

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

Separate sensor model of high performance digital force gauge ZT series
Wide range of load cell designed to meet varied test applications.
Various data output for external equipment control.



Use with...

DPU series load cell to mount on equipment.



LM series load cell for measuring in limited space.



WP series load cell for measuring in wet environment.



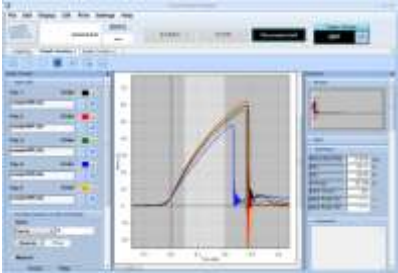



DM series load cell for measuring the closure force of automatic doors.



*LEFT: ZTA with DPU-50N

*Load cells are calibrated independently to each display unit. They are NOT interchangeable.

[Features]

| Fast Sampling & Accurate Results | Direct data storing to USB | Clear Display |
|---|---|--|
| Fast sampling speed of max. 2000 data/sec and fast USB connection provides smooth graph drawing. (Optional software required) | Continuous data saved directly to USB memory stick (ZTA series only) | Bright Organic EL display shows multiple values (date and time, the number of memory, comparator value and more.) |
|  |  | <div style="background-color: black; color: yellow; padding: 2px; margin-bottom: 2px;">Program Menu</div> <div style="background-color: black; color: yellow; padding: 2px; margin-bottom: 2px;">High/Low Setpoints</div> <div style="background-color: black; color: yellow; padding: 2px; margin-bottom: 2px;">Peak Functions </div> <div style="background-color: black; color: yellow; padding: 2px; margin-bottom: 2px;">Internal Memory</div> <div style="background-color: black; color: yellow; padding: 2px; margin-top: 10px;">  15:00:00 0.0N P1 0.0 P2 0.0 </div> |

[ZT series Specifications]

You can select from 2 types (ZTA or ZTS) 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 | +/-0.2%F.S./+/-1digit | |
| Unit of measurement(*1) | N, kgf, lbf (*2) | |
| Display | 4-digit Organic EL | |
| Display update | 10 / sec | |
| Sampling rate | 2000 / sec at maximum (*3) | |
| Battery | 8 hours (8 hours charge) The battery is more consumed when connected to USB memory stick or linear scale. | |
| 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, Calendar display | |
| | 1 st /2 nd peak, Displacement detection at force peak, Displacement 0 reset at selected force | - |
| Output | USB, RS232C, Mitutoyo digimatic (*4), 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG) | |
| | Sub comparator 2 steps (output of low or high judgment) | - |
| Overload warning | Approx.110%F.S. (Warning message and alarm) | |
| External connecting switch | SEND (a point of contact holding), Zero reset, Peak ON/OFF setting | |
| Weight | From 2N to 1000N model: Approx.490g (*5) 2500N, 5000N: Approx. 1100g (*5) | |
| Dimensions | Please refer to dimensions. | |
| Accessory(*6) | AC adapter, Inspection certificate, CD driver (including simple software for data log), Attachments (The set of attachments varies according to range.), USB cable, Carrying case. | |
| | Adapter for USB memory stick | - |

*1 These are the specifications for international model. Please note that this unit is different from Japanese domestic model and international one.

*2 [N indication] The indication of 2N and 5N models is mN or N. The indication of 1000N,2500N and 5000N model is N or kN.

[kgf indication] The indication of 2N and 5N 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 100/sec.

*4 Not always available for Mitutoyo digimatic products.

*5 Weight is slightly different according to range.

*6 USB memory stick is not included.

[Sensor Separate Models]

Select a display and a sensor;

Example of combination:

| Display + Sensor (Load cell) | Model |
|------------------------------|--------------|
| ZTA series + DPU-50N | ZTA-DPU-50N |
| ZTS series + LM-2000N | ZTS-LM-2000N |

Next page: 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.

Digital force gauge ZT series separate model

[Load Cells]

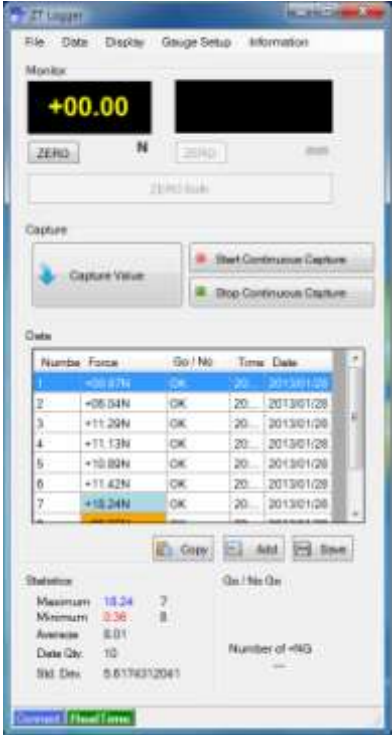

| | | | |
|--------------|--|--|---|
| Display | DPU series | LMU series | LU series |
| Feature | Standard - Wide Use | Small Size | Small Size - Wide Use |
| Force | Tension/Compression | Tension/Compression | Tension/Compression |
| Capacity | 2N to 20kN | 50N to 500N | 50N to 2000N |
| Accuracy | +/- 0.2%F.S. | +/- 1%F.S. | +/- 1%F.S. |
| Cable Length | Up to 500N:2m 1000N to 20kN:3m | 2m | 3m |
| Dimensions | From Approx. W58xD21xH71 up to Approx. W88xD40xH155mm | Approx. φ18xH25mm | Approx. φ28xH35mm |
| Thread | Up to 500N:M6P1 (Male) 1000N to 5000N:M10P1.5 (Male) 10kN to 20kN:M18P1.5 (Length 22mm Female) | M5P0.8 (Male) | M8P1.25 (Length 8mm Female) |
| Attachments | 100N and less:A1-A8 200N to 500N:S1-S8 1000N to 5000N:B1-B8 10kN and over: None | - | - |
| Image |  |  |  |

| | | | |
|--------------|---|--|---|
| Display | LM series | LC series | LMT series |
| Feature | Thin & Round | Round & Precise | Low/High Temperature Resistance (-40 to 130 degree Celsius) |
| Force | Compression | Compression | Compression |
| Capacity | 10N to 20kN | 500N to 20kN | 1000N |
| Accuracy | +/- 1 to 2.5%F.S. | +/- 0.5%F.S. | +/- 5%F.S. |
| Cable Length | 2m | 3m | 2m |
| Dimensions | Approx.φ12xH4 to φ21xH10mm | Approx.φ50xH25mm | Approx.φ14xH4.3mm |
| Thread | - | - | - |
| Attachments | - | - | - |
| Image |  |  |  |

| | | | |
|---------|---|--|---|
| Model | WP series | PN series | DM series |
| Feature | Waterproof | Pen type | For Door |
| Image |  |  |  |

*For further details, please refer to the specification sheet of each load cell.

[Accessories]

| | | |
|--|--|--|
| <p>Data logger Simple software ZT-Logger</p> | <p>Main functions</p> <ul style="list-style-type: none"> - Captures peak data (*1) - Captures continuous data (10 data /sec) (*1) - The recall of memory data (*1) - Saves data in CSV format <p>Operating environment</p> <ul style="list-style-type: none"> - OS: Windows XP/Vista/7 (32bit/64bit) - CPU: more than 1GHz - Memory: more than 1GB - Hard disk : more than 2GB - .NET Framework4 later recommended <p>*1 Available data: Force / Displacement (Must be combined with a test stand having linear scale) / Time</p> <p>*2 Please note that the software may not work in all environmental combinations.</p> |  |
| <p>Attachment</p> | <p>Accessory attachment</p> <p>→ Please refer to ZT series Range above.</p> <p>*The set of attachments varies according to range.</p> <p>*For more information, please refer to Standard attachment specifications.</p> | <p>Accessory attachments' shape. (an excerpt)</p>  <p>S-1 Small hook S-2 Disk shaped S-3 Conical shaped S-6 Extension rod S-7 Large hook</p> |

[Option]

| Option | Explanation | Model |
|---|---|------------|
| <p>Analog voltage (Sensor raw data)</p> | <p>To output sensor data as fast analog voltage without conversion. *The speed is higher than D/A (standard), but there are demerits at the same time that zero reset is not possible, and there are may be signal noise. *CB-118 cable is necessary.</p> | <p>-AN</p> |

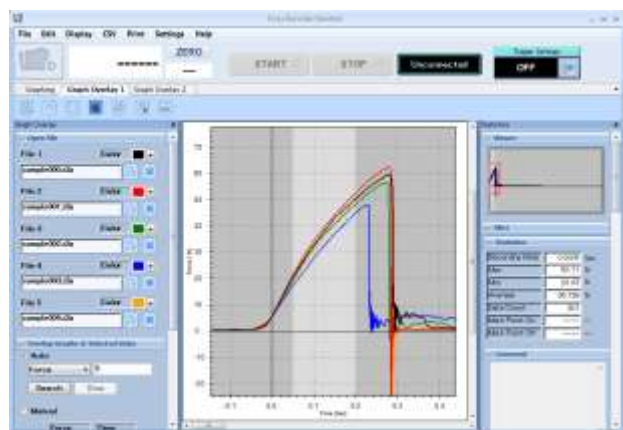
[Application of Force Gauge]

ZT series enable

1. Controlling external equipment according to force value. (e.g. To stop or change operation of machine at a selected force value.)
2. Adding load at a certain force value. (e.g. To maintain sample at a chosen force value.)
3. Producing inspection device synchronized with work process. (e.g. To improving efficiency of inspection process.)
4. Finding inferior goods earlier with comparator (judgment of acceptance or rejection) function.(e.g. To do quality control thoroughly)
--> Please contact us or our distributor in your country for further information.

[Related Products]

Graphing Software: Force-Recorder



You can select from 3 grades.

| Main functions | Professional | Standard | Light |
|--|--------------|----------|-------|
| Force-time graphing Sampling rate: Max. 2000/sec | ✓ | ✓ | ✓ |
| Force gauge function setting | ✓ | ✓ | ✓ |
| Data storage in CSV format | ✓ | ✓ | ✓ |
| 5 graphs at maximum can be displayed in a table | ✓ | ✓ | N/A |
| Force-displacement graphing | ✓ | N/A | N/A |

*Professional version needs ZTA and a test stand with linear scale.

*Please refer to each specification for further information.

Printer:DP-1VR



Optional Handles: FOH-1



Battery: BP-308



Prints indicated values and data in internal memory.
CB-308 cable is necessary.

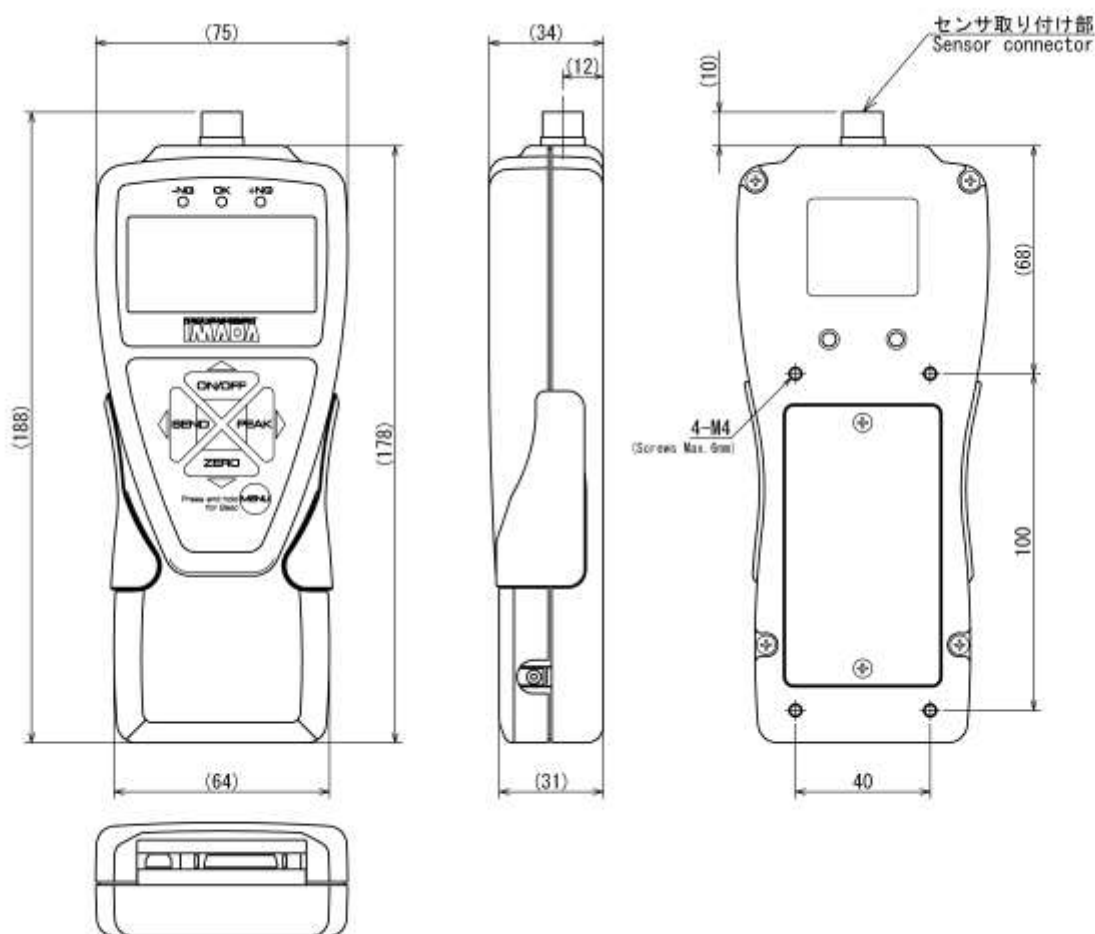
You can grip handles firmly so it becomes easier to apply high load force steadily.

Battery for replacement.

[Related Cable]

| Model | Explanation | Purpose of use |
|--------|---|--|
| 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 own system |
| CB-308 | Digimatic cable | To connect to a printer DP-1VR |
| CB-508 | Test stand option cable (For MX) | To connect to a test stand to enable force control or overload prevention functions. |
| CB-518 | Test stand option cable (For MX2,EMX) | 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) | To connect to a test stand having length meter to enable force-displacement measurement. |
| CB-728 | Test stand connection cable for displacement measurement (For 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.) |

[Dimensions: Display]



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

[Calibration Certificate]

We offer calibration certificate at extra charge.

*Please contact us or our distributor in your country for more information.

[Cautions]

- The contents may be changed without prior notice.
- All products are designed for measurement purpose only.
- Do not copy and use this content without authority.