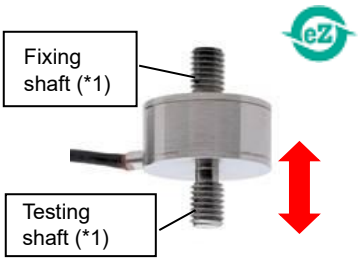
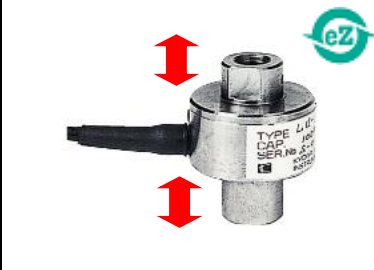
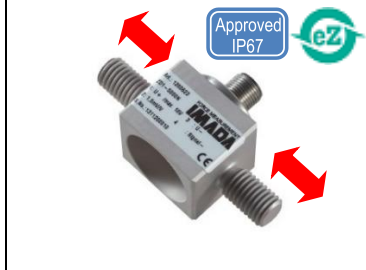


Load cell LMU/LU/ZD series

- 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	High capacity type: ZD series
Capacity	50N to 500N	50N to 2000N	1000N to 20kN
Force direction	Convertible type for Compression and Tension	Convertible type for Compression and tension	Exclusive type for Compression or Tension (*2)
Screws	Male screw (M5)	Female screw (M8)	Male screw (M12P1.75) (20kN type: M20P1.5)
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.

*2 Choose the direction before purchase.

What is IP?

IP (International Protection) is a standard which is based on IEC Standard 529 for solid foreign materials, electric devices for water and cabinet.

IPxx

- The second code
(IP 0 to 8 for water penetration)
- The first code
(IP 0 to 8 for human body and sold foreign materials)

IP67

- Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1m of submersion for 30 minutes.)
- No ingress of dust, complete protection against contact.

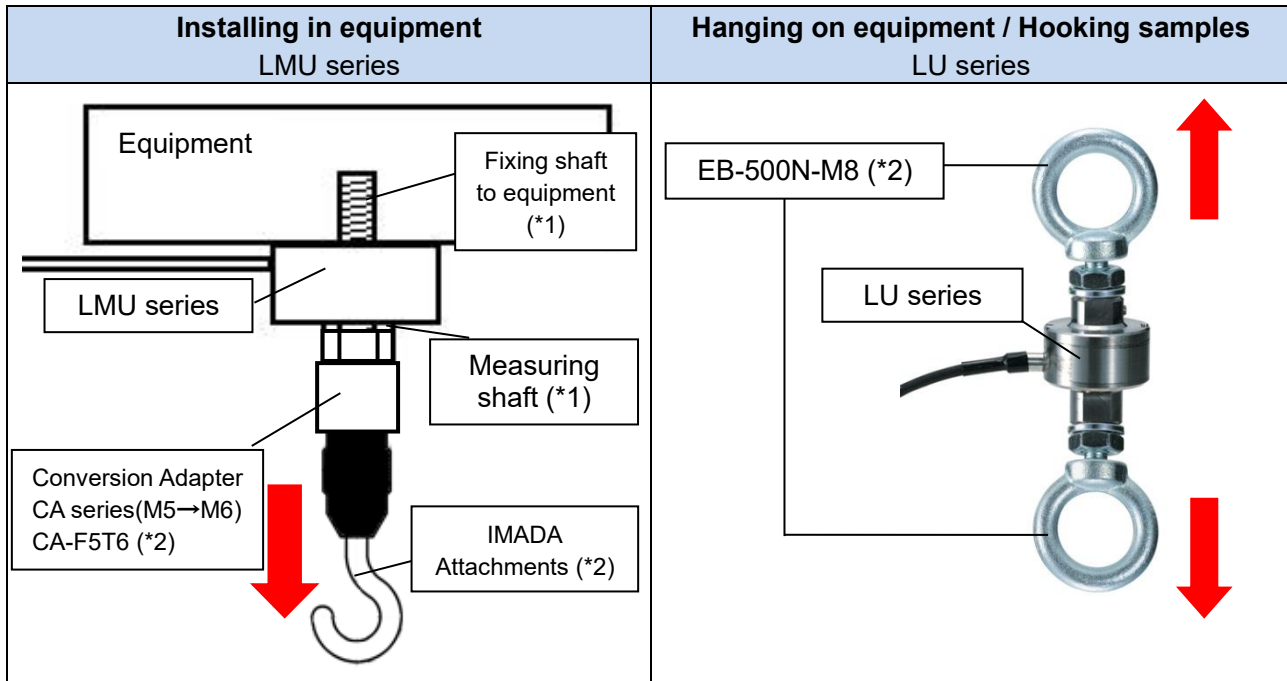
: eZ-Connect series

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	ZD series
Capacity	500N	2000N	20kN
Rated output	+/-1mV / V +/-10%	+/-0.9 to 1.4mV / V	1.5mV/V
Nonlinearity	0.5%R.O.	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%	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)	-10 to 50 degree Celsius (-20 to 80 degree Celsius)
Temperature influence for 0 point	0.005%/ degree Celsius	0.05%/ degree Celsius	0.02%/ degree Celsius
Temperature influence for output	0.01%/ degree Celsius	0.05%/ degree Celsius	0.01%/ degree Celsius
Cable	Approx. 2m (with a connector)	Approx. 3m (with a connector)	Approx. 3m (with a connector)
Dimensions	Refer to [Dimension]	Refer to [Dimension]	Refer to [Dimension]
International Protections	-	-	IP67(*1)


* 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.

*1 IP67 is only approved for the load cell itself. The amplifier (indicator) and the connector parts are not secured.





Code	-5P	-6P	-0P
Connector shape	 5pins	 6pins	Without Connector
Connect to	ZT series, FA Plus2, etc. *Please check the connector shape of your equipment to connect.	Some discontinued IMADA products	For installing in equipment

* 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

Specification (eZ-Connect series) 			
Model	eLMU series	eLU series	eZD series
Capacity	500N	2000N	20kN
Accuracy	+/-1.0%F. S or less	+/-1.0%F.S. or less	+/-0.5%F.S. or less
Safe overload rating	120%	150%	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)	-10 to 50 degree Celsius (-20 to 80 degree Celsius)
Cable	Approx.2m (with a connector)	Approx.3m (with a connector)	Approx.3m (with a connector)
Dimensions	Refer to [Dimensions]	Refer to [Dimensions]	Refer to [Dimensions]
International Protections	-	-	IP67 (*1)

* Refer page 4 for eZ-Connect series details.

*1 IP67 is only approved for the load cell itself. The amplifier (indicator) and the connector parts are not secured.

Available Amplifiers (Indicators)					
Type	Separated Sensor Model			eZ-Connect series 	
	Handheld ZTS series	Handheld ZTA series	Desktop type FA Plus2	Desktop type eFA Plus2	Handheld eZT
Indicator					
Image					
Feature	<ul style="list-style-type: none"> - Handheld use - Specific purpose - Higher accuracy 	<ul style="list-style-type: none"> - Handheld use - Specific purpose - Higher accuracy - I/O displacement - Data saving to USB 	<ul style="list-style-type: none"> - Desktop use - Specific purpose - Higher accuracy 	<ul style="list-style-type: none"> - Desktop use - Load cell interchangeable (such as measurement of tension and torque, or low and high load) 	<ul style="list-style-type: none"> - Handheld use - Load cell interchangeable (such as measurement of tension and torque, or low and high load)

* Refer to each indicator specification for the detail.

[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	50.00N	0.01N
ZTA-LMU-100N	ZTS-LMU-100N	FAP2-LMU-100N	100N		100.0N	0.1N
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-50N	ZTS-LU-50N	FAP2-LU-50N	50N	+/-1.0%F.S. or less	50.00N	0.01N
ZTA-LU-100N	ZTS-LU-100N	FAP2-LU-100N	100N		100.0N	0.1N
ZTA-LU-200N	ZTS-LU-200N	FAP2-LU-200N	200N		200.0N	0.1N
ZTA-LU-500N	ZTS-LU-500N	FAP2-LU-500N	500N		500.0N	0.1N
ZTA-LU-1000N	ZTS-LU-1000N	FAP2-LU-1000N	1000N		1000N	1N
ZTA-LU-2000N	ZTS-LU-2000N	FAP2-LU-2000N	2000N		2000N	1N

•ZD series

Model			Capacity	Accuracy (*1)	Display	Resolution
ZTA	ZTS	FA Plus2				
ZTA-ZD1-1000N	ZTS-ZD1-1000N	FAP2-ZD1-1000N	1000N	+/-0.5%F.S. or less	1000N (1.000kN)	1N (0.001kN)
ZTA-ZD1-2000N	ZTS-ZD1-2000N	FAP2-ZD1-2000N	2000N		2000N (2.000kN)	1N (0.001kN)
ZTA-ZD1-5000N	ZTS-ZD1-5000N	FAP2-ZD1-5000N	5000N		5000N (5.000kN)	1N (0.001kN)
ZTA-ZD1-10kN	ZTS-ZD1-10kN	FAP2-ZD1-10kN	10kN		10.00kN	0.01kN
ZTA-ZD2-20kN	ZTS-ZD2-20kN	FAP2-ZD2-20kN	20kN		20.00kN	0.01kN

* For further information about indicators, Refer to each specification.

*1 The accuracy is only available for combinations with the amplifier (indicator).

•eZ-Connect load cell models





Load cell model			Range	Accuracy (*1)	Display	Resolution
eLMU series	eLU series	eZD series				
eLMU-50N	eLU-50N	-	50N	+/-1.2% F.S. or less	50.00N	0.01N
eLMU-100N	eLU-100N	-	100N		100.0N	0.01N
eLMU-200N	eLU-200N	-	200N		200.0N	0.01N
eLMU-500N	eLU-500N	-	500N		500.0N	0.01N
-	eLU-1000N	eZD1-1000N	1000N		1000N (1.000kN)	1N (0.001kN)
-	eLU-2000N	eZD1-2000N	2000N		2000N (2.000kN)	1N (0.001kN)
-	-	eZD1-5000N	5000N		5000N (5.000kN)	1N (0.001kN)
-	-	eZD1-10kN	10kN		10.00kN	0.01kN
-	-	eZD2-20kN	20kN		20.00kN	0.01kN

*1 It is the accuracy of the sensor and indicators of eZ-Connect series combined.

[Related products]

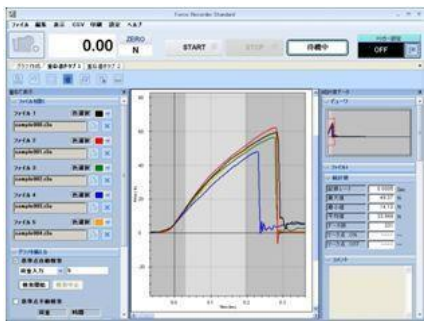
-Hoisting attachments and adapters

Hoisting Attachment for High Capacity Load Cell EB/EN series			Conversion Adapter CA series		
	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
CB-108	Analog cable (3m)	To connect to a multi meter, oscilloscope
CB-118	Analog cable (For -AN option)	To connect to a multi meter, oscilloscope
CB-208	RS232C cable (3m)	To connect to a PC having its own system
CB-308	Digimatic cable (3m)	To connect to a printer DP-1VA (ZTS/ZTA/eZT)
CB-908	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"> - You can make graphs of force-displacement at real time via USB connection at 2000Hz. - You can write memo on each graph. You may write down testing conditions such as testing speed. - Up to 5 graphs can be overlaid. (Standard, Professional edition) - It enables to analyze torque-angle relationships. (Professional edition) <p>* Refer to each specification for further information.</p>

-Other load cell line-up

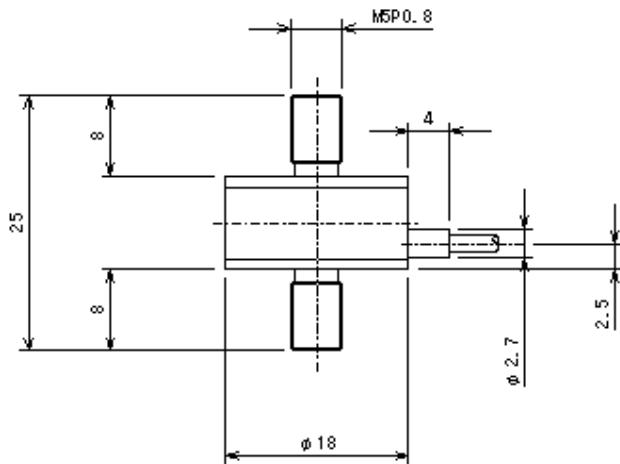
Standard type DPU series	Coin shaped type LM series	Pen type PN-50N	For automatic doors DM-2000N
High accuracy built-in type load cell for general use	Coin size load cell for compression	Pen-shaped to fit for measuring control force of small samples	Fits to measure automatic door closing force
			

Custom-made Order	
<u>Extend the length of a cable</u> Enables to extend the length of a cable for gauge-PC connection or load cell-amplifier connection	<u>Enhance flexibility of a cable</u> Enables to offer high-flex cable to reduce risks of disconnection

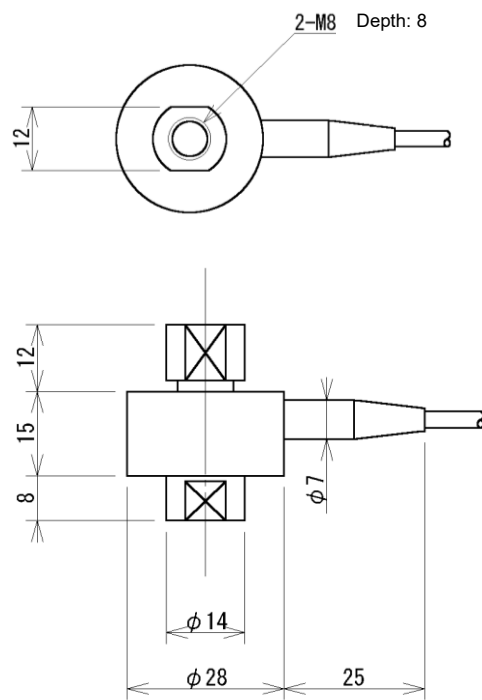
* Contact us for details such as cable length etc.

[Dimensions]

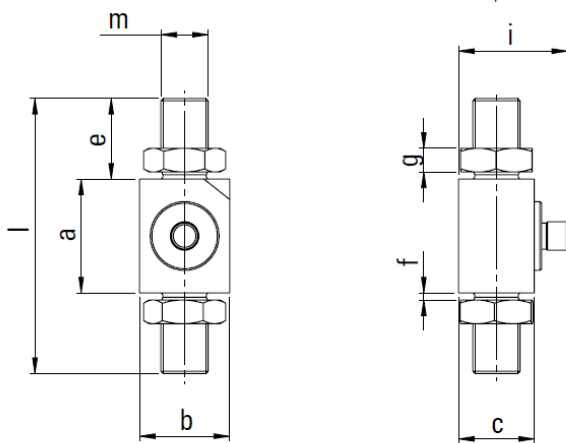
LMU series



LU series



ZD series



Cable (Approx. 3m) is attached to this connector.

Model	l	e	a	b	c	g	i	f	m
ZD1-1000N to 10kN	78	21	36	30	30	7	44	2 to 4	M12 P1.75
ZD2-20kN	116	34	48	38	32	12	46	2 to 4	M20 P1.5

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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