



Embedded System Laboratories Pvt. Ltd.

(An ISO 9001:2008 certified company)



Model No.- 0401-4001 Combo Indicator for Load and Elongation Manual

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INTRODUCTION

Embedded System Laboratories Pvt. Ltd. is a company which is involved in developments and manufacturing in the field of Embedded Systems and miscellaneous Sensors/Transducers.

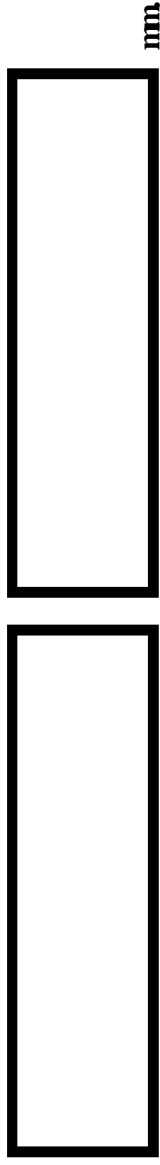
The company activities includes to serve the laboratories which are involved in Quality Controls either in measurments of various parameters or developing other process controls for the same.

Company's product includes Load cell, Pressure Transducer and their Indicators & Controller, SMS enabled security systems & Process Control Systems

All the devices of the company are designed for a user friendly operation. Special attention is given to the software for the devices to set the various parameters at the user end if they want to change any, like Calibration, Limits, other setting, of the device etc.

Providing high quality on low price.

DIGITAL INDICATOR



mm

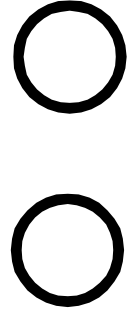
Autostop ON kg

OFF

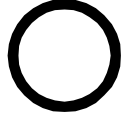


ON

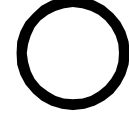
Setup Select



Shift



Inc.



kg.



N

Load

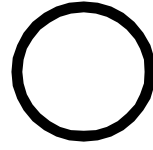
Reset

Peak

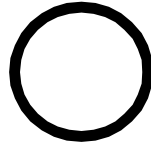
Hold

FRONT PANEL

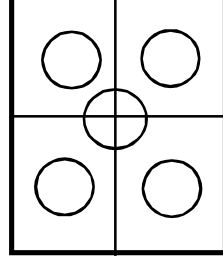
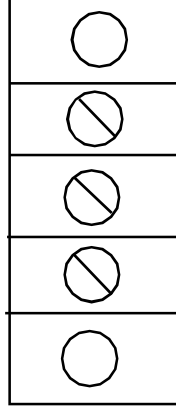
Load Cell



Encoder



NC C NO



220V 50Hz

BACK PANEL

'PEAK HOLD'

To see the maximum value of load you have to '**ON**' the Peak Hold Switch. Indicator will hold the peak value even after removing the load. To reset for next cycle you have to press the reset key. Even if you have taken the previous test in normal mode (i.e. PEAK HOLD OFF), making the switch ON will show the peak value of the previous test.

Entering 'SETUP'

Press **setup** key for 3-5 sec.. '**PASS**' will appear on the screen then '0000' value will appear. Use '**Shift & Inc.**' keys to enter password and then press select key. If password matched '**1. O.L.**' will appear, otherwise you will again asked for the password. If you don't know the password, simply **Switch OFF** the device.

Note : The default password is 1234.

Changing 'OverLoad' Point

While you go in setup, after entering the password, it will automatically go to '**1. O.L.**' menu option. Again after 2 sec. the O.Load preset value will appear on display. Use **shift & inc.** keys to change the value or / then go to next option ie., '**Calibration Setting**' by pressing the select key again.

Changing Calibration

There are two methods of calibration ie.,

1. by putting the known load on load cell.

when you select the 2nd menu option from the **select** key, '**2 CAL.**' will appear on display. The display message will be changed within two seconds to '**SET 0**'. Now remove the load from the loadcell (although the load/weight of PAN will not be counted), if any, & press **inc.** key to read the zero load value. '**PUT L.**' will appear on display to indicate you to put a known load on the load cell. Now put some known load (25%-75% of the load cell capacity, for better results) on the load cell. Wait for at least 30 sec. to stabilize the load then press **inc.** key to read known load value. '**SET L.**' will appear on display. Again after 2 sec. set load preset value will appear on the display. Remove the known load from the load cell. Use **shift & inc.** keys to set the value equal to the value of the known load you have putted on the load cell and press **select** key to go to next option ie., the dot point setting.

2. by changing the known load value for the previous calibration.

when you select the 2nd menu option from the **select** key, '**2 CAL.**' will appear on display. The display message will be changed within two seconds to '**SET 0**'. Now press **shift** key to skip this option. '**SET L.**' will appear on display. Again after 2 sec. set load preset value will appear on the display. Use **shift & inc.** keys to set the value equal to the value of the known load you have putted earlier on the load cell or multiply / divide the value as per your requirement and press **select** key to go to next option ie., the dot point setting.

Changing 'DOT' Point

The third menu option is '**3 DOT**' ie., dot (decimal) point setting. After 2 sec. the Dot preset value will appear on display. Use **inc.** key to change the value or / then go to next option ie., Least Count Setting by pressing the **select** key again.

Changing 'Least Count' Setting

The fourth menu option is '**4 L.C.**' ie., Least Count setting. After 2 sec. the LC preset value will appear on display. Use **shift & inc.** keys to change the value or / then go to next option ie., Swap Flag Setting by pressing the **select** key again.

Changing 'Swap Flag' Setting

The fifth menu option is '**5 SF**' ie., Swap Flag setting. After 2 sec. the S.F. preset value will appear on display. Use **inc.** key to change the value(0=normal, 1=swap). To go to next option ie., Sign Status Setting by pressing the **select** key again.

Changing 'Sign Status' Setting

The sixth menu option is '**6 SS**' ie., Sign Status setting. After 2 sec. the SS preset value will appear on display. Use **inc.** key to change the value (0=no sign, 1=show sign, 2=T for tension, C for compression). To save and exit setup values by pressing the **select** key again.

Changing Password & Elongation Calibration

Changing 'Password'

While the indicator shows the preset value of '**1. O.L.**' option of load, simply press 'Setup' key to enter in 'Password & Elongation Calibration Setup'. It will show 'PASS' on the Elongation Display. After a short time current password value will appear on the display. Use 'Shift & Inc.' keys to change password. Press 'Select' key to go to next menu option i.e. '**1. O.D.**' menu option.

Changing 'OverDisplacement' Point

It will automatically go to '**1. O.D.**' menu option. Again after 2 sec. the O.Load preset value will appear on display. Use **shift & inc.** keys to change the value or / then go to next option ie., Calibration Setting by pressing the select key again.

Changing Calibration

There are two methods of calibration i.e.,

1. by putting the known displacement on encoder.

When you select the 2nd menu option from the select key '2. CAL'. will appear on display. The display message will be changed within two seconds to 'SET 0'. Now mark the slide position of your machine 'Zero' with the help of a pencil and press 'Inc' button. 'PUT D' will appear on the screen. Move your slide downwards (so that encoder should generate pulses) and then stop. Again mark the slide's new position with pencil and press 'Inc' button. 'SET D' will appear on display. After two sec. the preset value of displacement will appear. Measure the gap on two marks of pencil with the help of a vernier calipers and enter this value with help of 'Shift & Inc.' keys Press select key to go to next menu option i.e. 'DOT POINT SETTING'.

2. by changing the known displacement value for the previous calibration.

when you select the 2nd menu option from the select key, '2 CAL.' will appear on display. The display message will be changed within two seconds to 'SET 0'. Now press **shift** key to skip this option. 'SET D.' will appear on display. Again after 2 sec. set displacement preset value will appear on the display. Use **shift & inc.** keys to set the value equal to the value of the known displacement you have putted earlier multiply / divide the value as per your requirement and press **select** key to go to next option i.e., the dot point setting.

Changing 'DOT' Point

The third menu option is '3 DOT' i.e., dot (decimal) point setting. After 2 sec. the Dot preset value will appear on display. Use **inc.** key to change the value or / then go to next option i.e., Least Count Setting by pressing the **select** key again.

Changing 'Least Count' Setting

The fourth menu option is '4 L.C.' i.e., Least Count setting. After 2 sec. the LC preset value will appear on display. Use **shift & inc.** keys to change the value or / then save and exit setup values by pressing the **select** key again.

Hardware Reset/Default

- Reset Loadcell (kg.) : Set Load cell selection switch to kg. position. Press Setup & Inc. and switch ON the device. Enter password & press select button.
- Reset Loadcell (N) .: Set Load cell selection switch to N position. Press Setup & Inc. and switch ON the device. Enter password & press select button.
- Reset Elongation (mm) : Press Setup and Shift switch and switch ON the device. Enter password & press select button.

Note : Each hardware reset / default will ask for the password followed by the select key.

Reset Password

To reset the password set kg./ N selection switch to N position & Peakhold ON. Press Select & Shift keys and switch ON the device. "PASS" will appear, press "INC." The default password 1234 will be the new password.

ADC Values / Encoder Values

Switch off the device, press setup key and switch on the device. The device will show the ADC values and Encoder values until you press Load reset key. If you are using a model having calibration lock you should make the lock open with its key.

Calibration Preparation

Before doing the calibration test please check that the load cell should be connected with the device in such a way that on loading the weight on the load cell, ADC value should rise up. Otherwise you may face fixed zero error ie., after calibration reading will be fixed at zero even if you rise the load on the load cell. Swap the load cell signal wires and re-calibrate.

Please check that on rotation of Encoder Encoder value should rise up. Swap Ch.A & Ch.B wires if Encoder values decreases.

Connection details for Load cell and Encoder

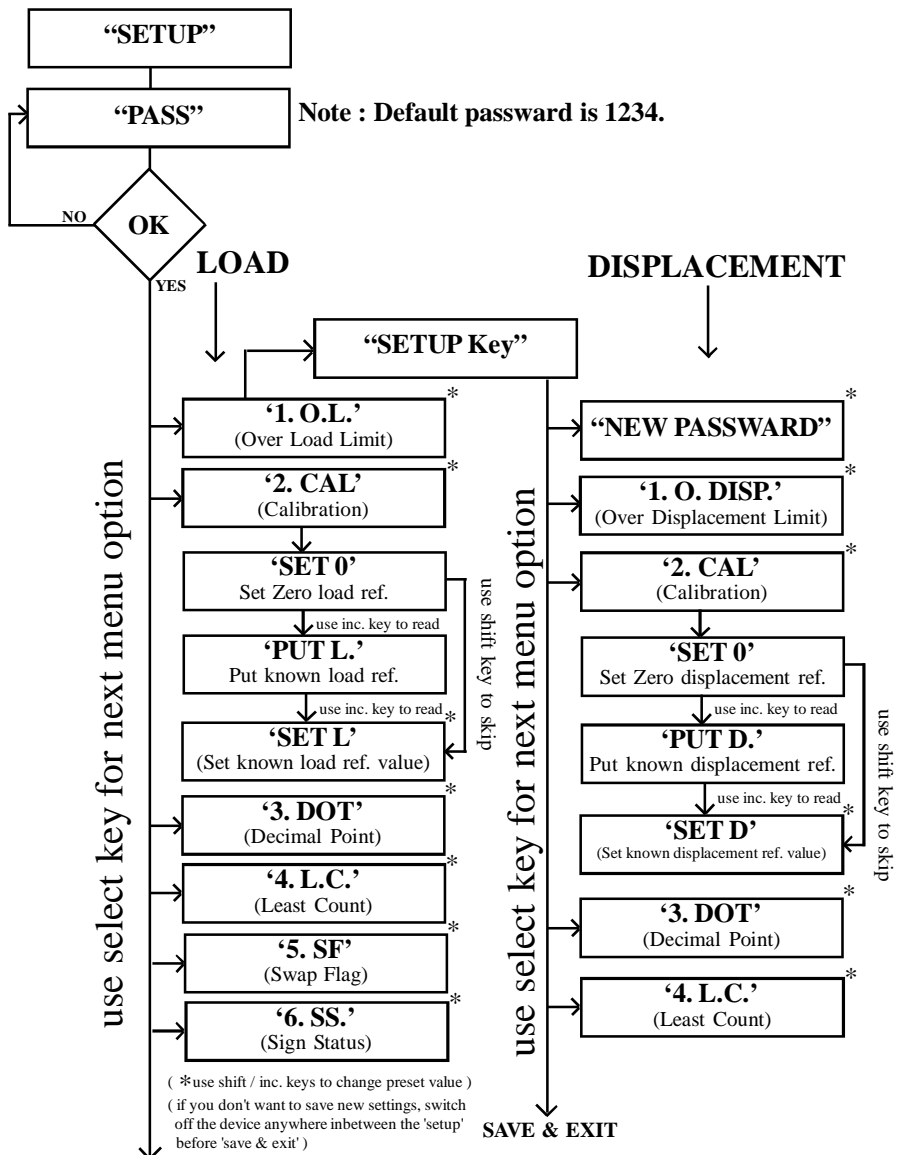
5 PIN ROUND CONNECTOR FOR LOAD CELL

Pin No. 1 - -Ve
Pin No. 2 - +Ve
Pin No. 3 - Shield
Pin No. 4 - -Ve Signal
Pin No. 5 - +Ve Signal

4 PIN FUGI CONNECTOR FOR ENCODER

Pin No.1 - +ve
Pin No.2 - 0v (Ground)
Pin No.3 - Ch-A
Pin No.4 - Ch-B

SETUP



NOTE :-

- SF :- (Swap Flag)
To swap the sign.
- SS :- (Show Sign)
0=Disable
1=Enable
2=T for tension, C for compression