



Object Type U3S1-※, T3B1-※, U3B1-※  
U2S1-※

## INSTRUCTION MANUAL

( For S-shaped beam type Load Cells )

Read this instruction manual with care before using this product.  
Be sure to observe the important points mentioned in this manual. Keep this manual in custody near by in such a way that you may refer thereto anytime , if required.

The symbols used in this manual are as follows and have the following meanings.

Matters which you must not do absolutely or pay full attention to or keep in mind are marked with the following symbols. Read the sentences marked with these symbols without fail.

	<b>NOTE</b> : If this rule is not complied with , a trouble of injury or accident will be, caused , resulting in endangering human body. What is explained here must not be done absolutely.
--	---

	This shows an important point or limitation when carrying out operation or doing work. Be sure to read without fail in order to avoid doing in a wrong way.
--	--

### 1. Preface

Thank you very much for your purchase of MinebeaMitsumi type load cell.  
To begin with , check whether or not the delivered load cell has been damaged in transit or its type is correct as specified. If found defective , be sure to contact the agent from which you purchased this product or sales office. Refer to the catalogue or specification for the details of specification of the respective types.

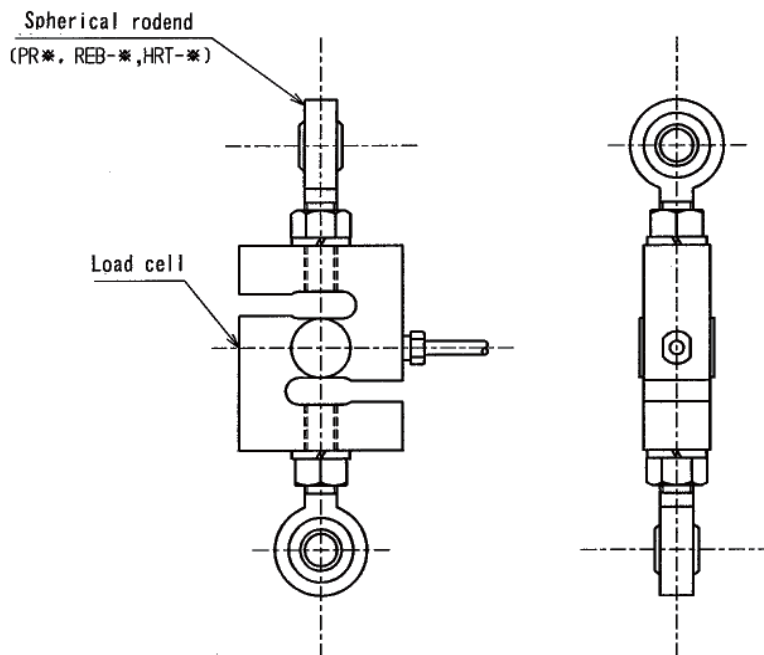
### 2. Outline

S-shaped beam type load cell is suited for hopper tank scale and other various tensile measuring systems.

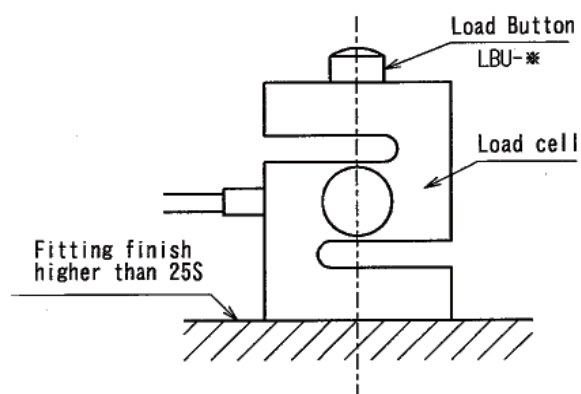
	<b>WARNING</b>	<ul style="list-style-type: none"> <li>▪ In the case of static load , use it within the range of rated capacity. In the case of dynamic load , use it at 70% of the rated capacity or less.</li> <li>▪ Do not apply a voltage to the input terminal , exceeding the maximum applied voltage.</li> <li>▪ When installing this load cell , use a movable joint such as spherical rod end, etc.</li> <li>▪ In such an environmental condition that screws tend to be loosened, retighten them periodically or provide a detent if required.</li> <li>▪ When installing it to medical instrument or machines involving human life, be sure to provide a protective circuit in order to make preparation for stop of function of load cell.</li> <li>▪ Under special operating environment , consult with our company once before use.</li> </ul>
--	----------------	--

## 3. Fitting method

- (1) Using a spherical rod end for fitting of load cell, fit it as illustrated hereunder. Fit it in such a way that the fitting lengths of screw are equal at both sides, referring to the dimensional table of fitting of spherical rod ends mentioned in the specifications or the catalogue.
- (2) Use lock nut attached to the rod end for detent. When tightening the set screw, do so in such a way that no load is applied to the sensing block (beam of center) of load cell.
- (3) Fit it in such a way that no dust and foreign matter has entered entrained therein.



- (4) If used only in the direction of compression, it will be possible to install as illustrated in the following fig. But use a load button for the receiving part of load.



## Accessories

Spherical rod end, load button, etc, are available as an option.



4. Important points for use

- ① In case of static load, use it within the range of rated capacities.  
In case of dynamic load, use it less than 70% of rated capacities.
- ② If there should be an impact load or vibration, a dynamic load calculated by multiplying static load by acceleration will act on the load cell.  
Therefore, take a measure to prevent the value calculated by taking into consideration acceleration from exceeding the rated capacity of load cell.
- ③ If there is a possibility that an overload will act on load cell, provide a safety device against damage.
- ④ The installing place must have full strength.
- ⑤ Use it in an ambient temperature within the range temperature compensation range.
- ⑥ Be sure to avoid a rapid change in temperature and direct heat.
- ⑦ Checking protecting class, use it in such an environmental condition free from formation of dew.
- ⑧ Under such circumstances where electric and magnetic fields are very strong, noise is generated sometimes. Therefore, avoid using it at such circumstances.
- ⑨ The sensing block (beam at the center) has a thin wall thickness, resulting in being very easy to be scratched. Therefore, take full care when handling it.  
Prevent solid substance from being stuck in the gap at S-shaped end.
- ⑩ Do not bend the cable lead hole extremely or pull strongly. When carrying it from place to place, do not hold the cable to suspend the load cell.
- ⑪ Under vibrating circumstances, fix the cord in the vicinity of cable lead hole and provide a means for prevention of vibration thereto.
- ⑫ Under such circumstances where screws tend to be loosened, retighten periodically and provide a detent means thereto , if required.
- ⑬ When fitting it to medical treatment machines and other apparatuses involving human life , be sure to provide a protective circuit thereto, in preparation for functional failure of load cell.
- ⑭ Do not disassemble the load cell.
- ⑮ Do not drop any thing on the load cell or give a shock thereto.
- ⑯ When discarded , dispose of it, taking into full consideration the environmental condition.

5. Wirings

- ① Connect the lead wires with the specified terminals of gauges.

	INPUT		OUTPUT		SHIELD
	(+)	(-)	(+)	(-)	
COLOR OF CABLE LEAD	Red	white	Green	Blue	Yellow
STD CONNECTOR WIRING	A	C	D	B	E

- ② Refer to the operation manual of gauge the terminals of gauges.

6. Trouble shooting

If an overload exceeding the allowable value is applied or if an overload other than center load is applied, be sure to make calibration again in order to check whether it can be used normally. If indication is unstable or abnormal, check whether or not connection with gauge is made correctly and reliably or the important matters in use in item 4 are used properly.

- ① Check whether or not the input/output resistance is within the range of specified values with a tester, etc.
- ② Check whether or not the insulation resistance of load cell body and core wires of cord is within the specified range of values.
- ③ Check whether or not the output (zero balance) without load is within the range of specified values.

If the values of the abovementioned measurement are abnormal, be sure to contact our company at once.  
If there should be an unknown point in connection method, etc., contact our company.

Understand the text of this manual is subject to change without notice.