

Digital Torque Driver with Angle Detection Feature

MODEL STC3-G-BT

Instruction Manual



To Our Customers:

Please read this instruction manual thoroughly before using this device. If you have any questions, please contact your dealer or Tohnichi Mfg. Co., Ltd. (Please refer to the contact information at the end of this manual). Please keep this instruction manual in a safe place.

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WARNING

To Our Customers:

Please read this instruction manual thoroughly and use the product correctly before operating this torque equipment. If you have any questions, please contact your dealer or Tohnichi Mfg. Co., Ltd. Please keep this instruction manual in a safe place.

Safety Precautions



Safety Alert Symbol:

This symbol indicates "Safety Alert." When you see this symbol in this manual, pay attention to safety. Take preventive measures according to the description to ensure safe operation and proper management.

Signal Words:

Signal words are headings indicating items you must know for human safety and equipment handling. Safety signal words are classified into "DANGER," "WARNING," and "CAUTION" depending on the degree of hazard to humans. Used alongside the safety alert symbol, they indicate the following situations

- 「  DANGER 」: An imminently hazardous situation that will result in serious injury or death.
- 「  WARNING 」: A potentially hazardous situation that could result in serious injury or death.
- 「  CAUTION 」: A potentially hazardous situation that may result in minor or moderate injury.

WARNING

1. Use the specified charger and storage battery.

Never use any charger or storage battery other than those specified in this instruction manual.

2. Charge correctly.

- Do not use this charger with any power source other than the rated voltage indicated. Doing so may cause abnormal heat generation and result in fire.
- Do not charge the storage battery in temperatures below 0° C or at/above 40° C. Doing so may cause an explosion or fire.
- Charge the storage battery in a well-ventilated area.
- Do not cover the charger or storage battery with cloth or other materials. Doing so may cause an explosion or fire.
- When not in use, unplug the power plug from the outlet. Failure to do so may cause electric shock or fire.

3. Consider the surrounding environment of the work area.

- Do not use the main unit, charger, or storage battery in the rain, or in damp or wet locations. Doing so may cause electric shock or smoke generation.
- Keep the work area sufficiently illuminated. Working in dark areas can lead to accidents.
- Do not use or charge the device in locations with flammable liquids or gases. Doing so may cause explosions or fires, leading to accidents.

4. Use specified accessories and optional parts.

- Do not use any accessories or optional parts other than those specified in this instruction manual. Doing so may cause accidents or injuries.

5. Do not dispose of the storage battery in fire. Doing so may cause it to explode or release hazardous substances.
6. Do not disassemble or modify the equipment. Doing so may compromise safety, reduce functionality or lifespan, and cause malfunctions.
7. Do not extend the handle using pipes or other tools. Doing so may cause damage to the main unit or lead to accuracy abnormalities.
8. Take fall prevention measures when working in high places. Dropping the main unit or sockets can cause accidents, injuries, or malfunctions.



1. Always keep the work area clean. Cluttered locations and workbenches invite accidents.
2. Keep children away.
 - Do not let anyone other than the operator touch the main unit or the USB cable. Doing so may cause injury.
 - Do not allow anyone other than the operator near the work area. Doing so may cause injury.
3. Store the equipment properly when not in use.
 - Store it in a dry location out of reach of children or in a locked place. Failure to do so may cause accidents.
 - Do not store the main unit or storage battery in locations where the temperature may reach 50° C or higher. Doing so may cause battery deterioration, leading to smoke generation or fire.
4. Do not force the tool.

To work safely and efficiently, operate within the torque capacity that matches the capability of the main unit. Working beyond its capacity can cause accidents.
5. Use the appropriate tool main unit for the task.

Do not use the tool for purposes other than its designated application. Doing so may cause injury.
6. Do not handle the USB cable roughly.
 - Do not carry the tool by the cable, or pull the cable to disconnect it from the outlet. Keep the cord away from heat, oil, and sharp edges.
 - Pay attention to the charging location to ensure the cable is not stepped on, tripped over, or subjected to excessive force that could damage it. Failure to do so may cause electric shock, short circuits, or fire.
7. Do not work in an unstable posture.

Always maintain proper footing and balance. Falling may cause injury.
8. Maintain the tool with care.
 - Follow the instruction manual when replacing accessories. Failure to do so may cause injury.
 - Inspect the USB cable regularly. If it is damaged, request a repair from the retailer where you purchased it or from Tohnichi Mfg. Co., Ltd. Damaged cables can cause electric shock, short circuits, or fire.
 - When using an extension cord, inspect it regularly and replace it if damaged. Damaged cords can cause electric shock, short circuits, or fire.
 - Keep the grip handle dry, clean, and free from oil or grease. Slipping may cause injury.

9. Inspect for damaged parts.

- Before use, thoroughly inspect the housing and other components for damage to confirm they operate properly and perform their designated functions.
- Check for broken parts, proper mounting, and any other conditions that may affect operation. Do not use a charger with a damaged power plug or cord, or a charger that has been dropped or otherwise damaged. Doing so may cause electric shock, short circuits, or fire.
- For replacement or repair of damaged housings or other parts, request service from the retailer where you purchased the tool or from Tohnichi Mfg. Co., Ltd.

Precautions for Use

For Correct and Safe Operation

1. Do not use any charger other than the specified one.
2. Do not use any storage battery other than the specified one.
3. Do not use this torque equipment outside the environment specified in the instruction manual.
4. Do not disassemble this torque equipment.
5. Perform pre-operational checks before use and verify the settings.
6. Please note that if this torque equipment gets wet with water or oil, it may malfunction or burn out.
7. Dropping or bumping this torque equipment may cause damage or malfunction.
8. Use this torque equipment within the measurement range specified in the instruction manual.
9. Be sure to perform daily and periodic inspections on this torque equipment.
10. Always check the zero point before performing measurements.
11. Hold the grip when tightening. Holding the display housing during operation may damage the housing.
12. Ensure the main unit and bit are securely mated.

In the unlikely event that an abnormal odor or fire occurs during use, stop operation immediately, move the measuring instrument to a safe location, and contact us.

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※ "iPad®" is a registered trademark of Apple Inc.

※ "iOS®" is the name of Apple Inc.'s operating system. iOS® is a trademark or registered trademark of Cisco Systems, Inc. or its affiliates in the United States and other countries and is used under license.

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1

Overview and Features

1-1. Overview

The design has been refreshed to a simple and slim profile. By monitoring both torque and angle, it detects tightening abnormalities such as "double tightening" or "insufficient rotation angle due to galling (seizure)," contributing to improved reliability in tightening operations within low torque ranges using torque drivers.

1-2. Main Features

- The LED ring, which allows users to check the tightening status and inspection results from all angles, has been carried over from the current model. Furthermore, an OLED display with excellent visibility has been adopted to enhance the user interface.
- Two types of ergonomic handles with different diameters, optimized for the tightening torque, realize improved work efficiency.
- Bluetooth® comes standard. Bidirectional communication via the GATT profile enables integration with tightening management systems. It also supports the HOGP profile (keyboard interface), allowing data entry into Excel® or linking with familiar electronic form systems.

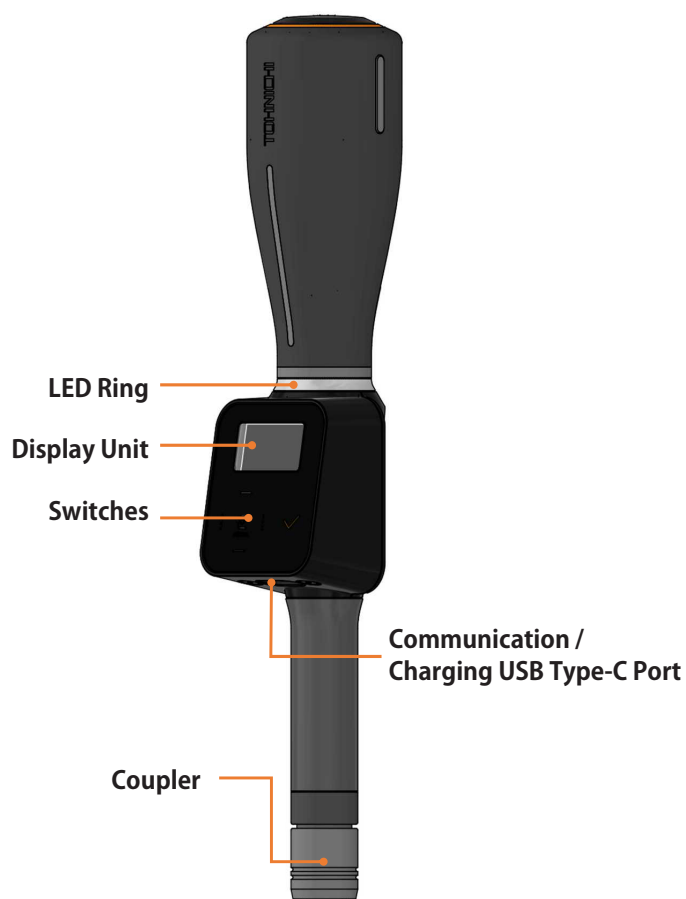
1-3. Precautions

※ This product does not support the Bluetooth® SPP profile.

2

Component Names, Roles, and Display Specifications

2-1. Component Names of the Main Unit

**[LED Ring]**

Displays the pass/fail judgment when upper and lower limits are set. It also indicates various operating statuses of the main unit.

[Display Unit]

Displays torque values, angle values, memory counters, various settings, etc.

[Switches]

Used for operating the main unit and turning the power ON/OFF.

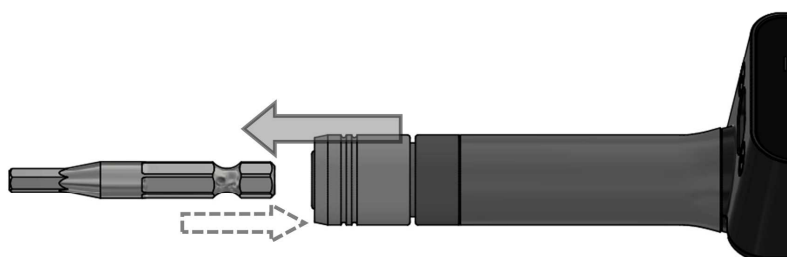
[Communication/Charging Port]

Uses USB Type-C for USB communication and charging the main unit.

[Coupler]

Used for inserting the bit.

2-2. Attaching the Bit

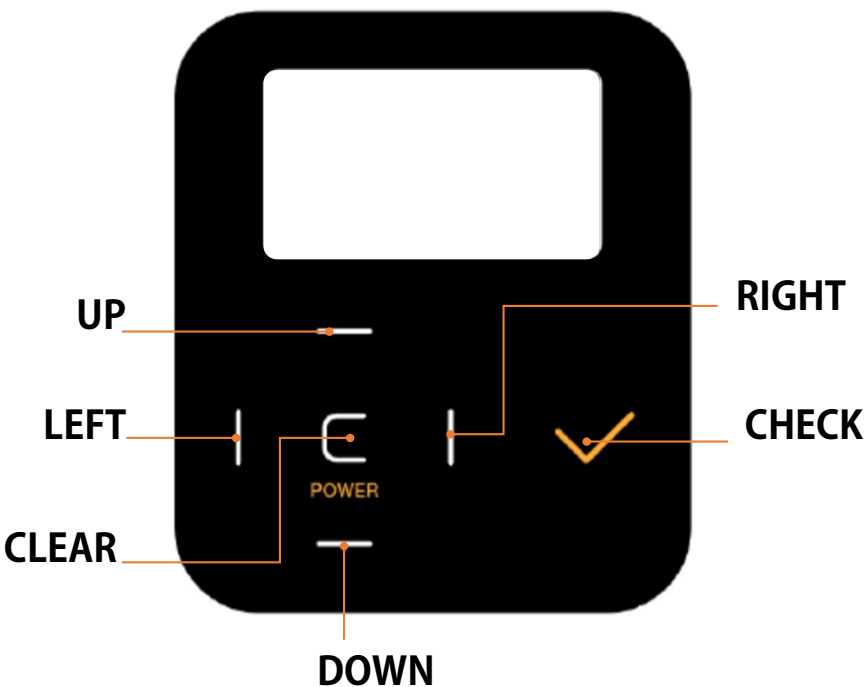


Slide the coupler of this unit forward, then insert the bit.
Pull lightly on the bit to confirm that it does not come out.

2-3. Basic Key Operations

This unit features 3 main modes, and the role of the keys changes depending on the screen currently displayed. The main functions of key operations for each mode are shown in the table below.

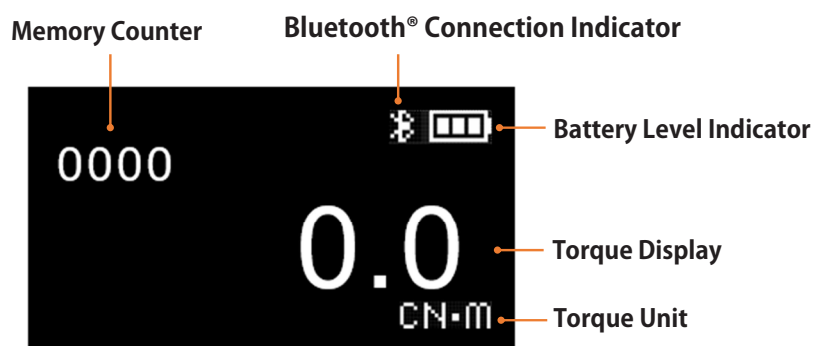
- **【Measurement / Data Readout Mode (Torque/Angle)】 :**
 - » The normal mode used for tightening, inspection, and reading data.
- **【Settings Menu】 :**
 - » Used to check and change measurement condition settings, system settings, communication settings, etc.
- **【Data Processing Menu】 :**
 - » Used to batch-output or batch-delete memorized data.



【Key Operation Function Table by Mode (Excerpt)】

Key Name	Measurement / Data Readout	Settings / Data Processing
LEFT / RIGHT	Mode Switching	Mode Switching / Menu Switching / Tier Navigation
UP / DOWN	Memory Counter Advance (+ / -)	Value Change / Item Selection
CLEAR (POWER)	Auto-Zero / Memory Clear	Back / Cancel
CHECK	Data Save / Run Judgment	Confirm / Save

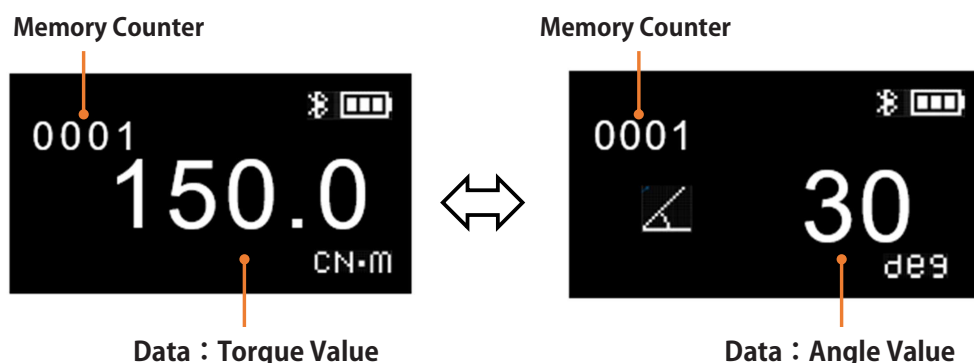
2-4. Measurement Screen



- **【Memory Counter】** :
 - Displays the current memory counter.
- **【Bluetooth® Connection Indicator】** :
 - Displayed when the communication interface (GATT/HOGP) is selected.
 - Flashing: Waiting to connect with a terminal.
 - Solid: Connection completed.
 - ※ The Bluetooth® function turns off and the indicator disappears during a USB connection.
- **【Battery Level Indicator】** :
 - Displays the remaining battery power. It switches to a charging animation while charging.
- **【Torque Display】** :
 - Displays the current torque value or the retained maximum value (peak value).
 - Torque value flashing only: Indicates that the measured value is "outside the guaranteed torque accuracy range."
 - Torque value and "-----" flashing alternately: Over-torque alert. Release the load immediately.
- **【Torque Unit】** :
 - Displays the torque unit.

2-5. Data Readout Screen

When the memory counter is within the range of "0001 to 1000" and measurement data is saved in that memory counter number, the measurement data is displayed.



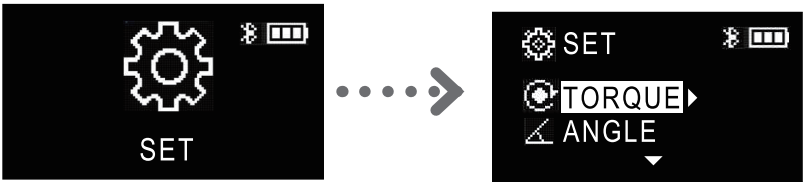
- **【Display Content】** :
 - You can check the saved "Torque Value" and "Angle Value".
- **【Switching the Display】** :
 - When the angle function is set to "ON", you can switch between the torque value and angle value displays by pressing the LEFT / RIGHT keys.

2-6. Data Processing Menu Screen



- Press the CHECK key to move to the Data Processing Menu.
- You can perform batch data output and batch data deletion.

2-7. Settings Menu Screen



- Press the CHECK key to move to the Settings Menu.
- You can change various setting values.
- Certification information and a QR code for downloading the manual are displayed.

2-8. LED Ring Lighting Patterns (Status Notifications)

The LED ring on this device changes color and pattern according to the measurement status and system condition.

Category	Status	LED Ring	Content
Startup	Startup processing	Flashing orange once	Startup announcement.
Calibration	Zero calibration check	Flashing fading green	Gyro sensor checking. Keep the device perfectly still.
	Calibration passed	Flashing blue twice	
General	Error	Flashing fading red	Check the error code on the display.
USB Connection	Charging start check	Flashing fading yellow	Checking before starting charge.
	Charging	Flashing fading white	Charging normally.
	Charging complete	Flashing fading blue	Charging completed.

- ※ *For safety, torque and angle measurements are stopped during USB connection.
- ※ *If the charging start check (flashing fading yellow) does not switch to charging (flashing fading white), it indicates a charging error.

2-9. Judgment and Status Notifications During Measurement (LED / Buzzer)

The judgment timing and notifications vary depending on the selected measurement mode (Inspection / Tightening).

Mode	Measurement Status	LED Ring	Buzzer
Inspection Mode INSPECTION	Judgment: Pass	Flashing blue once	Short beep
	Judgment: Fail	Solid red (continuous)	Continuous sound *1
Tightening Mode TIGHTENING	Reached 80% of lower limit torque	Flashing blue (continuous)	Intermittent sound *2
	Reached lower limit torque (Pass)	Solid blue	Continuous sound *2
	Exceeded upper limit torque (NG)	Flashing red (continuous)	Alarm
	Judgment: Fail	Solid red (continuous)	Continuous sound *1

*1: In case of failure (solid red), the status is held until the (CHECK) key is pressed. When the NG data memory is set to "AUTO", the red LED lights up for 0.5 seconds, and then the memory counter advances by one.

*2: The pre-alarm and completion sounds in Tightening Mode operate only while torque load is being applied.

3 Charging

3-1. Charging Procedure

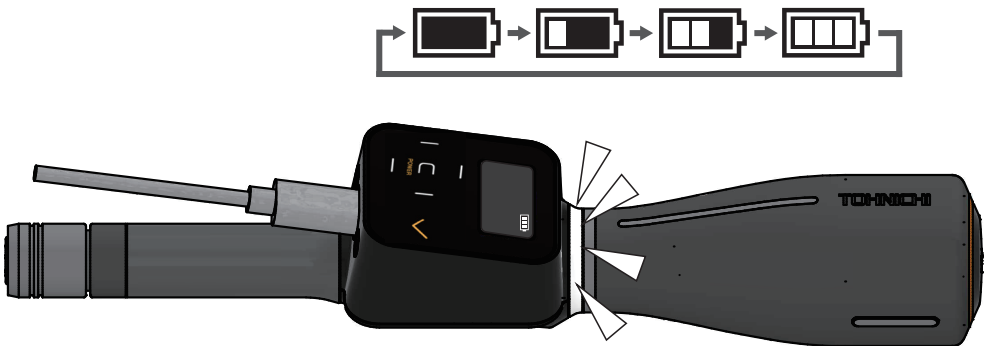
This device has a built-in battery. Charge it using the following procedure.

- 1. Connect a USB cable and an AC adapter (both optional) to the USB Type-C port of the device.
- 2. Plug the AC adapter into an electrical outlet.
- 3. Charging starts when the LED ring temporarily lights up or flashes in fading yellow, and then changes to flashing fading white.

【Precautions】

If the "flashing fading yellow" before charging does not disappear and does not switch to white, an abnormality in the charging circuit, battery, or AC adapter is suspected. Stop using the device immediately and contact your dealer or Tohnichi Mfg. Co., Ltd.

- 4. When charging is complete, the LED ring switches to "flashing fading blue". Unplug the AC adapter from the outlet and remove the USB cable.



3-2. LED Ring Status

Status		LED Ring	Charging Condition
1	Charging start check	Temporary yellow light/flash	Self-check status before starting charge.
2	Charging	Flashing fading white	Charging normally.
3	Charging complete	Flashing fading blue	Charging completed.
※	Charging abnormality	Continuous flashing fading yellow	Charging error.

3-3. Precautions Regarding Charging

- **Regarding Restrictions During Charging**

- >> **[Measurement Restrictions] :**

During a USB connection (both during charging and after charging is complete), the torque and angle measurement functions are suspended for safety.

- >> **[Communication Function Restrictions] :**

Even if the communication interface is set to "GATT" or "HOGP," the Bluetooth® function automatically turns off (OFF) during a USB connection.

※ At this time, the Bluetooth® icon on the screen will also disappear.

- **Standby State :**

- >> Pressing and holding the CLEAR key for 1 second during USB connection turns off the screen and puts the device into "Standby State". The device also enters "Standby State" if the auto power-off set time elapses during USB connection.

- Even when not using the device for a long period, charge it regularly (at least once every six months).
- Charging should be performed within an ambient temperature range of 0 to 40° C.
- In the unlikely event that an abnormal odor or heat generation occurs during use, immediately stop operation, move the device to a safe location, and contact your dealer or Tohnichi Mfg. Co., Ltd.

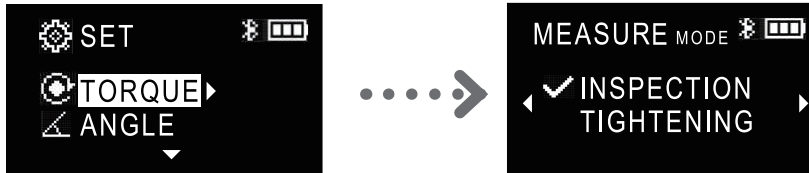
4

Explanation of Measurement Mode / Sampling Mode

This device features a "Measurement Mode" and a "Sampling Mode", each with different functions .

4-1. Measurement Mode

The measurement mode can be changed in the settings menu.



Inspection Mode (INSPECTION)

- **Main Applications**
 - » Mainly used for retightening inspections and breakaway torque inspections.
- **Specifications**
 - » Pass/fail judgment can be performed by setting upper/lower torque limits, upper/lower angle limits, and the tightening direction.
- **Precautions**
 - » The double-tightening judgment angle cannot be set.

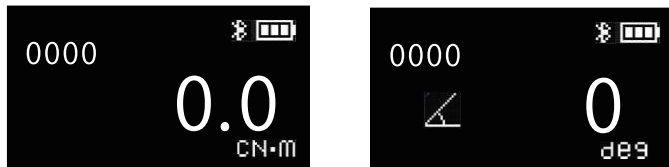
Tightening Mode (TIGHTENING)

- **Main Applications**
 - » Mainly used for tightening operations.
- **Specifications**
 - » Pass/fail judgment and pre-alarms can be performed by setting upper/lower torque limits, upper/lower angle limits, the double-tightening judgment angle, and the tightening direction.
 - » When the peak torque value reaches approximately 80% of the lower limit torque value, an intermittent buzzer sounds and the LED flashes blue (Pre-alarm operation).
 - » When the peak torque value reaches the lower limit torque value, a continuous buzzer sounds and a solid blue LED lights up to notify "Tightening Complete".
- **Precautions**
 - » If the lower limit torque is not set (set to "0"), the "Pre-alarm" and "Tightening Complete" operations will not function.

4-2. Data Sampling Mode

On the measurement screen, you can switch between two display modes by pressing the (UP) / (DOWN) keys to change the memory counter.

Run Mode [Memory Counter 0000]



- **Main Applications**
 - » Mainly used for "Calibration".
- **Specifications**
 - » The displayed torque increases when a torque load is applied. It returns to "0" when the torque load is released.
 - » Data saving and pass/fail judgments are not performed.
 - » When the angle function is set to "ON", you can switch to the angle display by pressing the RIGHT key.

Peak Mode [Memory Counter 0001 to 1000]



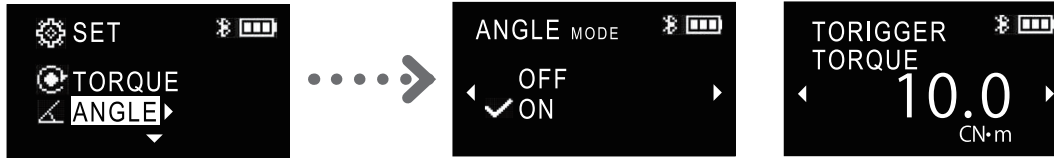
- **Main Applications**
 - » Mainly used for "Tightening Operations" and "Inspection Operations" such as retightening and breakaway torque inspections.
- **Specifications**
 - » The displayed torque increases when a torque load is applied. Even if the torque load is released, the display retains the maximum value (Peak Hold).
 - » Data saving is available. Also, pass/fail judgments are performed based on various settings.
 - » Angle measurement is performed if the angle function is "ON" and a trigger torque is set.
 - » Angle measurement accumulates the angle during the period when the load exceeding the trigger torque is applied.
 - ※ Angle measurement is not performed if the trigger torque is not set.

5

Explanation of Various Functions

5-1. Angle Measurement

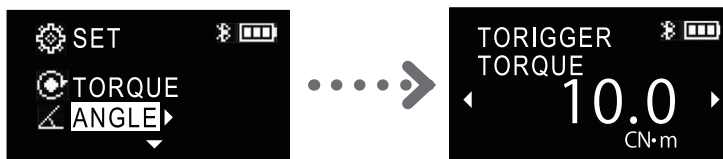
Angle measurement becomes possible by turning the "Angle Function" ON and setting a "Trigger Torque".



5-2. Trigger Torque

In Peak Mode (Memory Counter 0001 to 1000), the device accumulates the angle during the period when a load exceeding the trigger torque (set value) is applied.

※ Angle measurement is not performed if the trigger torque is not set (Trigger torque setting "0").



5-3. Angular Velocity Check and Zero Calibration Function

When the angle function is ON, angular velocity check and zero calibration are automatically performed at power-on.

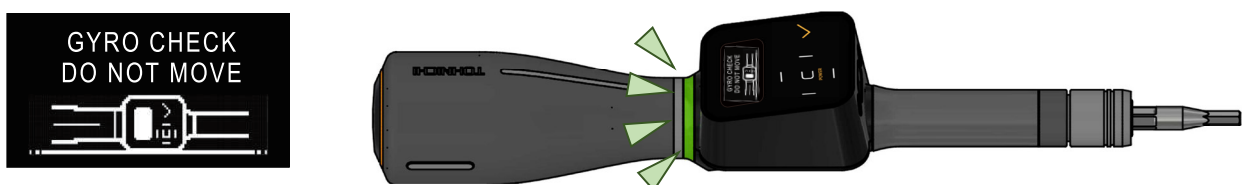
- **Precautions at Power-on :**

- » An error will be displayed if the device is moved during the check. If an error occurs, place the device on a flat surface, keep it completely still, and turn the power on again.

- **Angular Velocity Zero Calibration :**

- » During measurement mode, angular velocity zero calibration is also automatically performed if the device remains completely still for 2 seconds or longer.

※ For details on errors, please refer to the "Error Message List".



5-4. Pass/Fail Judgment Function (Comparator)

Judges the pass/fail status of measured values based on the set control tolerance (upper/lower torque limits, upper/lower angle limits, double-tightening judgment angle, and tightening direction).

※ If the auto-memory/reset timer is configured, pass/fail judgment is automatically performed after measurement.

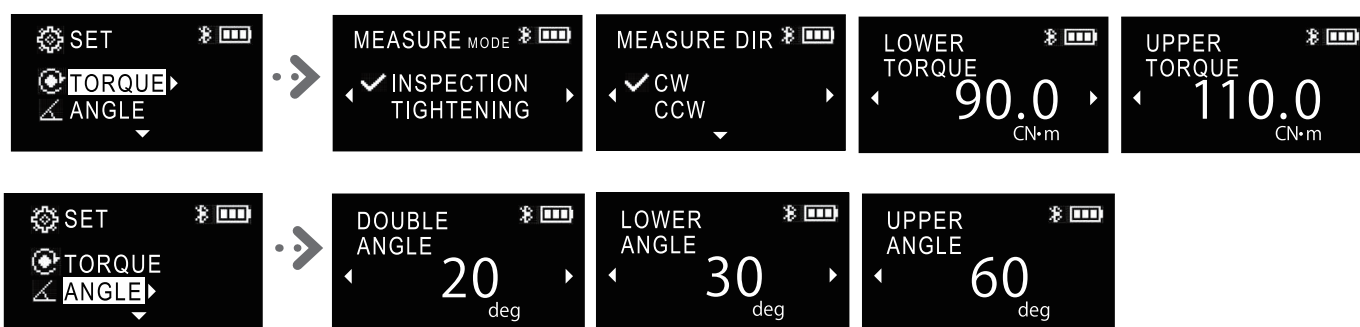
《In Inspection Mode (INSPECTION)》

- ≫ Press the CHECK key after measurement to perform pass/fail judgment.
- ≫ The blue LED or red LED notifies the judgment result.
- ※ The double-tightening judgment angle cannot be set.

《In Tightening Mode (TIGHTENING)》

Notifies the tightening status during measurement via the buzzer and LED.

- ≫ Pre-alarm: When torque reaches approx. 80% of the lower limit torque, an intermittent buzzer sounds and the blue LED flashes.
- ≫ Tightening Complete: When torque reaches the lower limit torque, a continuous buzzer sounds and a solid blue LED lights up.
- ※ If the lower limit torque is not set (set to "0"), the "Pre-alarm" and "Tightening Complete" notifications do not function.



5-5 Measurement Direction and Peak Hold

The condition for retaining the maximum value (peak) is restricted depending on the set direction.

- **CW :**
 - ≫ Retains torque in the clockwise direction (e.g., tightening right-handed screws). Torque in the opposite direction is not peak-held.
- **CCW :**
 - ≫ Retains torque in the counter-clockwise direction (e.g., tightening left-handed screws, breakaway torque inspection). Torque in the opposite direction is not peak-held.
- **BOTH :**
 - ≫ Performs peak hold when turned in either direction.



5-6. Auto-Zero Function

Pressing the CLEAR key during measurement mode executes the measurement auto-zero. However, ERROR9 will be displayed if a load is applied.

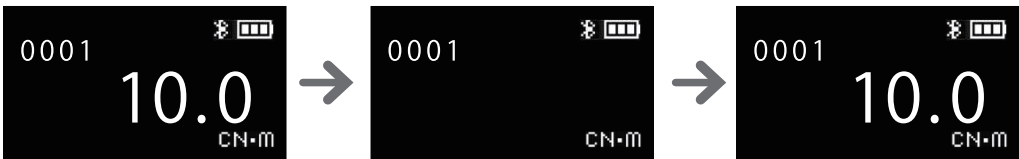
- The auto-zero function executes if the torque load is less than approximately 7.5%.
- ERROR9 is displayed if the torque load is approximately 7.5% or more.

《 When ERROR9 is displayed 》

1. Remove all load from the device, and press the CLEAR key again. If the ERROR9 display disappears, it can be used normally.
2. If the issue is not resolved, press and hold the CLEAR key to turn the device power OFF. Turn it ON again and confirm if the ERROR9 display has disappeared.
3. If ERROR9 still does not disappear, an abnormality in the sensor or circuit board is suspected. Please contact your dealer or Tohnichi Mfg. Co., Ltd.

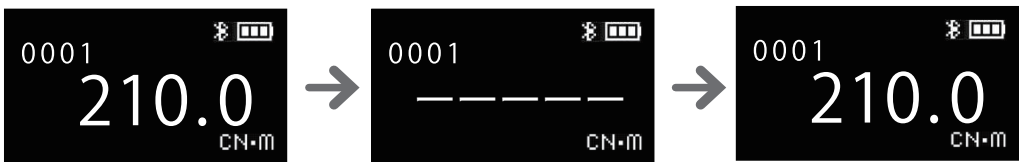
5-7. Notification of Out of Guaranteed Torque Accuracy Range

- When the measured value falls outside the guaranteed torque accuracy range, only the torque value flashes (blinks) to notify you.



5-8. Over-Torque Alarm

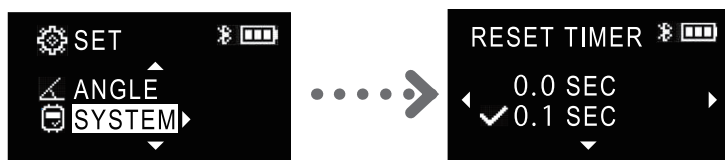
- When the load exceeds approximately 105% of the maximum capacity of the device, the screen switches to an alternating flash of the torque value and "---- (horizontal bars)", warning you with a loud alarm sound. Stop applying the load immediately to prevent sensor damage.



Model	Torque Range [cN·m]			Over Torque Alarm [cN·m]	Peak Hold Start Torque [cN·m]	Auto-Zero Range [cN·m]
	Min.	Max.	1digit			
STC50CN3-G	5.00	50.00	0.02	Approx. 52.5	Approx. 3.8	Approx. 3.8
STC200CN3-G	20.0	200.0	0.1	Approx. 210	Approx. 15	Approx. 15
STC500CN3-G	50.0	500.0	0.2	Approx. 525	Approx. 38	Approx. 38

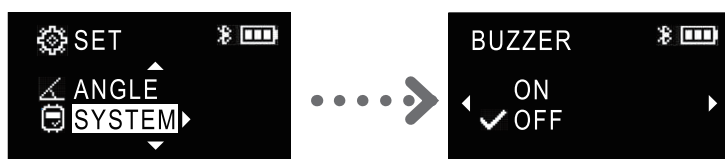
5-9. Auto Memory/Reset Function

- Automatically saves the peak-held measured value to the memory after the set time (0.1 seconds to 5.0 seconds) has elapsed, and advances the memory counter by one.
- If you do not wish to use the auto memory/reset function, set it to 0.0 seconds (OFF).



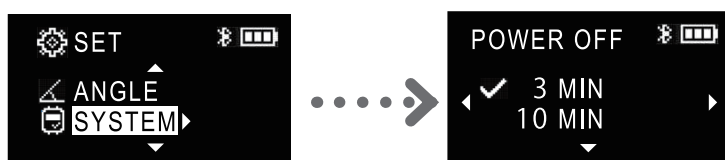
5-10. Mute Function

- Setting the buzzer sound output to "OFF" turns off the buzzer sound during key operations (p. 1). However, the over-torque warning alarm will still sound.



5-11. Auto Power Off Function

- The power turns OFF automatically when no key operations are performed, or when no torque load is applied (approx. 7.5% or less of the maximum measured value) for the set amount of time. (The default factory setting is 3 minutes).
- ※ While a USB connection is active, the device enters "Standby Mode" instead of turning OFF.



5-12. Screen Flip Function

- You can select the screen orientation (NORMAL/REVERSE) to suit your work setup.
- Even if set to "REVERSE", the orientation of the setting menu and data processing menu screens will not change.



5-13. Communication Interface Settings (External Output)

This device allows you to switch between three communication methods.

[GATT (GATT Proprietary Profile)] :

- » This is a BLE (Bluetooth® Low Energy) profile. The device operates as a peripheral and is used for communication with an iPad® or a Windows® PC.
- » Data transmission and reception are made possible by preparing a separate application.

[HOGP (HID over GATT Profile)] :

This allows the device to be recognized by a terminal as a Bluetooth® keyboard. Since measurement data is output as "key codes", it can be integrated with standard applications such as Excel®.

[USB] :

- » Establishes a wired connection with a PC using a USB cable.
- ※ Communication requires the installation of a dedicated driver on the PC.



5-14. Battery Level Indicator Function

- The remaining battery level is indicated by the battery level display section.



It is almost time to recharge.



The battery level is running low.



The remaining battery level is sufficient.

6

Basic Operations (Preparation for Measurement)

6-1. Charging and Battery Management

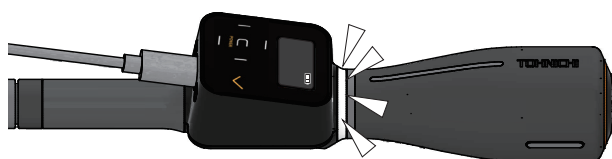
This device has a built-in battery. Please be sure to check the charge level before use.

For details regarding charging, please refer to "3. Charging."

- **Charging status notification via LED ring**

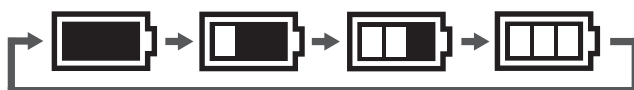
While charging via USB, you can check the charging status by the color of the LED ring.

- » Flashing white (fading effect): Charging
- » Flashing blue (fading effect): Charging complete



- **Screen display :**

The battery icon on the display shows an animation during charging.



- **Regarding restrictions while charging**

- » **Measurement limitations :**

For safety reasons, torque and angle measurements cannot be performed while connected via USB (during charging or when charging is complete).

- » **Communication Function Restrictions :**

Even if the communication interface is set to "GATT" or "HOGP", the Bluetooth® function will automatically be disabled (OFF) while connected via USB.

※ At this time, the Bluetooth® icon on the screen will also disappear.

6-2. Standby Mode (Only during USB connection)

When connected via USB, the device enters standby mode instead of performing a regular shutdown.

- **Entering Standby :**

- » Press and hold the CLEAR key for 1 second while connected via USB. The screen turns off except for the battery icon, and the LED flashes with a fading effect.

- **Exiting Standby :**

- » Press and hold the CLEAR key for 1 second during standby to return to the original screen.

[Important Notes]

Disconnecting the USB cable while in standby mode will cause the device to shut down automatically.

6-3. Turning the Power ON/OFF

- **Power ON :**
 - » Press and hold the CLEAR key for approximately 1 second (p. 4). The LED ring flashes orange once, and the device starts up.
- **Power OFF :**
 - » Press and hold the CLEAR key for approximately 1 second while the screen is displayed. The buzzer sounds twice, and the device shuts down.



6-4. Angular Velocity Check

The angular velocity check is performed when the power is turned on.

※ This function is enabled only when the angle function setting is "ON".

【Important Notes】

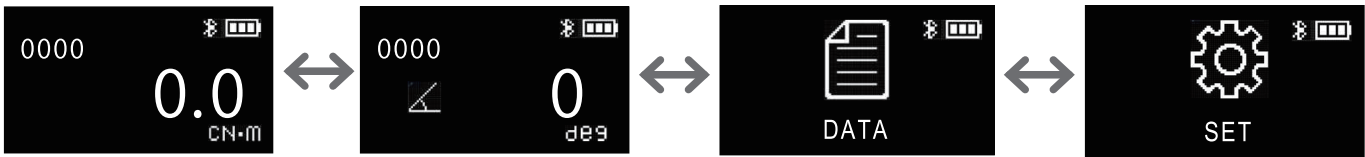
- To ensure the angular velocity check is performed correctly, place the device on a flat surface immediately after turning on the power.
- Performing the angular velocity check while holding the device in your hand will cause an error (ERROR 0).
 1. The check starts automatically immediately after the power is turned on.
 2. "GYRO CHECK" and "DO NOT MOVE" appear on the screen, and the LED ring flashes green with a fading effect.
 3. While it is flashing, do not move the device and keep it still on a flat surface.
 4. The angular velocity check is complete when the LED ring flashes blue twice.

※ If the device is not stationary, an error will appear on the screen. In that case, restart the device using the CLEAR key.



6-5. Switching the Main Screen (Mode)

Pressing the LEFT key or RIGHT key switches the screen or mode.



The conditions for the "Angle Screen" to be displayed are as follows.

Memory Counter	Memory Data Present/Absent	Angle Function	Screen Transition
0000 (Run Mode)		OFF	Torque ↔ Data Processing ↔ Settings
		ON	Torque ↔ Angle ↔ Data Processing ↔ Settings
0001 ~ 1000 (Peak Mode)	No Data	OFF / ON (Common)	Torque ↔ Data Processing ↔ Settings
	Data Present	OFF	Torque (Data) ↔ Data Processing ↔ Settings
		ON	Torque (Data) ↔ Angle (Data) ↔ Data Processing ↔ Settings

※ Even if the angle function is "ON", the angle screen will be skipped if there is no memory data (saved values).

6-6. Entering the Setting Menu and Returning to the Measurement Screen

Follow the steps below to enter the setting menu before starting measurement, or to return to the measurement screen.

【Entering the Setting Menu】

1. On the measurement screen, press the (LEFT) key to display "SET" on the screen.
2. While "SET" is displayed on the screen, press the (CHECK) key to move to the category selection screen for various settings in the setting menu.



【Returning to the Measurement Screen】

1. Press the (CLEAR) key on the category selection screen for various settings in the setting menu to return to the "SET" display.
2. Once you return to the "SET" display, press the (CLEAR) or (RIGHT) key to return to the measurement screen.



6-7. Switching to Peak Mode (Memory Counter 0001 to 1000)

- Run mode (Memory counter 0000) on the measurement screen is primarily used for calibration.
- When performing tightening work or inspection work, press the (UP) / (DOWN) keys to change to peak mode (Memory counter 0001 to 1000).

6-8. Auto Zero

Before performing measurement, execute auto zero using the CLEAR key.

1. When the measurement screen is displayed, press the CLEAR key briefly under no torque load.
2. The torque display resets to "0".



7

Examples of Measurement Operations

7-1. Operation Steps for Inspection Mode (INSPECTION)

The measurement operation is explained below based on the following setting example.

【Setting Example】

Setting Category	Setting Item	Setting Content
Torque Measurement Settings 	Measurement Mode	INSPECTION (Inspection Mode)
	Lower Limit Torque	30.00 cN·m
	Upper Limit Torque	40.00 cN·m
Angle Measurement Settings 	Angle Function	OFF
Device Settings 	Auto Memory/Reset Timer	0.0 SEC (OFF)
	NG Process	AUTO

1. Performing Measurement: :

- Measurements are performed in peak mode (Counter: 0001 to 1000).
- When the upper and lower limit torques are configured, the memory counter is displayed temporarily before the screen switches to the upper and lower limit torques.



2. Executing Pass/Fail Evaluation :

- Release the torque load after measurement. In this example, since the "Auto Memory/Reset Timer" is set to OFF (0.0 seconds), automatic evaluation is not performed.
- Press the CHECK key to perform the pass/fail evaluation.

» 【When the evaluation result is "OK (Pass)" 】

- The blue LED lights up for approximately 0.5 seconds.
- After the evaluation is finalized, the measurement data is saved to the memory.

» 【When the evaluation result is "NG (Fail)" (When NG Process is set to AUTO)】

- The red LED lights up for approximately 0.5 seconds.
- Since the "NG Process" is set to AUTO (Automatic Count-Up), the measurement data is automatically saved and the memory counter advances by one even in the event of a failure.



3. Memory Counter Up :

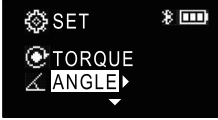
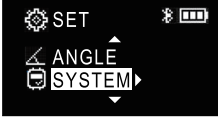
- If there is no data in the advanced memory counter destination: The torque value is reset to zero.
- If data already exists in the advanced memory counter destination: The saved data is displayed.



7-2. Operation Steps for Tightening Mode (TIGHTENING)

The measurement operation is explained below based on the following setting example.

【Setting Example】

Setting Category	Setting Item	Setting Content
Torque Measurement Settings 	Measurement Mode	TIGHTENING (Tightening Mode)
	Lower Limit Torque	30.00 cN·m
	Upper Limit Torque	40.00 cN·m
Angle Measurement Settings 	Angle Function 能	ON
	Trigger Torque	10.00 cN·m
	2nd Tightening Evaluation Angle	0 deg
	Lower Limit Angle	20 deg
	Upper Limit Angle	40 deg
Device Settings 	Auto Memory/Reset Timer	0.5 SEC
	NG Process	MANUAL

1. Starting Measurement :

- Start tightening in peak mode (Memory counter: 0001 to 1000).
- When the upper and lower limit torques are configured, the memory counter is displayed temporarily before the screen switches to the upper and lower limit torques.

2. Starting Angle Measurement :

- Angle measurement begins when the tightening torque reaches the configured "Trigger Torque (Example: 10.00 cN·m)".
- The angle is accumulated while a load exceeding the trigger torque is applied.



3. Pre-judgment Alarm :

- When the torque reaches approximately 80% of the lower limit torque, an intermittent buzzer sounds and the blue LED flashes to notify that the lower limit torque is close to being reached.
- ※ If the lower limit torque is set to "0", the "Pre-judgment Alarm" action is not performed.

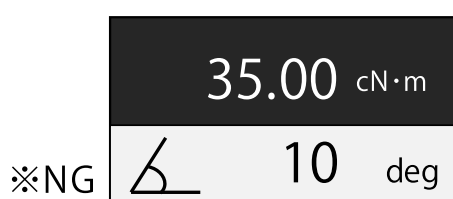
4. Tightening Completion :

- When the lower limit torque is reached, a continuous buzzer sounds and the blue LED lights up to notify completion of tightening.
- ※ If the lower limit torque is set to "0", the "Tightening Completion" action is not performed.



5. Execution of Pass/Fail Judgment :

- When the torque load is released, the "Auto Memory / Reset Timer" is activated, and the pass/fail judgment is automatically executed.
- [Processing of Judgment Results]**
 - » **When the judgment result is "OK (Pass)"**
Measurement data is automatically saved to the memory.
 - » **When the judgment result is "NG (Fail)" (During NG processing: MANUAL mode)**
The red LED lights up, and the torque value and angle value are displayed in two rows on the screen. Items judged as NG are highlighted in reverse display.
 - Saving data: To save this data, press the "CHECK" key.
 - Clearing data: To clear the data without saving, press the "CLEAR" key.



6. Memory Counter Increment :

- When data saving is completed, the memory counter increments by 1, and the peak torque value is reset.
- ※ Even when the memory counter is advanced manually by pressing the (CHECK) key, the peak torque value is reset in the same manner.

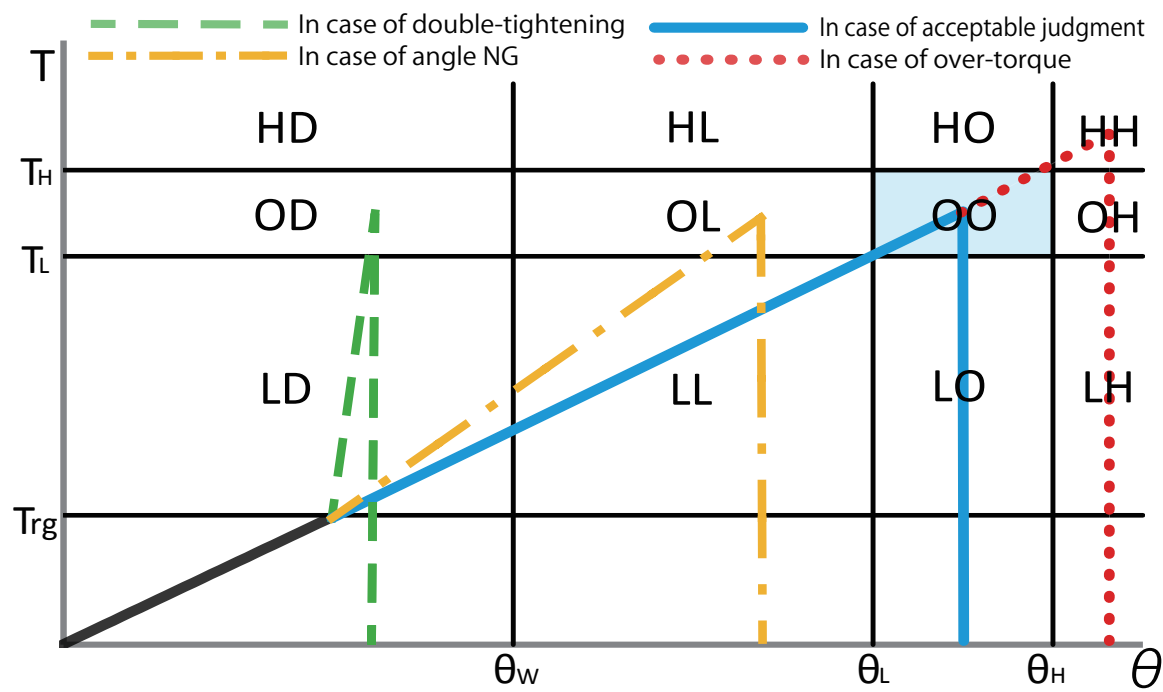


8

Pass/Fail Judgment

8-1. Pass/Fail Judgment

Pass/fail judgment for the tightening torque and final angle is performed by setting each threshold value. The pass/fail judgment result (judgment code) can be appended to the measurement data for output.



Trg	Trigger Torque
TL	Lower Limit Torque
TH	Upper Limit Torque

θ W	Double-Tightening Judgment Angle
θ L	Lower Limit Angle
θ H	Upper Limit Angle

※ Graph notation

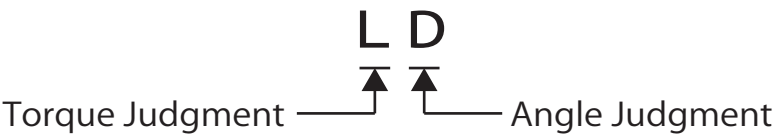
D	Double-Tightening Judgment Angle NG
L	Low NG
O	OK
H	High NG

※ Others

DN	Tightening Method NG
----	----------------------

- ※ Tightening Direction NG (DN) takes priority over Upper Limit Torque Judgment NG.
- ※ Double-Tightening Judgment Angle NG takes priority over Upper/Lower Limit Angle Judgment NG.

Judgment Code Notation



1. Basic Judgment

Judgment	Content	Decision Code	Remarks
No Judgment	No upper/lower limit torque settings, or no peak hold.	— —	
Tightening Direction NG	Upper/lower limit torque settings exist, and torque load is applied in the opposite direction of the tightening direction.	D N	

2. Upper/Lower Limit Torque Settings Only

When angle settings (upper/lower limits, double-tightening judgment angle) are not configured, the second character of the judgment code becomes "—".

		No Angle Check (—)	Double Tightening (D)	Low Angle (L)	Angle OK (O)	High Angle (H)
		(None)	$\theta < \theta_w$	$\theta_w < \theta < \theta_L$	$\theta_L \leq \theta \leq \theta_H$	$\theta_H < \theta$
Low Torque (L)	$T < TL$	L —				
Torque OK (O)	$TL \leq T \leq TH$	O —				
High Torque (H)	$TH < T$	H —				

3. Upper/Lower Limit Torque Settings + Upper/Lower Limit Angle + Double-Tightening Judgment Angle.

When angle settings (upper/lower limits, double-tightening judgment angle) are configured, the angle judgment is appended as the second character of the judgment code.

		No Angle Check (—)	Double Tightening (D)	Low Angle (L)	Angle OK (O)	High Angle (H)
		(None)	$\theta < \theta_w$	$\theta_w < \theta < \theta_L$	$\theta_L \leq \theta \leq \theta_H$	$\theta_H < \theta$
Low Torque (L)	$T < TL$		LD	LL	LO	LH
Torque OK (O)	$TL \leq T \leq TH$		OD	OL	OO	OH
High Torque (H)	$TH < T$		HD	HL	HO	HH

9 External Output Specifications

9-1. Communication Interface "USB"

[USB]



The communication specifications for USB (serial output compatible with USB connector) are as follows.

Kinds	Serring Range
Baud Rate	2400 / 4800 / 9600 / 19200 / 115200 bps
Parity	None / Even / Odd
Data Length	8 bit / 7bit
Stop Bit	1 bit
Flow Control	Hardware Setting (RTS / CTS)

- When using USB, please use the separately sold connection cord.
 - ※ USB C to C type (No. 586)
 - ※ USB C to A type (No. 587)
- When using this device, you need to install the driver on your PC, so please download it from the Tohnichi website.

<https://en.global-tohnichi.com/products/detail/320>
- Insert the USB connector of this unit and the USB cable terminal firmly all the way to the back.

9-2. About Communication Interface "GATT"

[GATT (GATT Proprietary Profile)]

- This is a BLE (Bluetooth® Low Energy) profile where the STC3-G-BT operates as a peripheral device and is used for communication with an iPad® or Windows® PC.
- Data transmission and reception become possible by preparing a separate application.



[UUID]

Service	14590000-CA2E-49D6-AB86-0F24F503E680
Data Transmit/Receive	14590006-CA2E-49D6-AB86-0F24F503E680

- Connection between the tablet terminal and the STC3-G-BT is completed by enabling "Notify" for the data transmission/reception characteristic, allowing data to be sent and received.
- In GATT mode, the advertising data of the STC3-G-BT includes the service UUID. The application side can search for the STC3-G-BT by referencing this service UUID.

9-3. When USB is Connected During Communication Interface "GATT" Configuration

Even if the communication interface is set to "GATT," the Bluetooth® function is automatically disabled (turned off) while connected via USB.

[Display During USB Connection]

- The Bluetooth® function is turned off, and the Bluetooth® icon on the screen disappears.
- ※ USB communication cannot be performed if a USB cable is connected while the communication interface is set to "GATT".

[Behavior Upon Disconnection]

- When the USB cable is disconnected, the Bluetooth® function automatically turns back on, and the device enters a standby state waiting for a connection with the terminal.

9-4. Communication Format (Communication Interface: USB / GATT)

This communication format can only be selected when the communication interface is set to "USB" or "GATT".



1. Communication Format DF1 (STC3 Format)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
R	E	,	1	0	0	0	,	+	5	0	.	0	0	,	c	n	m	S	P	S	P	,	+	9	9	9	,	d	e	g	,
Header		Memory counter					Torque value					Torque unit					Angle value					Angle unit									

30	31	32	33	34	35	36	37	38	39	40	41		
H	H	,	1	2	3	4	5	6	A	C	L	R	F
Judgment result		※ 7 digits ID							Delimiter				

- ※ The 7-digit alphanumeric string can be changed via external commands. The serial number is registered by default at the factory shipment.
- ※ The signs (+/-) for torque data and angle data change depending on the polarity sign settings.

2. Communication Format DF2 (STC2 Compatible Format)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
R	E	,	1	0	0	0	,	S	P	5	0	.	0	0	C	R	L	F
Header		Memory counter					Torque value					Delimiter						

※

- ※ The sign for torque data changes depending on the polarity sign settings. "SP (Blank)" is added for positive values, and "—" is added for negative values.

3. Communication Format DF3 (Tohnichi Standard Format)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
R	E	,	0	0	0	,	+	5	0	.	0	0	,	c	n	m	S	P	S	P	,	+	9	9	9	,	d	e	g	,
Header		※ Memory counter					Torque value					Torque unit					Angle value					Angle unit								

29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		
H	H	,	1	2	3	4	5	6	A	,	0	0	/	0	0	/	0	0	,	0	0	:	0	0	:	0	0	C	R	L	F
Judgment result		7 digits ID							※ Fixed value										※ Fixed value										Delimiter		

- ※ When the memory counter reaches 1000, it rolls over to "000".
- ※ Shaded data columns represent fixed values intended for compatibility with other products.

9-5. Configuration from External Devices (Communication Interface: USB / GATT)

By inputting commands from an external device, you can change the setting values of this unit.

[Important Notes]

- Before changing settings via command communication, make sure that this unit is on the measurement or data reading screen.
- Command communication is not possible on screens other than the measurement or data reading screen (no response command will be returned either).
- Configuration changes via command communication must always be performed while there is no torque load on this unit.
- When changing two or more settings continuously, wait for an interval of 200 ms or more after receiving the response command before sending the next command.
- When this unit receives a command, it executes it and transmits a response command.
Command communication is not supported when the communication interface is set to "HOGP".

9-6. Response Command

Response Command	Content
RE003,OK	Reception Completed
RE004,ERROR	Reception Error / Configuration Error
E10	Reception Error / Configuration Error ※ Error when "AT" is not prefixed to the transmitted command.

※ CRLF is appended to the end of the response command.

9-7. 7-Digit Alphanumeric Setting Command (AT023)

Registers an arbitrary string (7 digits) to this unit. The set string is appended during data output. Separate the header and the 7 alphanumeric digits with a comma ",".

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	T	0	2	3	,	1	2	3	4	5	6	Z	C	L

[Structure of Transmitted Data]

AT023, [7 alphanumeric digits] [CR][LF]

- Example: To set "123456Z" as the 7 alphanumeric digits: AT023,123456Z (Please append CRLF to the end).

9-8. Batch Configuration Command for Measurement Conditions (AT059)

This command configures judgment values for torque/angle and operation modes all at once. Separate each item with a comma (,) and transmit with the specified number of digits.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A	T	0	5	9	,	0	5	,	1	0	.	0	0	,	3	0	.	0	0	,	0	5	.	0	0	,

27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
0	1	5	,	0	2	5	,	0	3	5	,	0	,	1	C	L
															R	F

[Structure of Transmitted Data]

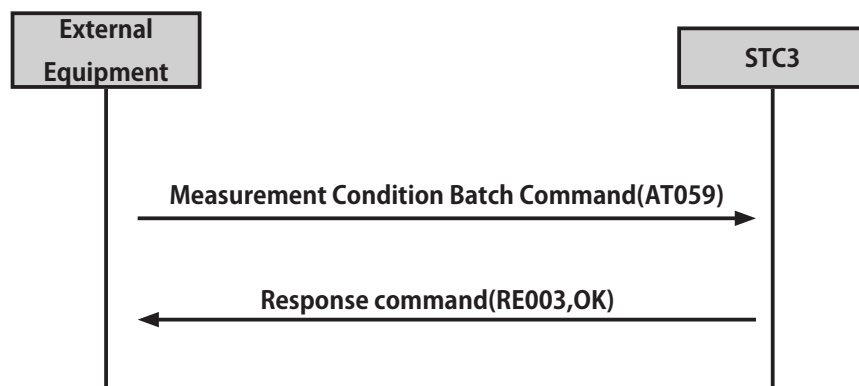
AT059,[Torque Unit],[Lower Limit Torque],[Upper Limit Torque],[Trigger Torque],[Double-Tightening Judgment Angle],[Lower Limit Angle],[Upper Limit Angle],[Measurement Direction],[Measurement Mode]
[CR][LF]

Index	Setting items	Character count	Settings and Conditions
0 - 4	Header	5	AT059 (Command Header)
6 - 7	Torque Unit	2	02 (kgf·cm) / 05 (cN·m) / 08 (lbf·in) / 07 (ozf·in) ※
9 - 13	Lower Limit Torque	5	5 digits including a decimal point. 0 (no judgment) can be set. Within the torque measurement range.
15 - 19	Upper Limit Torque	5	5 digits including a decimal point. 0 (no judgment) can be set. Equal to or greater than lower limit torque, within the torque measurement range.
21 - 25	Trigger Torque	5	5 digits including a decimal point. 0 (no angle measurement) or approx. 2% of maximum torque to within the torque measurement range.
27 - 29	Double-Tightening Judgment Angle	3	Set "000" during inspection mode.
31 - 33	Lower Limit Angle	3	Set 0 (no judgment) or a value equal to or greater than the double-tightening judgment angle.
35 - 37	Upper Limit Angle	3	Set 0 (no judgment) or a value equal to or greater than the lower limit angle and double-tightening judgment angle.
39	Measurement Direction	1	0 (CW) / 1 (CCW) / 2 (BOTH)
41	Measurement Mode	1	0 (Inspection Mode) / 1 (Tightening Mode)

※ The torque unit "07 (ozf·in)" can only be configured on the STC50CN3-G-BT.

9-9. Configuration Examples for Command Communication

Before changing settings via command communication, make sure that this unit is on the measurement or data reading screen. Command communication cannot be performed on screens other than the measurement or data reading screen.



(Example) STC50CN3-G-BT: Tightening mode, tightening direction CW, upper/lower limit torque settings configured, no angle measurement

1. Configuration Example :

- Unit: cN·m (05)
 - Lower Limit Torque: 30.00 cN·m, Upper Limit Torque: 40.00 cN·m, (Trigger Torque: 00.00 cN·m)
 - Double-Tightening Judgment Angle: 0 deg, Lower Limit Angle: 0 deg, Upper Limit Angle: 0 deg
 - Measurement Direction: CW (0)
 - Measurement Mode: Tightening Mode (1)
- ※ If angle measurement is not performed, set the trigger torque to "0 (with a decimal point)".

2. Transmit Configuration Command from External Device

- AT059,05,30.00,40.00,00.00,000,000,000,0,1[CR][LF]

3. Response from This Unit (*If the configuration command was OK)

- RE003,OK[CR][LF]

(Example) STC500CN3-G-BT: Inspection mode, tightening direction CCW, upper/lower limit torque settings configured, upper/lower limit angles configured

1. Configuration Example :

- Unit: cN·m (05)
 - Lower Limit Torque: 150.0 cN·m, Upper Limit Torque: 200.0 cN·m, Trigger Torque: 100.0 cN·m
 - (Double-Tightening Judgment Angle: 0 deg), Lower Limit Angle: 40 deg, Upper Limit Angle: 50 deg
 - Measurement Direction: CCW (1)
 - Measurement Mode: Inspection Mode (0)
- ※ In inspection mode, fill the double-tightening judgment angle with "0".

2. Transmit Configuration Command from External Device

- AT059,05,150.0,200.0,100.0,000,040,050,1,0[CR][LF]

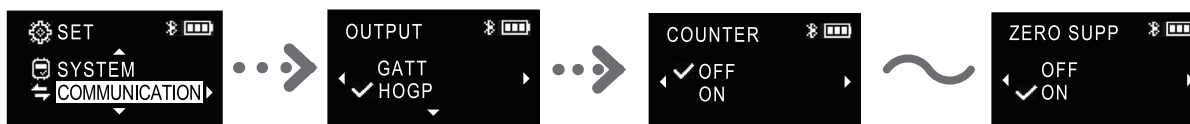
3. Response from This Unit (*If the configuration command was OK)

- RE003,OK[CR][LF]

10 External Output Specifications (HOGP)

10-1. Output Format (HOGP)

The output format for the normal mode HOGP allows you to toggle individual output items ON/OFF (excluding torque data) and switch various selection items.



Memory counter				Delimiter	Torque data					Delimiter	Torque unit					Delimiter
0	0	1	0	TAB	0	9	.	5	0	TAB	c	n	m	S	P	TAB

Angle data				Delimiter	Angle unit			Delimiter	Battery level	Delimiter	Pass / Fail determination	Delimiter	7-digit Alphanumeric							Data end
0	3	0	TAB	d	e	g	TAB	3	TAB	O	H	TAB	1	2	3	4	5	6	A	ENTER

10-2. Example of Output Format (HOGP)

When outputting torque data and data end "ENTER"

Torque data					Data end
0	9	.	5	0	ENTER

※ Torque data and the data end are always output.

Options	Setting Items	Selection
Memory Counter Output	COUNTER	OFF
Angle Value Output	ANGLE DATA	
Pass/Fail Judgment Output	JUDGEMENT	OFF
7-digit Alphanumeric Output	SERIAL NUM	OFF
Battery Level Output	BATT LEVEL	OFF
Unit Output	UNIT	OFF
Data Delimiter Selection	DELIMITER	
Data End Output	DATA END	ENTER
Zero Suppress Setting	ZERO SUPP	OFF

【When Angle Function is "OFF"】

- If the angle function is set to "OFF," you cannot toggle the angle data output in the output format.
 ※ the angle value output toggle screen is skipped.

【Regarding Data Delimiter Selection】

- When outputting only torque data and the data terminator, you cannot select a delimiter between data.
 ※ the delimiter selection screen is skipped.

When outputting torque data (negative polarity) and data end "TAB"

Torque data						Data end
-	0	9	.	5	0	TAB

Options	Setting Items	Selection
Memory Counter Output	COUNTER	OFF
Angle Value Output	ANGLE DATA	
Pass/Fail Judgment Output	JUDGEMENT	OFF
7-digit Alphanumeric Output	SERIAL NUM	OFF
Battery Level Output	BATT LEVEL	OFF
Unit Output	UNIT	OFF
Data Delimiter Selection	DELIMITER	
Data End Output	DATA END	TAB
Zero Suppress Setting	ZERO SUPP	OFF

【Regarding Negative Polarity】

- A polarity sign " - " (minus) is added only when the torque data (and angle data) output is negative.

【When Data End Selection is "TAB"】

- Selecting "TAB" for the data end changes the end of the format data to a "TAB".

When outputting torque data, angle data, and data end "ENTER"

Torque data					Delimiter	Angle data			Data end
0	9	.	5	0	TAB	0	3	0	ENTER

Options	Setting Items	Selection
Memory Counter Output	COUNTER	OFF
Angle Value Output	ANGLE DATA	ON
Pass/Fail Judgment Output	JUDGEMENT	OFF
7-digit Alphanumeric Output	SERIAL NUM	OFF
Battery Level Output	BATT LEVEL	OFF
Unit Output	UNIT	OFF
Data Delimiter Selection	DELIMITER	TAB
Data End Output	DATA END	ENTER
Zero Suppress Setting	ZERO SUPP	OFF

【When Angle Function is "ON"】

- If the angle function is set to "ON," you can toggle the angle value output in the output format.

【Regarding Inter-Data Delimiter Selection】

- You can select a data delimiter if any of the following output data is set to "ON": memory counter, angle value, pass/fail judgment result, date/time, battery level, or unit.

When outputting memory counter, torque data, angle data, data delimiter ",", (COMMA), pass/fail judgment result, and data terminator "ENTER"

Memory counter				Delimiter	Torque data					Delimiter	Angle data			Delimiter	Pass / Fail determination		Data end
0	0	1	0	,	0	9	.	5	0	,	0	3	0	,	O	H	ENTER

Options	Setting Items	Selection
Memory Counter Output	COUNTER	ON
Angle Value Output	ANGLE DATA	ON
Pass/Fail Judgment Output	JUDGEMENT	ON
7-digit Alphanumeric Output	SERIAL NUM	OFF
Battery Level Output	BATT LEVEL	OFF
Unit Output	UNIT	OFF
Data Delimiter Selection	DELIMITER	COMMA
Data End Output	DATA END	ENTER
Zero Suppress Setting	ZERO SUPP	OFF

[When Data Delimiter Selection is "COMMA"]

- Selecting "COMMA" changes the data delimiter within the format to ", ".

[Regarding Pass/Fail Judgment Output]

- If there is no judgment result, a " " (space) is output.

When outputting memory counter, torque data, angle data, data delimiter TAB, data terminator "ENTER", and setting Zero Suppress to ON

ZERO SUPP : OFF

Memory counter				Delimiter	Torque data					Delimiter	Angle data			Data end
0	0	1	0	TAB	0	9	.	5	0	TAB	0	3	0	ENTER

ZERO SUPP : ON

Memory counter		Delimiter	Torque data				Delimiter	Angle data		Data end
1	0	TAB	9	.	5	0	TAB	3	0	ENTER

[Zero Suppress Setting "OFF"]

Each data type is output with the following standard character lengths.

- Memory counter output: 4 characters
- Torque data output: 5 characters (excluding the minus sign)
- Angle data output: 3 characters (excluding the minus sign)

Options	Setting Items	Selection
Memory Counter Output	COUNTER	ON
Angle Value Output	ANGLE DATA	ON
Pass/Fail Judgment Output	JUDGEMENT	OFF
7-digit Alphanumeric Output	SERIAL NUM	OFF
Battery Level Output	BATT LEVEL	OFF
Unit Output	UNIT	OFF
Data Delimiter Selection	DELIMITER	TAB
Data End Output	DATA END	ENTER
Zero Suppress Setting	ZERO SUPP	OFF

[Regarding Zero Suppress Setting "ON"]

When zero suppress is "OFF," leading zeros are added to the memory counter, torque data, and angle data outputs.

Setting zero suppress to "ON" removes these leading zeros from the output data.

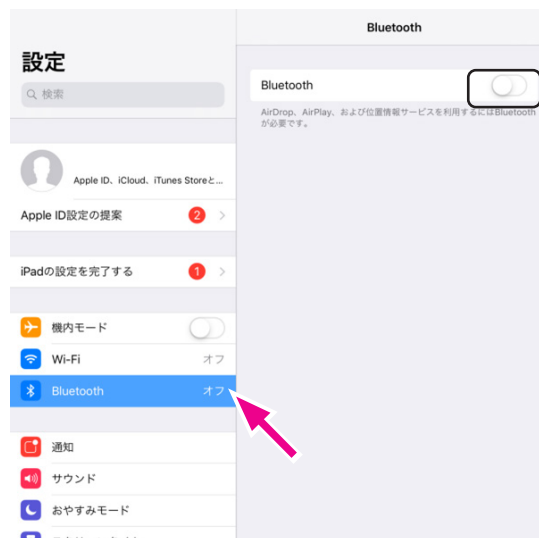
10-3. Pairing Method (HOGP)

● Pairing Method (for iOS®)

1. Tap "Settings"



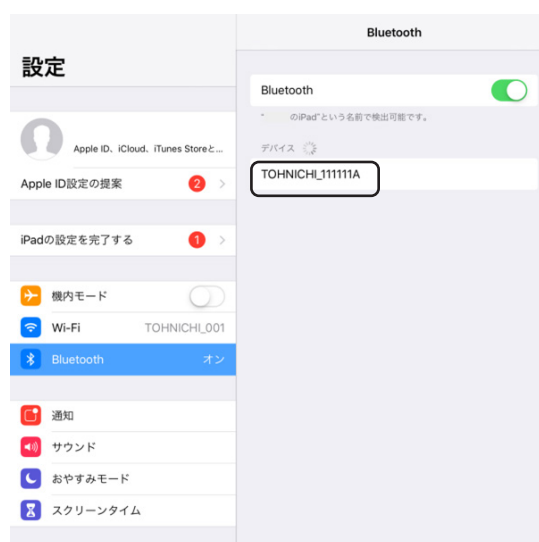
2. Tap "Bluetooth®" and switch it to "ON"



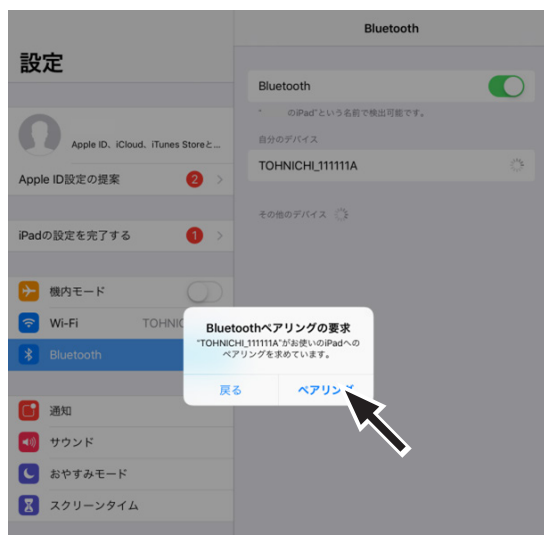
3. Turn ON the power of the device and wait until it is detected



4. Tap the target model name: TOHNICHI_○○○○○○○○ (○ represents the serial number)



5. Tap "Pair"



6. Once connected successfully, it will display "Connected"

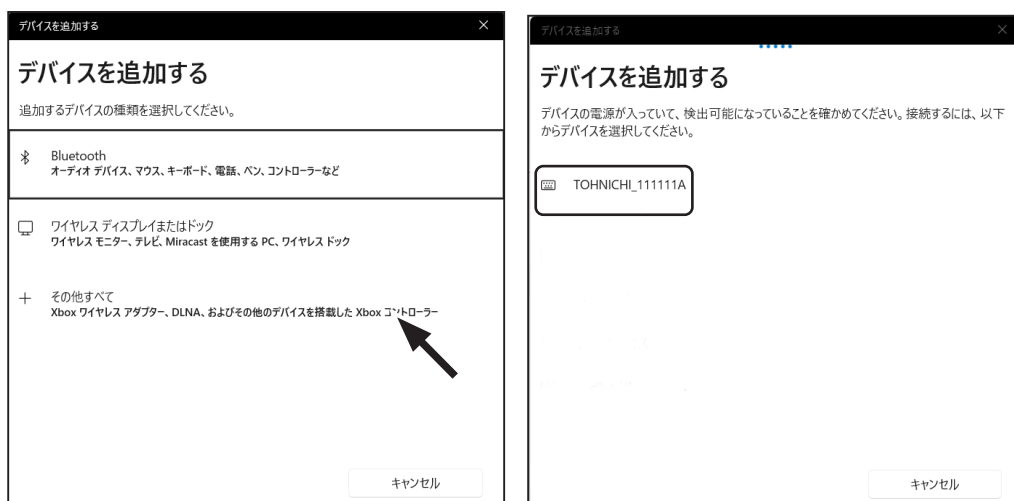


● Pairing Method (for Windows® 11)

1. Right-click the Bluetooth® icon on the taskbar, click "Add a Bluetooth® device", and then click "Add Bluetooth® or other device".



2. Click "Bluetooth®" to start the search. Click on the detected TOHNICHI_○○○○○○○○ (○ represents the serial number).



3. Verify that TOHNICHI_○○○○○○○○ has been added and shows "Connected".



10-4. About Bluetooth® Pairing (HOGP)

【Regarding Pairing Operations】

- When pairing with a PC or tablet terminal for the first time, perform the pairing operation within 3 minutes after turning ON the device's power.
- If more than 3 minutes pass, the pairing standby state will be cancelled. Turn the device OFF, then turn it ON again to retry the pairing process.

【Regarding Authentication Errors】

- If you delete the saved device information on a paired PC or tablet and then attempt to re-pair the same terminal, an authentication error will occur because the authentication data remains on the torque screwdriver side.
- If an authentication error occurs, delete the corresponding device info on both sides and perform the pairing operation again.

10-5. About Deleting Pairing Information (HOGP)

This device can save pairing information for up to 7 terminals. If you pair a new device when 7 terminals are already registered, the oldest pairing information will be automatically overwritten and deleted.

【Regarding "Delete Pairing Info" in the Settings Menu】

- Running the pairing information deletion from the settings menu clears all pairing records with all connected terminals.
- If executed while connected to a terminal, the Bluetooth® icon on the screen will flash.

【Important Notes】

- Even after clearing pairing info on this device, the device might still appear as a paired device on your terminal (PC, tablet, etc.).
- Please ensure you also delete the device information from the terminal side.



10-6. Connecting Multiple STC3-G-BT Units to a Single Terminal

[Regarding Simultaneous Connections]

- The maximum number of devices that can connect simultaneously to a single terminal depends on the specifications of the host terminal.
- Connect the units according to your terminal's manual.

[Regarding Data Output Timing]

- If another STC3-G-BT transmits data while the terminal is still receiving data from one device, data corruption or mixing may occur on the host terminal.
- Always wait until the terminal finishes inputting data from the previous device before sending data from the next STC3-G-BT.

10-7. Connecting USB during Communication Interface "HOGP" Configuration.

Even if the communication interface is set to "HOGP," the Bluetooth® function automatically turns OFF (disables) while a USB cable is connected.

[Display During USB Connection]

- The Bluetooth® function turns off, and the Bluetooth® icon disappears from the screen.
- ※ USB communication cannot be performed even if you connect a USB cable while "HOGP" is selected.

[Behavior Upon Disconnection]

- Disconnecting the USB cable automatically re-enables the Bluetooth® function, and the device goes back into a connection standby state with the terminal.

11 Settings Menu

11-1. Entering the Settings Menu

1. From the measurement screen, press the LEFT/RIGHT keys until "SET" is displayed on the screen.



2. Press the CHECK key while "SET" is displayed to enter the various configuration categories.



11-2. Key Operations in the Settings Menu

The following key rules apply within the settings menu of this device.

Selecting Values and Items

- **UP/DOWN Keys :**
 - » Short press: Increases/decreases values by 1, or toggles between items.
 - » Long press: Rapidly increases/decreases numbers during numerical configurations.

Moving Between Items

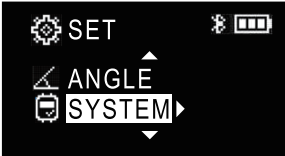
- **RIGHT Key :**
 - » Moves forward to the next configuration item while retaining current settings.
 - ※ Pressing the RIGHT key on the final item of a category (e.g., upper limit torque) keeps you on that item.
- **LEFT Key :**
 - » Moves back to the previous configuration item while retaining current settings.
 - ※ Pressing the LEFT key on the first item of a category (e.g., measurement mode) returns you to the main category selection screen.

Confirming and Exiting Settings

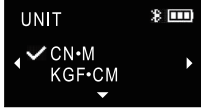
- **CHECK Key :**
 - » Saves the setting and proceeds to the next item.
 - ※ Pressing it on the final item saves all configuration changes and returns you to the main category selection screen.
- **CLEAR Key :**
 - » Exits the current item without saving any changes and returns you to the main category selection screen.

11-3. 設定カテゴリーの一覧

UP/DOWN キーでカテゴリーを選択し、CHECK キーで決定します

カテゴリー	表示	備考
Torque Measurement Settings		Settings for measurement mode, measurement direction, sign selection, upper/lower limit torque judgment, etc.
Angle Measurement Settings		Settings for angle function, trigger torque, double tightening, upper/lower limit angle judgment, etc.
Device Settings		Settings for auto memory/reset timer, auto power off, NG data memory, display orientation, and default reset operations.
Communication Settings		Settings for communication interface, output format, etc. Deletion of "HOGP" pairing information.
Instruction Manual		Displays a QR code for downloading the instruction manual.
Certification Information		Certification information.

11-4. List of Torque Measurement Setting Items

	Setting Item	Display	Factory Default	Selectable Items	Remarks
1	Measurement Mode		INSPECTION	INSPECTION (Inspection Mode) TIGHTENING (Tightening Mode)	
2	Measurement Direction		CW	CW / CCW / BOTH	
3	Sign Selection		CW+ CCW-	CW+ CCW- CW- CCW+ CW+ CCW+	
4	Unit Setting		CN·M	CN·M KGF·CM LBF·IN OZF·IN (STC50CN3-G-BT only)	
5	Lower Limit Torque		0 (No judgment)	0(No judgment) / Within torque measurement range	
6	Upper Limit Torque		0 (No judgment)	0(No judgment) / From lower limit torque to within torque measurement range	Must be equal to or greater than the lower limit torque (0 can be set).

11-5. Details on Torque Measurement Settings

Press the RIGHT key to proceed to the next item, and the LEFT key to return to the previous item.

1. Measurement Mode (MEASURE MODE)

Selects the measurement mode.



- **Selectable Items**

- » INSPECTION: Select this when performing retightening inspections or breakaway torque inspections.
- » TIGHTENING: Select this when performing standard tightening operations.

- **Remarks**

- » **【 When INSPECTION is selected 】 :**

The double tightening judgment angle cannot be set. If a double tightening judgment angle has already been configured, it will automatically overwrite to "0".

- » **【 Regarding TIGHTENING 】 :**

If the lower limit torque is set to "0", the "pre-alarm" and "tightening complete" operations will not function.

- Pressing the LEFT key while on this item applies the configuration and returns to the "Category Selection" screen.

2. Measurement Direction (MEASURE DIR)

Selects the measurement direction.



- **Selectable Items**

- » CW (Clockwise): Select this when tightening right-hand threads.
- » CCW (Counterclockwise): Select this when performing breakaway torque inspections or tightening left-hand threads.
- » BOTH (Both Directions): Select this when retightening after a breakaway torque test.

- **Remarks**

- » In Peak Mode (memory counter 0001 to 1000), peak hold functions only for loads in the configured direction.
- » The device will not hold peak torque for counterclockwise loads when set to "CW", nor for clockwise loads when set to "CCW".

3. Sign Selection (SIGN)

Selects the plus (+) and minus (-) signs used when displaying and exporting measurement data.



- **Selectable Items**

- » CW + CCW -: Clockwise load is "+", counterclockwise load is "-".
- » CW - CCW +: Clockwise load is "-", counterclockwise load is "+".
- » CW + CCW +: Both clockwise and counterclockwise loads are "+".

- **Remarks**

- » This setting applies to measurement data and the screen display signs.
- » This setting does not alter user-defined values such as upper/lower torque limits, double tightening angles, or upper/lower angle limits.
- » Match this configuration to the specifications of your data collection software.

4. Unit (UNIT)

Selects the measurement unit for torque.



- **Selectable Items**

- » cN·m
- » kgf·cm
- » lbf·in
- » ozf·in ※ Available only on the STC50CN3-G-BT

- **Remarks**

- » This item can only be selected on G models.

5. Lower Limit Torque (LOWER TORQUE)

Sets the lower limit value for tightening torque pass/fail judgment.



- **Setting Range**

- 0 to within the torque measurement range.

- **Remarks**

- The screen displays "SET ERROR" if a value outside the setting range is entered.
 - If the lower limit torque is set to "0" while in Tightening Mode (TIGHTENING), "tightening complete" notifications and "pre-alarm operations" will not occur.

6. Upper Limit Torque (UPPER TORQUE)

Sets the upper limit value for tightening torque pass/fail judgment.



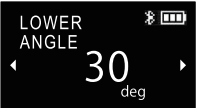
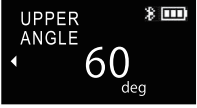
- **Setting Range**

- From the lower limit torque value to within the torque measurement range.
 - 0 (No judgment) can also be configured.

- **Remarks**

- The screen displays "SET ERROR" if the entered value is lower than the lower limit torque or falls outside the measurement range.
 - Pressing the RIGHT key on this item will keep you on the same screen.
 - Pressing the CHECK key on this item saves the setting and returns to the Category Selection menu.

11-6. List of Angle Measurement Setting Items

	Setting Item	Display	Factory Default	Selectable Items	Remarks
1	Angle Function		OFF	OFF ON	
2	Trigger Torque		0 ※ 1	Approx. 2% of max torque to within torque measurement range	Only available when Angle Function is ON.
3	Double Tightening Judgment Angle		0 (No judgment)	0 (No judgment) to 999°	Only available in Tightening Mode with a trigger torque configured.
4	Lower Limit Angle		0 (No judgment)	0(No judgment) / Double tightening judgment angle to 999°	Trigger torque must be configured, and the value must be equal to or greater than the double tightening angle (0 can be set).
5	Upper Limit Angle		0 (No judgment)	0(No judgment) / Lower limit angle to 999°	Trigger torque must be configured, and the value must be equal to or greater than the lower limit angle (0 can be set).

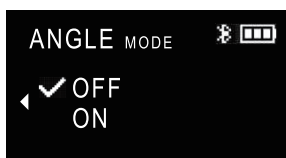
※ 1: Because the factory default for the Angle Function is "OFF", the trigger torque defaults to "0" as well.

11-7. Details on Angle Measurement Settings

Press the RIGHT key to proceed to the next item, and the LEFT key to return to the previous item.

1. Angle Function (ANGLE MODE)

Enables or disables the angle function.



- **Selectable Items**

- » OFF (Disabled)
- » ON (Enabled)

- **Remarks**

- » **Selecting "OFF" :**

- Setting this to "OFF" automatically resets the user values for the double tightening judgment angle, lower limit angle, and upper limit angle to "0".

- » **Selecting "ON" :**

- Setting this to "ON" triggers an angular velocity check during power-on, when exiting the settings menu after switching the angle function from OFF to ON, and when disconnecting the USB cable. Additionally, you can toggle between the torque and angle screens during Run Mode.

- » **Changing from "OFF" to "ON" :**

The trigger torque automatically adjusts to approximately 2% of the maximum torque.

- » **Changing from "ON" to "OFF" :**

The trigger torque automatically resets to "0".

- **Key Operation Notes**

- » CHECK Key

- When "OFF" is selected: Applies the setting and returns to the Category Selection menu.
- When "ON" is selected: Applies the setting and advances to the Trigger Torque configuration screen.

- » LEFT Key

- In either "OFF" or "ON" states, pressing this saves the configuration and returns to the Category Selection menu.

2. Trigger Torque (TRIGGER TORQUE)

Sets the baseline torque value where angle measurement begins. The device measures and accumulates the angle only while the applied load exceeds this trigger torque. If no trigger torque is configured (set to "0"), angle measurement will not take place.



- **Setting Range**

» Approx. 2% of maximum torque to within the torque measurement range.

- **Remarks**

» Entering a value outside the setting range displays "SET ERROR".

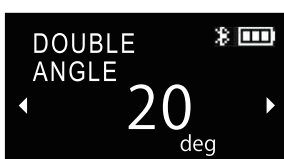
» The next screen differs based on your active measurement mode.

- Inspection Mode (INSPECTION): Advances to "Lower Limit Angle".
- Tightening Mode (TIGHTENING): Advances to "Double Tightening Judgment Angle".

3. Double Tightening Judgment Angle (DOUBLE ANGLE)

Sets the threshold angle used to detect and evaluate double tightening occurrences.

※ This item is only visible and configurable in Tightening Mode (TIGHTENING).



- **Setting Range**

» 0 (No judgment) to 999°

- **Remarks**

» If the measurement mode is set to "Inspection Mode (INSPECTION)", this screen is automatically skipped.

4. Lower Limit Angle (LOWER ANGLE)

Sets the lower limit value for tightening angle pass/fail judgment.



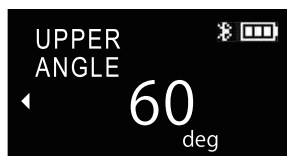
- **Setting Range**

The range varies depending on the selected measurement mode.

- Inspection Mode (INSPECTION): 0 (No judgment) to 999°
- Tightening Mode (TIGHTENING): 0 (No judgment) or from the double tightening judgment angle to 999°

5. Upper Limit Angle (UPPER ANGLE)

Sets the upper limit value for tightening angle pass/fail judgment.



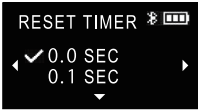
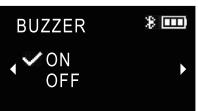
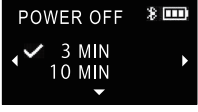
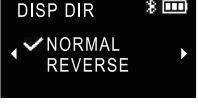
- **Setting Range**

- From the lower limit angle to 999°
- 0 (No judgment) can also be configured.

- **Remarks**

- Pressing the RIGHT key on this item will keep you on the same screen.
- Pressing the CHECK key on this item saves the setting and returns to the Category Selection menu.

11-8. List of Main Unit Setting Items

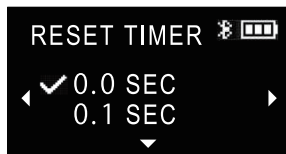
	Setting Item	Display	Factory Default	Selectable Items	Remarks
1	Auto Memory / Reset Timer		0.0 SEC	0.0 (OFF) / 0.1 to 5.0 SEC	
2	NG Data Memory		MANUAL	MANUAL AUTO	
3	Buzzer Sound		ON	ON OFF	
4	Auto Power Off Timer		3 MIN	3 MIN / 10MIN / 30 MIN / OFF	
5	Display Orientation		NORMAL	NORMAL REVERSE	
6	Default Settings		—	CANCEL / OK	

11-9. Main Unit Settings

Use the RIGHT key to move to the next item and the LEFT key to return to the previous item.

1. Auto Memory / Reset Timer (RESET TIMER)

Sets the auto memory and reset timer.



- **Options**

» 0.0 / 0.1 / 0.2 / 0.3 / 0.4 / 0.5 / 1.0 / 2.0 / 3.0 / 4.0 / 5.0 SEC

- **Remarks**

» When set to any value other than "0.0 SEC" :

- After torque load release, the measurement data is automatically saved to memory when the set time elapses, and the device prepares for the next tightening operation.
- When the communication interface is set to "GATT" or "HOGP", measurement data is transmitted simultaneously with saving.

» Pressing the CHECK key on this item applies the settings and returns to "Category Selection".

2. NG Data Memory (NG DATA MEM)

Selects the auto memory/reset function behavior when a measurement result fails the pass/fail judgment (NG).



- **Options**

» MANUAL : 手動カウントアップ

» AUTO : 自動カウントアップ

- **Remarks**

» Manual count-up :

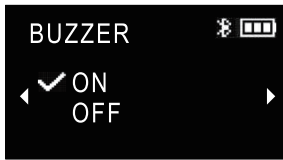
- The auto reset function is disabled during an NG judgment. Press the CHECK key to save measurement data to memory.

» Automatic count-up :

- The auto memory/reset function remains enabled even during an NG judgment.

3. Buzzer (BUZZER)

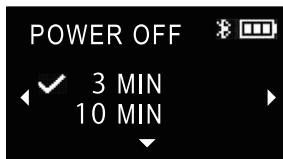
Enables or disables the buzzer sound for key operations, tightening completion, and pass/fail alarms.



- **Options**
 - » ON / OFF
- **Remarks**
 - » The over-torque warning alarm will sound even if this item is set to "OFF".

4. Auto Power Off Timer (POWER OFF)

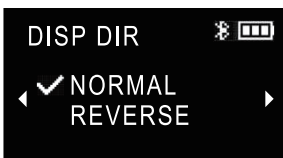
Sets the operating time for auto power off.



- **Options**
 - » 3 MIN、10 MIN、30 MIN、OFF
- **Remarks**
 - » When set to any option other than "OFF" :
The power turns off automatically if there is no key operation or torque load for the set duration.
During a USB connection, the device enters "Standby Mode" instead of turning off.

5. Display Direction (DISP DIR)

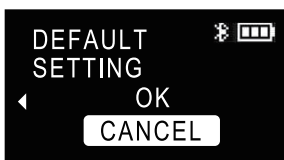
Selects the screen orientation to match your work setup.



- **Options**
 - » NORMAL: Standard screen orientation
 - » REVERSE: Inverted screen orientation (Measurement and data recall screens only)
- **Remarks**
 - » The screen orientation for the setting menu and data processing menu will not change even if this item is set to "REVERSE".

6. Factory Default (DEFAULT SETTING)

Restores the settings to factory defaults (excluding pairing information).



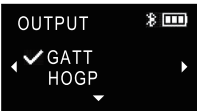
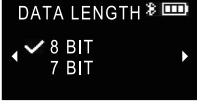
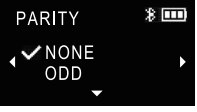
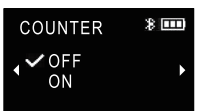
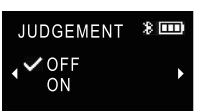
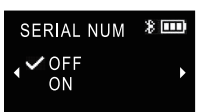
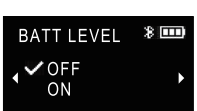
- **Options**

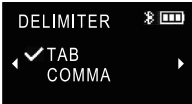
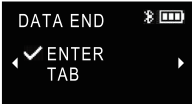
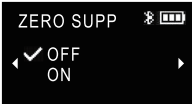
- OK: Executes the default reset.
- CANCEL: Returns to Category Selection without resetting.

- **Remarks**

- Pressing the RIGHT key keeps you on this item.
- Pressing the CHECK key executes the process and returns to "Category Selection".

11-10.Communication Settings List

	Setting Item	Display	Factory Default	Options	Remarks
1	Communication Interface		GATT	GATT HOGP USB	
2	Baud Rate		9600 BPS	2400 BPS 4800 BPS 9600 BPS 19200 BPS 115200 BPS	Only when "USB" is selected
3	Data Length		8 BIT	8 BIT 7 BIT	Only when "USB" is selected
4	Parity		NONE	NONE ODD EVEN	Only when "USB" is selected
5	Data Format		DF1 : STC3	DF1 : STC3 DF2 : STC2 DF3 : STD	Only when "GATT" or "USB" is selected
6	Memory Counter Output		OFF	OFF / ON	Only when "HOGP" is selected
7	Angle Data Output		OFF	OFF / ON	Only when "HOGP" is selected and Angle Function is "ON"
8	Pass/Fail Output		OFF	OFF / ON	Only when "HOGP" is selected
9	7-Digit Serial Output		OFF	OFF / ON	Only when "HOGP" is selected
10	Battery Level Output		OFF	OFF / ON	Only when "HOGP" is selected
11	Unit Output		OFF	OFF / ON	Only when "HOGP" is selected

	Setting Item	Display	Factory Default	Options	Remarks
12	Data Delimiter		TAB	TAB / COMMA	Only when "HOGP" is selected ※
13	Data End Terminator		ENTER	ENTER / TAB	Only when "HOGP" is selected
14	Zero Suppress		OFF	OFF / ON	Only when "HOGP" is selected
15	Clear Pairing Info		—	CANCEL / OK	Only when "HOGP" is selected

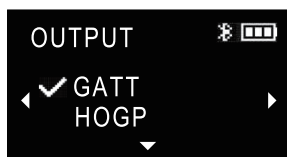
※ The data delimiter can only be selected when non-torque data output settings are set to "ON". If outputting only torque data and the data end terminator, the device skips the TAB/COMMA setting screen because no data separation is required.

11-11.Communication Settings Details

Use the RIGHT key to move to the next item and the LEFT key to return to the previous item.

1. Communication Interface (OUTPUT)

Selects the communication interface.



• Options

- ≫ GATT: Select this to communicate with the dedicated app or to change upper/lower limit values via BLE communication.
- ≫ HOGP: Select this to input measurement data directly into Excel® or commercial spreadsheet apps.
- ≫ USB: Select this to output measurement data via a USB cable.

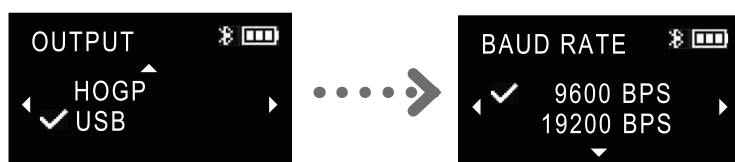
• Remarks

- ≫ Bluetooth® functions (GATT, HOGP) turn off when a USB cable is connected.
- ≫ Pressing the LEFT key on this item applies the settings and returns to "Category Selection".

2. Baud Rate (BAUDRATE)

Selects the communication speed for the "USB" interface.

※ Configurable only when the communication interface is set to "USB".



- **Options**

- » 2400 BPS
- » 4800 BPS
- » 9600 BPS
- » 19200 BPS
- » 115200 BPS

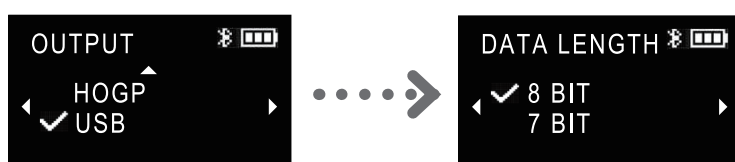
- **Remarks**

- » This item is skipped and not displayed if the interface is set to "GATT" or "HOGP".

3. Data Length (DATA LENGTH)

Selects the data length for the "USB" interface.

※ Configurable only when the communication interface is set to "USB".



- **Options**

- » 8 BIT
- » 7BIT

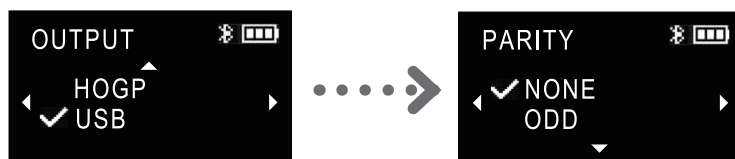
- **Remarks**

- » This item is skipped and not displayed if the interface is set to "GATT" or "HOGP".

4. Parity (PARITY)

Selects the parity for the "USB" interface.

※ Configurable only when the communication interface is set to "USB".



- Options**

- » NONE
- » ODD
- » EVEN

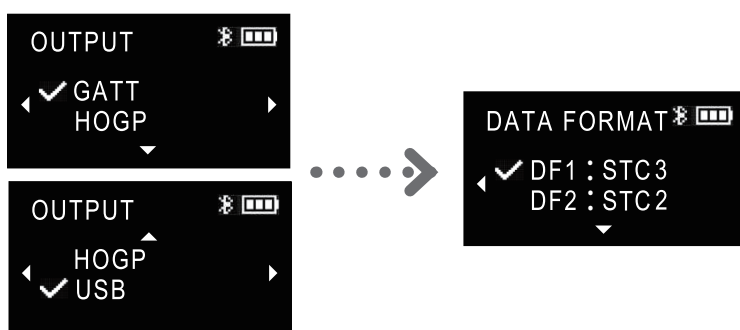
- Remarks**

- » This item is skipped and not displayed if the interface is set to "GATT" or "HOGP".

5. Data Format (DATA FORMAT)

Selects the output format for the "GATT" and "USB" interfaces.

※ Configurable only when "GATT" or "USB" is selected.



- Options**

- » DF1: STC3 Format
- » DF2: STC2 Compatible Format
- » DF3: Tohnichi Standard Format

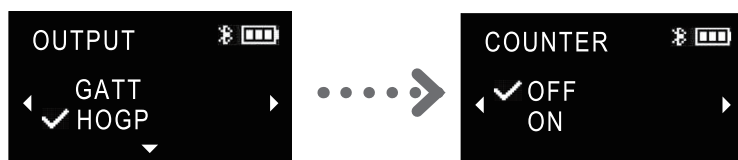
- Remarks**

- » Pressing the RIGHT key keeps you on this item.
- » Pressing the CHECK key applies the settings and returns to "Category Selection".

6. Memory Counter Output (COUNTER)

Enables or disables the memory counter output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.

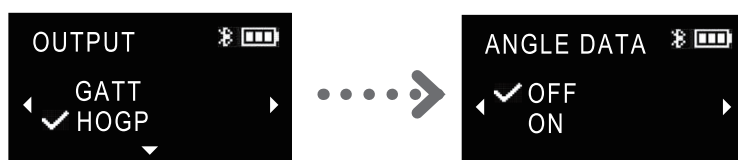


- **Options**
 >> OFF / ON

7. Angle Data Output (ANGLE DATA)

Enables or disables the angle data output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.

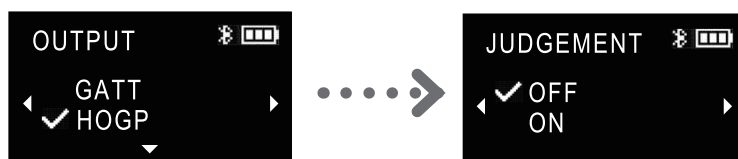


- **Options**
 >> OFF / ON
- **Remarks**
 >> This item is skipped and not displayed if the angle function is set to "OFF".

8. Pass/Fail Output (JUDGEMENT)

Enables or disables the pass/fail judgment output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.

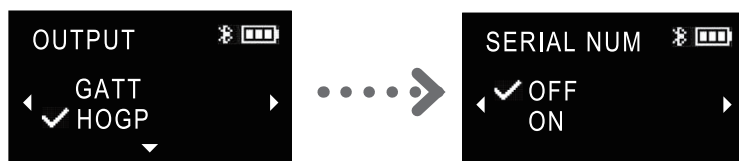


- **Options**
 >> OFF / ON

9. 7-Digit Serial Output (SERIAL NUM)

Enables or disables the 7-digit alphanumeric serial output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.



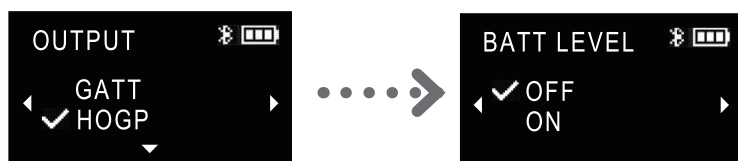
- **Options**

» OFF / ON

10. Battery Level Output (BATT LEVEL)

Enables or disables the battery level output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.



- **Options**

» OFF / ON

- **Remarks**

» 3 : Ample battery remaining.

» 2 : Low battery. Approximately half of the operating time remains.

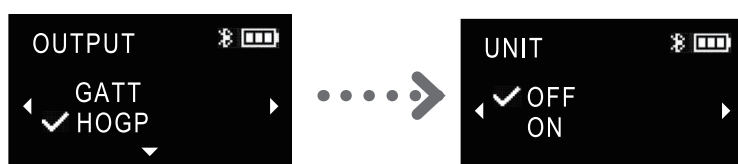
» 1 : Time to recharge. Please charge the device.

※ The current battery level is always output, even when exporting past measurement data.

11. Unit Output (UNIT)

Enables or disables the torque and angle unit output for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.



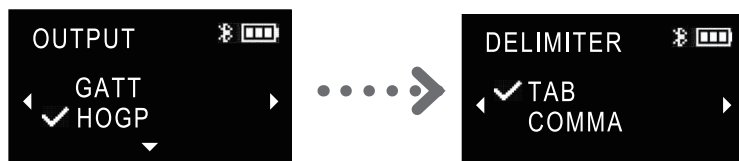
- **Options**

» OFF / ON

12. Data Delimiter (DELIMITER)

Selects either TAB or COMMA as the data delimiter for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.



- **Options**

- » TAB : Inserts a TAB key action between non-torque data entries during transmission.
- » COMMA : Inserts a comma (",") between non-torque data entries during transmission.

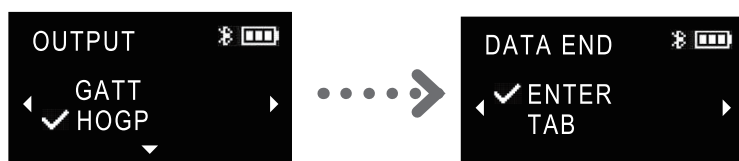
- **Remarks**

- » This item is skipped and not displayed if memory counter, angle data, pass/fail results, serial number, battery level, and unit output settings are all "OFF" (i.e., only torque data and the data end terminator are output).

13. Data End Terminator (DATA END)

Selects either ENTER or TAB as the data terminator for the "HOGP" interface.

※ Configurable only when "HOGP" is selected.



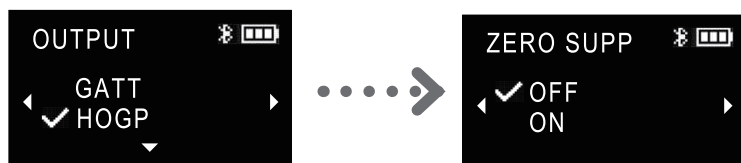
- **Options**

- » ENTER / TAB

14. ZERO SUPPRESS (ZERO SUPP)

Selects whether to turn OFF or ON the zero suppression for memory counter output, torque data output, and angle data output when using the "HOGP" communication interface.

※ This setting is available only when the "HOGP" communication interface is selected.



- **Options**

- OFF : Outputs data with a default number of characters (fixed length).
- ON : Removes the leading "0" from the data before outputting.

- **Remarks**

- When Zero Suppress is "OFF" :
Data is output with the following number of characters.
 - Memory counter output: 4 characters.
 - Torque data output: 5 characters (excluding minus sign).
 - Angle data output: 3 characters (excluding minus sign).
- When Zero Suppress is "ON" :
If a leading "0" is attached to the memory counter, torque data, or angle data output under the "OFF" setting, turning this setting "ON" will remove the leading "0" from the output

15. DELETE PAIRING INFO

Deletes the pairing information stored in this device.

※ This setting is available only when the "HOGP" communication interface is selected.



- **Options**

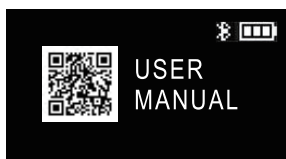
- » OK : Executes the deletion of pairing information.
- » CANCEL : Returns to the category selection without deleting.

- **Remarks**

- » When "OK" is selected to delete pairing information :
 - Pairing information on all terminals connected to this device will be deleted.
 - If pairing information is deleted while connected to a terminal, the Bluetooth® icon will change to a flashing display.
- » **【Precautions】**
 - Even if you delete the pairing info on this device, the device information may still remain as a paired device on the connected terminal (PC, tablet, etc.).
In that case, please delete the pairing (remove the device information) on the terminal side as well.
- » Pressing the RIGHT key on this item keeps you on this item.
- » Pressing the CHECK key on this item executes the process and returns to "Category Selection".

11-12. Instruction Manual

Displays the QR code for downloading the user manual of this device.



If you cannot download the user manual, please download it from the Tohnichi website or contact Tohnichi Mfg. Co., Ltd.

11-13. Certification Information

Displays various certification information for this device.

For certification information other than what is displayed, please contact Tohnichi Mfg. Co., Ltd.

12 Data Processing Menu

12-1. Entering the Data Processing Menu

1. From the measurement screen, press the LEFT / RIGHT key to display "DATA".



2. Press the CHECK key in this state to proceed to the various data processing categories.



12-2. Key Operations in the Data Processing Menu

The following key operation rules apply within the data processing menu of this device.

Selecting Values / Items

- **UP/DOWN Key :**
 - » Short Press: Increases or decreases numerical values by 1, or switches items.
 - » Long Press: Allows rapid increase or decrease when setting numerical values.

Moving Between Items

- **RIGHT Key :**
 - » Confirms the count and moves to the next setting item.
 - ※ On the final item within a category (such as OUTPUT), you will remain on that item even if you press the RIGHT key.
- **LEFT Key :**
 - » Confirms the count and moves to the previous setting item.
 - ※ Pressing this on the first item within a category (Start Counter Selection) returns you to the category selection screen.

Confirming / Ending Settings

- **CHECK Key :**
 - » Confirms the count and moves to the next item.
 - » You can select OK or CANCEL on the final item.
- **CLEAR Key :**
 - » Cancels the counter selection and returns to the category selection screen. It also interrupts the data output if pressed during output.

12-3. Data Processing Category

Select a category using the UP / DOWN keys and confirm with the CHECK key.

Kinds	Display	Remarks
Bulk Data Output		Bulk outputs memory data within a specified range to an external device.
Bulk Data Deletion		Bulk deletes memory data within a specified range.

12-4. Bulk Output Procedure (OUT PUT)

This function transmits memory data in bulk to an external device.

※ Please complete communication settings and connections with the external device beforehand.

1. Selecting the Start Counter :



- Press the (UP) / (DOWN) keys to select the counter number to start the bulk output.
- Press the (RIGHT) / (CHECK) key to confirm the start counter number and move to the next item.

2. Selecting the End Counter :



- The counter number that was displayed on the measurement screen will appear.
- Similar to the start counter, use the (UP) / (DOWN) keys to select the counter number to end the bulk output, then press the (CHECK) key.

3. Checking the Data Count :



- The number of data items (count) within the selected range will be displayed.
- Confirm the displayed details, and if there are no issues, press the (RIGHT) or (CHECK) key.

4. Confirmation of Execution



- **When selecting "OK" and pressing the (CHECK) key :**
 - » Bulk output will begin.
 - ※ If bulk output does not start, please check the communication settings and connection status with the external device.
 - ※ To cancel during execution, press the (CLEAR) key while running.
- **When selecting "CANCEL" and pressing the (CHECK) key :**
 - » Output will not be performed, and the screen returns to the data processing category screen.

5. Completion of Output :

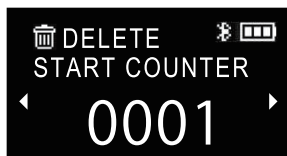


- When output is complete, the screen returns to the "DATA" display screen.

12-5. Bulk Deletion Procedure (DELETE)

This function deletes memory data in bulk.

1. Selecting the Start Counter :



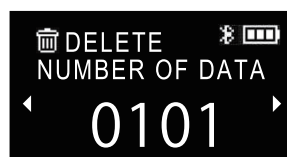
- Press the (UP) / (DOWN) keys to select the counter number to start the bulk deletion.
- Press the (RIGHT) / (CHECK) key to confirm the start counter number and move to the next item.

2. Selecting the End Counter :



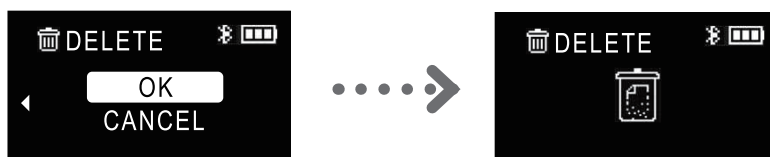
- The counter number that was displayed on the measurement screen will appear.
- Similar to the start counter, use the (UP) / (DOWN) keys to select the counter number to end the bulk deletion, then press the (CHECK) key.

3. Checking the Data Count :



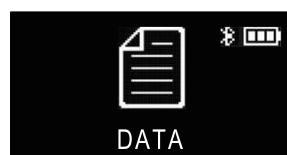
- The number of data items (count) within the selected range will be displayed.
- Confirm the displayed details, and if there are no issues, press the (RIGHT) or (CHECK) key.

4. Confirmation of Execution



- Select "OK" on the screen and press the CHECK key to start bulk deletion (p. 7). Selecting "CANCEL" returns to the data processing category screen.

5. Completion of Deletion



- When deletion is complete, the screen returns to the "DATA" display screen.

13 Error Codes

13-1. Error Code List

Error Code	Details	Action
ERROR 0	Angular velocity detection unit abnormality	Turn the power OFF once, keep the device completely still, and turn the power ON again.
ERROR 1 to 4 ERROR 12, 13	Various key errors	Turn the power OFF, and turn the power ON without touching any keys. If the error clears, it is ready for use. If it does not clear, there is a key abnormality.
ERROR 8	Memory abnormality	Repair is required.
ERROR 8.1	Torque adjustment failure	
ERROR 8.2		
ERROR 8.3	Angle adjustment failure	
ERROR 8.4		
ERROR 9	Torque zero-range error	
ERROR 14	Setting range input error	Value is outside the setting range. Please change the setting value.

※ If the error is not cleared by the above actions, please contact the retailer where you purchased the product or Tohnichi Mfg. Co., Ltd.

13-2. About Error Codes

Regarding ERROR 0 (GYRO CHECK ERROR)

This error is displayed when the angle function is set to "ON" and an abnormality is detected during the zero-correction check of the gyro sensor.

- **Timing of Occurrence**
 - » When the power is turned on. When the USB cable is unplugged. When the angle function is changed from "OFF" to "ON" in the setting menu and the menu is closed.
- **Cause**
 - » The device moved or was subjected to vibration during correction.
- **Action**
 - » With the USB cable disconnected from the device, turn the power OFF once, place the device stationary on a flat surface, and turn the power ON again.
 - » If the error display disappears, it can be used normally.
 - » If the error does not clear, please contact the retailer where you purchased the product or Tohnichi Mfg. Co., Ltd.

Regarding ERROR 1 to 4, ERROR 12, 13 (KEY ERROR)

- **Timing of Occurrence**
 - » At the timing when the power turns ON (Key check function).
- **Cause**
 - » A key is kept pressed down, or there is a key abnormality.
- **Action**
 - » Release all keys and turn the power on again.
 - » Even when performing the power-on operation using the CLEAR key, release your finger from the CLEAR key as soon as the device boots up.
 - » If you do not release your finger from the CLEAR key during the startup process, ERROR 4 will be displayed.
 - » If the error does not clear, please contact the retailer where you purchased the product or Tohnichi Mfg. Co., Ltd.

ERROR 9 (TORQUE SENSOR ERROR)

- **Timing of Occurrence**
 - » When pressing the CLEAR key during measurement mode to perform torque auto-zeroing.
- **Cause**
 - » Torque abnormality was detected during the auto-zeroing process.
- **Action**
 - » Ensure that no load is applied to the device, and press the CLEAR key again.
 - » If the error does not clear, please contact the retailer where you purchased the product or Tohnichi Mfg. Co., Ltd.

Regarding ERROR 14 (SET ERROR)

- **Timing of Occurrence**
 - » When attempting to set values for torque (upper/lower limit, trigger) or angle (double-tightening judgment, upper/lower limit) in the setting menu.
- **Cause**
 - » Inconsistency in torque values: The upper limit torque is set to a value lower than the lower limit torque.
 - » Inconsistency in angle values: The lower limit angle is lower than the "double-tightening judgment angle" (p. 10). The upper limit angle is lower than the "lower limit angle" or "double-tightening judgment angle".
 - » Outside setting range: Numerical values that exceed the minimum or maximum capacity of each model.
- **Action**

Check if the displayed setting values satisfy the following rules, and enter them again.

 - » Torque: Lower limit torque $\leq$ Upper limit torque.
 - » Angle: Double-tightening judgment angle $\leq$ Lower limit angle $\leq$ Upper limit angle.
 - » Common: Whether the numerical values fall within the setting range allowed for each model.

14-1. Battery Life

- Battery life is approximately 500 charge/discharge cycles, depending on the operating conditions.
- Replace with a new battery pack (BP-8) when the old one deteriorates.
- Charge the battery regularly (at least once every six months), even if it is not used for a long period.
- Charge the product before first use upon delivery.

14-2. Battery Installation Procedure

1. Press and hold the CLEAR key to turn the power OFF.
2. Remove the cap from the top of the handle.
3. Insert the battery into the unit so that the battery connector faces the top surface of the handle.
4. Push the battery all the way in.
5. Connect the main unit connector to the battery connector, and reinstall the cap to its original position.

15 Configuration

15-1.Package Contents

- Main Unit: 1 unit
- Quick Start Manual: 1 copy
- Calibration Certificate: 1 copy
- ※ USB cables and AC adapters are sold separately.

16 Optional Accessories (Sold Separately)

1. AC Adapter: BA-7
2. USB Cable: STC3-BT ⇔ USB Type-C (No. 586)
3. USB Cable: STC3-BT ⇔ USB Type-A (No. 587)
 - ※ Please use No. 587 for the AC Adapter "BA-7".
4. Battery Pack: BP-8

17 Specifications

Model		STC50CN3-G-BT	STC200CN3-G-BT	STC500CN3-G-BT
Torque Measurement Range [cN·m]		5.00 ~ 50.00	20.0 ~ 200.0	50.0 ~ 500.0
1 digit [cN·m]		0.02	0.1	0.2
Torque Accuracy		5.00 ~ 9.98cN·m : 2% 10.00 ~ 50.00cN·m : ± 1%	20.0 ~ 39.9cN·m : ± 2% 40.0 ~ 200.0cN·m : ± 1%	50.0 ~ 99.8cN·m : ± 2% 100.0 ~ 500.0cN·m : ± 1%
Angle Accuracy		± 2° + 1 digit (When rotated 90° at a speed of 30 – 180° /s)		
Overall Length		Approx. 225 mm		
Weight		Approx. 229 g	Approx. 233 g	Approx. 267 g
Display	OLED	Measured values (Torque, Angle, Unit)		
		Memory counter (4 digits)		
		Battery status indicator (4 levels)		
		Bluetooth® mark		
	LED Ring	Pass/Fail judgment		
Key Operations		CLEAR (POWER) key, UP / DOWN / RIGHT / LEFT keys, CHECK key		
Data Memory		1,000 data items (Torque, Angle, Pass/Fail judgment result)		
Data Output		USB Type-C connector compatible serial output		
		Bluetooth® (Supported profiles: HOGP, GATT)		
Basic Functions		Peak hold		
		Measurement data memory		
		Auto memory/reset		
		Inspection mode/Tightening mode switching		
		Tightening completion alarm		
		Pass/Fail judgment (Torque, Angle)		
		Double tightening detection		
		Auto zero		
		Auto power off		
		Over-torque alarm		
Power		Ni-MH (Nickel-Metal Hydride) battery		
Continuous Operating Time (-BT model)		Approx. 50 hours		
Charging Time		Approx. 4 hours 30 minutes		
Operating Temperature Range		0 – 40° C (No condensation)		

18

Bluetooth® Specifications

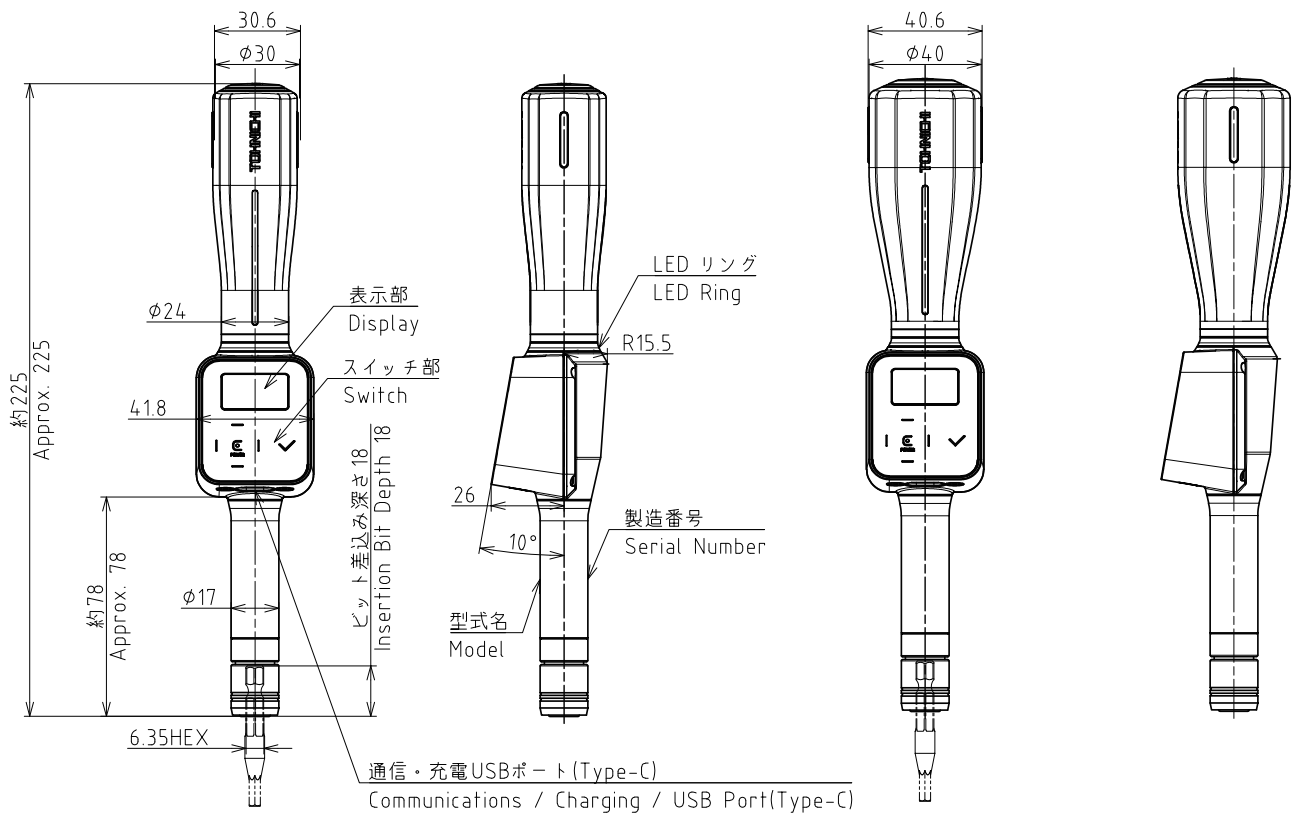
Bluetooth® Version	V5.1 (BLE)
Profiles	GATT Proprietary Profile
	HOGP (HID over GATT Profile)
RF Output	8dBm
Communication Distance	Line of sight approx. 10 m

- ※ The communication distance may vary depending on the radio wave environment and the performance of the connected device
- ※ This product contains specified radio equipment that has received construction design certification based on the "Radio Act". The certification number is as shown below.



- ※ Disassembling or modifying this product may be punishable by law.

19 Dimensions



STC50CN3-G-BT / STC200CN3-G-BT

STC500CN3-G-BT

Model	Torque Accuracy	cN・m			kgf・cm			lbf・in			ozf・in		
		Min	Max	1digit	Min	Max	1digit	Min	Max	1digit	Min	Max	1digit
STC50CN3-G-BT	± 2%	5.00	9.98	0.02	0.500	0.998	0.002	0.440	0.998	0.002	7.00	14.98	0.02
	± 1%	10.00	50.00	0.02	1.000	5.000	0.002	1.000	4.400	0.002	15.00	70.00	0.02
STC200CN3-G-BT	± 2%	20.0	39.9	0.1	2.00	3.99	0.01	2.00	3.99	0.01			
	± 1%	40.0	200.0	0.1	4.00	20.00	0.01	4.00	17.00	0.01			
STC500CN3-G-BT	± 2%	50.0	99.8	0.2	5.00	9.98	0.02	4.40	9.98	0.02			
	± 1%	100.0	500.0	0.2	10.00	50.00	0.02	10.00	44.00	0.02			

Designs and specifications are subject to change without notice.

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