

## Tension/ Compression Load cell DPU series

Strain gauge type load cell for tension/compression test.

This product can be built in equipment like on manufacture line.

For standard force	For large force
Capacity: 2~500N	Capacity: 1000~20kN
<p>Installation is easy for equipment or external devices.</p> <p>-Compatible compression/tension load cell –Being screwed –Rectangular parallelepiped shape</p>	

\*An indicator is required to read force values. Please refer to page 3,4 and 5 for the detail.→



[Using images]

Built-in status	Hanging on equipment/hooking samples

\*1 Hoisting attachment for load cells EB 500N-M6 is sold separately. Please refer to page 5 for the detail.

\*2 Small hook A-1/S-1 is sold separately.

**[Specification]**

Model	DPU-2N~500N	DPU-1000N~20kN
Photos	For standard force 	For large force 
Capacity	Please refer to the model list.	Please refer to the model list.
Rated output	1mV / V±10% (2N, 5N is 0.9~1.25 mV/ V±10%)	2mV/ V±1%
Nonlinearity	0.12%R.O.	0.05%R.O.
Hysteresis	0.12%R.O.	0.05%R.O.
Recommended voltage (allowable applied voltage)	5V DC (12V DC)	10V DC(18V DC)
Safe overload rating	Please refer to the model list.	Please refer to the model list.
Working environment ( allowable temperature)	0~+50 degree Celsius (-10~+60 degree Celsius)	-10~+70 degree Celsius (-20~+80 degree Celsius)
Temperature influence for 0 degree	0.02%/ degree Celsius	0.01%/ degree Celsius
Temperature influence for output	0.01%/ degree Celsius	0.01%/ degree Celsius
Weight	Approx. 325g	Approx. 800g DPU-10kN:Approx.1.7kg DPU-20kN:Approx.2.3kg
Cable	2m(with a connector)	3m(with a connector)
Dimension	Refer to dimensions.	Refer to dimensions.

**[eZ-Connect series load cell specification]**

Model	eDPU-2N~500N	eDPU-1000N~20kN
Feature	For standard force	For large force
Capacity	Please refer to the model list.	Please refer to the model list.
Accuracy	+/-0.2% F.S. or less	+/-0.2% F.S. or less
Safe overload rating	Please refer to the model list.	Please refer to the model list.
Working environment ( allowable temperature)	0~+50 degree Celsius (-10~+60 degree Celsius)	-10~+70 degree Celsius (-20~+80 degree Celsius)
Weight	Approx. 325g	Approx. 800g DPU-10kN:Approx.1.7kg DPU-20kN:Approx.2.3kg
Cable	2m(with a connector)	3m(with a connector)
Dimension	Refer to the dimensions.	Refer to the dimensions.

\*Please refer Page 5 for the detail of eZ-Connect series.

[Model list]

Model	eZ-Connect series model	Capacity	Safe overload rating	Thread
DPU-2N	eDPU-2N	2N	150%	M6
DPU-5N	eDPU-5N	5N		
DPU-10N	eDPU-10N	10N	200%	
DPU-20N	eDPU-20N	20N		
DPU-50N	eDPU-50N	50N		
DPU-100N	eDPU-100N	100N		
DPU-200N	eDPU-200N	200N		
DPU-500N	eDPU-500N	500N		
DPU-1000N	eDPU-1000N	1000N	240%	M10
DPU-2000N	eDPU-2000N	2000N	120%	
DPU-5000N	eDPU-5000N	5000N		
DPU-10kN	eDPU-10kN	10kN	120%	N/A*
DPU-20kN	eDPU-20kN	20kN		

\*There is no thread on DPU-10kN and 20kN. Instead of a thread, there is a female screw M18P1.5 depth 22. It is also possible mounting a thread as an option.

**Force value display/ Data management/ Operating external device  
are ALL possible by combining with IMADA amplifier.**

→There are 3 selectable amplifiers.

Amplifier	Feature
ZT series	High accuracy and Easy operation
FA-Plus	Stable installation
eZ-Connect series :eZT	Interchangeable multiple sensors

Sensor separate type force gauge ZT series



- [Remote operation](#)  
→Measurement value is possible to check easily apart from the sensor. Users can keep safe distance even if the test involves some danger like Crushing test.
- [Easy data management on PC](#)  
→Included software “ZT-Logger” helps to export continuous data to PC. Furthermore, separately-sold software “Force Recorder” enables to draw into a graph in real time at 2000Hz. It also inputs sampling date and time at the same. Data management can be easy.
- [Various outputs for operating external devices](#)  
→It realizes machine working control by force, Pass/Fail decision and more.

\*It is inappropriate to interchange the load cells.

\*The accuracy adjustment and the calibration are necessary whenever changing load cells.

Accuracy Guarantee  
-The inspection certificate by force data is attached.  
-Please request us the calibration certificate if necessary.

[The range list connecting with ZT series]

Model		Capacity	Accuracy(*1)	Display	Resolution
ZTA-DPU-2N	ZTS-DPU-2N	2N	+/-0.2%F.S. or less	2.000N(2000mN)	0.001N(1mN)
ZTA-DPU-5N	ZTS-DPU-5N	5N		5.000N(5000mN)	0.001N(1mN)
ZTA-DPU-10N	ZTS-DPU-10N	10N		10.00N	0.01N
ZTA-DPU-20N	ZTS-DPU-20N	20N		20.00N	0.01N
ZTA-DPU-50N	ZTS-DPU-50N	50N		50.00N	0.01N
ZTA-DPU-100N	ZTS-DPU-100N	100N		100.0N	0.1N
ZTA-DPU-200N	ZTS-DPU-200N	200N		200.0N	0.1N
ZTA-DPU-500N	ZTS-DPU-500N	500N		500.0N	0.1N
ZTA-DPU-1000N	ZTS-DPU-1000N	1000N		1000N(1.000kN)	1N(0.001kN)
ZTA-DPU-2000N	ZTS-DPU-2000N	2000N		2000N(2.000kN)	1N(0.001kN)
ZTA-DPU-5000N	ZTS-DPU-5000N	5000N		5000N(5.000kN)	1N(0.001kN)
ZTA-DPU-10kN	ZTS-DPU-10kN	10kN		10.00kN	0.01kN
ZTA-DPU-20kN	ZTS-DPU-20kN	20kN		20.00kN	0.02kN

\* Please refer to the each amplifier specification for the detail.

\*1The accuracy is only available for combinations with sensor separate type ZT series.

**Desktop amplifier FA Plus**



- [The box shape realizes easy installations on a desk or in equipment](#)
- [The sampling rate is equals to ZT series 2000Hz.](#)

**Accuracy Guarantee**

- The inspection certificate is attached only when the below set models are ordered.
- The inspection certificate is NOT attached when FA Plus and the load cell are separately ordered.
- Please request us the calibration certificate if necessary.

[The range list connecting with FA Plus]

Model	Capacity	Accuracy(*1)	Display	Resolution
FAP-DPU-2N	2N	+/-0.2%F.S. or less	2.000N(2000mN)	0.001N(1mN)
FAP-DPU-5N	5N		5.000N(5000mN)	0.001N(1mN)
FAP-DPU-10N	10N		10.00N	0.01N
FAP-DPU-20N	20N		20.00N	0.01N
FAP-DPU-50N	50N		50.00N	0.01N
FAP-DPU-100N	100N		100.0N	0.1N
FAP-DPU-200N	200N		200.0N	0.1N
FAP-DPU-500N	500N		500.0N	0.1N
FAP-DPU-1000N	1000N		1000N(1.000kN)	1N(0.001kN)
FAP-DPU-2000N	2000N		2000N(2.000kN)	1N(0.001kN)
FAP-DPU-5000N	5000N		5000N(5.000kN)	1N(0.001kN)
FAP-DPU-10kN	10kN		10.00kN	0.01kN
FAP-DPU-20kN	20kN		20.00kN	0.01kN

\* Please refer to the each amplifier specification for the detail.

\*1The accuracy is only available for combinations with FA Plus.

**eZ-Connect: Interchangeable sensor amplifier eZT**



- [ONE amplifier can be used with multiple load cells.](#)  
→It is possible to be carried out different range, circumstance and other measurements by changing load cells.
- [Basic functions are equal to ZTA.](#)

**Accuracy Guarantee**

- The inspection certificate by force data is NOT attached.
- Please request us the calibration or the calibration document if necessary.

[The range list connecting with eZT]

Amplifier Model	Load cell model	Capacity	Accuracy(*1)	Display	Resolution
eZT	eDPU-2N	2N	+/-0.4%F.S. or less	2.000N(2000mN)	0.001N(1mN)
	eDPU-5N	5N		5.000N(5000mN)	0.001N(1mN)
	eDPU-10N	10N		10.00N	0.01N
	eDPU-20N	20N		20.00N	0.01N
	eDPU-50N	50N		50.00N	0.01N
	eDPU-100N	100N		100.0N	0.1N
	eDPU-200N	200N		200.0N	0.1N
	eDPU-500N	500N		500.0N	0.1N
	eDPU-1000N	1000N		1000N(1.000kN)	1N(0.001kN)
	eDPU-2000N	2000N		2000N(2.000kN)	1N(0.001kN)
	eDPU-5000N	5000N		5000N(5.000kN)	1N(0.001kN)
	eDPU-10kN	10kN		10.00kN	0.01kN
	eDPU-20kN	20kN		20.00kN	0.01kN

\* Please refer to the each amplifier specification for the detail.

\*1The accuracy is only available for combinations with eZT series.

**[Related products]**






Hoisting attachments		
	Feature	
	The attachments help tension/compression test by attaching to one or two side of the load cell and letting through rope, hooks, shafts and so on.	
	Model	
	EB-500N-M6	Hoisting attachment for DPU-5N~500N.
	EB-2000N	Hoisting attachment for DPU-1000N, 2000N.
	EB-20kN	Hoisting attachment for DPU-10kN, 20kN(*1)
RE-20kN	Hoisting attachment for DPU-10kN, 20kN	

\* The photo is installing two EB-20kN to DPU for large force.

\*1 Please refer to the EB series specification for the detail.

**[Other load cell line-up]**

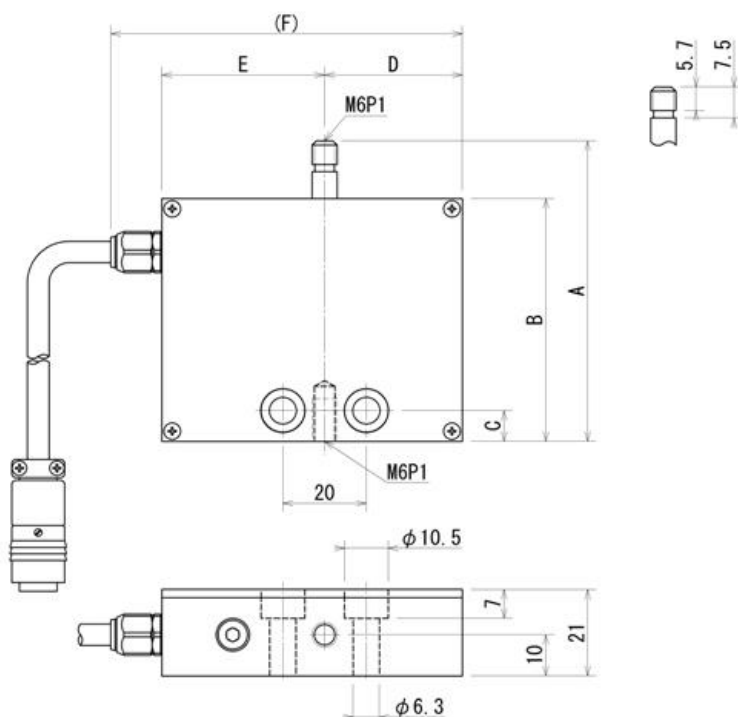
Please choose the suitable one matching your needs from our varieties of load cell.

Coin shaped type LM series	High accuracy coin shaped type LC series	Extra small type LMU series	Pen type PN-50N	For automatic doors DM-2000N
				
Coin size load cell for compression.	High accuracy coin shaped load cell for compression.	Sensor diameter is only 18mm	Pen-shaped to fit for measuring control force of small samples.	Fit to measure automatic door closing force.

\*please refer to each load cell specification for the detail.

**[Dimension]**

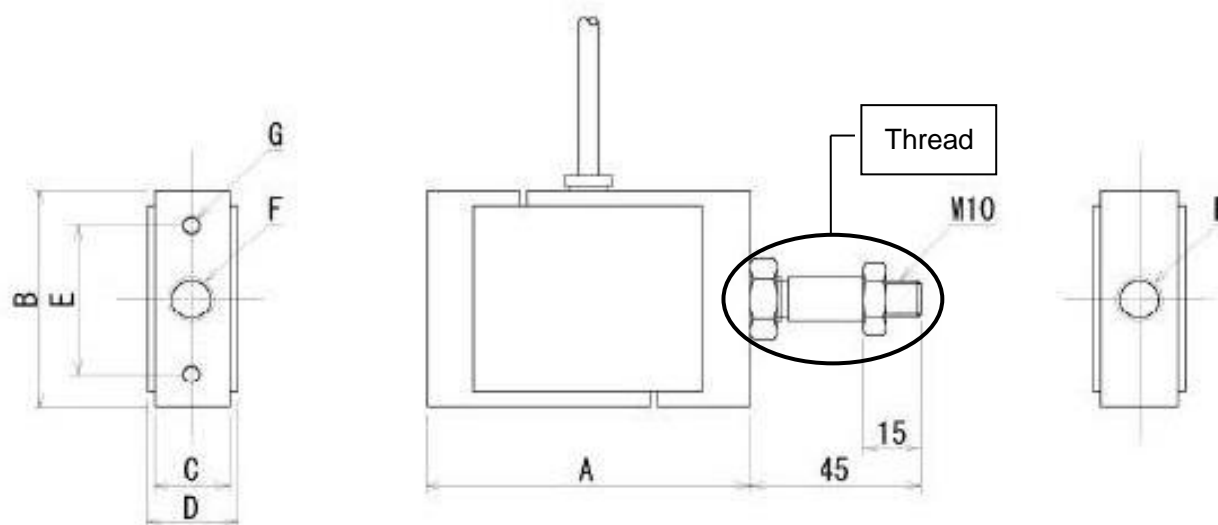
DPU-2N~500N



Model	A	B	C	D	E
DPU-2N	71	57	12	26	32
DPU-5N	71	57	12	26	32
DPU-10N	71	57	12	26	32
DPU-20N	73	59	7.5	33	39
DPU-50N	73	59	7.5	33	39
DPU-100N	73	59	7.5	33	39
DPU-200N	73	59	7.5	33	39
DPU-500N	73	59	7.5	33	39

\*eDPU series connector is different dimensions.

DPU-1000N~20kN



Model	A	B	C	D	E	F	G	Note
DPU-1000N	85	58	20	26	40	M12 P1.75 Depth 15	M5 Depth 8	With a thread
DPU-2000N	85	58	20	26	40	M12 P1.75 Depth 15	M5 Depth 8	With a thread
DPU-5000N	85	58	20	26	40	M12 P1.75 Depth 15	M5 Depth 8	With a thread
DPU-10kN	105	78	32	38	60	M18 P1.5 Depth 22	M6 Depth 10	No thread
DPU-20kN	110	88	36	42	60	M18 P1.5 Depth 22	M6 Depth 10	No thread

**[Caution]**

- This product is designed for force measurement only. Do not use it for other purpose.
- Please pay close attention to install this products.
  - Never apply strong force or impact especially on the sensing direction.
  - Do not apply bending or torsion stress when setting up the sensing shaft to a measuring object.
- Do not use in the condition of rapid temperature changes, high temperature, high humidity, near water and dusty place.
- The contents may be changed without notice in advance.
- Please note the allowable values are a little different by the selecting unit of the amplifier. Please contact us if you need the details.

Please feel free to contact us (+81-(0)-532-33-3288) for your measurement.