

Digital Torque Gauge HTGS/HTGA series

Handheld torque measurement instrument for wide applications
Changeable attachments expand application possibility
High usability with bright display and various functions



Left: HTGA

Below: Accessories software ZT-Logger



Torque measurement of rotary switch

Precise measurement	High usability	Easy data management
<ul style="list-style-type: none"> - Fast sampling rate 2000 Hz capture torque transition - Small influence of bending and slant force by double bearing structure. 	<ul style="list-style-type: none"> - High bright organic EL display - Multi language set up menu of English, Spanish, French, Chinese, German, Italian, Korean and Japanese. 	<ul style="list-style-type: none"> - Easy connection with PC by USB - Data download software is included - Optional software which is making a graph is available.

Replaceable attachment

Easy operation of changing attachments.



Prepare an attachment



Insert an attachment



Turn screw by attached L wrench

You can change the attachment according to a sample.

We offer custom made attachment for unique application.

* Attachments are not included HTGS/HTGA series.

[Specifications]

We have 2 models of torque gauges.

Model	HTGA	HTGS
Outline	Advanced model with various functions such as data saving in USB memory stick, angle(displacement) I/O and more.	Standard model
Accuracy	±0.5%F.S.±1digit	
Unit of measurement (*1)	N·m, N·cm, kgf·m, kgf·cm, lbf·in, ozf·in (N·cm, kgf·cm, lbf·in and ozf·in are available for 0.5N·m.)	
Display	4-digit Organic EL	
Display update	16 / sec	
Sampling rate	2000 data / sec at maximum (*2)	
Battery	Nickel-hydrogen battery / Operating time:8 hours (2 hours full charge) (*3)	
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 (clockwise and counter-clockwise), 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	
	1st/2nd peak, Angle detection at torque peak value (*4), Angle zero reset at selected torque(*4)	-
Output	USB, RS232C, Mitutoyo digimatic (*5), 2 VDC analog output (D/A), Comparator 3 steps (-NG/OK/+NG), Overload alarm	
	Sub comparator 2 steps (output of large or small judgment), USB flash drive, Angle(displacement) (*4)	-
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	Display : approx.490g	
Dimensions	Please refer to dimensions.	
Accessory	AC adapter, Inspection certificate, CD driver (including simple software for data logging), Force Recorder Professional (Graphing software for demo), USB cable, Carrying case, L wrench, handles (10N·m range only)	
	USB flash drive adapter(*6)	-

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

*2 The recording rate to USB flash drive is selectable among 1, 50 and 100/sec.

*3 The battery is more consumed when connected to USB flash drive or a displacement scale.

*4 Angle (displacement) scale is necessary to activate this function.

*5 Not always available for Mitutoyo digimatic products.

*6 USB flash drive is not included.

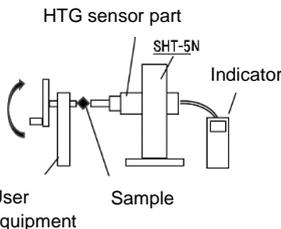
[HTG series models]

Model		Range	Display	Resolution
HTGA-0.5N	HTGS-0.5N	50N·cm	50.00N·cm	0.01N·cm
HTGA-2N	HTGS-2N	2 N·m (200N·cm)	2.000N·m (200.0N·cm)	0.001N·m (0.1N·cm)
HTGA-5N	HTGS-5N	5 N·m (500N·cm)	5.000N·m (500.0N·cm)	0.001N·m (0.1N·cm)
HTGA-10N	HTGS-10N	10N·m (1000N·cm)	10.00N·m (1000N·cm)	0.01N·m (1N·cm)

[Option attachment]

Expand the usage with various attachments			
			
<p>Pin chuck Suitable to fix shaft and rod type samples</p>	<p>Socket holder Suitable to fix torque wrench</p>	<p>Torque driver Suitable to measure tightening and loosening torque</p>	<p>M10 adapter Adaptable for M10 female attachment</p>
<p>Large pin chuck Model : HT-DC-13 Opening width : $\phi 1.2\sim 13\text{mm}$ Weight : approx. 600g *Cannot be used for 2N·m or 0.5N·m range</p>	<p>Socket holder Model : HT-9.5SQ Socket : 9.5mm square Weight : approx. 100g</p>	<p>Torque driver Model : HT-DBH Bit : + : No.1×50 + : No.2×50 - : No.3×50 Weight : approx. 100g</p>	<p>M10 adapter Model : HT-AD-M10 Screw : M10×L20 Weight : approx. 50g</p>
<p>Standard pin chuck Model : HT-DC-6.5 Opening width : $\phi 0.5\sim 6.5\text{mm}$ Weight : approx. 200g *Cannot be used for 0.5N·m range</p>			
<p>Small pin chuck Model : HT-DC-4 Opening width : $\phi 0.5\sim 4\text{mm}$ Weight : approx. 100g</p>			

[Option Stand]

Sensor fixation for stable measurements		
 <p>The fixing direction can set horizontally or vertically.</p>		<p>The stand holds HTGS/HTGA series sensor. It realizes stable torque measurements.</p>
	<p>HTG sensor part</p>  <p>User equipment Sample Indicator</p>	<p>[Horizontal Sensor Fixing] Torque measurement of torsion spring etc.</p>
<p>Sensor Holder Model: SHT-5N Capacity: 5N·m (500N·cm) Weight: Approx. 1100g Dimension: Please refer Page 6.</p> <p>*DO NOT use the stand for 10N·m torque range. *It is possible to screw on equipment.</p>		<p>[Vertical Sensor Fixing] Turning torque of small screws or turbines. Simple screw cap measurement etc.</p> <p>*Use Small table HT-ST</p>

[Accessories]

Data logger Simple software ZT-Logger	Main Functions <ul style="list-style-type: none"> - Captures peak data - Captures continuous data (10 data /sec) - The recall of memory data - Saves data in CSV format - Prints out reports - Prints out reports * Available data: Torque, Angle, Time 	
	Working Environment <ul style="list-style-type: none"> - OS: Windows XP/Vista(32bit) 7/8/8.1(32bit/ 64bit) - CPU: more than 1GHz - Memory: more than 1GB - Hard disk : more than 2GB - .NET Framework4 later * Please note that the software may not work in all environmental combinations. 	
Graphing software Trial version Force Recorder Professional Trial Edition Trial limit is 30days	Main Functions <ul style="list-style-type: none"> - Making a graph with 2000Hz sampling speed - Function to input memo to record information * Some functions are limited with trial edition. Please refer specification of Force Recorder for the detail of functions. 	
	Working Environment <ul style="list-style-type: none"> - OS: Windows XP/Vista(32bit) 7/8/8.1(32bit/ 64bit) - CPU: more than 1GHz - Memory: more than 1GB - Hard disk : more than 2GB - .NET Framework4 later * Please note that the software may not work in all environmental combinations. 	

[Related products]

Graphing Software: Force Recorder		
	Main functions <ul style="list-style-type: none"> - You can make graphs of force-displacement at real time via USB connection at 2000Hz. - 5 graphs at maximum can be overlaid. (Standard, Professional edition) - You can write memo on each graph. You may write down testing conditions such as testing speed. * 3 editions are available as Light, Standard, and Professional. * Please refer to each specification for further information. 	
Printer : DP-1VR	Option cable	Replacement battery : BP-308
	Analog(3m) : CB-108	
	RS232C Cable (3m) : CB-208	
	Digimatic cable(3m) : CB-308	
	Contact point cable (3m) : CB-808	
	Open end cable (3m):CB-908	
Prints indicated values and data in internal memory. *CB-308 cable is necessary.	Various cables are available.	Battery for replacement.

eZ-Connect series Sensor-interchangeable Amplifier eZT



For measuring both torque and compression/tension force...

eZT is an amplifier which enables to connect to various eZ-Connect load cells of your choice.

*The amplifier and the load cell are not calibrated (actual loading calibration) together therefore the inspection certificate is not included. Please calibrate them or ask us for calibration service.

*The accuracy of load cell is dependent on the model. Please refer to each specification sheet for details.

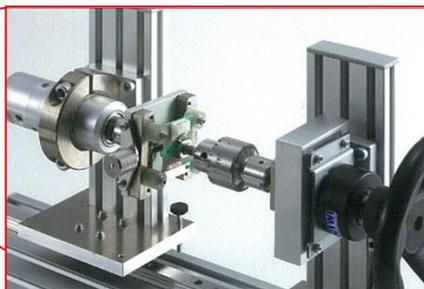
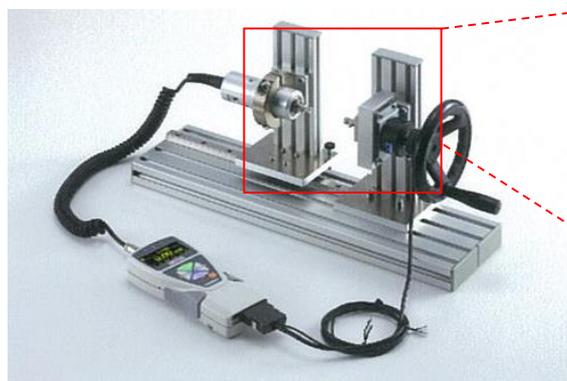
Handy Torque-Angle Measurement Unit (Custom-made)



For feeling test of rotary switches on car dashboard

- Easily analyze torque-angle measurement
- Enables stable measurement with the height adjustable stay.

Torque-Angle measurement Unit with Manual test stand (Custom-made)



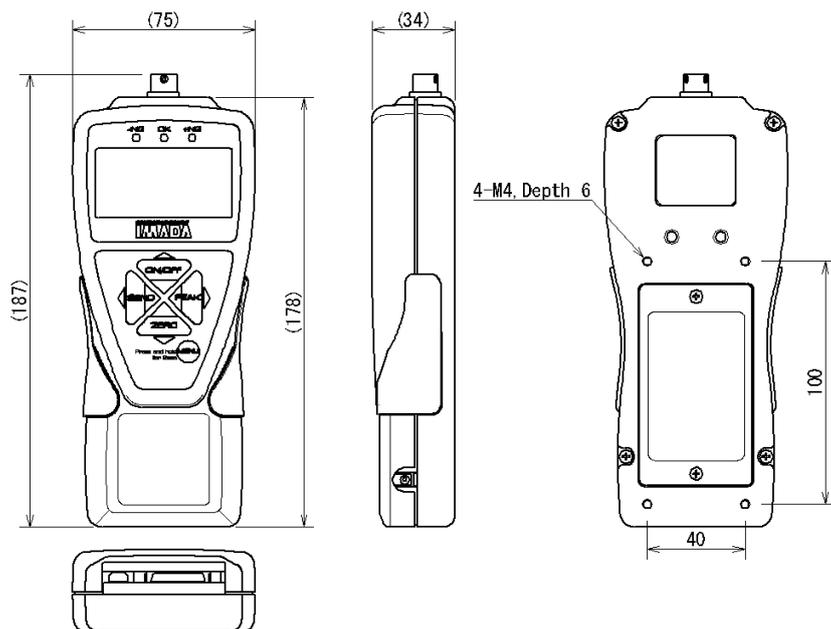
Torque-Angle Measurement of a small switch

- The sensor and the jig for chuck can be fixed on the stand.
- The handle enables stable measurement and analysis of torque-angle and improves repeatability.

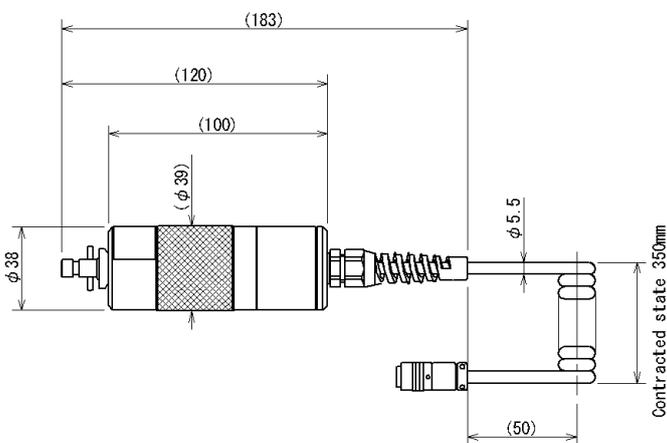
*We offer custom-made products based on your needs. Please contact us for your measurement solutions.

[Dimensions]

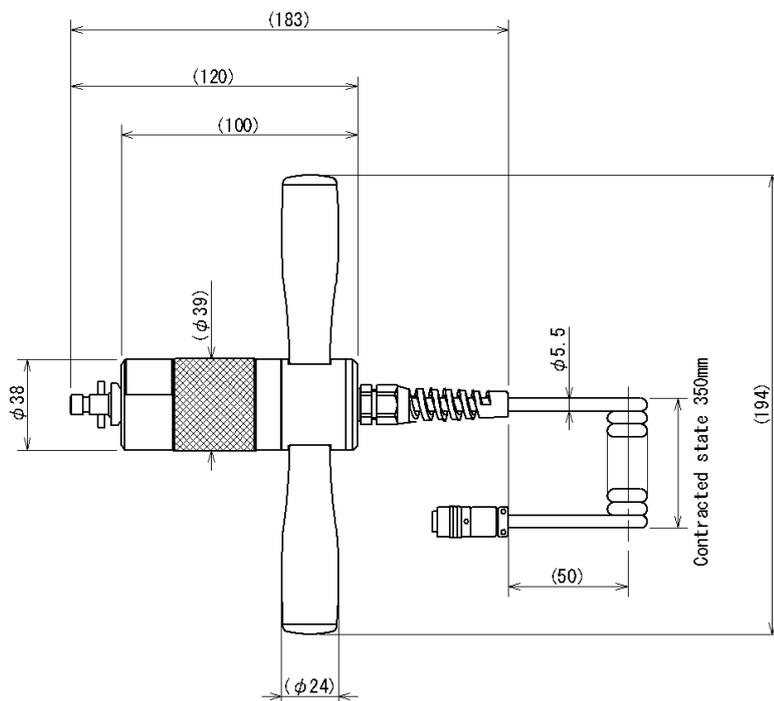
Indicator



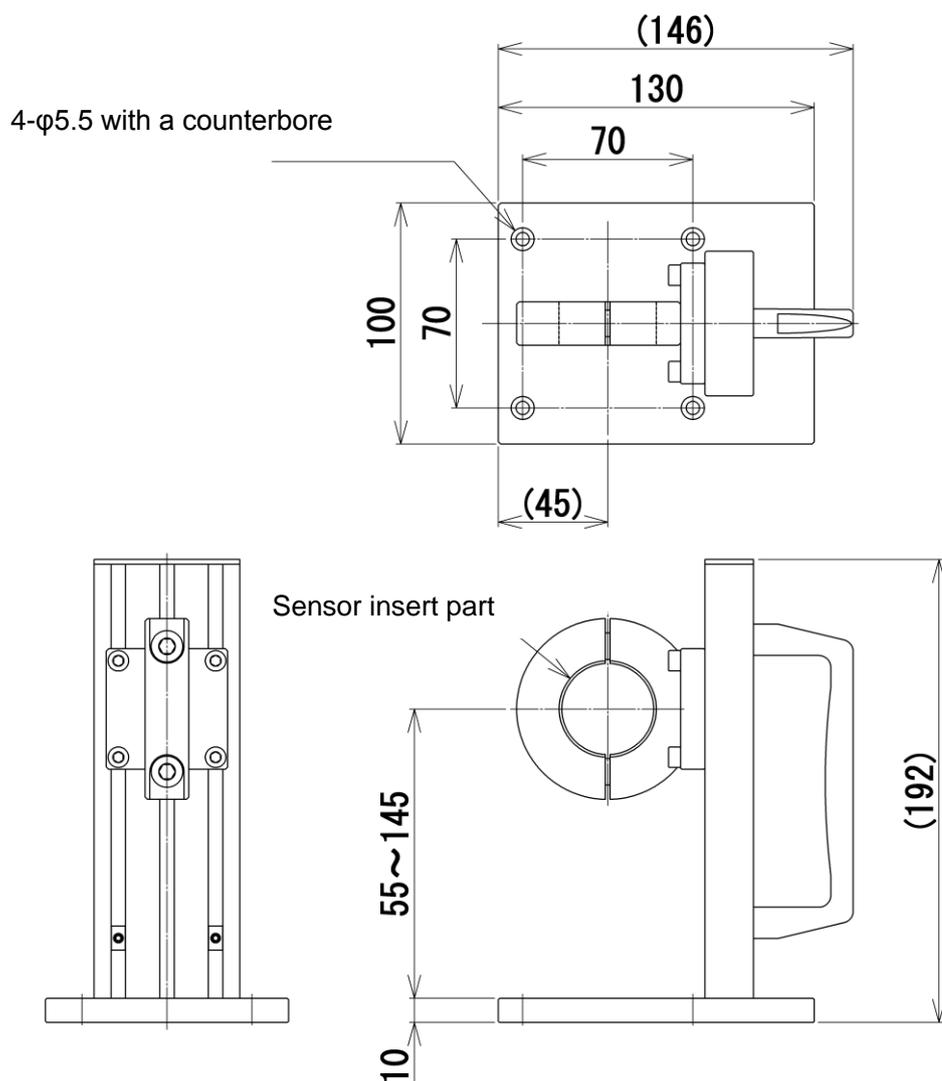
Sensor : 0.5N, 2N and 5N



Sensor : 10N



SHT-5N



[Calibration Certificate]

- We offer calibration certificate with extra charge.
- * Please contact us or our distributor in your country for further information.

[Cautions]

- The contents may be changed without previous notice.
- All of products are designed for measurement purpose only.
- Do not copy and use this content without authority.
- Please note if you add load over capacity, its sensor would be broken down.
- Please note that the capacity is dependent on the displayed unit. Please contact us for details.