LC-4001-G120

SINGLE POINT BEAM LOAD CELL

SET-UP MANUAL

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SINGLE POINT BEAM LOAD CELL

A&D Company, Limited

1. INTRODUCTION

The LC4001-G120 is high-precision, highly sensitive load cell that provides optimum performance when used in the measurement of micro forces through proper installation and operation.

2. REMOVING THE TRANSPORT STOPPER

The transport stopper is attached to the load cell when shipped from the factory.

Remove the stopper before using the load cell. At this time, do not apply a load to the load cell. (See Figure 1.)

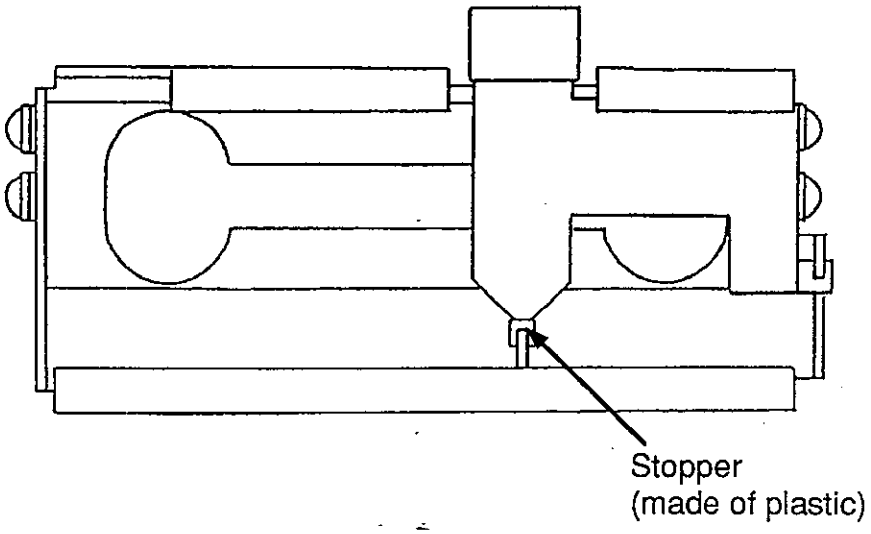

Figure 1: Pull out the stopper with cutting plier or a similar tool.

3. FIXING THE LOAD CELL

(1) Set up the load cell on a rigid surface that will no slant or curve under normal operating conditions.

(2) To set up the load cell, use M4 screws. Do not drive the screws more than 10 mm into the load cell.

(3) When fixing the load cell, the clamping torque should not exceed 10 kg/cm.

Caution:
The load cell is housed in a case equipped with various types of adjusted stoppers. Therefore, **do not remove the load cell from the case.**

4. CONNECTING THE LOAD CELL TO THE WEIGHING INDICATOR

(1) Because of a flexible printed circuit (FPC) is built into the load cell, use the supplied FPC connector to connect the load cell to the weighing indicator.

(Connector: JD:230-05-30-334 or 230-05-30-334 by Mitsumi Shinchi)

(2) Since the FPC is weak in terms of mechanical strength and bends easily, secure the FPC connector on the base board.

(See Figure 2.)

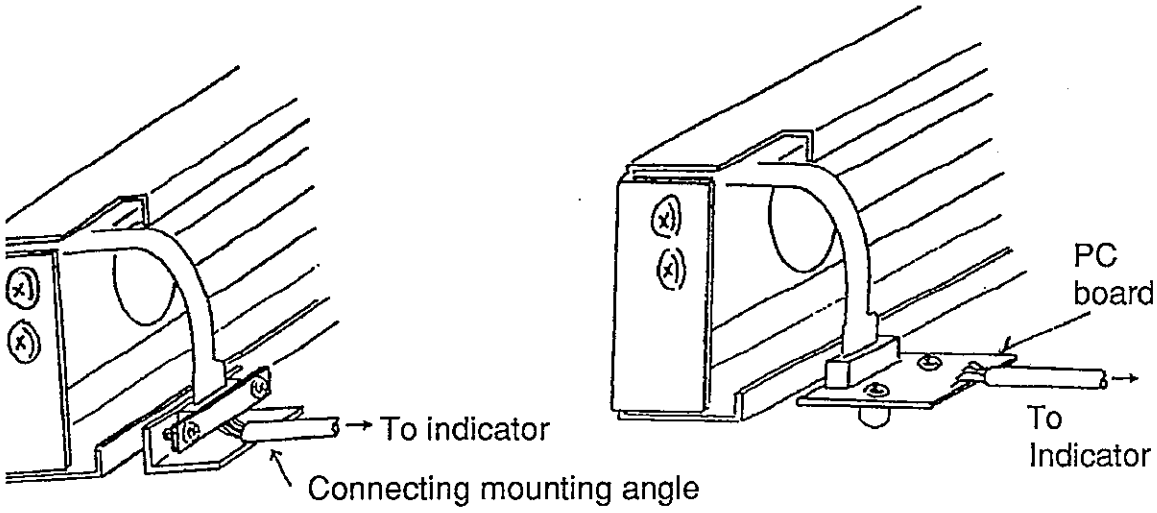

Figure 2

(3) The pin arrangement of the FPC connector is shown in Figure 3.

Pin arrangement
1. Excitation : -
2. Signal : -
3. Excitation : +
4. Signal : +
5. No connection

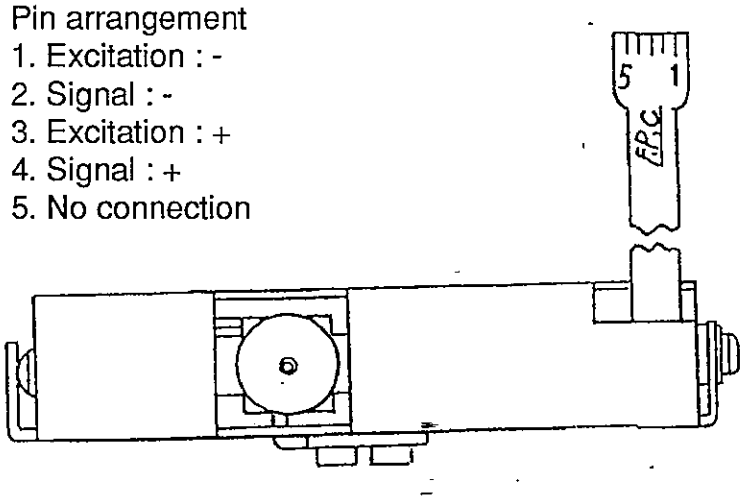

Figure 3

(4) Note that the FPC connector has front and rear sides.

5. ATTACHING THE WEIGHING PLATFORM

(1) The attachable platform measures 120mm by 120mm max.

(2) The load cell functions well when the platform is less than 100g. If it exceeds 100g, however, an overload stopper operates to inhibit correct measurement.

When designing a weighing platform, make sure it weighs less than 100g.

(For example, assuming that the weighing platform measures 120mm by 120mm and an aluminum plate 2.5mm thick is used, the overall weight will be approximately 100g.)

(3) To attach the weighing platform to the load cell, use M3 screws Do not drive screws more than 8mm into the load cell.

(4) The clamping torque should not exceed 10 kg-cm when the weighing platform is attached. Be careful not to apply unnecessary force (torsion or lateral load) to the load cell when attaching the platform.

(5) When designing the weighing platform, see the the "PRECAUTIONS ON OVERLOAD" below.

6. PRECAUTION ON OVERLOAD

(1) When a load is applicable to the center of the load cell, a load of less than 300% of the rated capacity will not cause any trouble. However, the allowable limit at the corner (at 120mm x 120mm platform) of the platform should be 100% of the rated capacity.

Repeated overloading may shorten the service life of the load cell. Actually, the load at the corners of the platform should be less than 50% of the rated capacity.

(2) The load cell is housed in a case equipped with an adjusted overload stopper. However, if an overload is applied to the corner, an overload exceeding the allowable limit may be applied due to the flexibility of the case. In such cases, be sure to attach corner stoppers against the platform at 100% of the rated capacity.

7. OVERALL FUNCTION TEST

(1) To make full use of load cell performance, pay attention to the following points.

①A stable power supply for the load cell

②A stable weighing indicator (No. of digits matching that required for the specified accuracy is needed)

③Installation site subject to minimum changes in temperature

④Installation site where the load cell platform remains horizontal

⑤Installation site free of external vibration or noise

(2) After installing the load cell, execute the initial test as follows.

①Warm up the load cell for approximately 10 minutes.

②Apply a load 100 to 150% of the rated capacity 3 to 5 times. Then monitor the loading time and zero point to ensure proper operation.

③After applying a load three times to ensure proper operation, the specified accuracy can be obtained.

8. MAINTENANCE

(1) Remove all dirt and dust from the load cell, and always use it in a clean environment.

(2) When cleaning, do not wash off dirt and dust; use an air blower.