

Sanket Digital Signal Conditioner

USER'S MANUAL



Read the user's manual carefully before starting to use the unit or software.
Producer reserves the right to implement changes without prior notice.

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1. Safety / Proper Usage

- Don't use sharp edge tools/equipment on touch screen
- In order to minimize fire or electric shock hazard, the unit must be protected against atmospheric precipitation and excessive humidity.
- Do not use the unit in areas threatened with excessive shocks, vibrations, dust, humidity, corrosive gasses and oils.
- Do not use the unit in areas where there is risk of explosions.
- Do not use the unit in areas with significant temperature variations, exposure to condensation or ice.
- Do not use the unit in areas exposed to direct sunlight.
- Make sure that the ambient temperature (e.g. inside the control box) does not exceed the recommended values. In such cases forced cooling of the unit must be considered (e.g. by using a ventilator).
- Do not attempt to disassemble, repair or modify the unit yourself. The unit has no user serviceable parts. Defective units must be disconnected and submitted for repairs at an authorized service centre
- In an environment with a high amount of moisture or humidity, create a drip loop on the cable to prevent any water from flowing into the sensor.

2. Warning

The indicator must not be modified from the design or safety engineering point of view except with our express agreement. Any modification shall exclude all liability on our part for any damage resulting there from.

3. Product Description



Touch screen display

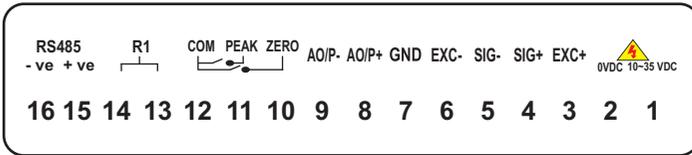
Silicon Cover



Din Rail Mounting Clamp

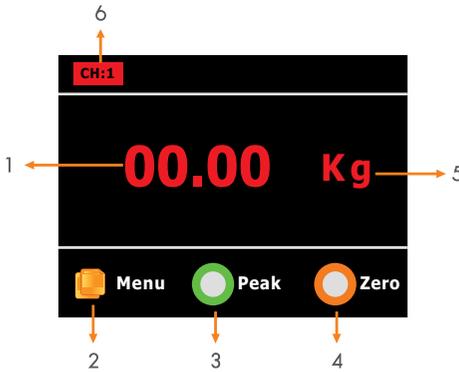
Termination

4. Pin Configuration



5. Screen Setting

Home Screen



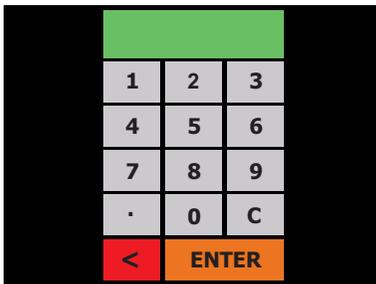
S.No	Parameters	Description
1	Display Reading	The current display of sensor reading. See Section for details.
2	Menu	Navigate to Input Output Engineering Setting Calibration
3	Peak	Displays only max. value when enabled Peak Enabled - Button Red Color Peak Disabled - Button Green Color
4	Zero	When enabled the current value is zeroed
5	Units	Selected Unit Display
6	Alarm Channel	Displays the status of alarm channel Red - Disabled Green - Enabled

Note: kindly touch icon for navigation to following screen.

6. Icon Description

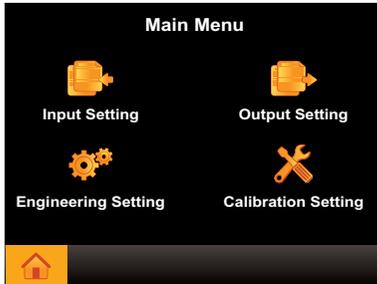
Icons	Description
	Home Button - Navigate to Home Screen
	Forward - Navigate to Next Screen
	Backward - Navigate to Previous Screen
	Backward - Navigate to Previous Screen
	Save Button - To Save the Settings

Numeric Screen



This screen will pop up for numerical data entry.

7. Main Menu

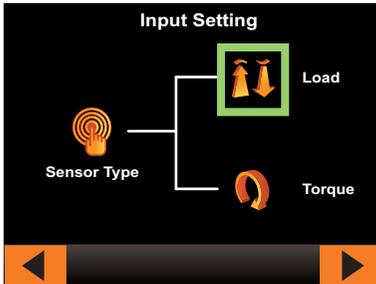


Main menu consists

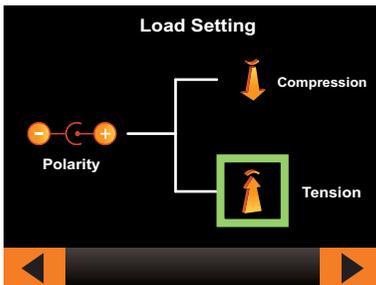
1. Input setting
2. Output setting
3. Engineering setting
4. Calibration setting

8. Input Setting

Sensor Type Selection



Load Setting

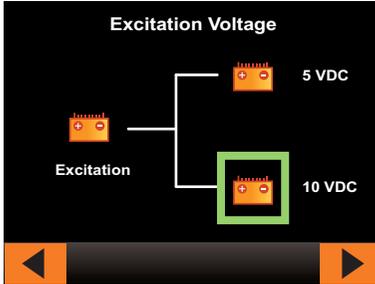


Compression - unipolar

Tension - Bi-polar

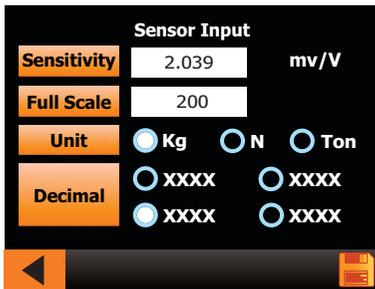
8. Input Setting

Excitation Voltage



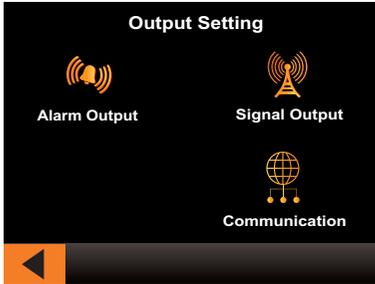
Select the recommended excitation as specified in sensor datasheet.

Sensor Input



- Enter sensitivity of sensor as mentioned in datasheet.
- Enter full scale of sensor to be measured.
- Select the unit to be displayed of sensor (unit conversion not available)
- Select the appropriate decimal point.
- Save the setting.

9. Output Setting



12.1 Alarm Output Setting

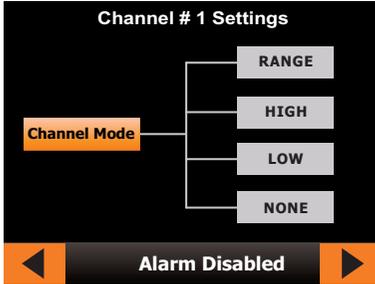
Alarm output consists of four channels in which conditions can be set and trigger the relay output accordingly.

12.1.1 Channel Navigation Screen



9. Output Setting

12.1.2 Channel Setting Screen



12.1.3 Range Setting

Energize (or) De-energize relay between two set conditions



Output logic - select **HIGH** for energizing the relay between the set values. Till then the relay will be de -energized.

Select **LOW** for de - energizing the relay between the set values. Till then the relay will be energized.

Low range - Enter the low range value

High range - Enter the high range value

After entering data select save button upon which "**Alarm data stored**". Once saved, it will be navigated to alarm channel selection screen.

9. Output Setting

12.1.4 High Setting

Energize (or) De-energize relay output greater than the given value.



Output logic - select **HIGH** for energizing the relay after the values. Till then the relay will be de - energized.

Select **LOW** for de - energizing the relay after the values. Till then the relay will be energized.

High range - Enter the high range value

After entering data select save button upon which "**Alarm data stored**". Once saved, it will be navigated to alarm channel selection screen.

9. Output Setting

12.1.5 Low Setting

Energize (or) De-energize relay output lesser than the given value.



Output logic - select **HIGH** for energizing the relay below the values. Till then the relay will be de - energized.

Select **LOW** for de - energizing the relay below the values. Till then the relay will be energized.

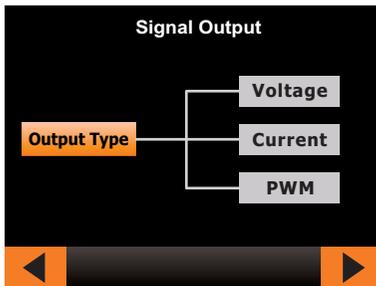
Low range - Enter the low range value

After entering data select save button upon which "**Alarm data stored**". Once saved, it will be navigated to alarm channel selection screen.

9. Output Setting

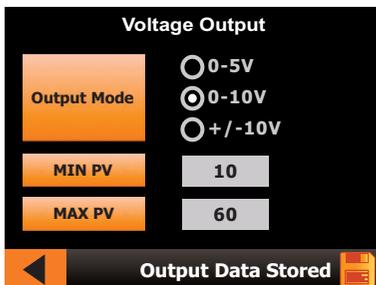
12.2 Signal Output

Select type of analog output required for your process/application.



12.2.1 Voltage Setting

The voltage will be scaled between minimum process value and maximum process value



Output mode - Select the required output voltage for your process.

Min PV- Enter minimum process value

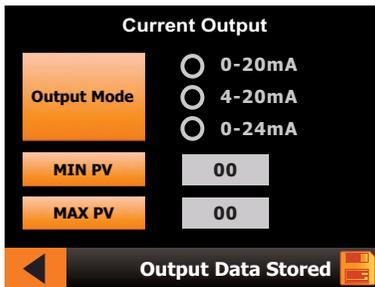
Max PV - Enter maximum process value

After entering data select save button upon which "Output data stored". Once saved, it will be navigated to output setting screen.

9. Output Setting

12.2.2 Current Setting

The current will be scaled between minimum process value and maximum process value



Output mode - Select the required current output for your process.

Min PV- Enter minimum process value

Max PV - Enter maximum process value

After entering data select save button upon which "**Output data stored**". Once saved, it will be navigated to output setting screen.

After entering data select save button upon which "**Output data stored**". Once saved, it will be navigated to output setting screen.

9. Output Setting

12.3 Communication

Communication Setting

DEVICE ID

MODE RS232 RS485

BAUD 9600 19200
 56000 115200

 **Output Data Stored** 

Enter device ID

Select type of communication

Select baud rate based on the device connected to koal touch.

After entering data select save button upon which "Com data stored".

10. Engineering Settings

Engineering Setting	
Multiplication Factor	00
Input Sampling/Sec	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 4 <input type="radio"/> 8 <input type="radio"/> 16 <input type="radio"/> 32
Display Update/Sec	<input type="radio"/> 1 <input type="radio"/> 2 <input type="radio"/> 4 <input type="radio"/> 8 <input type="radio"/> 16 <input type="radio"/> 32
◀ Eng Data Stored ▶	

Enter multiplication factor to be multiplied with calibrated value

Input sampling/sec - Select options for required samples to be read by the indicator.

Display update/sec - Select options for how many times the display has to be updated.

After entering data select save button upon which “Eng data stored”.

11. Calibration Procedure

11.1. Actual load calibration

1. Select the master load cell capacity higher than the load cell to be calibrated
2. Connect both the load cells to their respective signal conditioner
3. Place the master in the calibration fixture
4. Without any inclination, place the slave above the master with proper fixture.
5. Check both master and slave conditioner at no load condition, if it shows any value make it zero by press zero button.

For example:

Max capacity of load cell = 100 kg

Max output = 10 volt

80% of full load = 80 kg

Corresponding output = 8 volt

6. So apply 80 kg in both the load cells and compare the output values.
7. Enter cal value and press cal set to equalize with master value.
8. Repeat the steps 5 to 7 for two or three times, If there are any deviation with master output.
9. Compare the output for different loads and the difference in outputs are its error.

11. Calibration Procedure

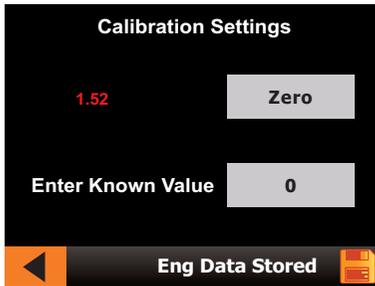
11.2. Sensitivity Based Calibration

Enter sensitivity value in input settings as per in calibration certificate else request manufacturer for exact sensitivity for rated load.

Press Save 

12. Calibration Settings

Calibration setting



Physically load sensor with known load and enter the known value.

After entering data select save button upon which "calibration data stores".