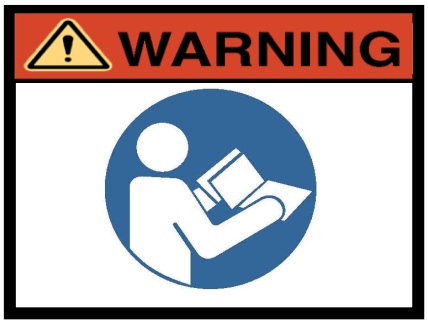
Instruction Handbook
UDT-200E & UDT-500E
Digital Torque Testers



' GENERAL SAFETY INSTRUCTIONS '

-Read and understand all instructions before installing, operating, changing accessories. Failure to follow the warnings and instructions in this handbook can result in electric shock, fire or serious bodily injury.

-Do not discard this handbook. Save these instructions for future reference.

3rd Edition

2 June, 2020

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CONTENTS

EC DECLARATION OF CONFORMITY

WE, URYU SEISAKU, LTD., 1-2-11 FUKAE-MINAMI, HIGASHINARI, OSAKA 537-0002, JAPAN DECLARE THAT OUR TORQUE TESTERS, UDT-200E AND UDT-500E, AND IN COMBINATION WITH OUR ACCESSORIES, TO WHICH THIS DECLARATION RELATES, ARE IN COMPLIANCE WITH THE ESSENTIAL REQUIREMENTS OF THE EUROPEAN PARILIAMENT AND THE COUNCIL DIRECTIVE, 2014/30/EC (26 FEBRUARY 2014) ON ELECTROMAGNETIC COMPATIBILITY AND 2011/65/EU (8 JUNE 2011) AS AMENDED BY (EU)2015/863 ON THE RESTRICTION OF THE USE OF CERTAIN HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT.

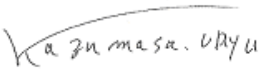
UDT-200E AND UDT-500E HAVE BEEN EVALUATED BY THE FOLLOWING STANDARDS FOR ADAPTABILITY. THE TECHNICAL CONSTRUCTION FILES FOR THESE PRODUCTS ARE MAINTAINED AT URYU ENGINEERING DEPARTMENT AT 2-9-26, KAMIJI, HIGASHINARI, OSAKA 537-0003, JAPAN.

EN61326-1:2013
Electrical equipment for measurement, control and laboratory use
– EMC requirements - Part 1: General requirements

CISPR 11:2015+AMD1:2016+AMD2:2019
Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics – Limits and methods of measurement

EN61000-3-2:2014
Electromagnetic compatibility - Part 3: Limits - Section 2: Limits for harmonic current emissions (equipment input current ≤ 16A per phase)

EN610003-3:2013
Electromagnetic compatibility - Part 3: Limits - Section 3: Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16A per phase and not subject to conditional connection



KAZUMASA URYU
EXECUTIVE DIRECTOR
URYU SEISAKU, LTD.
OSAKA, JAPAN
2 JUNE 2020

1. SAFETY INSTRUCTIONS

Take note that two different signs, 'WARNING' and 'CAUTION' are used in this instruction handbook according to the degree of seriousness and urgency.

: The misuse of the product may cause the operators death or severe injury and the event shall be reported to all personnel immediately.

: The misuse of the product may cause the operators moderate injury and physical damage to your equipments.

signs may also cause any possible acute event. You shall follow all requirements described in this handbook.

◆Installation & Surroundings

- ●Always attach to a metal or other incombustible component to prevent a fire.
- ●Keep away from combustibles to prevent a fire.
- ●Avoid foreign matter intrusion to prevent a fire.
- ●Set up tester on a site that can bear its weight to avoid personal injury from accidental falling.
- ●Keep your work area clean and well lit. Cluttered or dark areas invite accidents.
- ●Dress properly. Do not wear loose clothing, jewellery and neck ware. If you wear your hair long, tie with a rubber band or the like and wear a protective hard hat to prevent personal injury.
- ●Securely install and fix the tester to avoid personal injury in case of an emergency like an earthquake.

◆Recharging

- ●Be sure to turn off the tester prior to connecting to power supply to avoid an electric shock or a fire.
- ●Make sure that cords and outlets are properly grounded to avoid an electric shock or a fire.

●Be sure that tester rated voltage agrees with AC power source to avoid personal injury and a possible fire.

◆Handling/Operations

●Assurance of work area safety by operators themselves prior to power switching operation is essential.
●Keep bystanders and visitors away while operating. Distraction can cause you to lose control.
●Never touch switching devices with moistened hands to avoid an electric shock.
●Never damage, excessive stress, load the cords, and never tuck them between objects to avoid electric shock.
●Be sure to turn off the testers after use.
●Never provide UDT-200E higher torque than 200Nm.
●Never provide UDT-500E higher torque than 500Nm.

●Maintain a balanced body position and secure footing. Avoid awkward or off balanced postures.
●Stay alert, watch what you are doing and use common sense when operating. Do not operate the tester under the influence of drugs, alcohol or medication.

◆Maintenance & Service

●Turn off and unplug the power cable before inspection/replacement to avoid an electric shock.
●Only a qualified person can maintenance/service the tester. Be sure to take off metal articles (wrist-watch or ring) prior to operation. Inspect cables periodically for damage and repair or exchange if signs of wear are noticed.
●Contact your local authorised URYU distributor or URYU Japan for overhaul to avoid electric shock, personal injury

◆Disposal

●Dispose the tester as your industrial waste. Follow your local laws and regulations relating to Disposal.

◆Others

●Never modify the tester to avoid an electric shock, injury or fire.

●Stop using the tester immediately and turn off the tester whenever something unusual occurs.

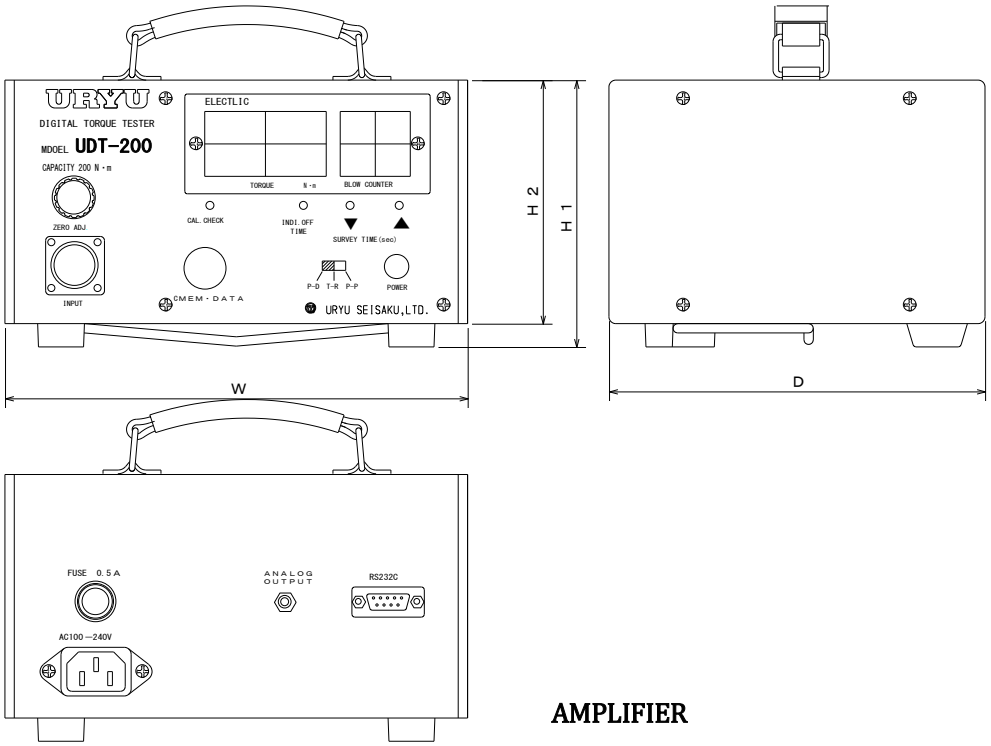
General Precautions

●Keep visitors away from work area.

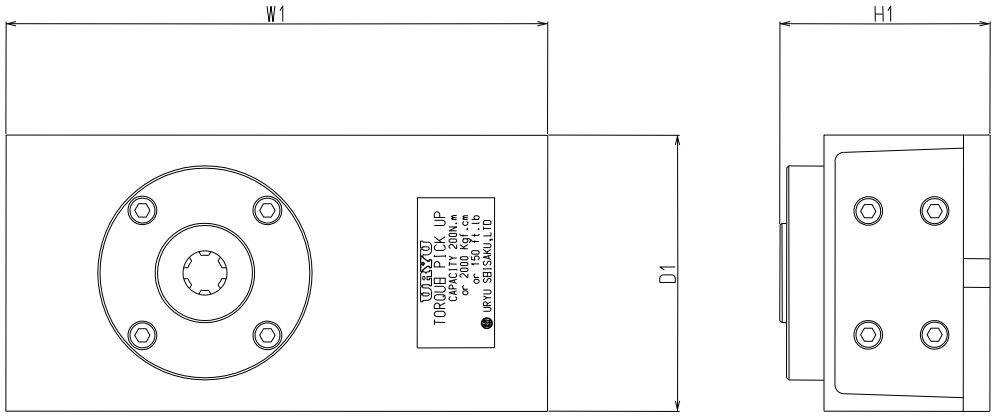
Disclaimer

●Contents of this manual may be subject to change without notice.

2. APPEARANCE



AMPLIFIER



PICK-UP

Testers	Amplifier					Pick-Up			
	Dimensions				Weight	Dimensions			Weight
	W	D	H1	H2	(kg)	W1	D1	H1	(kg)
UDT-200E	198	171	115	105	1.7	245	125	75	8.5
UDT-500E						280	150	90	15.0

3. SPECIFICATIONS

Tester	Test Range (Nm)	Test Data Memory Qty	Power	Noise Protection	Ambient Temperature for Operation	Ambient Humidity	Ambient Temperature for Preservation	Power Consumption
UDT-200E	15～200	250	Built-in Battery	500V 1μS	10°C-40°C	20%-80% (No dew)	0°C-55°C	6VA Note1 30VA Note2
UDT-500E	150～500							

Note 1 : minimum (when on standby)
Note 2 : maximum (when charged)

4. MEMORY FUNCTION

Functions	Operations
Memory Data Selection	Keeping pressing MEM.DATA switch, press POWER switch. Press MEM.DATA and choose either ON or OFF. If you use Memory Function, choose 'ON' and wait for about 5 seconds.
New Memory Data	Press MEM.DATA switch once and a new paragraph opens. (1 memory is used.)
All Memory Data Delete	Keep pressing MEM.DATA switch for more than 3 seconds and the front panel displays 'ALL'. For your reconfirmation, press MEM.DATA switch once again and the front panel displays 'CLR' and memory data is deleted.
Memory Data Output	Connect RS type printer cord with terminal and press MEM.DATA twice. The front panel displays 'P.' and torque data outputs.

UDT tester memorises maximum 250 fastening data.

5. PRINTER OUTPUT (RS-232C)

Communication Speed : 9600 bps
Bit Length : 8 bit
Parity : None
Stop Bit : 2
PC Cable : Cross Cable to be used between UDT and PC

Pin Configuration

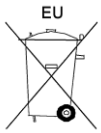
Pin No.	Name	Detail
3	T x D	Output Data
5	GND	Signal Ground
8	CTS	Transmission Permission

6. BUILT-IN BATTERY

SANYO Cadnica (Ni-Cd Battery) 6V

Working hour with the battery : Approx. 10 hours

Battery Charge Time : Approx. 8 hours



Please connect the power cable to the power socket in order to re-charge battery.

＊Power Voltage : AC100V～AC230V, 50/60Hz

7. OPERATING INSTRUCTIONS

1. Mount PICK-UP firmly with M14 bolts on either horizontal or vertical surface base.

2. Connect PICK-UP and AMPLIFIER.

3. Put a suitable Test Adaptor into socket of PICK-UP.

4. Turn on the tester.
   Display panel will indicate 0.0 (for UDT-200E) or 0 (for UDT-500E).
   ＊The power cable should be used only when recharging the battery.
   Disconnect the power cable from the amplifier while operation.

5. 'ZERO ADJUSTMENT'
   When the readout does not display 0.0 or 0, set PEAK Switch Knob to [T-R] turn ZERO Adjustment Switch left or right till the readout displays 0.0 or 0.

6. 'INDI.OFF TIME' Function & Adjustment
   When PEAK Switch is [P-P] or [P-D], the readout holding is adjustable in period within 0-3 seconds. By pressing INDI.OFF TIME with a pen-point as thin as needle, you can adjust the readout holding time that the display automatically returns to zero. Unless you set PEAK switch knob to [T-R], readout display on LED is maintained.

7. 'PEAK SWITCH'
   P-P measures all peak torque values and displays the highest peak torque within the measuring time on LED display panel. Set PEAK SWITCH knob to [P-P] position for measuring torque output of power tools such as Oil-Pulse Tools (U, UX, ALPHA and UL series) and angle nutrunners.
   The digital readout on LED is maintained during 0.5 – 3.0 seconds preset by INDI.OFF TIME and automatically returns to zero.

P-D indicates peak torque readout which had been the highest before applied torque went down. Select [P-D] position for monitoring torque pre-set type manual torque wrench. The digital readout on LED is maintained for the preset time and is automatically cancelled as the same as above [P-P].

T-R : Use [T-R] position to cancel readout display on LED under INDI.OFF TIME '0.0' setting or to make Zero Adjustment and CAL.CHECK.

8. 'CAL.CHECK'

CAL CHECK is used for verification of normal function of the tester. Set PEAK SWITCH knob to [T-R] position. Then press CAL.CHECK switch to confirm that LED display panel indicates below range of figures.

- UDT-200E ----- 189.0Nm – 191.0Nm
- UDT-500E ----- 485Nm – 495Nm

9. 'BLOW COUNTER'

Number of pulse-blow for the period of preset (adjustable 0.1 – 9.9 seconds) SURVEY TIME is displayed. The indication is cancelled after maintenance for time preset by INDI.OFF TIME. Blow digital meter rises up to 99 and if it exceeded 99, it would re-start from 0. This function is available only when PEAK switch is set at [P-P] position.

10. 'PRINTER' (Option)

Connect RS type printer cord with the printer terminal of UDT tester.

8. ACCESSORIES

- Socket Adaptors

UDT-200E	3/8" : 836-520-0	UDT-500E	1/2" : 836-520-7
	1/2" : 836-520-1		5/8" : 836-520-8
			3/4" : 836-520-9

- Soft Joint Attachments (Option) : Use when testing a shut-off impulse tool.

UDT-200E	M8 : 836-890-1	UDT-500E	M16 : 878-800-1
	M10 : 836-890-2		M18 : 878-804-1
	M12 : 836-890-5		
	M14 : 878-741-1		

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for UDT-200E & UDT-500E, Digital Torque Testers

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