Digital Torque Tester

UET-10CU

Instruction Manual

Version 1.2

November 2020

URYU SEISAKU, LTD.

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1. Safety cautions

Read through this instruction manual before installation, operation, maintenance and inspection for proper use of UET-10CU. Use UET-10CU only after you master knowledge, safety information and all safety cautions. Keep this instruction manual at the place where users can read any time. This manual has divided cautions into WARNING and CAUTION as per rankings of harm and damage caused by false operation violating safety cautions.

WARNING : A fatality or severe injury is supposed and urgent warning is highly essential in the event of mishandling.

CAUTION : A dangerous situation can happen, minor to moderate injury or only physical damage is supposed in the event of mishandling.

CAUTION sign also warns the risk of serious consequences depending upon the situation. Follow all the instructions as they state important contents.

◆Installation and environment

WARNING

- ●Use only dedicated charger (AC adaptor) to recharge UET-10CU.
- ●Never use non-dedicated charger to recharge UET-10CU. Never use dedicated charger to recharge other batteries because doing so can cause damage or injuries due to heat, explosion and liquid leaking.
- ●Make appropriate use (recharge), install and store of UET-10CU reading through this manual.
- ●Use charger at rated voltage specified in this manual.
- ●Do not throw, heat, drive nails, set off shocks or apply external force to UET-10CU.
- ●Do not install, use or store UET-10CU in an environment of chips, metallic fragments or dust.
- ●Store UET-10CU in an well-ventilated place to avoid temperatures below 0 degree. Do not store in a hot place possible to get above 40 degree, by fire or in the hot sun.
- ●Do not cover charger and battery with cloth while charging battery.
- ●Use UET-10CU avoiding water-immersing, wet places and places with corrosive gas. Stop use at once if UET-10CU gets wet.
- ●Keep charger and outlet disconnected when UEC-10CU is not in use.
- ●Do not short battery terminals.
- ●Do not store UET-10CU with metals in a tool box or in a bag.

CAUTION

- ●Fix UET-10CU to incombustibles to avoid fire.
- ●Do not put UET-10CU on combustibles to avoid fire.
- ●Avoid foreign materials such as metals entering in UET-10CU to avoid fire.
- ●Fix to a place supporting the weight of UET-10CU to avoid injuries due to falling.
- ●Keep work place tidy and clean with good lighting to avoid injuries.
- ●When using UET-10CU, wear appropriate cloth for the operation avoiding lose-fitting cloth or dangling ornaments such as necklaces. Cover your long hair with a rubber band or a cap to avoid covering UET-10CU with your hair causing injuries.
- ●Avoid physical injury caused by UET-10CU in the event of an earthquake by fixing and installing firmly.
- ●Confirm that charger's rated voltage of input power source is the same as alternate power source from outlet to avoid injury and fire.

◆Operation and use

WARNING

- ●Do not operate switch with wet hands. There is a risk of shock.
- ●Cut off UET-10CU from power source when not in use.
- ●Do not connect UET-10CU to charger except when recharging.
- ●Use only dedicated charger to recharge UET-10CU.
- ●Remove battery from UET-10CU if it remains unused for a long time.
- ●Never apply torque greater than rated capacity toUET-10CU (limit torque 10Nm).
- ●Do not use battery if it runs out in a short time.

CAUTION

- ●Operate UET-10CU under right footing and environment. Operation with awkward posture is very dangerous.
- ● Carry out the operation with great care. Avoid operation when you are tired. Avoid continuous work for a long time. Avoid operation by careless and thoughtless action. There is a risk of injury, sickness and etc.

◆Maintenance and inspection

CAUTION

- Only specialists should carry out maintenance and inspection. Take off metalware like watches or rings before operation.
- Only URYU SEISAKU, LTD or its approved companies overhauls UET-10CU. There is a risk of shock, injury and fire.
- Use only dedicated charger and battery. There is a risk of damage or injury due to breakage.

◆Disposal

WARNING

- Dispose of UET-10CU as an industrial waste.

◆Others

CAUTION

- Never modify UET-10CU. There is a risk of shock, injury, and fire.
- Stop the operation immediately if you feel anything unusual.

GENERAL WARNING

- Note that all graphic explanation in this manual shows components unmasked form to explain the interior which are covered by safety masking. Be sure to put the masking back to the original position as specified in this manual before operation and run it as intended.
- Do not allow unauthorized persons to approach UET-10CU.
- UET-10CU is not waterproof. Avoid operation where UET-10CU gets wet.

DISCLAIMER

- The contents of this manual are subject to change without notice.

2. Outline

UET-10CU is a torque tester dedicated to stall type tools. With the built-in torque sensor, UET-10CU is made to work out torque measurement and display of our US-LT torque control drivers and US-LD direct drivers etc. UET-10CU is also ideal for small hand torque wrenches' periodic check.

2.1. Features

■LED red digital panel lamp

This lamp provides high visibility in a dark place.

■ZERO adjustment is achieved by simply pressing RESET button.

■Rated output ±0.5% high accuracy

■Built-in CAL check function

Amplifier error detection is available.

■Light weight and compact rechargeable battery

Portable to the place for torque measurement

■Soft & hard joint attachments as standard accessories

They provide tools with performance check condition close to real work fastening.

■USB and RS232C port for data output as standard accessories

UET-10CU outputs measuring data from USB or RS232C.

2.2. Installation place

Install and fix UET-10CU firmly considering the following points.

1）Keep UET-10CU out of the sun and rainwater.　UET-10CU is not waterproof construction.
2）Free from corrosive gas, flammable gas, grinding fluid, oil-mist, iron powder, junk metal etc.
3）Well-ventilated, and less moisture, dust and dirt.
4）Free from vibration
5）Place where you can immediately disconnect charger's plug from outlet and remove battery in case of troubles.

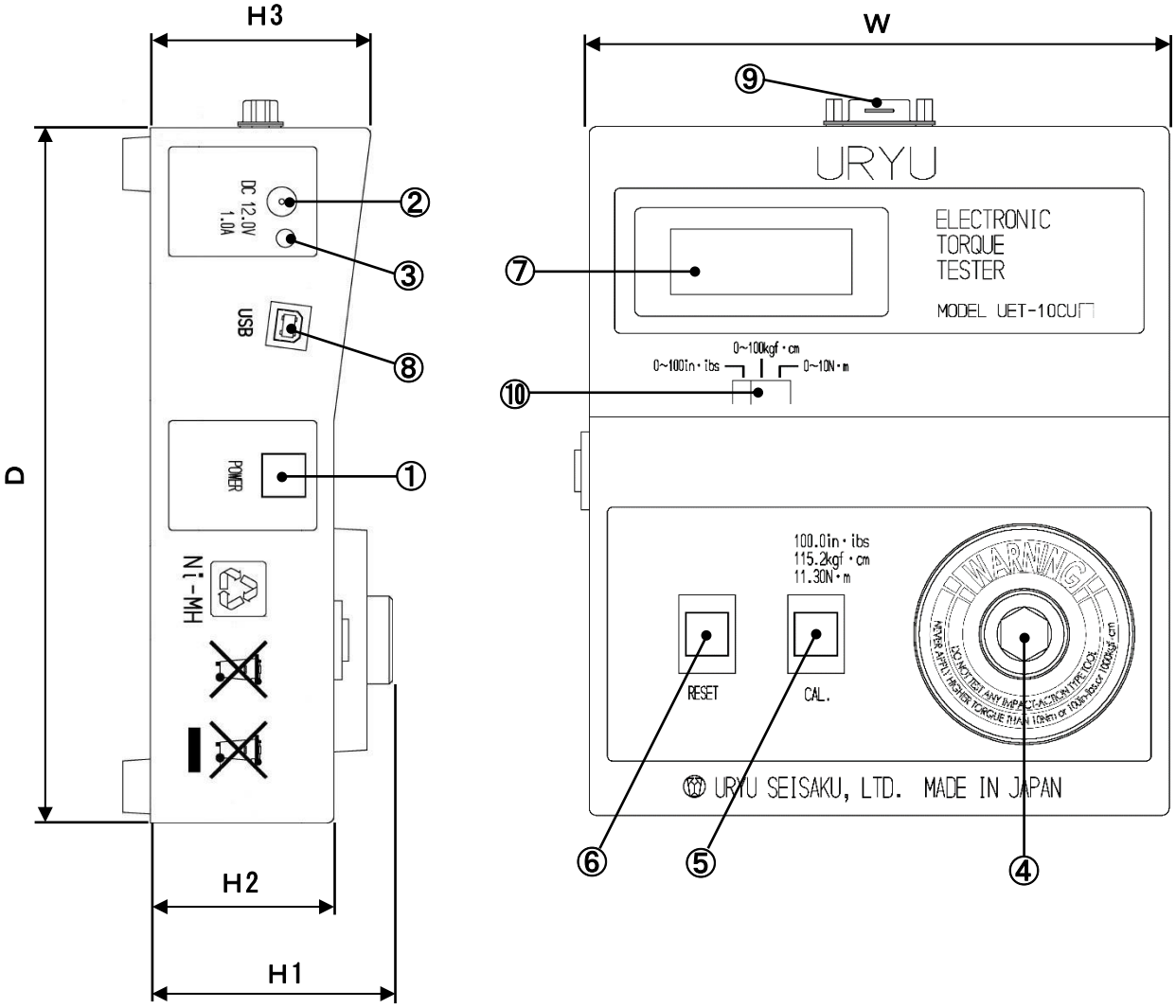
2.3. Environmental condition

Item	Conditions
Place	Only indoors
Ambient temperature	0~50 deg C (no freeze)
Ambient humidity	Less than 90%RH (no dew)
Storage temperature	0~50 deg C (no freeze)
Storage humidity	Less than 90%RH (no dew)
Vibration	Less than 5.6m/s^2 (10~60Hz)
Altitude	Lower than 1,000m
Over voltage category	Category Ⅲ※1
Contamination degree	Degree 3

※1・・・The above categorization is of the over voltage category (Ⅰ, Ⅱ, Ⅲ), and contamination level (1, 2, 3) as per IEC664.　UET-10CU has been categorized as the over voltage category Ⅲ and the contamination degree 3.

Note: IEC is International Electric Standard Committee.

3. Appearance, parts names and functions



Type	External dimensions (mm)					Mass
	W	D	H1	H2	H3	(Kg)
UET-10CU	160	190	65	50	60	2.3

①Power switch ･･･Press this button, and UET-10CU is powered on (STANDBY/ON).

②Charge jack ･･･Use only dedicated charger.

③LED (green) ･･･This LED lights during charge and goes out following the completion.

④Socket ･･･Insert accessory attachment to secure the torque measuring object.

⑤CAL ･･･Press this button, and ⑦ DPM will display CAL value (normal level 11.25~11.35Nm).

⑥RESET ･･･Have the display returned to 0.00.

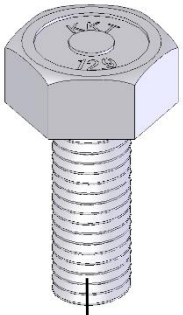
⑦DPM ･･･Digital panel meter displaying measured torque value in red.

⑧USB port ･･･ USB2.0 Type-B for data output

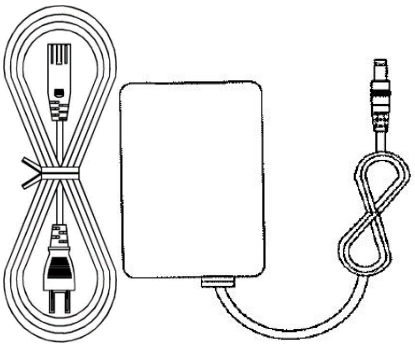
⑨RS232C port ･･･RS232C port for data output

⑩Changeover switch･･･Change measuring and display torque unit.

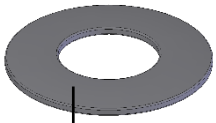
3.1. Standard accessories



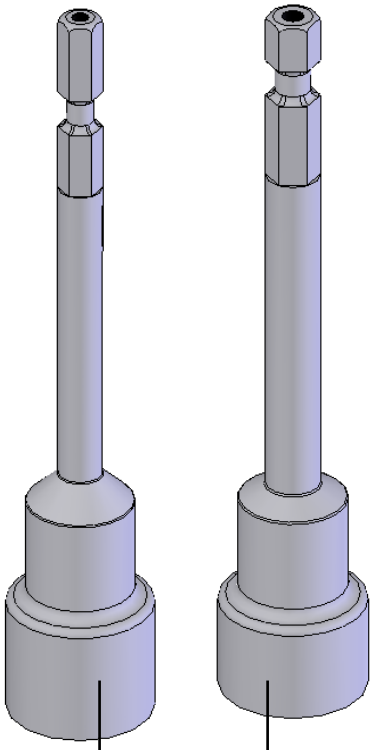
946-928-0 Hexagon Head Bolt (M8X20) HARD JOINT



910-907-0 Battery Charger for UET-10CUA
910-908-0 Battery Charger for UET-10CUE

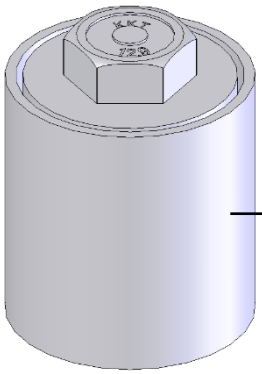


8 pcs. 962-601-0 Belleville Spring (25X12.2X1.5) STRONG

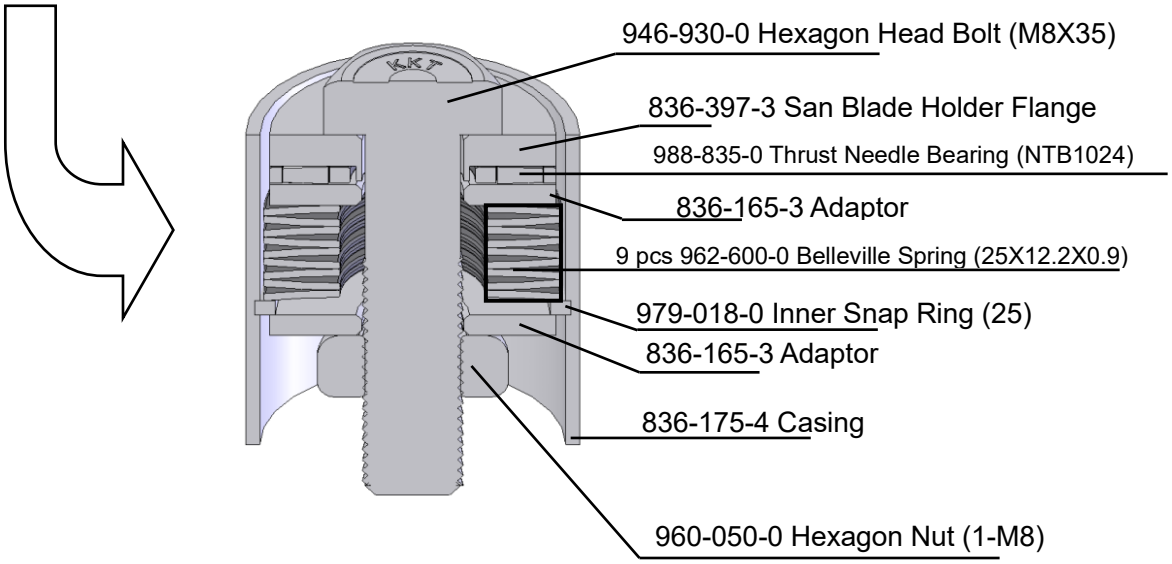


918-129-0 Hexagon Socket Bit (13X100) (5H)

918-223-0 Hexagon Socket Bit (13X100) (6.35H)



836-890-4 Driver Attachment Assembly SOFT JOINT (consisting of the below)



3.2. Specifications

Type		UET-10CU
Capacity (Nm)		0.1~10.0
Accuracy		±0.5% R.O.
Display		LED 4-digit display
Measuring direction		CW (clockwise) and CCW (counter clockwise)
Display unit		Nm, ft-lb or kgf.com
Data output		USB port (USB2.0 Type-B） RS232C (Baud rate 19200 bps)
Power		Built-in battery ・Use only dedicated charger (AC adapter). ・Do not use UET-10CU for torque measurement during battery charge. ・Keep battery separate from UET-10CU if it remains unused for a long time.
Charger Specification	Input power	AC100~240V 50/60Hz
	Output	DC 12V 1A
Battery		Nickel hydride battery ・Keep battery alone if UET-10CU remains unused for a long time. ・We recommend you to charge the battery frequently, since over-discharging would cause the deterioration of the battery. Please charge the battery when the battery level becomes about 1/2 to 1/3, which is about 8 to 10 hours use after a full charge as a guideline.
Recharge time		About 2 hours
Operation time		About 16 hours
CAL check		Just to press CAL button.
Standard accessories		1 piece of 836-890-4 Driver Attachment Assembly
		1 piece of 910-907-0 Battery Charger (AC Adapter) for UET-10CUA 1 piece of 910-908-0 Battery Charger (AC Adapter) for UET-10CUE
		1 piece of 918-129-0 Hexagon Socket Bit (13X100) (5H)
		1 piece of 918-223-0 Hexagon Socket Bit (13X100) (6.35H)
		1 piece of 946-928-0 Hexagon Head Bolt (M8X20)
		8 pieces of 962-601-0 Belleville Spring (25X12.2X1.5) Strong
Battery for replacement		Battery Ni-MH(10CU)5HR-AAUC

4. How to use

①Fix UET-10CU on a bench firmly before torque measurement.

②Press POWER button to switch on UET-10CU.
Recharge battery using charger if decimal point of DPM blinks due to weak battery.

③Assure a normal function of UET-10CU circuit pressing CAL button. 11.25~11.35Nm display on DPM is normal level. Keep pressing this button for 1~2 seconds until the displayed value stabilizes.

④Press RESET button to clear displayed CAL value.

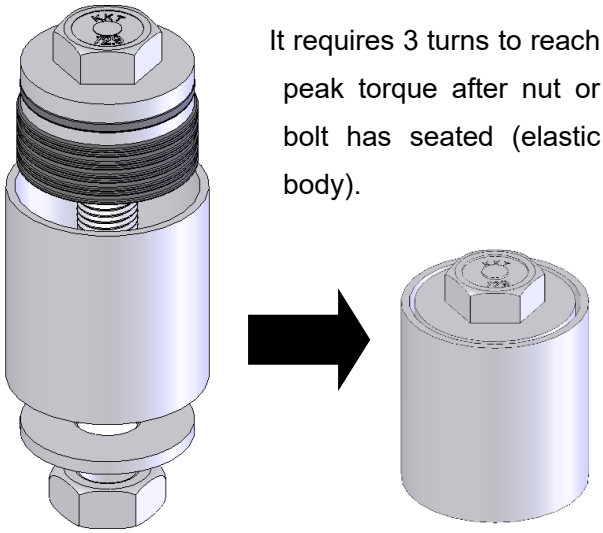
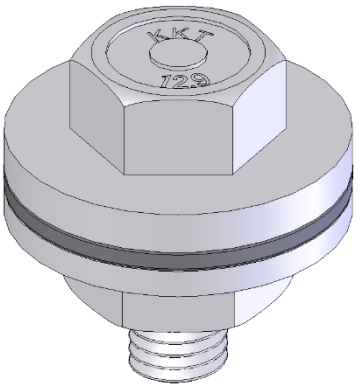
⑤Insert accessory attachment to secure the torque measuring object such as US-LT drivers etc. Fasten the attachment operating the drivers, and the DPM will display peak value of fastening torque. UET-10CU outputs torque data from RS232C port in about 1.5 seconds from fastening completion.
※Never apply torque greater than 10Nm to UET-10CU.

⑥Press RESET button to clear torque value on DPM.

※ Press RESET button only after UET-10CU has output torque data from RS232C. If RESET button is pressed before data output, UET-10CU will output cleared data 0.0Nm.

4.1. Attachment

Use attachment selecting right ones appropriate to fastening conditions.

Soft joint	Hard joint
 It requires 3 turns to reach peak torque after nut or bolt has seated (elastic body). Use Driver Attachment Assembly consisting of Hexagon Head Bolt, San Blade Holder Flange, Thrust Needle Bearing, Adaptor, Belleville Spring, Inner Snap Ring, Casing and Hexagon Nut. Make creative use of 2 types of Belleville Springs depending upon the situation.	It requires only 1/10 turns after nut or bolt has seated (hard body).  Use Hexagon Head Bolt (short one), San Blade Holder Flange, Thrust Needle Bearing, Adaptor and Hexagon Nut in the assembled form as mentioned above.

4.2. RS232C

■Communication specification

Process ・・・・Non-procedural

Synchronization・Start-stop system

Full/half duplex・ Half duplex

Transmission ・・ASCII

Transmission speed・19200bps

■Frame format

Start bit ・・・1

Data bit ・・・8

Stop bit ・・・1

Parity calculation・・None

■Transmission contents

UET-10CU outputs following data of every measurement.

#	Torque data (5 byte with decimal point inclusive)	CE

※Use cross cable for RS232C connection.

5. Battery replacement

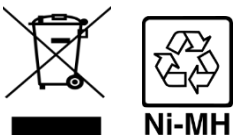
①Uncover sole lid of UET-10CU opening 4 screws of rubber foot.

②Take battery out pulling out the connector.

③Attach a battery to UET-10CU and insert the connector. If you feel difficulty in the insertion, check connector's direction.

④Attach sole lid with rubber foot, and fasten them with screws.

Battery in use Model name: Battery Ni-MH(10CU)5HR-AAUC Part code: 910-906-0



Recycle or dispose of used battery as stipulated by local regulation.

6. Cleaning

Wipe UET-10CU with a piece of soft cloth wet by water or a small amount of neutral detergent.

After-sales services

Feel free to inquire at the below parties

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