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
- Fast sampling rate 2000 Hz capture torque transition - Small influence of bending and slant force by double bearing structure.	- High bright organic EL display - Multi language set up menu of English, Spanish, French, Chinese, German, Italian, Korean and Japanese.	- 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.
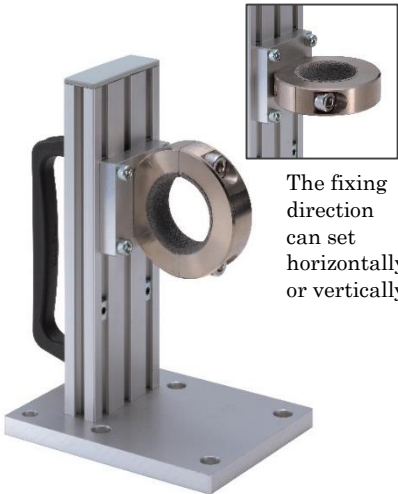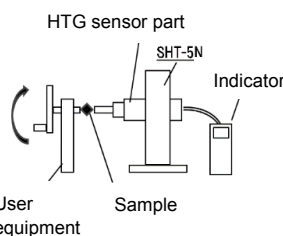*6 USB flash drive is not included.

[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]

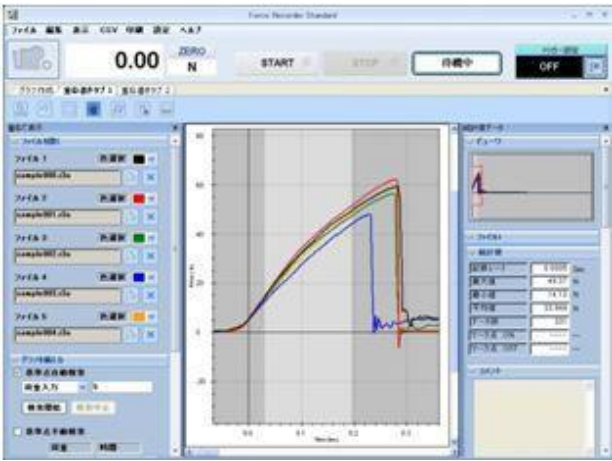| Expand the usage with various attachments			
Pin chuck	Socket holder	Torque driver	M10 adapter
Suitable to fix shaft and rod type samples	Suitable to fix torque wrench	Suitable to measure tightening and loosing torque	Adaptable for M10 female attachment
Large pin chuck Model : HT-DC-13 Opening width : φ1.2~13mm Weight : approx. 600g *Cannot be used for 2N-m or 0.5N-m range **Standard pin chuck** Model : HT-DC-6.5 Opening width : φ0.5~6.5mm Weight : approx. 200g *Cannot be used for 0.5N-m range **Small pin chuck** Model : HT-DC-4 Opening width : φ0.5~4mm Weight : approx. 100g	**Socket holder** Model : HT-9.5SQ Socket : 9.5mm square Weight : approx. 100g	**Torque driver** Model : HT-DBH Bit : + : No.1×50 + : No.2×50 - : No.3×50 Weight : approx. 100g	**M10 adapter** Model : HT-AD-M10 Screw : M10×L20 Weight : approx. 50g

[Option Stand]

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

[Accessories]

Data logger Simple software ZT-Logger	Main Functions	- Captures peak data - Captures continuous data (10 data /sec) - The recall of memory data - Saves data in CSV format - Prints out reports * Available data: Torque, Angle, Time	
	Working Environment	- 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	- 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	- 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 - 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.
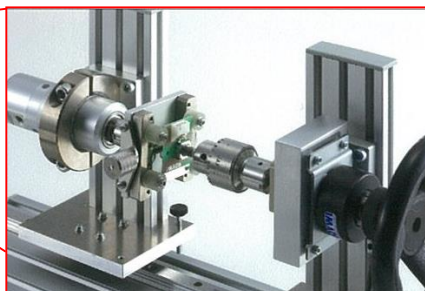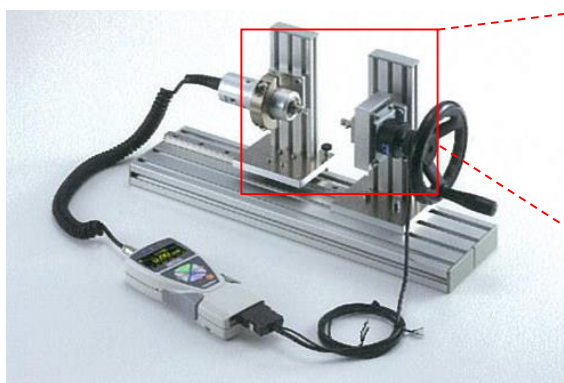
Handy Torque-Angle Measurement Unit (Custom-made)

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)
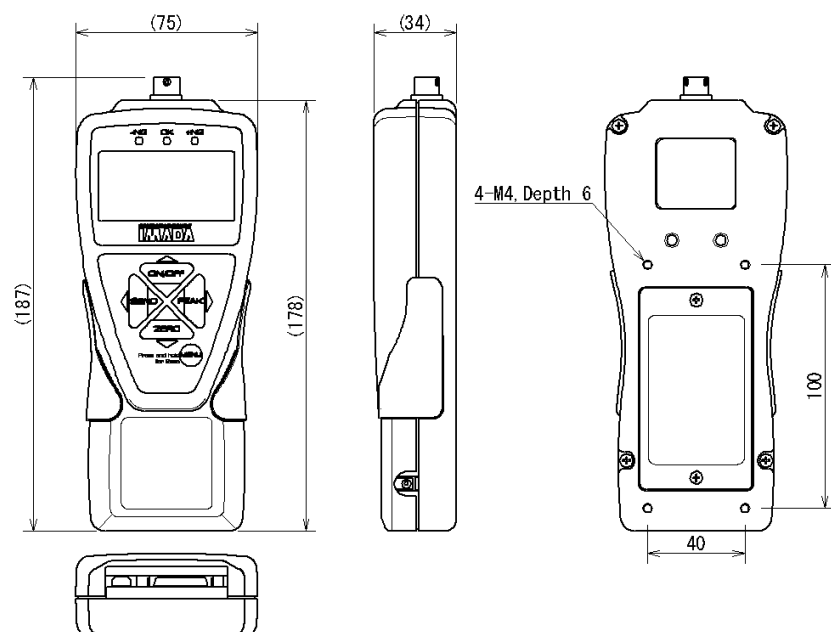
Torque-Angle Measurement of a small switch

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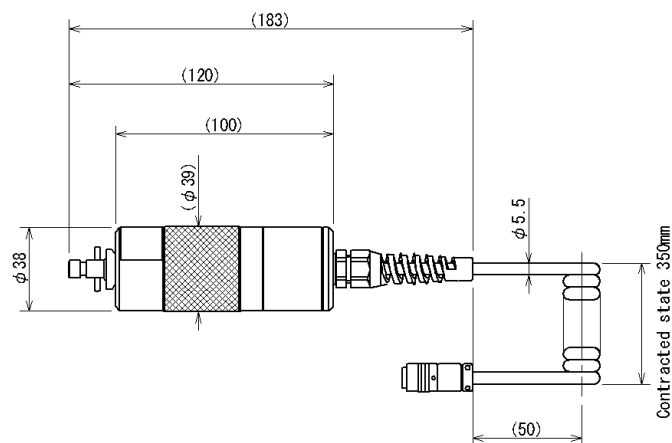- The handle enables stable measurement and analysis of torque-angle and improves repeatability.

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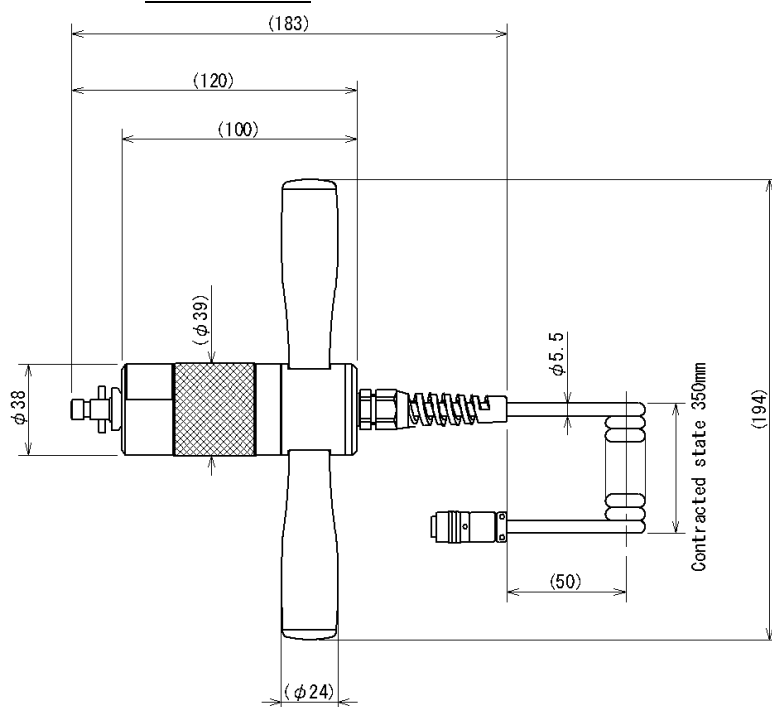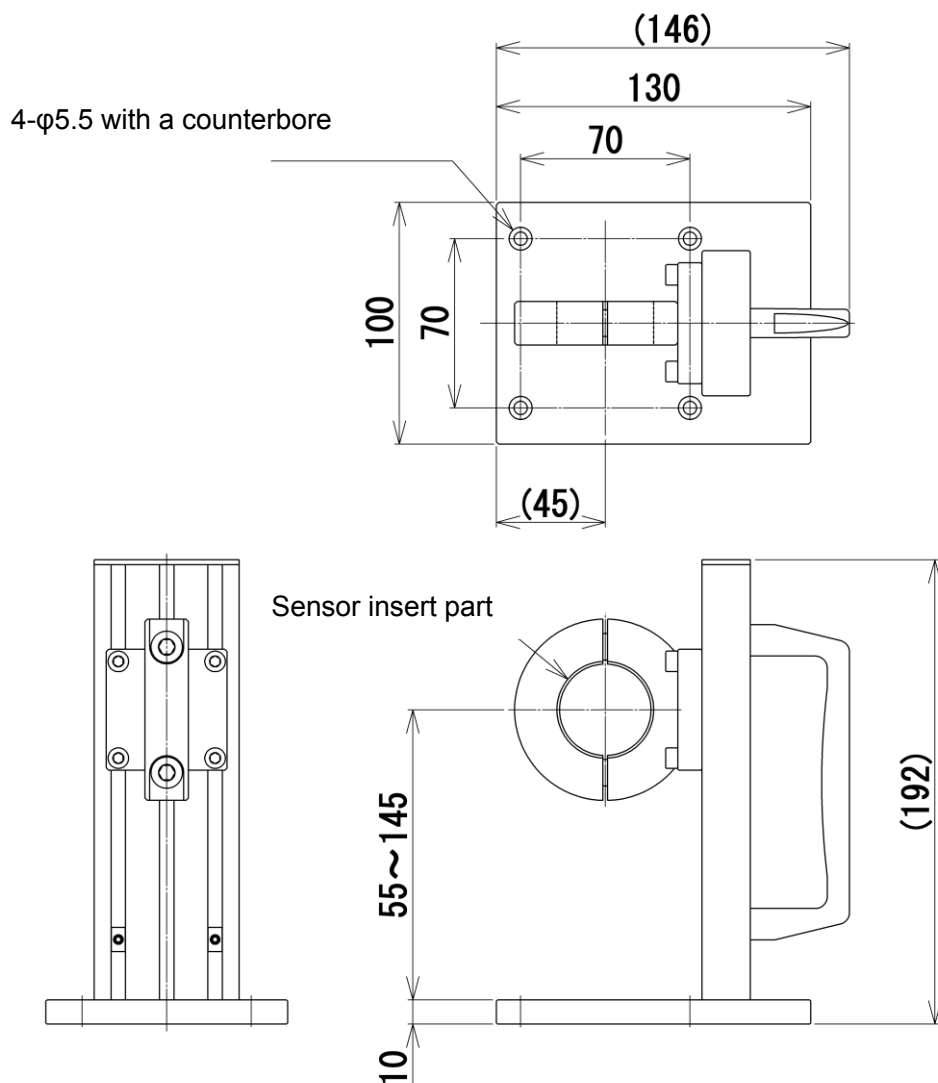
[Dimensions]

Indicator

Sensor :0.5N, 2N and 5N

Sensor : 10N

SHT-5N

4-φ5.5 with a counterbore

(146)

130

70

100

70

(45)

Sensor insert part

55~145

10

(192)

[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.

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