

# English

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## 1. LCC12 Series Weigh Modules

LCC12T010	(Rated capacity 100 kN )
LCC12T020	(Rated capacity 200 kN )
LCC12T030	(Rated capacity 300 kN )

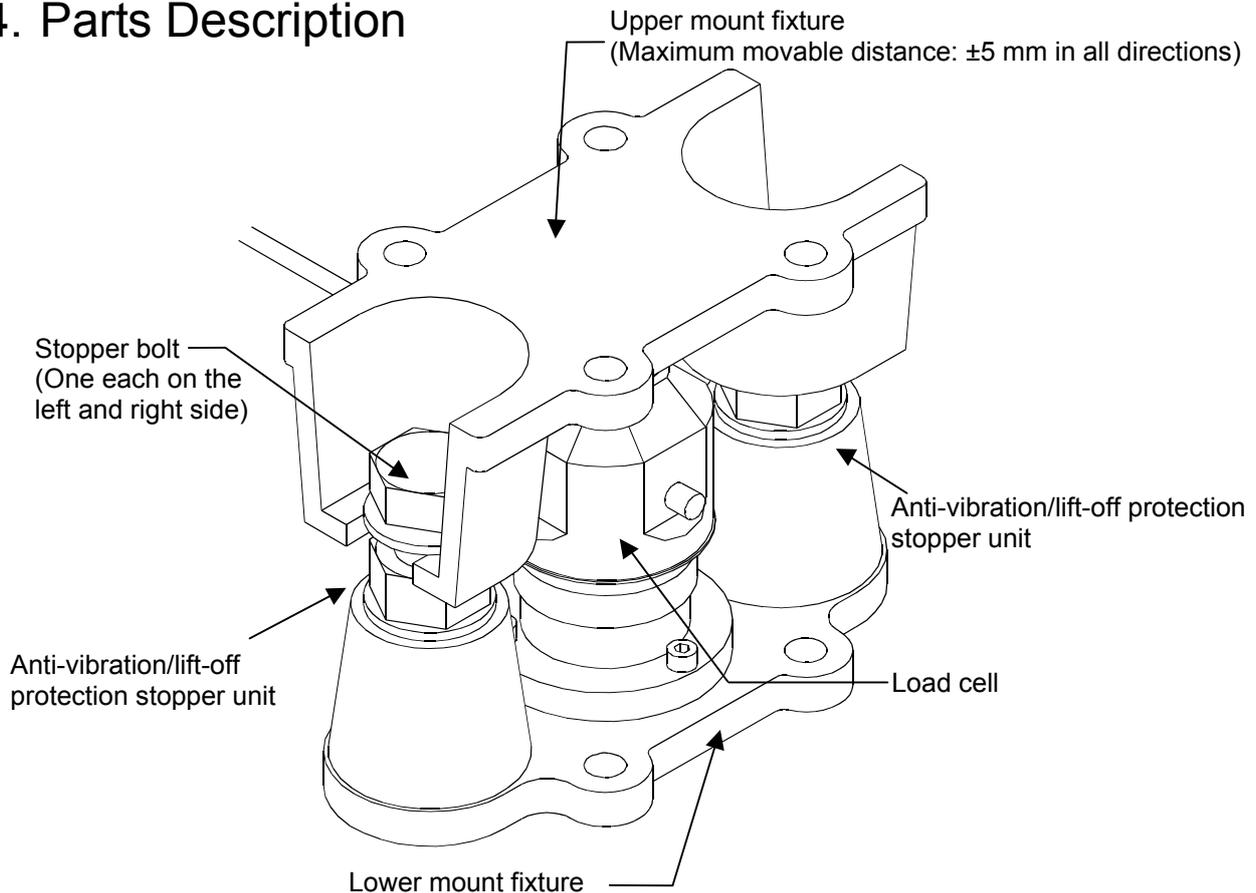
## 2. Introduction

- The LCC12 series are stainless steel weigh modules and are composed of a compression load cell with a self-aligning function and mount fixtures with built-in anti-vibration mechanism/lift-off protection mechanism.
- As the rated capacity range is from 100 kN to 300 kN, the LCC12 series are optimum for large tank scales.
- The LCC12 series can be used in severe environments, equivalent to IP68, as the load cell is hermetically sealed.
- The only required adjustment is checking the stopper units, which allows easy installation and maintenance.
- Being compact and lightweight, the LCC12 series can be installed almost anywhere.
- Consider the system design and installation carefully because for precision weighing, the load cell is more sensitive. Read this instruction manual carefully, for correct installation and precision weighing.

### 3. Specifications

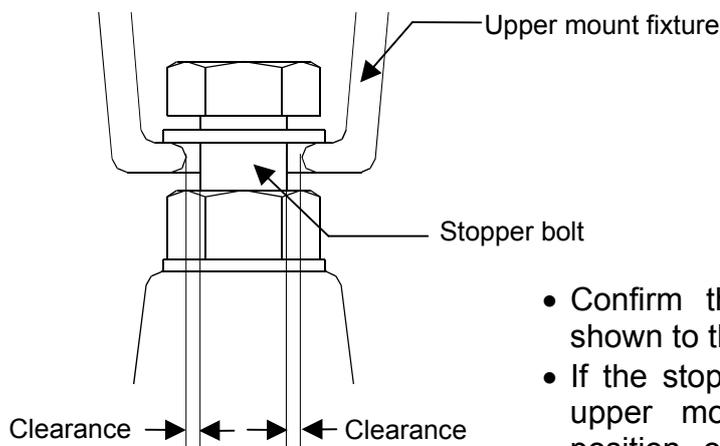
Rated capacities .....	100 kN, 200 kN, 300 kN
Rated output .....	2mV/V±0.1%
Maximum safe overload .....	150%R.C.
Permissible horizontal force .....	75 kN
Permissible lifting force.....	80 kN
Combined error .....	±0.03%R.O.
Zero balance .....	±1%R.O.
Compensated temperature range.....	-20°C to 60°C
Minimum excitation voltage .....	5VDC
Recommended excitation voltage .....	5 to 12VDC
Maximum excitation voltage .....	15VDC
Input terminal resistance .....	800Ω±80 Ω
Output terminal resistance.....	2200 Ω±10 Ω
Insulation resistance.....	5000M or greater Ω at 50VDC
Temperature effect - Zero.....	0.019%R.O./10°C Typ.
Temperature effect - Span.....	0.010%R.O./10°C Typ.
Cable diameter/ length .....	φ8/12m
Dustproof/Waterproof .....	IP68 (100h at 1.5m immersion)
Cable connection color	
Red .....	Excitation + (Input)
White .....	Excitation - (Input)
Green .....	Signal + (Output)
Blue .....	Signal - (Output)
Yellow .....	Shield

### 4. Parts Description



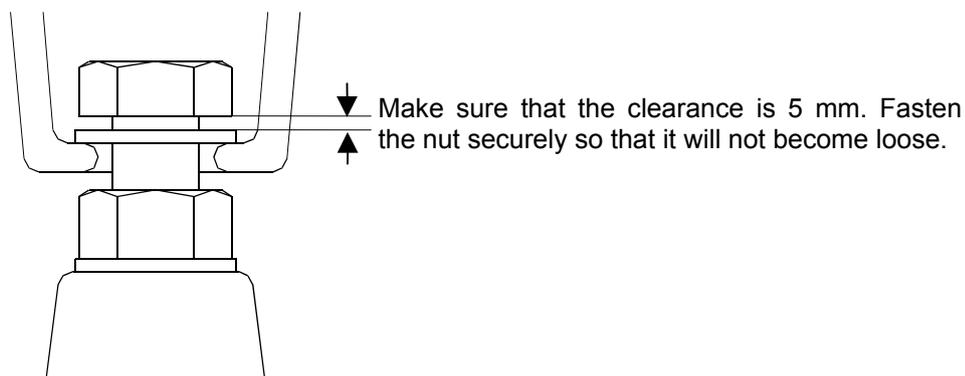
## 5. Installation

1. Align and machine the mounting holes on the platforms to secure the upper and lower mount fixtures, and on the brackets for a tank.
2. Insert a jack between the platform and tank and raise the tank to install the weigh module.
3. While aligning the platform, the bracket on the tank, and the weigh module, lower the tank and attach the weigh module temporarily using the bolts.
4. Confirm that there is a clearance between the stopper bolt of the anti-vibration/lift-off protection stopper unit and the upper mount fixture. If the stopper bolt and the upper mount fixture are in contact, raise the tank slightly and fine adjust the position of the upper or lower mount fixture.



- Confirm that there is a clearance as shown to the left.
- If the stopper bolt is in contact with the upper mount fixture, fine adjust the position of the upper or lower mount fixture.

5. Confirm that the load cell stands perpendicularly. If it is tilted (to an angle of  $\pm 1^\circ$ , great enough to identify by visual inspection), raise a tank slightly and fine adjust the position of the upper or lower mount fixture. At this time, pay close attention to the clearance around the stopper bolt.
6. Remove the jack. Secure the weigh module using the bolts
7. If the stopper bolt was removed for convenience when installing the weigh module, attach it so that there is a clearance of 5 mm between the bolt head and the upper mount fixture as shown below. Fasten the nut securely so that it will not become loose.



## 6. Precautions

- ❑ Design the structure to install the load cell strong enough to withstand the load.
- ❑ Make the platform strong enough to withstand the load.
- ❑ Protect the load cell from direct sunlight when the system is installed in the open air.
- ❑ If the load cell may be heated by radiated heat or hot air, take measures against heat.
- ❑ Leave some slack in the load cell cable so that it will not be pulled.  
Install the load cell cable using conduit or flexible tubing.  
Separate the load cell cable from any power line.
- ❑ Connect the wiring correctly.
 

Red..... Excitation+ (Input)	Green.....Signal+ (Output)
White ..... Excitation- (Input)	Blue.....Signal- (Output)
Yellow..... Shield	
- ❑ Turn off the indicator and other instruments before attaching the load cell. Check the connection before operating the load cell.
- ❑ Do not input excessive excitation voltage above the maximum. It will cause damage to the load cell.
- ❑ Avoid shock and overload to the load cell.
- ❑ When welding is executed, ground the earth line and disconnect the load cell cable from the indicator to protect the load cell and indicator from the welding current.

## 7. Maintenance

Check the following items.

- ❑ Is there the appropriate clearance?  
Is there a foreign substance such as mud at the clearance?
- ❑ Is there a foreign substance on the load cell and the mount fixtures?
- ❑ Are there loosened bolts?
- ❑ Is there slack in the load cell cable?
- ❑ Is there a connection problem?
- ❑ Is there any current leakage?

# 8. Dimensions

