrolled after every five second. In this mode the display shows the measured reading in 1 inch digital format for individual channel with its channel no. You can toggle the display to Normal display mode by pressing Home.

4.2.1 CONFIG

Observe the Digital reading display screen. Press CONFIG It shows New Screen, Give Password (Ex.0035) & Enter.

ENTER THE PASSWORD

6	7	8	9	0
1	2	3	4	5

ESC

4.2.2 SCAN

Individual channel display mode can be achieved by pressing SCAN. The channel No & its Corresponding value is scrolled after every five second. In this mode the display shows the measured reading in 1 inch digital format for individual channel with its channel no. You can toggle the display to Normal display mode by pressing Home.

DIGITAL READOUTS

CHANNEL

HOME

MEM. COUNT
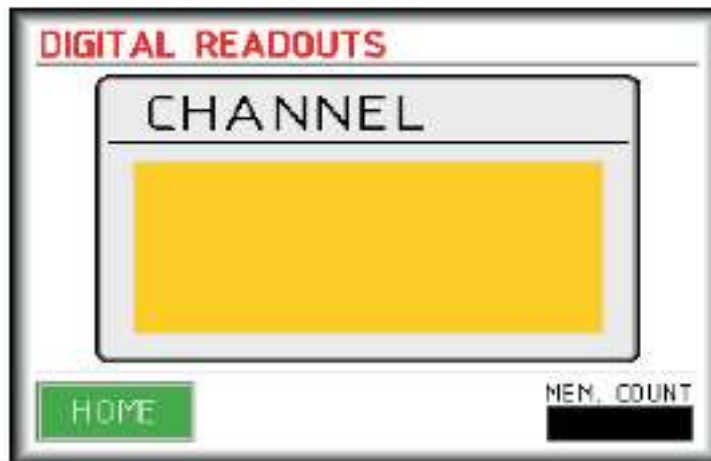
4.3 Operator Parameter Setting

Display shows new Screen the Different parameters setting Mode screen.

Parameter setting screen
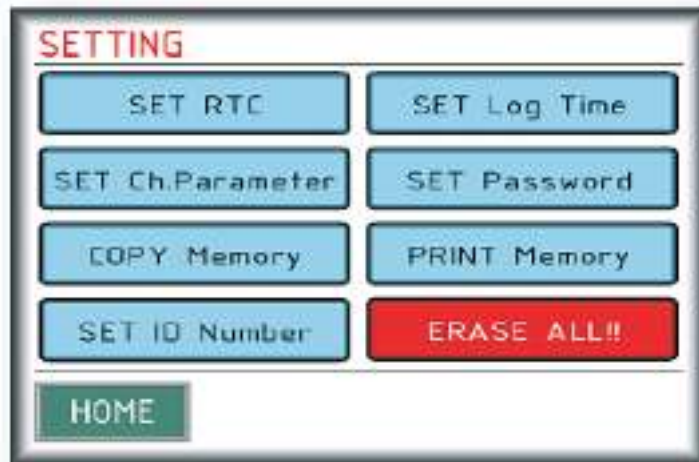
4.3.1 Set Real Time Clock

➢ Menu used to set the Real Time Clock (RTC). RTC is continuously running even after power failure. Press The Real Time Clock. The display will show New Screen "RTC TIME SETTING"Set the Time & Date. Use + & - buttons to set the desired digit value (Hour/Min/Sec). The green middle display shows the current Hour/Min/Sec value.Then Press OK Time And Date Will SET.Press Cancel For Previous Screen.
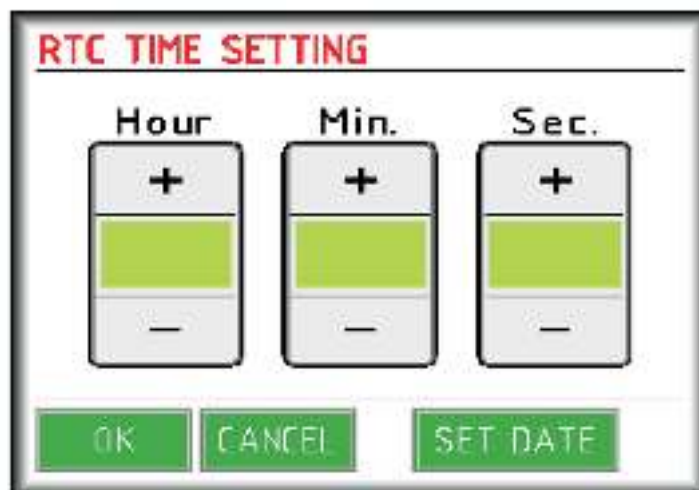
4.3.2 Set LOG Time

➤ The menu is used to set the duration of two successive readouts to be stored in memory/printouts.Press The log Time .The display will show New Screen" Log TIME SETTING "Set the Time. Use + & - buttons to set the desired digit value (Hour/Min/Sec).Then Press OK Time Will SET.Press Cancel For Previous Screen.Range is 1sec -59 sec,1Min-59 Min,1hrs -23hrs.

➤ NOTE :- Printer port is provided at the back side of the logger. Only parallel port dot matrix printer can be connected. Printing of stored data is possible through software.
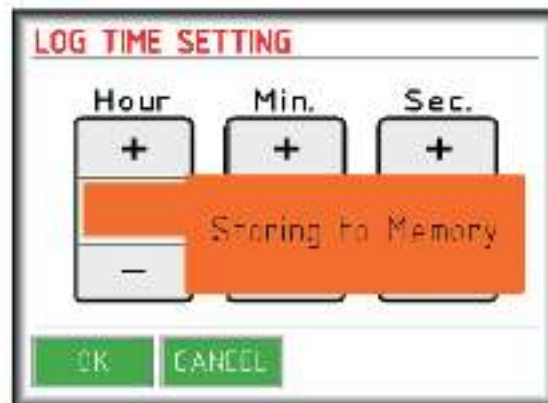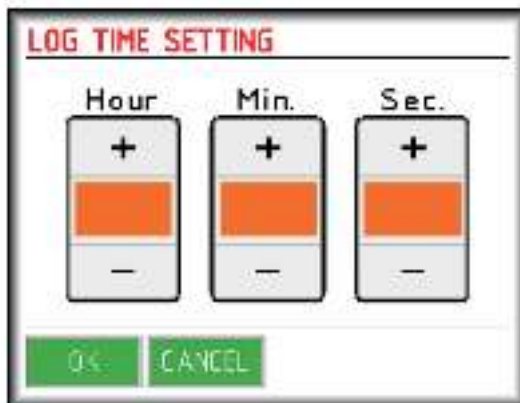
4.3.3 Set Channel Parameters
4.3.3.1 Sensor Type

Press The Channel Parameters .The display will show New Screen" CHANNEL PARAMETERS ".
➤ Use (∨) & (∧) buttons to change the input type.

➤ From this window we can set each channel independently to any of the input type.
➤ If the selected Input type is between RTD or any types of thermocouples then there is no need to set the range. But if the selected type is either 0-20 mA or 4-20 mA or 0 to 5V then Range needs to be programmed.

➤ In this parameter setting window Alarm settings also provided. Here we can set the High Alarm Limit and Low Alarm Limit. Depend on these provided values the color of readouts on main display will be changed. Black color shows normal reading which between the given alarm range. Red color of value indicates reading is out of Higher range and Blue color indicates out of Lower range. Also common relay operates (ON/OFF) action on these provided values.
➤ The Range window in parameter setting used to set the range for Input types like 0-20 mA or 4-20 mA or 0 to 5V .
➤ For setting ranges values Press the on the current value, new window appear on screen as shown below.
➤ Enter the required value and press on orange (ENT) button.
➤ Offset is provided for software calibration purpose. Also We can set the decimal point for each readings (Expect RTD).

Input which can be programmed

|	
PT100 (RTD- 3 WIRE)	RANGE: - -199.9 to + 299.9 Deg Celsius.
0-20mA	RANGE: - Settable -999 to +9999
4-20mA	RANGE: - Settable -999 to +9999
0 - 1V	RANGE: - Settable -999 to +9999

0 - 5V	RANGE: - Settable -999 to +9999
"TC- K" thermocouple	RANGE: - (-150 to +1200 Deg Celsius).
"TC- J" thermocouple	RANGE: - (-100 to +1150 Deg Celsius).
"TC- N" thermocouple	RANGE: -(-250 to +1200 Deg Celsius).
"TC- T" thermocouple	RANGE: - (-100 to +250 Deg Celsius).
"TC- S" thermocouple	RANGE: - (0 to 1500 Deg Celsius).
"TC- R" thermocouple	RANGE: - (0 to 1500 Deg Celsius).

4.3.3.2 Channel No.

➤ Use (<) & (>) buttons to change the channel numbers.
➤ Use save button to save the settings for each channel.

4.3.3.3 Offset value for input

➤ Offset is provided for software calibration purpose. Press OFFSET. The display will show New Screen. Enter Offset Value, And The offset value Will Save for Selected channel No.

| 6 | 7 | 8 | 9 | 0 | — |
| 1 | 2 | 3 | 4 | 5 | ↶ |

ESC
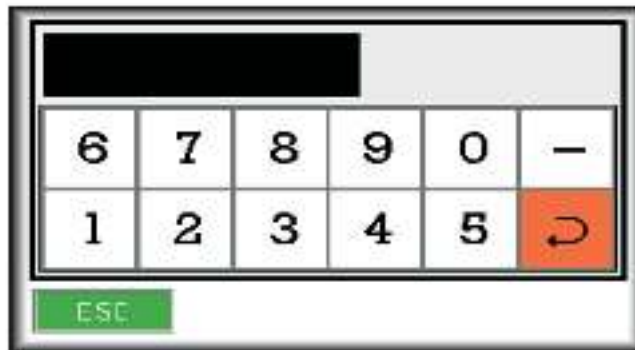
4.3.3.4 Decimal value for input

Decimal Value will be added by using touch .Particular Sensor Type Decimal Value Already Added.

4.3.3.5 Range High/LOW set point value

Each channel can be programmed for different High/Low set point values individually.

Press "High". The display will show New Screen; Enter the Value, and Press "Low". The display

Will show New Screen; Enter the Value, Particular Sensor Type Set Point Value Already

Added.

4.3.3.6 Alarm High/LOW set point value

In this parameter setting window Alarm settings also provided. Here we can set the High Alarm Limit and Low Alarm Limit. Depend on these provided values the color of readouts on main display will be changed. Black color shows normal reading which between the given alarm range. Red color t value indicates reading is out of Higher range and Blue color indicates out of Lower range. Also common relay operates (ON/OFF) action on these provided values.
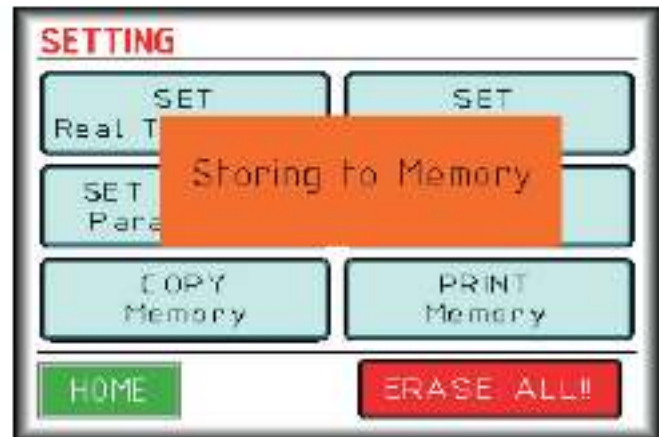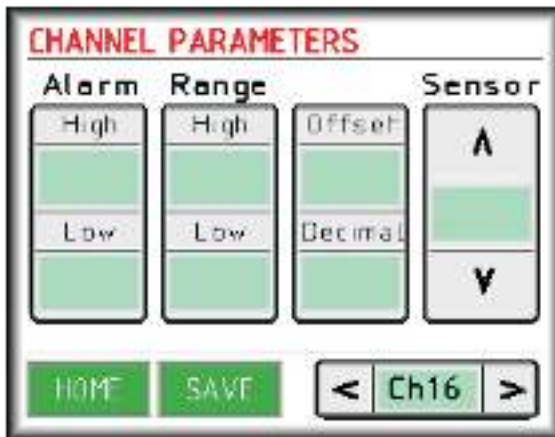
4.3.4 Set Password

The DL-35 provided with Password protection facility. First time Password is 0035, By entering this password we can change the device password. To change the password first press on SET PASSWORD button. This will ask for current password and then enter new password.
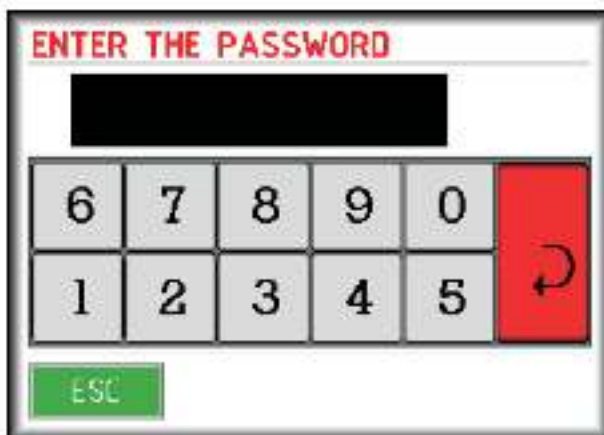
4.3.5 Copy Memory

Before Using this Option you Must Connect Pen Drive to the USB port.

The menu is used to dump all the stored data to USB device, Press Copy Memory. The display

Will show New Screen "DATA Transfer "and wait for the

Message "Detecting Pen Drive" on the Center of the same screen. Data will automatically save

The entire data stored in the memory with date, time and process value of each channel for every reading With File Name (EX.070414 dt/month/year).

If Pen drive NOT connected properly then the display will show New Screen "Pen Drive

Problem "and message Will Displayed on screen. "Pen drive not Found Connect the Pen Drive & Press OK".

> If Pen drive NOT connected properly then the display will show New Screen "Pen Drive Problem "and message Will Displayed on screen. "Pen drive not Found Connect the Pen Drive & Press OK".


4.3.6 Print Memory

Before entering this mode you must connect dot matrix Printer to the Printer port available on The back panel of the logger. The menu is used to dump all the stored data to print on the dot Matrix printer Press Print Memory. The display will show New Screen "Memory Print "and wait For the Message "Printing" on the Center of the same screen. Data Will automatically print the Entire data stored in the memory with date time and process value of each channel for every reading.

4.3.7 ERASE ALL

In Erase mode the data stored in the memory get erased. To select Erase mode, press ERASE ALL button which is available in Parameter Settings. Press button is will ask for . Then data stored in memory will get erased.
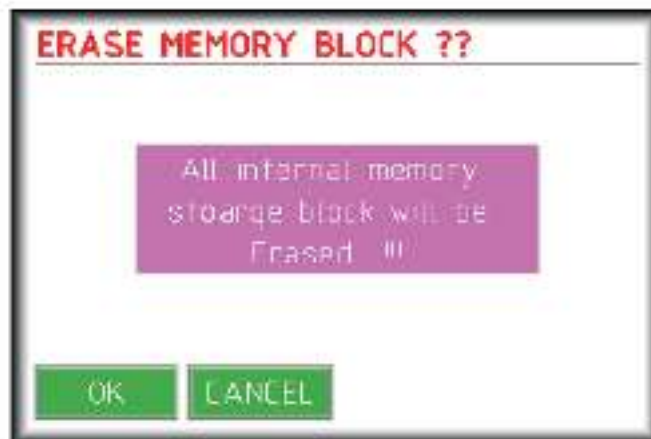
5. MAINTENANCE
Basic troubleshooting procedure

The following questions should be asked & appropriate action is to be taken to the negative answers. All major corrective action can be accomplished by replacing the basic unit. No special tools are required except screwdriver & multimeter.

1) When you switching ON the unit check whether the display is showing anything? If yes then go for step 2 & if not check for the power input connections, check whether the unit is getting proper supply at proper terminals. Connecting the supply to the wrong terminals may dam-age the unit permanently.

2) Check, is the display showing actual value properly. If yes follow step 3, if not check the sensor

input. check whether the sensor or input is connected at proper terminals in proper way (+ve & -ve polarity).
3) After connecting the sensor if the actual value shown is not proper then check the calibration is correct according to the calibration constant table.

6. Installation of Software

Insert the CD in the CD drive.
- Click on the START box available on the Extreme down left hand side of the computer.
- Go to Setting Control Panel Regional setting & click on that.
- Go to Customize Regional optional Short date format.
- Set the short date format as **dd/MM/yyyy** only.
- Click on apply & again click on OK button & come out from control panel to main menu.
- Go to My Computer My Disc (F:)).
- Double Click on the Setup icon. Now the software will start loading. After completion of the setup.
- Go to Start Programs Das10.4S DAS 10.4S.
- Click on that, it will ask for user name & password. User name & Password is "**admin**"(In small letters only).
- Go to MAIN MENU & go to Port Setting.
- Set the port & Baud rate (Which is given on CD) & click on Store.
- Go to Data Read.
- This completes the software installation.