

## High functionality/High performance Digital Force Gauge ZT Series Separate Sensor Model

- Separate sensor model of high-performance digital force gauge ZT series
- Enables various test applications with wide range of load cells such as mountable type, waterproof type and so on



ZTS-DPU-2N to 500N



Product Package with included Accessories

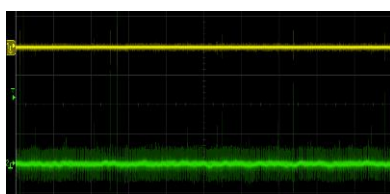
### [Evolution to the Next Series]

Next Series is a generic term for IMADA measurement devices with upgraded functions and performances with the essential modifications. The devices enable to install additional functions from the user support site, IMADA-Connected. On the website, related data such as software and instruction manuals can also be downloaded.

New Series: ZT Series Separate Sensor Model Firmware Ver.5 or later.

### New Features

- Increased measurement stability achieved from further noise reduction to the measurement circuit.



Analog output comparison  
Yellow: Next series/Green: Old Model

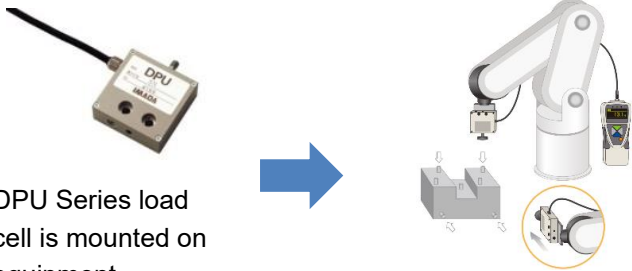
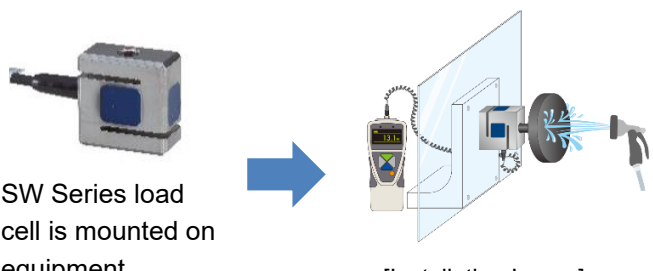
- Measurement device program (firmware) online updates available.
- Various software and additional functions downloadable to increase the measurement conveniences.



IMADA-Connected

(<https://www.imada-connected.com/>)

**[Attachable loadcell samples]**

Measuring with mounted on equipment	Measuring in wet environment
 <p>DPU Series load cell is mounted on equipment</p> <p>[Installation Image]</p>	 <p>SW Series load cell is mounted on equipment</p> <p>[Installation Image]</p>

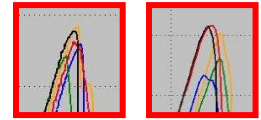
\*More load cells are listed on a following page.  
\*Load cells are calibrated independently to each display unit. They are NOT interchangeable.

**[Features]**

**Fast sampling for both Peak Values and Continuous Data, achieving high reproducibility**

High-speed sampling of up to 2000 times/second updates measured values for more accurate peak-value readings.  
By using the optional software sold separately (refer to P.7), graphed as continuous Data with the sampling data of up to 2000 times/second, and even frictional Load changes visualized and evaluated.

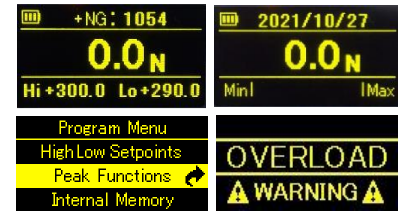
\*The Test Results vary depending on the sample and measurement conditions.



Destructive test comparison of the same sample by sampling speed: -  
-Left Sampling speed 2000Hz  
-Right Sampling speed 100Hz  
The less variation shown in the left results

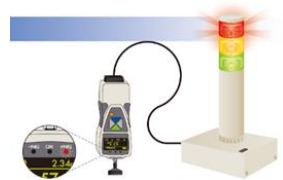
**Clear OLED display with a variety of significant capabilities**

The OLED provides excellent contrast and high visibility, which reduces errors in reading measurement results.  
In addition, the display screen can be divided into three sections, allowing to customize the display contents for liking, such as calendar, bar graph and Comparator setting values on the top and bottom.  
In addition, it has various display capabilities such as a multi-language setting menu and overload warning display.



**Measurement benefit increased by external output and practical functions**

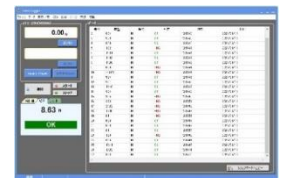
By providing a wide range of data output options such as USB, wireless, serial communication, and analog output, it can be used in a wide range of situations from data management on a PC to interlocking with various devices.  
The system used to control external devices, such as stopping the machine at a specified load value, or to create an inspection device linked to a work process to improve the efficiency of the inspection process.



The warning light and other devices may be used to detect measurement abnormalities.

**Allows easy data acquisition and management with the included software**

USB Cable and software *Force Logger* included in the original package to proceed with the data management when purchased.  
With the software, displayed values and internal memory data stored in a force gauge and continuous data acquired (10 data per second).  
It also allows to change and save the Force-Gauge settings from facilitating the management of measurement conditions. (Please refer to P.6 for the system requirements).



## [Specifications of ZT series]

2 types (ZTA or ZTS) are available in accordance with your use.

Model	ZTA	ZTS
Feature	Advanced model with various functions such as data saving in USB memory stick, displacement I/O and more.	Standard model with the same benefit in performance as ZTA series but reduced functionality.
Accuracy	Depending on load cells	
Unit of measurement (*1)	N, kgf, lbf (*2)	
Display	4-digit Organic EL	
Display update	16/sec	
Sampling rate	2000 data / sec at maximum (*3)	
Battery	6.5 hours (2 hours charge) (*4)	
Safe overload rating	Approx. 200% F.S.	
Operating environment	Temperature: 0 to + 40 degree Celsius Humidity: 20 to 80%RH	
Function	Customized display (header and footer), Peak hold (tension and compression), Internal 1000 points data memory, Comparator (judgment of OK or NG), Reversible display, Sign inversion, Zero clear timer, +NG alarm, Off timer (auto power off), Dumping , Time display, Setting lock	
	1 <sup>st</sup> /2 <sup>nd</sup> peak, Displacement detection at force peak, Displacement 0 reset at selected force	-
Output	USB, RS232C, +/- 2VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm	
	Sub comparator 2 steps (output of low or high judgement)	-
Overload warning	Approx. 110% F.S. (Warning message and alarm)	
External connecting switch	Power ON / OFF / Send and Hold / Zero reset / Peak and Real-time switching	
Weight	Indicator: Approx.490g (Load cell: Please refer to each load cell's specifications)	
Dimensions	Please refer to dimensions.	
Accessory(*6)	AC adapter, Inspection certificate, CD driver (Including data logging software), Attachments (The set of attachments varies according to range.), USB cable, Carrying case.	
	Adapter for USB memory stick (*5)	-

\*1 These are the specifications for international model. Please note that the international model has different units of measures from Japanese domestic model.

\*2 [N indication] The indication of 2N and 5N models is mN or N. The indication of 1000N, 25000N and 5000N model is N or kN.

[kgf indication] The indication of 2N and 5 N models is gf.

[lbf indication] The indication of 2N and 5N models is ozf.

\*3 When you save data in USB memory stick, the sampling rate is selectable among 1, 50 and 100/sec.

\*4 The battery is more consumed when connected to USB flash drive or a linear scale.

\*5 USB memory stick is not included.

## [Option]

Option	Explanation	Model
Analog output: RAW	The raw analog data is output without digital processing.	-AN

\* For this option, add the code (-AN) to the end of the Product Model Number. (Example: ZTS-DPU-500N-AN)

\* This option requires a dedicated cable CB-118 sold separately.

\* Data responsiveness is higher than standard analog output (D / A), with the disadvantages of Zero reset disable and high noise components.

## [Sensor Separate Models]

Select a display and a sensor;

Example of combination:

Display + Sensor (Load cell)	Models
ZTA series + DPU-50N	<b>ZTA-DPU-50N</b>
ZTS series + LM-2000N	<b>ZTS-LM-2000N</b>

Range list of some load cells >>>>

### DPU Models

Model		Capacity	Display	Resolution
ZTA-DPU-2N	ZTS-DPU-2N	2N(200gf)	2.000N/2000mN(200.0gf)	0.001N/1mN(0.1gf)
ZTA-DPU-5N	ZTS-DPU-5N	5N(500gf)	5.000N/5000mN(500.0gf)	0.001N/1mN(0.1gf)
ZTA-DPU-10N	ZTS-DPU-10N	10N(1kgf)	10.00N(1.000kgf)	0.01N(0.001kgf)
ZTA-DPU-20N	ZTS-DPU-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZTA-DPU-50N	ZTS-DPU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-DPU-100N	ZTS-DPU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-DPU-200N	ZTS-DPU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-DPU-500N	ZTS-DPU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-DPU-1000N	ZTS-DPU-1000N	1000N(100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-2000N	ZTS-DPU-2000N	2000N(200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-5000N	ZTS-DPU-5000N	5000N(500kgf)	5000N/5.000kN(500.0kgf)	1N/0.001kN(0.1kgf)
ZTA-DPU-10kN	ZTS-DPU-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZTA-DPU-20kN	ZTS-DPU-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)

### -LMU Models

Model		Capacity	Display	Resolution
ZTA-LMU-50N	ZTS-LMU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LMU-100N	ZTS-LMU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LMU-200N	ZTS-LMU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LMU-500N	ZTS-LMU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)

### -LU Models






Model		Capacity	Display	Resolution
ZTA-LU-50N	ZTS-LU-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LU-100N	ZTS-LU-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LU-200N	ZTS-LU-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LU-500N	ZTS-LU-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-LU-1000N	ZTS-LU-1000N	1000N(100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LU-2000N	ZTS-LU-2000N	2000N(200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)

### -LM Models






Model		Capacity	Display	Resolution
ZTA-LM-10N	ZTS-LM-10N	10N(1kgf)	10.00N(1.000kgf)	0.01N(0.001kgf)
ZTA-LM-20N	ZTS-LM-20N	20N(2kgf)	20.00N(2.000kgf)	0.01N(0.001kgf)
ZTA-LM-50N	ZTS-LM-50N	50N(5kgf)	50.00N(5.000kgf)	0.01N(0.001kgf)
ZTA-LM-100N	ZTS-LM-100N	100N(10kgf)	100.0N(10.00kgf)	0.1N(0.01kgf)
ZTA-LM-200N	ZTS-LM-200N	200N(20kgf)	200.0N(20.00kgf)	0.1N(0.01kgf)
ZTA-LM-500N	ZTS-LM-500N	500N(50kgf)	500.0N(50.00kgf)	0.1N(0.01kgf)
ZTA-LM-1000N	ZTS-LM-1000N	1000N(100kgf)	1000N/1.000kN(100.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-2000N	ZTS-LM-2000N	2000N(200kgf)	2000N/2.000kN(200.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-5000N	ZTS-LM-5000N	5000N(500kgf)	5000N/5.000kN(500.0kgf)	1N/0.001kN(0.1kgf)
ZTA-LM-10kN	ZTS-LM-10kN	10kN(1000kgf)	10.00kN(1000kgf)	0.01kN(1kgf)
ZTA-LM-20kN	ZTS-LM-20kN	20kN(2000kgf)	20.00kN(2000kgf)	0.01kN(1kgf)


\*Please contact us for other combinations.

**[Load cells]**

Model	DPU series	SW series	SCX series	LU series	LMU series
Image					
Feature	Standard - Wide Use	Waterproof	Extra small	Small Size - Wide Use	Small Size
Force	Tension/Compression	Tension/Compression	Tension/Compression	Tension/Compression	Tension/Compression
Capacity	2N to 20kN	100N to 20kN	100N to 2000N	50N to 2000N	50N to 500N
Accuracy	+/- 0.2%F.S.	+/- 0.5%F.S.	+/- 1%F.S.	+/- 1%F.S.	+/- 1%F.S.
Cable Length	Up to 500N:2m 1000N to 20kN:3m	Up to 5000N: 0.5 to 2m(Curl cord) 10kN and 20kN:5m	3m	3m	2m

Model	PN-50N	LM series	LC series	CFX series	CLFX series
Image					
Feature	Pen type	Thin & Round	Round & Precise	Flat & Extra small	Flat & Thin
Force	Tension/Compression	Compression	Compression	Compression	Compression
Capacity	50N	10N to 20kN	500N to 20kN	20N to 200N	50N to 500N
Accuracy	+/- 2%F.S.	Up to 10kN:+/- 2% F.S. 20kN: +/-3.5% F.S.	+/- 0.5%F.S.	+/- 1%F.S.	+/- 2%F.S.
Cable Length	2m	Up to 2000N: 2m 5000N to 20kN: 3m	5m	3m	3m

Model	CHX series	DD2 series	LMT-1000N	ZD series	SK series
Image					
Feature	Washer	High Accuracy & Waterproof	Wide range of temperature type	Small Size - High capacity	High accuracy
Force	Compression	Compression	Compression	Tension or Compression	Tension or Compression
Capacity	100N to 2000N	5000N to 20kN	1000N	1000N to 20kN	2000N to 20kN
Accuracy	Up to 500N: +/-2%F.S. 2000N: +/-1%F.S.	+/- 0.5%F.S.	+/- 1%F.S.	+/- 0.5%F.S.	+/- 0.25%F.S.
Cable Length	3m	5m	2m	3m	5m

Model	ZU series	ZW1-10kN	DM-2000N	SKM-1000N	PK1-500N	PK2-1500N
Image						
Feature	Attached Rod ends	Crane scale type	For door	for automatic doors	for doors and windows	For car foot brakes
Force	Tension	Tension	Specialized	Specialized	Specialized	Specialized
Capacity	10kN to 20kN	10kN	2000N	1000N	500N	1500N
Accuracy	+/- 1% F.S.	+/- 1% F.S.	+/- 2% F.S.	+/- 1%F.S.	+/- 1%F.S.	+/- 1% F.S.
Cable Length	5m	0.5 to 2m	2m	200mm (Flexible arm)	1.5m	1.5m

\*Please refer to the specification sheet of each load cell for further details.



**[Included Accessories]**

-Force Logger: Data Acquisition Graphing Software

	<p><b>Main Functions</b></p> <ul style="list-style-type: none"> <li>-Easy Importing of the Measurement Data</li> <li>-Display Acquired Data Value Statistics: -Maximum / Minimum / Average Values.</li> <li>-Data saved in CSV format</li> <li>-Continuous Data acquisition up to 10 times per second.</li> <li>-Force-Gauge Function Settings.</li> </ul> <p><b>Operating environment</b></p> <ul style="list-style-type: none"> <li>- OS: 8.1/10/11</li> <li>- Hardware: CPU 1GHz or more recommended Memory 2GB or more recommended Hard disk 10GB (Data storage area) or more</li> <li>- Platform: .NET Framework 4.8 or later</li> </ul>
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-Standard Force-Gauge Attachments (Accessories) : For Axis size M6  
Force-Gauge Capacity 100N or less: A-Types (Aluminum)  
Force-Gauge Capacity 200N -1000N: S-Types (Steel)

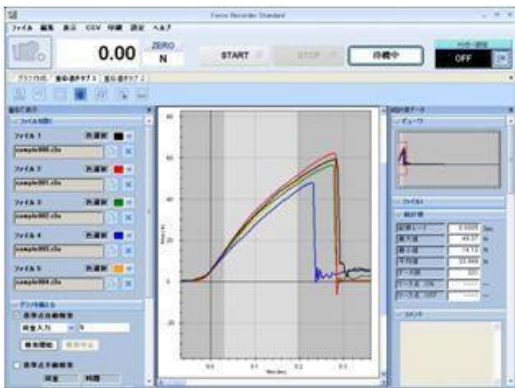



A-1/S-1 *SR-1	A-2/S-2	A-3/S-3	A-4/S-4	A-5/S-5	A-6/S-6	A-7/S-7	A-8/S-8
Small Hook	Disk Tip	Conical Tip	Chisel Tip	Notched Tip	Extension Rod	Large Hook	Y Hook
Tension	Compression	Compression	Compression	Compression	Axis Length Adjustment	Tension	Tension

\*Small Hook S-1 for Capacity 200N - 500N, and SR-1 for Capacity 1000N.

-High-Capacity Force Gauge Attachments (Accessories): For Axis size M10  
Force-Gauge Ranges 2500N-5000N: B-Types (Steel)

B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
Small Hook	Disk Tip	Conical Tip	Chisel Tip	Notched Tip	Extension Rod	Handle	Mounting Bolts
Tension	Compression	Compression	Compression	Compression	Axis Length Adjustment	For High-Capacity Models	For High Capacity Models

**[Related Products]**

Graphing and Data Acquisition Software: Force Recorder Series	
 <p>The Standard Version Image</p>	<ul style="list-style-type: none"> <li>-High-speed USB communication (up to 2000 times/second or 1000 times/second for Plus version) enables graphing for minimal load changes.</li> <li>-Up to 5 graphs overlaid for comparison with the Standard and Professional versions. (10 graphs with Plus version)</li> <li>-Notes added for record keeping of the measurements</li> <li>-For Data managing and reporting, Graphs pasted as the Image Data.</li> </ul> <p>*4 Software versions available for different requirements. (Force Recorder Light / Standard / Professional and Plus) Please refer to the individual Manuals for details.</p>
Wireless Data Transmit System: WL01 Series	
 <p>WL01-USB and WL01-ADP</p>	<ul style="list-style-type: none"> <li>-Wireless communication allows the Data received from remote locations.</li> <li>-The Data reception detection and interference prevention functions support stable communication.</li> <li>-The communication format opened to the public and incorporated into the available facilities possible.</li> </ul> <p><b>Note</b></p> <ul style="list-style-type: none"> <li>-Compatible with firmware Ver3.10 or later.</li> <li>-Restrictions on the countries and regions for use.</li> <li>-Please refer to [Wireless System] Specifications for details.</li> </ul>
Linear scale DMK series	Rechargeable Battery: BP-308
	
Using with a ZTA series to do force-displacement measurement	Rechargeable Battery for replacement

### [Related Cables]

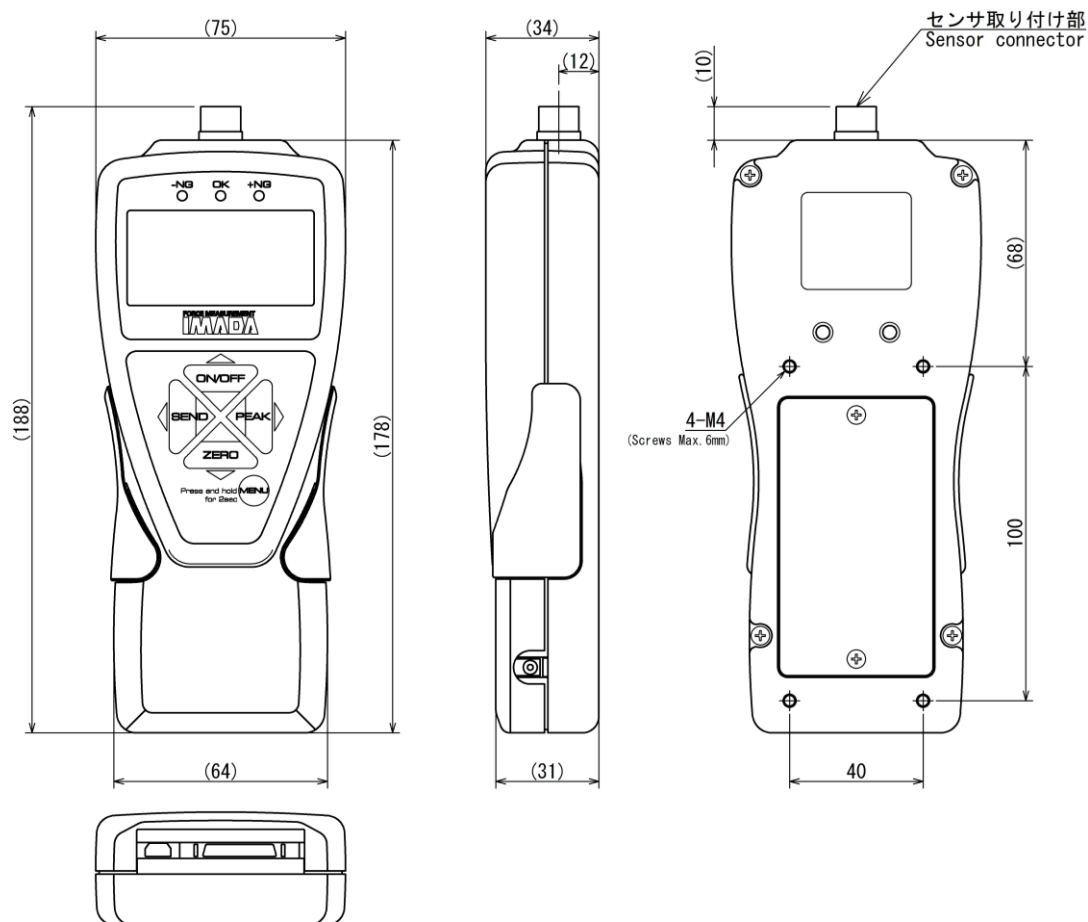
Models	Names	Descriptions
CB-108	Analog Cable	To connect to a multi-meter oscilloscope.
CB-118	Analog cable (For -AN option)	To connect to a multi-meter oscilloscope.
CB-208	RS232C Cable	To connect to a PC having its system
CB-508	Test stand option cable (For MX Series)	To connect to a test stand to enable force control or overload prevention functions.
CB-528	Test stand option Cable (MX2 / MX Series)	To connect to a test stand to enable force control or overload prevention functions.
CB-718	Test stand connection cable for displacement measurement (For MX2-FA, EMX-FA)	To connect to a test stand having length meter to enable force-displacement measurement.
CB-908	Open End Connection Cable	Output cable for loose wire 37 pin (Useful for connection with unique equipment.)

### [Related Force Gauges]

Digital force gauge ZTS/ZTA series	eZ-Connect series: Sensor- interchangeable Amplifier eZT	Desktop Force Amplifier FA Plus2 series
		
Functional yet user-friendly model force gauge.	Enables to connect to the various eZ-Connect Series Load Cells.	Ideal for integration into facilities due to the box-shaped design.



### [Dimensions: Display]



Unit: mm

\* Please see the specifications of each load cell for its dimensions.

### [ISO Calibration Service and Calibration Certificate]

- We are the accredited ISO / IEC 17025: 2017 Calibration Organization with the in-house Calibration Service facility.
- The Calibration Service and Issuing of the Calibration Certificates available at cost.
- For further information, please kindly contact the local authorized distributor or us.

### [Caution]

- Information in this document is subject to change without prior notice.
- This product is designed for force measurement purposes only.
- Do not copy and use this content without authorization.
- Do not apply force more than its capacity and from incorrect direction to the measuring shaft.
- Note that the allowable values may vary slightly depending on the unit selected on display. Please contact us for more information and details.

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