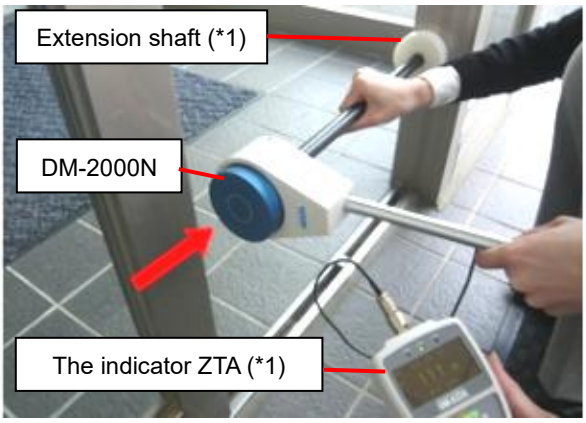
Load Cell for Automatic Doors DM-2000N
Load Cell for Doors and Windows SKM-1000N

- **Designed to measure closing force of door or windows**
- **Simply place the sensor between door/window and its frame to perform the test**
- **Complies with JIS standards (only DM-2000N)**

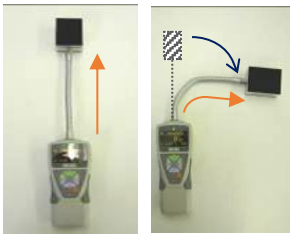
Load cell for automatic doors **DM-2000N**	Load cell for doors and windows **SKM-1000N**

Measuring image



Put the load cell between door/window and its frame.

The flexible arm can fix the sensor's direction.



*1 We also offer model including the extension shaft and other options.	You can easily fix sensor's position and direction due to its flexible arm.

Fixture	Related Standard Reference
DM-2000N	- **JIS A4722: 2017** Power operated pedestrian doorsets-Safety (Corresponding part only) - **BS EN 12453: 2017** [Industrial, commercial and garage doors and gates - safety in use power operated doors - requirements and test methods] (Corresponding part only)

* An amplifier (indicator) is required to read values. Refer to "Available amplifiers (indicators)" on page 3 for details.

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.

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

IP65
- Water projected in powerful jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects at least for 3 minutes 100 liter per minute.
- No ingress of dust, complete protection against contact.

* Only SKM-1000N support the protection class of IP65 under IEC standard.

: eZ-Connect series

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

Specifications			
Model	**DM-2000N**	**eDM-2000N**	**SKM-1000N(*1)**
Capacity	2000N	2000N	1000N
Rated output	0.75 to 2mV/V (1500 to 4000×10-6 distortion) +/- 1%	-	-
Nonlinearity	1.0%R.O.	-	-
Hysteresis	1.0%R.O.	-	-
Recommended voltage (Allowable voltage)	1 to 5V AC or DC (7V AC or DC)	- (-)	- (-)
Safe overload rating	150%		-
Working environment (Allowable temperature)	0 to +50 degrees (-10 to +60 degrees)		0 to +40 degrees (0 to +40 degrees)
Temperature influence for 0 point	0.05%/degrees	-	-
Temperature influence for output	0.05%/degrees	-	-
Weight	Approx. 1200g (Sensor weight)		-
Cable Length (*3)	Approx. 2 m		Approx. 200 mm (Flexible arm)
Dimension	Refer to Dimensions		
International Protection	-	-	IP65 (*2)

*1 The load cell cannot be separated from the indicator, therefore, no specification is stated as single sensor. Refer to separated sensor model on page 3 for further information.
*2 IP65 is only approved for the load cell itself. The amplifier (indicator) and the connector parts are not secured.
*3 Refer to specification of [Options Available for Load cell Cable] to change cable length or so.
* See page 3 for the accuracy of combinations with the amplifier (indicator) under [Models of sensors combined with indicators (Sensor separate models)] and [eZ-Connect series (Sensor interchangeable model)].
* An amplifier (indicator) is required to read values. Refer to “Available amplifiers (indicators)” on page 3 for details.
* When ordering load cell without indicators, 3 connector types are available. See [Load cell only] on page 4 for details. The load cells are not guaranteed either for the operability with your own amplifier (indicator) or for the accuracy as a result of such use.

[Available Amplifiers (Indicators)]

Separated Sensor Model		
Handheld type ZTS series	**Handheld type ZTA series**	**Desktop type FA Plus2**
- Handheld use - Higher accuracy	- Handheld use - Higher accuracy - I/O displacement - Data saving to USB	- Desktop use - Higher accuracy
eZ-Connect series Sensor Interchangeable Amplifier		
Desktop type eFA Plus2	**Handheld type eZT**	**Quad Sensor Measuring Amplifier QSMA-400**
- Desktop use - Load cell interchangeable (such as measurement of tension and torque, or low and high load)	- Handheld use - Load cell interchangeable (such as measurement of tension and torque, or low and high load)	- Up to 4 different load cells can be connected Simultaneously. (Load cell interchangeable) - To use QSMA-400, the graphing Software Quad Graph Drawer is required to be downloaded.

* Refer to the specification sheet of each indicator for details.
* SKM-1000N is not applicable to FA Plus2.

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

Model			Capacity	Accuracy *1	Display	Resolution
ZTA	ZTS	FA Plus2				
ZTA-DM-2000N	ZTS-DM-2000N	FAP2-DM-2000N	2000N	+/- 2.0%F.S. or less	2000N (2.000kN)	1N (0.001kN)
ZTA-SKM-1000N	ZTS-SKM-1000N	-(*2)	1000N	+/- 1.0%F.S. or less	1000N (1.000kN)	1N (0.001kN)

* Refer to each indicator specification for details.
*1 It is the accuracy of the sensor and the indicator combined.
*2 SKM-1000N is not applicable to FA Plus2.

[eZ-Connect series (Sensor interchangeable model)] * SKM-1000N is not support eZ Connect function.

Model	Capacity	Accuracy(*1)	Display	Resolution
eDM-2000N	2000N	Accuracy of sensor + Accuracy of amplifier	2000N (2.000kN)	1N (0.001kN)

*1 Total accuracy when combined with the eZ-Connect series amplifier.
e.g. Total accuracy of eCLFX and eZT ➞ +/-1.2%F.S. or less (Load cell: +/-1.0%F.S. or less + Amplifier: +/-0.2%F.S. or less)
* Please refer to the accuracy of the sensor of eZ-Connect in the Specifications table.

[Sensor Model]

Model	Capacity
DM-2000N	2000N

* When ordering load cell only, choose the connector type from the table below.

[Connector Type]

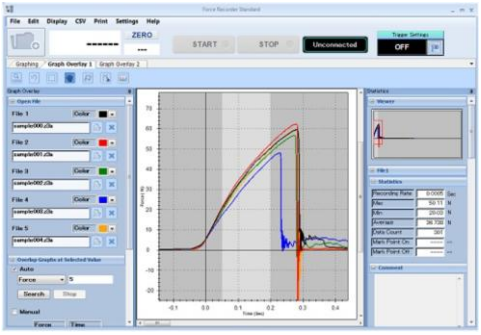
Code	-5P	-6P	-OC
Connector shape	5 pin	6 pin	Without Connector (Open end)
Connect to	ZT series, FA Plus2, etc	Some discontinued IMADA products	For installing in equipment
	*Please check the connector shape of your equipment to connect.		
	*Please check the connector shape of your equipment to connect.		

* Add the code to the end of model. For example, when ordering DM-2000N with 5 pin, the product model is “DM-2000N-5P”.

Related products

Optional Handle for A Fire Door Closing Measurement HDC-1	**Load cell for Two-wheeler Handbrakes PK1-500N**	**Load cell for Vehicle Foot Pedals PK2-1500N**
HDC-1 is optional handle for a fire door closing measurement. It achieves stable support for safe and repeatable testing by pushing the device against a door.	Load cell PK1-500N is for force testing of two-wheeler handbrakes with 500N capacity. It is easy to mount to the two-wheeler handbrakes lever with the specially designed shape.	Load cell PK2-1500N is for force testing of automotive's foot pedals with 1500N capacity. It is easy to mount to the vehicle foot pedals with the specially designed shape to test the its operability.

Graphing Software: Force Recorder

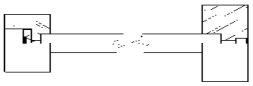


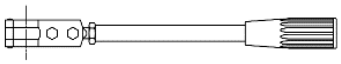
*The image is Force Recorder Standard.

- 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.
- 5 graphs at maximum can be overlaid. (Standard, Professional edition)
- It allows analysis of force-displacement relationships. (Professional edition)

*Please refer to each specification sheet for further information.

[DM-2000N Optional]

Extension Shaft * You can select the suitable model according to the distance specified in JIS A4722			
Model	**DM-ETM-200**	**DM-ETM-300**	**DM-ETM-500**
Distance between door and wall (vertical door frame)	200 mm or less	200 mm or more, 500 mm or less	500 mm or more
Length combined with load cell	200 mm	300 mm	500 mm
Detail	Diameter of the contact part: φ80mm Material of the contact part: hard resin		
Image			

Handle for Extensin Shaft	
Model	**DM-ETM-001**
Purpose	This handle can be mounted on any position of the extension shaft. You can hold the sensor easily and stably.
Length	300 mm
Image	

[DM-2000N unit models]

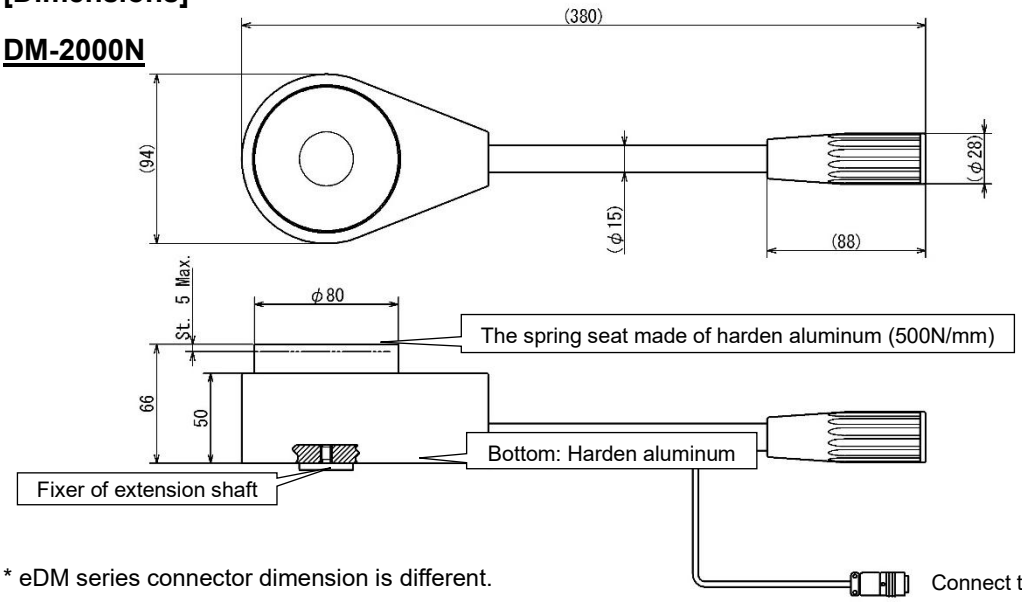
*Highly stable measurement is possible due to the supplied extension shaft and handle.

	Order with ZTS series	Order with ZTA series
Model	ZTS-RDM-2000N	ZTA-RDM-2000N
Product configuration of the unit	ZTS-DM-2000N	ZTA-DM-2000N
	-Extension shaft DM-ETM-200 -Extension shaft DM-ETM-300 -Extension shaft DM-ETM-500 -Handle for extension shaft DM-ETM-001(*) -Graphing software Force Recorder Standard	

* This handle is mounted on the middle part of extension shaft, enabling you to hold the sensor easily.

[Dimensions]

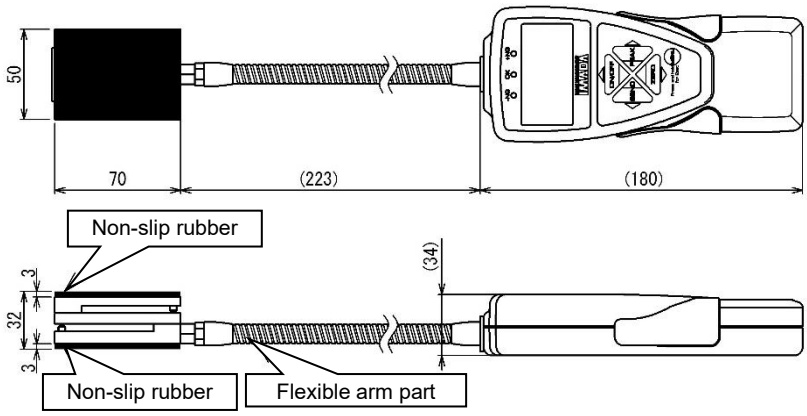
DM-2000N



* eDM series connector dimension is different.

Unit: mm

SKM-1000N（ZTS-SKM-1000N）



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.

SHRADDHA IMPEX
Authorized Distributor

Email: shraddhaimpex@gmail.com / sales@shraddhaimpex.net
Web: www.shraddhaimpex.net
Contact: +919819530352 / +918591279918

SHRADDHA IMPEX
Redefining Quality
Authorized Distributor