

LOAD INDICATOR (LI-16-P)

The LI-16-P is a high precision Load Indicator. It comes in a handy package with a minimalist keyboard for simple operation. The Load Cell is to be installed separately. The basic package consists of a signal conditioning board, analog to digital converter which can measure signals up to 16 bit precision, an EEPROM to store variables and a microcontroller to manage all the components.

SAFETY PRECAUTIONS

Care should be taken to ensure that the load cell is not over-loaded, otherwise it could be damaged irreparably.

POWER SUPPLY

The LI-16-P operates on a 220V, 50 Hz AC Supply.

OPERATING CONTROLS

1. ON/OFF SWITCH

This switch controls the main supply to the instrument. It is located on back of the main housing.

2. FUSE HOLDER

Located next to the ON/OFF Switch, it protects the motor from damage in case of a fault.

3. LCD DISPLAY

This 16-Bit Alpha-Numeric Display is used for indication and setting parameters for the machine.

4. KEYBOARD

The Keyboard has 4 soft keys, the function of which is defined below:

- | | |
|-----------------|--|
| TARE Key: | Resets the initial reading to zero. |
| UNIT Key: | Changes the measurement unit. The device supports the following units Kg, lbs, N (Newton). |
| PEAK Key: | Shows the Peak force measured during the current test. |
| PEAK CLEAR Key: | Resets the peak value to the current force. |

OPERATING PROCEDURE

To start the device, press the BLACK power button on the side of the panel. The device boots up in about 1 second and displays the force it is reading. To reset the initial reading to zero press the TARE Button. If you wish to change the measurement unit, press the UNIT button.

Once ON it continuously shows the current force reading. In any experiment to view the peak force, press the PEAK Key. Press the PEAK CLEAR Key before starting the next experiment to reset the Peak Value.

MAINTENANCE

The LI-16-P by itself does not need any maintenance. The Load Cell provided with it however, needs to be calibrated as per the duration specified in the calibration certificate. Typically calibration certificates are valid for one year.

GUARANTEE

The LI-16-P is sold with a guarantee for a period of 12 months. This covers free repairs for any manufacturing defects. The guarantee is void in case of physical damage or attempted repairs from the customer end. The instrument must be sent to our facility to for repair works.

SPECIFICATIONS

Model:	LI-16-P
Display:	16-Bit Alphanumeric Backlit LCD
Control Keys:	TARE, UNIT, FORCE/PEAK, PEAK CLEAR
Power Supply:	230V AC, 50 Hz
Size:	96 mm * 96 mm * 150 mm (L *W *H)
Weight:	1.5Kg approx.
Accuracy:	+/- 0.5% FSD
Resolution:	16-Bit

MODEL VARIATIONS

LI-16-P-2R

This variation consists of 2 programmable relays outputs. One relay is used for low side alarming and the other for high side alarming. Each alarm limit is accompanied by a small dead band to avoid chattering near the alarm value. It also has a provision for entering time delay for alarms.

Refer to the below values and graph to understand the working of the alarm relays.

High Alarm Value:	10.1 Kgs
High Alarm Dead-band:	0.2 Kgs
Low Alarm Value:	7.0 Kgs
Low Alarm Dead-band:	0.1 Kgs
Alarm Timer:	2 sec

Once the force value reaches 10.1 Kgs a timer is started. If the value remains above 10.1 for 2 sec the alarm is set and high side relay is activated. The high dead band is 0.2, so the relay deactivates only after the force value goes below 9.9 (10.1 - 0.2). On the low side when the value goes below 7.0 Kgs after a delay of 2 sec the low side relay is activated. In this case the dead band is 0.1, so when the value goes above 7.1 the relay is deactivated.

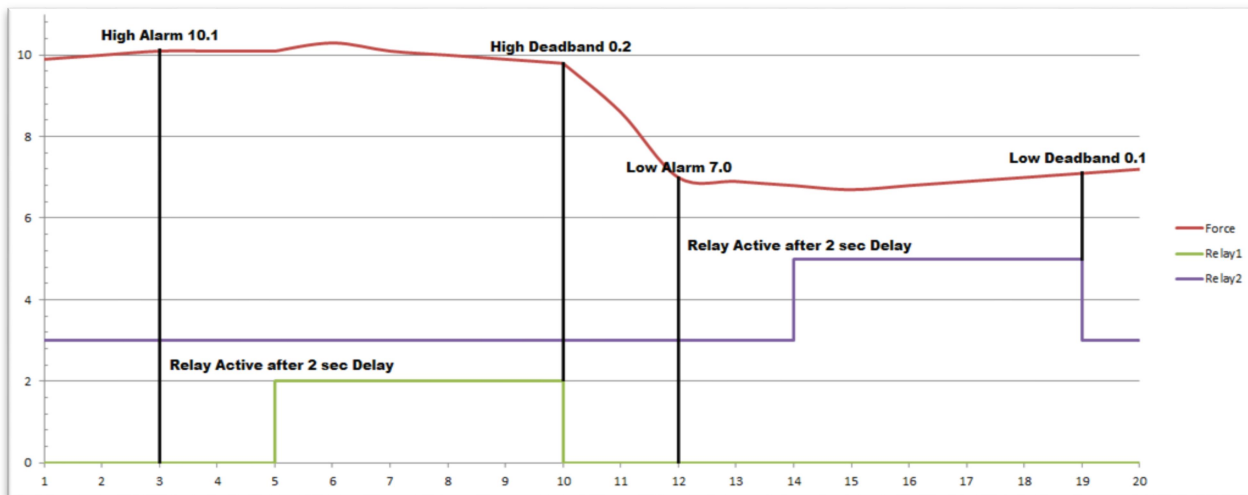


Figure 1: Relay Operation

The LI-16-P-2R option has two additional indicator LEDs to show the current state of the Relays. When the Relays are ON, the LEDs are ON.

LI-16-P-4R

This model is similar to LI-16-P-2R, except it has 4 relay outputs. Two relays are used for high side alarms while the other two are used for low side alarms. It also has 4 corresponding LEDs indicating the status of each alarm.

LI-16-P-W

This model is same as the LI-16-P but additionally it has wireless capability. It is designed for use in areas where having a complete system is difficult or in areas which are hard to reach. The Load cell and signal conditioning unit and wireless transmitter are housed in a box which is battery powered. The battery can last up-to 24 hours when in use of continuous operation. The keypad and display are housed in a separate box which is mains powered and accessible to the user easily.

CONTACT INFORMATION

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