
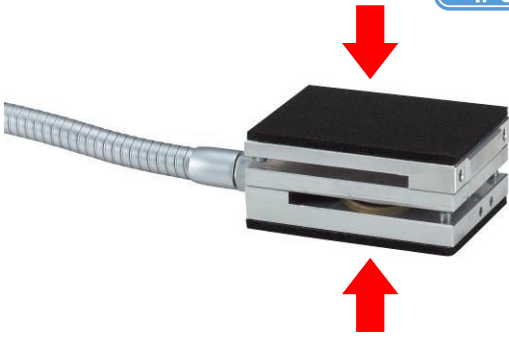
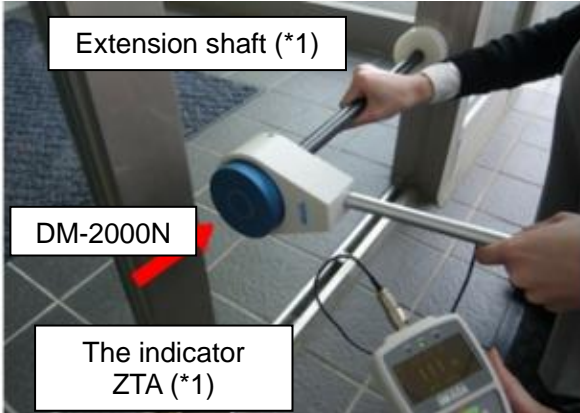

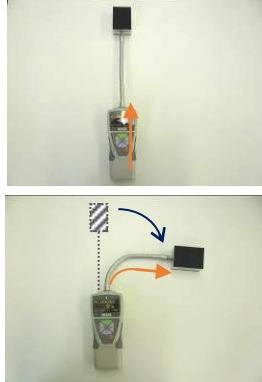


Load cell for automatic doors DM-2000N Load cell for doors and windows SKM-1000N

Load cells to measure closing force of doors or windows
Put the load cell between door/window and its frame to measure its closing force.
DM-2000N enables you to perform measurement complying with EN standards.

	Load cell for automatic doors:DM-2000N	Load cell for doors & windows:SKM-1000N														
Photos		<div style="border: 1px solid black; padding: 5px; display: inline-block; margin-bottom: 10px;">Approved IP65</div> 														
Using Images	 <p>*1 We also offer model including the extension shaft and other necessary options. (Please refer to page 3 for further information.)</p>	<p>Put the load cell between door/window and its frame</p> 	<p>The flexible arm can fix the sensor direction.</p> 													
Standards(*2)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Standards (year)</th> <th>Title</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center;">Japanese Standards</td> <td style="text-align: center;">JIS A4721 (2005)</td> <td>Automatic revolving doors - Safety</td> </tr> <tr> <td style="text-align: center;">JIS A1551 (1995)</td> <td>Test method for automatic door systems</td> </tr> <tr> <td rowspan="2" style="text-align: center;">Europe Standards</td> <td style="text-align: center;">EN 12650-01 (1997)</td> <td>Building Hardware - Powered Pedestrian Doors - Part 1: Product Requirements And Test Methods</td> </tr> <tr> <td style="text-align: center;">EN 12445 (2001)</td> <td>Industrial, commercial and garage doors and gates. Safety in use of power operated doors. Requirements</td> </tr> </tbody> </table>	Standards (year)		Title	Japanese Standards	JIS A4721 (2005)	Automatic revolving doors - Safety	JIS A1551 (1995)	Test method for automatic door systems	Europe Standards	EN 12650-01 (1997)	Building Hardware - Powered Pedestrian Doors - Part 1: Product Requirements And Test Methods	EN 12445 (2001)	Industrial, commercial and garage doors and gates. Safety in use of power operated doors. Requirements	<p>You can easily fix sensor's position and direction due to its flexible arm.</p> <p style="font-size: 24px; margin-top: 20px;">N/A</p>	
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*An indicator is required for reading force value. Please refer to Page 3 for the indicator detail.

*2 You can perform a test complying with a part of the standard.

[Load cell specification]

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

*1 The load cell cannot be separated from an indicator, therefore, we do not mention its features as a sensor here. Please refer to [Separated sensor model] on the next page for the accuracy.

*2 Only a load cell itself secure protection grade IP. An amplifier (an indicator)/ the connecting part/ the connector part are not secured.

[eZ-Connect series load cell specification]


Model	eDM-2000N	SKM-1000N
Capacity	2000N	N/A SKM-1000N is NOT available for eZ-Connect series.
Accuracy	+/-2.0%F.S or less	
Safe overload rating	150%	
Working environment (allowable temperature)	0degree Celsius~+50degree Celsius(-10degree Celsius~+60degree Celsius)	
Cable	Approx.1200g(Sensor only)	
Dimensions	Approx.2m	
Model	Refer the dimension	

*Please refer Page 3 for the detail of eZ-Connect series.

1. For those who have a specific measurement / purpose

[ZTA/ZTS] Separated sensor model

- If you do not need to change load cells basically, we recommend the combination of a load cell and an indicator mentioned below.

Image	Feature	Accuracy
	<ul style="list-style-type: none"> ● You can operate it apart from a load cell. →You can save Max.1000data into the amplifier. ● Easy data management on PC →You can send 10 data / sec to PC using accessory software ZT-Logger. ● Various outputs for controlling external devices 	<ul style="list-style-type: none"> ▪ An inspection certificate by force data is attached. ▪ Please request us the calibration certificate if necessary.

- Separated sensor models

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

*1 Accuracy here is calculated after sensor is combined with an indicator.

- Other models

*This model includes an indicator and accessories.

When you choose ZTS, the set model is	When you choose ZTA, the set model is
ZTS-RDM-2000N.	ZTA-RDM-2000N.
[Accessory] <ul style="list-style-type: none"> ● Extension shaft DM-ETM-200/300/500(*1) ● Data logger software ZT-Logger ● USB cable ● Storage case for the indicator 	
<ul style="list-style-type: none"> ● Handle for extension shaft DM-ETM-001(*2) ● Graphing software Force Recorder Standard ● AC adaptor ● Adaptor for USB flash drive (*for ZTA-RDM-2000N only) 	

*1 Please select the length of extension shaft from 200mm, 300mm, or 500mm.

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

2. For those who have a wide range of measurement purposes

[eZ-Connect (Sensor interchangeable model)]

- If you need 2 or more different load cells, we recommend eZ-Connect series below since it can change load cells according to your purposes.


- Load cell

Load cell model	Capacity	Accuracy(*1)	Display	Resolution
eDM-2000N	2000N	+/-2.2%F.S. or less	2000N(2.000kN)	1N(0.001kN)

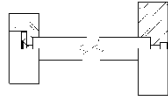
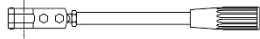
*For further information about indicators, please refer to each specifications.

*1 Accuracy here is calculated after sensor is combined with an indicator.

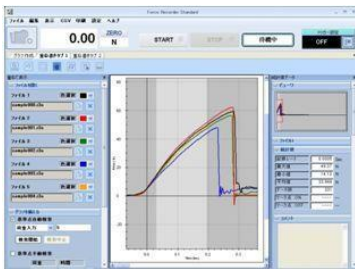
- Indicator eZT *Please combine a load cell exclusive for eZ-Connect.

Image	Feature	Accuracy
	<ul style="list-style-type: none"> ● No adjustment is needed when you change load cells. ● You can measure different force range. ● You can measure different types of force. ● You can reduce risks in operation 	*Accuracy here is the total of load cell's accuracy (refer to each specifications) and indicator's one (+/-0.2%F.S.). We offer higher accuracy models; ZT series (sensor separate type) and FA plus. For detail, please refer to page 3.






[Related products]
- Options for DM-2000N

Model	Detail	Image
DM-ETM-200/300/500	Extension shaft <ul style="list-style-type: none"> • The length (after combined with the load cell) : 200 mm/300 mm/500 mm • Diameter of the contact part : $\phi 80$ mm • Material of the contact part : hard resin 	
DM-ETM-001	Handle for extension shaft (This handle is mounted on the middle part of extension shaft, enabling you to hold the sensor easily.)	

- Data analysis software Force Recorder (For ZTS/ZTA/eZT)


Image	Feature
	<ul style="list-style-type: none"> - You can draw graphs of force-displacement at real time via USB connection at 2000Hz. - 5 graphs at maximum can be overlaid. (Standard / Professional only) - You can write memo on each graph. For instance, you may write down testing conditions such as testing speed, attachment etc. <p>* 3 models (Light/Standard/Professional) are available.</p>

- Other load cell line-up (We offer wide range of load cells to fit your measurement needs.)

Standard DPU series	Coin shaped type LM series	High accuracy coin shaped type LC series	Extra small type LMU series	Pen type PN-50N
				
High accuracy built-in type. For general use.	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.

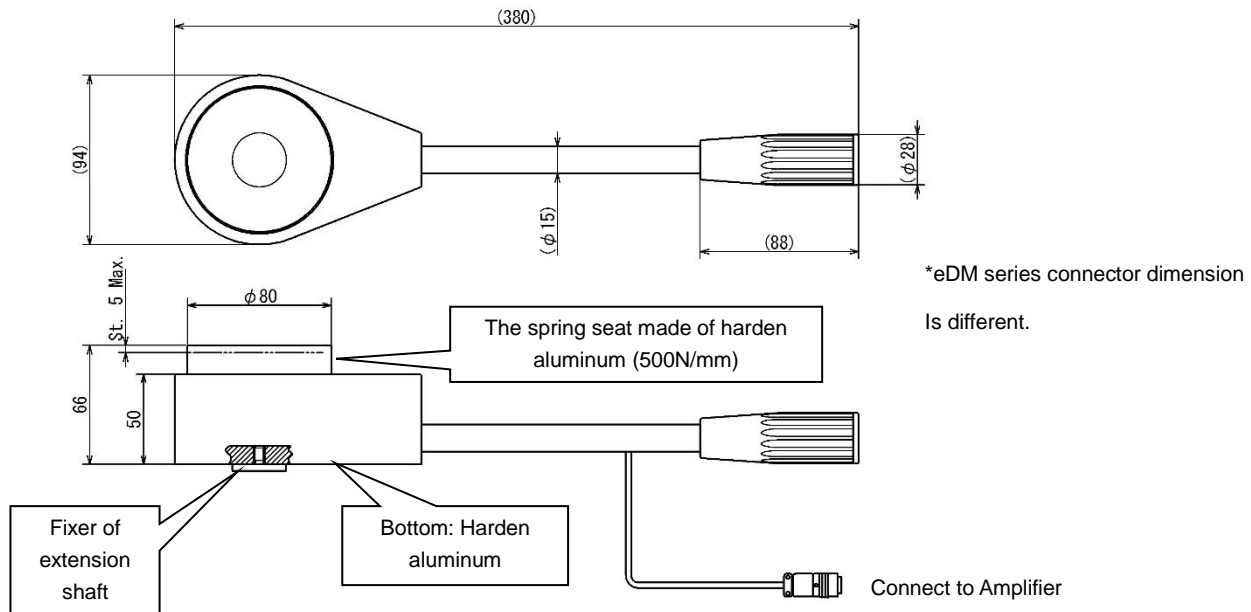
*Please refer to the each specification of load cell/software for the detail.

- Other related product

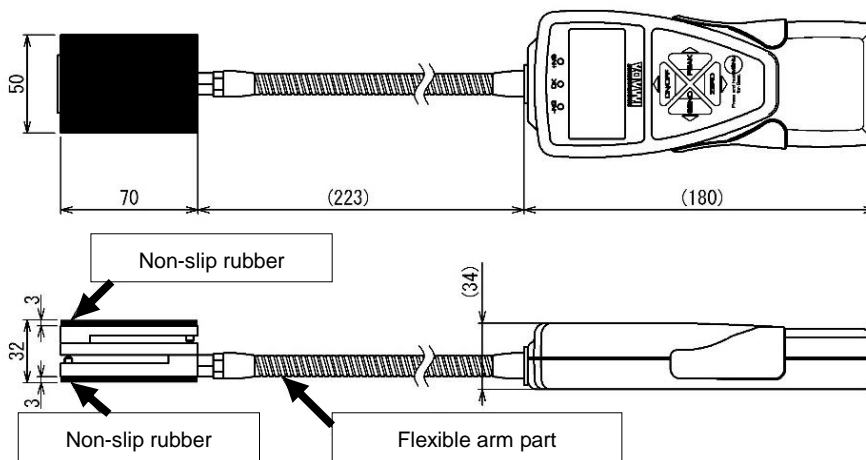
Model	Detail	Image
HDC-1	It is optional handle using with a force gauge which can measure a fire door closing force according to the building standard law in Japan.	

[Dimensions]

DM-2000N



SMK-1000N (ZTS-SKM-1000N)



[Caution]

- This product is designed for force measurement only. Do not use it for other purposes.
- Please pay close attention for installation.
 - Never apply impact load especially on the sensing direction.
 - Do not apply bending or torsion stress to a sensing part.
- Do not use under the environment such as high temperature, high humidity, near water, dusty place, and rapid temperature changes.
- The contents may be changed without notice in advance.
- Please note that a load cell's capacity differs slightly depending on a selected unit of the indicators. Please contact us for detail.

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