

# Load cell LMU/LU series

- Ideal for a narrow space due to their small size and light weight
- Designed to integrate into facilities and mount a sample easily with screws on both ends of the sensor

Model	Extra small type: LMU series	Small type: LU series
Capacity	50N,200N,500N	500N,2000N
Force direction	Convertible type for Compression and Tension	Convertible type for Compression and tension
Screws	Male screw (M5)	Female screw (M8)
Images		

\* An indicator is required to read force values. Refer page 3 for the details.  
\*1 The testing shaft is the male screw nearby the cable. The load cell should be set to be loaded.

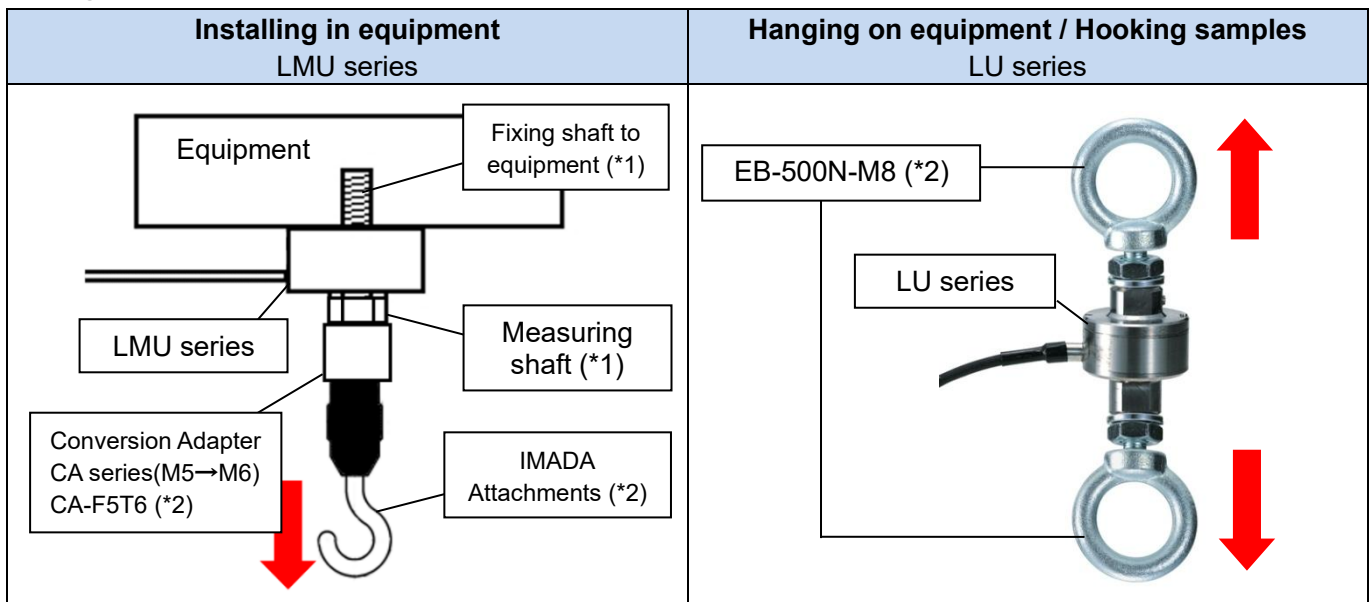
: **eZ-Connect series**

eZ-Connect is composed of an amplifier and load cells.

- Allows easy replacement of load cells without additional adjustment
- Suits different types of tests such as tension and torque, measuring from low load to high load etc.

Available load cells have a mark

**[Usage]**



\*1 Fixing shaft and testing shaft look similar. Ensure the side is correct. Keep the space between the surface of the sensor and attachment or equipment using your own M5 nut.  
\*2 Conversion adapter, attachments and EB-500N-M8 are sold separately.


Specifications		
Model	LMU series	LU series
Capacity	50N,200N,500N	500N,2000N
Rated output	+/-0.9 to 1.5mV / V	+/-0.9 to 1.4mV / V
Nonlinearity	0.5%R.O.	0.5%R.O.
Hysteresis	0.5%R.O.	0.5%R.O.
Recommended voltage (allowable applied voltage)	1 to 3V AC or DC (5V AC or DC)	2 to 5V AC or DC (7V AC or DC)
Safe overload rating	120%	150%
Working environment (allowable temperature)	0 to 50 degree Celsius (-10 to 60 degree Celsius)	0 to 70 degree Celsius (-10 to 70 degree Celsius)
Temperature influence for 0 point	0.005%/ degree Celsius	0.05%/ degree Celsius
Temperature influence for output	0.01%/ degree Celsius	0.05%/ degree Celsius
Cable (*1)	Approx. 2m (with a connector)	Approx. 3m (with a connector)
Dimensions	Refer to [Dimension]	Refer to [Dimension]
Weight	Approx. 60g	Approx. 150g
International Protections	-	-

\* An amplifier (indicator) is required to read values. Refer page 3 "Available Amplifiers (indicators)" for the detail.

\* For purchasing only loadcell, select the types of connector. Refer to the table on page 3.

\* Refer page 4 for the accuracy and display of sensor separate models: models of sensors combined with indicators.

\*1 Refer to specification of [Options Available for Load cell Cable] to change cable length or so.

Specifications (eZ-Connect series) 		
Model	eLMU series	eLU series
Capacity	50N,200N,500N	500N,2000N
Accuracy (*1)	+/-1.0%F. S or less	+/-1.0%F.S. or less
Safe overload rating	120%	150%
Working environment (allowable temperature)	0 to 50 degree Celsius (-10 to 60 degree Celsius)	0 to 70 degree Celsius (-10 to 70 degree Celsius)
Cable (*2)	Approx.2m (with a connector)	Approx.3m (with a connector)
Dimensions	Refer to [Dimensions]	Refer to [Dimensions]
Weight	Approx. 60g	Approx. 150g
International Protections	-	-

\*1 Refer page 4 for the accuracy and display when combined with eZ-Connect series indicators.

\*2 Refer to specification of [Options Available for Load cell Cable] to change cable length or so.

**[Available Amplifiers (Indicators)]**

Separated Sensor Model		
Handheld type ZTS series	Handheld type ZTA series	Desktop type FA Plus2
<ul style="list-style-type: none"> <li>- Handheld use</li> <li>- Higher accuracy</li> </ul>	<ul style="list-style-type: none"> <li>- Handheld use</li> <li>- Higher accuracy</li> <li>- I/O displacement</li> <li>- Data saving to USB</li> </ul>	<ul style="list-style-type: none"> <li>- Desktop use</li> <li>- Higher accuracy</li> </ul>
eZ-Connect series Sensor Interchangeable Amplifier		
Desktop type eFA Plus2	Handheld type eZT	Quad Sensor Measuring Amplifier QSMA-400
<ul style="list-style-type: none"> <li>- Desktop use</li> <li>- Load cell interchangeable (such as measurement of tension and torque, or low and high load)</li> </ul>	<ul style="list-style-type: none"> <li>- Handheld use</li> <li>- Load cell interchangeable (such as measurement of tension and torque, or low and high load)</li> </ul>	<ul style="list-style-type: none"> <li>- Up to 4 different load cells can be connected Simultaneously. (Load cell interchangeable)</li> <li>- To use QSMA-400, the graphing Software Quad Graph Drawer is required to be downloaded.</li> </ul>

\* Refer to the specification sheet of each amplifier (indicator) for details.

**[Models of Load Cell Only]**

	Model	Capacity	Thread
LMU series	LMU-50N	50N	M5
	LMU-200N	200N	
	LMU-500N	500N	
LU series	LU-500N	500N	M8
	LU-2000N	2000N	

**[Connector Type]**

Code	-5P	-6P	-OC
Connector shape	 5pins	 6pins	Without Connector
Connect to	ZT series, FA Plus2, etc.	Some discontinued IMADA products	For installing in equipment
*Please check the connector shape of your equipment to connect.			

\* When purchasing, select the connector shape and add the code to the end of the load cell mode. e.g. For selecting 5pins: LMU-50N-5P

**[Models of sensors combined with indicators (Sensor separate models)]**

**•LMU series**

Model			Capacity	Accuracy (*1)	Display	Resolution
ZTA	ZTS	FA Plus2				
ZTA-LMU-50N	ZTS-LMU-50N	FAP2-LMU-50N	50N	+/-1.0%F.S. or less	50.0N	0.01N
ZTA-LMU-200N	ZTS-LMU-200N	FAP2-LMU-200N	200N		200.0N	0.1N
ZTA-LMU-500N	ZTS-LMU-500N	FAP2-LMU-500N	500N		500.0N	0.1N

**•LU series**

Model			Capacity	Accuracy (*1)	Display	Resolution
ZTA	ZTS	FA Plus2				
ZTA-LU-500N	ZTS-LU-500N	FAP2-LU-500N	500N	+/-1.0%F.S. or less	500.0N	0.1N
ZTA-LU-2000N	ZTS-LU-2000N	FAP2-LU-2000N	2000N		2000N	1N

\* Refer to the specification of indicator for details.

\*1 It is the accuracy of the sensor and indicator combined.

**[eZ-Connect load cell models]**

Load cell model		Capacity	Accuracy (*1)	Display	Resolution
eLMU series	eLU series				
eLMU-50N	-	50N	Accuracy of sensor + Accuracy of amplifier	50.00N	0.01N
eLMU-200N	-	200N		200.0N	0.1N
eLMU-500N	eLU-500N	500N		500.0N	0.1N
-	eLU-2000N	2000N		2000N (2.000kN)	1N (0.001kN)



\*1 Total accuracy when combined with the eZ-Connect series amplifier.

e.g. Total accuracy of eLMU and eZT → +/-1.2%F.S. or less (Load cell: +/-1.0%F.S. or less + Amplifier: +/-0.2%F.S. or less)

Refer page 2 for the accuracy of each eZ-Connect load cell.

**[Related products]**

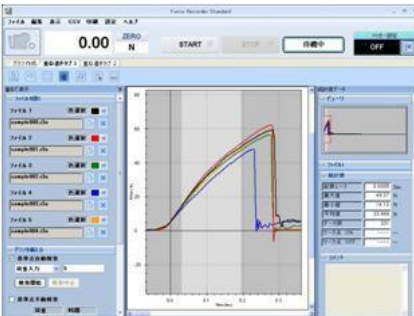
**•Hoisting attachments and adapters**

Hoisting Attachment for High Capacity Load Cell <b>EB/EN series</b>			Conversion Adapter <b>CA series</b>		
	For hoisting an attachment or sample			For converting the screw diameter of loadcell or attachment	
	Model	Feature		Model	Feature
	EN-500N	Hoisting Attachment for LMU series		CA-F5T6	Mount the M6 attachment to LMU series
EB-500N-M8	Hoisting Attachment for LU series				





**•Cables**

Model	Description	Purpose of use
<b>CB-108</b>	Analog cable (3m)	To connect to a multi meter, oscilloscope
<b>CB-118</b>	Analog cable (For -AN option)	To connect to a multi meter, oscilloscope
<b>CB-208</b>	RS232C cable (3m)	To connect to a PC having its own system
<b>CB-908</b>	Open end cable (3m)	Output cable for loose wire 37 pin (Useful for connection with unique equipment.)

**•Data analysis software Force Recorder**

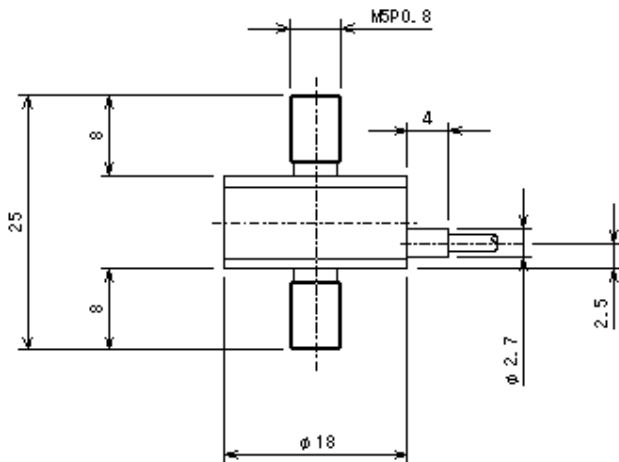
Image	Features
 <p>*The image is Force Recorders Standard.</p>	<ul style="list-style-type: none"> <li>- You can make graphs of force-displacement at real time via USB connection at 2000Hz.</li> <li>- You can write memo on each graph. You may write down testing conditions such as testing speed.</li> <li>- Up to 5 graphs can be overlaid. (Standard, Professional edition)</li> <li>- It enables to analyze force-displacement relationships. (Professional edition)</li> </ul> <p>* Refer to each specification for further information.</p>

**•Other load cell line-up**

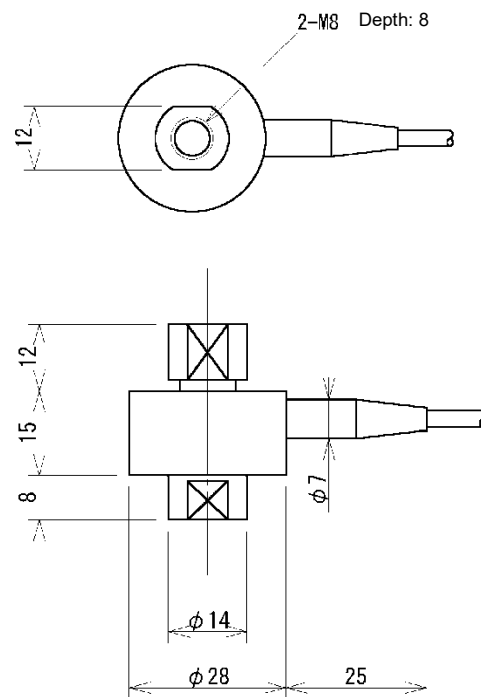
Standard type <b>DPU series</b>	Coin shaped type <b>LM series</b>	Pen type <b>PN-50N</b>	For automatic doors <b>DM-2000N</b>
High accuracy built-in type load cell for general use	Coin size load cell for compression	Pen-shaped to fit for measuring control force of small samples	Fits to measure automatic door closing force
			

## [Dimensions]

LMU series



LU series



Unit: mm

## [Cautions]

- Information in this document is subject to change without prior notice.
- This document is product descriptions and handling precautions, and do not guarantee various characteristics or safety.
- This product is designed for force measurement purpose only.
- Do not copy and use this content without authorization.
- Do not apply force more than its capacity or from incorrect direction to the measuring shaft.
- Do not use this product in the environments including fierce temperature changes, high temperature, high humidity, near water, dusty place.

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