

OPERATING INSTRUCTIONS

TorqBee® HT-SERIES

- Original operating instructions -



Battery tightening tool
TBPECO-xxx/ TBAECO-xxx
TBPEC-xxx/ TBAEC-xxx

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HST-Tool-Manager:	from 2.1.0.0

NOTE

In case of doubt, the original German version of the operating instructions applies.

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1 Operating principles

Dear customers,

thank you for choosing a HS-Technik GmbH product.

This quality product „Made in Germany“ fulfils the highest requirements with regard to performance, quality and accuracy. When used correctly the product will undoubtedly perform very well for many years.

These operating instructions contain information on safety and for the operation of the tool. In addition it contains information on the dimensions and technical data. We would be happy to assist you with additional information or to answer your questions. Our technical support and our technicians would be happy to assist you.

1.1 Scope of delivery

- Battery tightening tool
- USB Cable (Type A on Mini B)
- Operating instructions

1.2 General information

Read the operating instructions before initial operation. **Please pay particular attention to Chapter 2 „General Safety Notes“.**

This operating instruction should make it easier for the operator to get to know the tool and to use it for its intended purpose. The operating instructions include important information related to the safe and proper operation of the tool. Compliance with these instructions helps you to:

- Avoid hazards
- Avoid repair costs and downtimes
- Increase the reliability and the lifespan of the product.

This operating instructions must be read and applied by every person who is assigned to conduct work using this tool.

In addition to these operation instructions the applicable regulations on accident prevention and environmental protection should be observed.



NOTE

After reading, keep the operating instructions in a place accessible to every operator. If you have any further questions, please feel free to contact us.

1.3 Signs and symbols used

The following signs and symbols will be used in this operating instruction or on the product:

Symbol	Explanation
	Read this operating instructions
	Do not dispose with household waste
	Do not dispose the battery in a fire
	Do not throw the battery into water
	EU conformity marking
	Registered trademark

1.4 Structure of the warnings

The warnings are structured as follows:



DANGER

Indicates an immediate dangerous situation that can lead to serious or even deadly injuries and/or that could seriously damage or even destroy the tool.



WARNING

Indicates a potentially dangerous situation that can lead to serious injuries and/or damage to the tool.



NOTE

Important and useful information on using this tool.

1.5 Technical terms and abbreviations used

Abbreviation	Meaning
°C	Degrees Celsius, temperature
AC	Alternate current
Ah	Amp hours, electric charge, battery capacity
a_{hv}	Overall vibration
dB(A)	Decibels, sound pressure level (A-weighted)
DC	Direct current
Hz	Hertz, Frequency
Li-Ion	Lithium-ion, battery technology
L_{pA}	Emission sound pressure level, workplace-related
m/s^2	Acceleration, Vibration

Abbreviation	Meaning
min ⁻¹	Revolutions per minute, Speed
mNN	Meters above sea level, height
SN	Serial number
V	Volts, electrical voltage
W	Watts, electrical power
Nm	Newton meters, torque

1.6 Intended use

This battery tool was designed to prepare screw connections.
The tool may only be used for this purpose as described in this operating instructions.
Only materials that are suitable for this type of tool may be used.



WARNING

Intended use also includes

- following all indications of the operating instructions and
- observance of inspection and maintenance works.

Any other use or use beyond that is considered improper use. HS-Technik GmbH is not liable for any damage resulting from this.

1.7 Improper use



DANGER

The use of this tool for other purposes, e.g. for hammering, is not permitted. Improper use or incorrect accessories can lead to dangers with unforeseeable consequences.

We accept no liability for damage and malfunctions resulting from non-observance of these operating instructions and improper use.

1.8 Duties of the operator

The operator undertakes to only allow people who are familiar with the basic regulations on work safety and accident prevention and who have been trained on how to use the tool at the workplace and to work with this tool.

The safety awareness of the personnel while working has to be reviewed at regular intervals.

In addition it is necessary to define safety measures for operator protection which are based upon an estimation of the vibration load during actual conditions of use.

1.9 Duties of personnel

Prior to its use all people who work with this tool are obligated to inform themselves of the applicable workplace safety and accident prevention regulations for this power tool and to observe them.

It is recommended that every operator wears hearing protection.

1.10 Training of personnel

Only trained and instructed personnel should work with this tool. The responsibilities of the personnel must be clearly defined. Trainees may only work with this power tool under the supervision of an experienced person.

1.11 Guarantee and liability

Guarantee and liability claims for personal injury and property damage are excluded, if caused by one or more of the following:

- improper use
- failure to observe these operating instructions
- improper installation, commissioning, operation and maintenance of the device
- Operating the device with defective safety devices or improperly installed, or non-functioning safety and protective devices
- Failure to observe the information in the operating instructions regarding transport, storage, assembly, commissioning, operation and maintenance of the device
- unauthorised structural modifications to the device
- improperly performed repairs
- catastrophes due to external influences and acts of God

1.12 Copyright

These operating instructions are intended solely for the operator and its personnel.

They contain guidelines and information which may not be fully, or partially

- reproduced
- distributed or
- otherwise shared.

The copyright of these operating instructions is retained by HS-Technik GmbH.

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2 General safety information for power tools



DANGER

Read all the safety information, instructions, illustrations and technical data which is provided with this power tool. Failure to follow the instructions below may result in electric shock, fire and/or serious injury.



WARNING

This power tool was manufactured in accordance with current state-of-the-art technology and recognised technological safety guidelines. However, its use may jeopardise the health and life of the user or third parties, or risk damage to other property.



WARNING

The workplace must only be used in accordance with its intended use and in technically perfect condition.



NOTE

Keep all safety information and instructions for the future.



NOTE

Only have your device repaired by qualified professional staff and only with original replacement parts which are available at HS Technik GmbH. This ensures that the safety of the device is maintained.

The term „power tool“ used in the safety information refers to mains-operated power tools (with mains cable) and to battery-operated power tools (without mains cable).

2.1 Occupational safety

- a) **Keep your work area clean and well-lit.** Cluttered or dark work areas can lead to accidents.
- b) **Do not work with the power tool in an explosive environment in which there are flammable liquids, gases or dust.** Power tools generate sparks that can ignite the dust or fumes.
- c) **Keep children and other people away while using the power tool.** You can lose control of the power tool if you are distracted.

2.2 Electrical safety

- a) **Avoid body contact with grounded surfaces such as pipes, heaters, stoves and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- b) **Keep power tools away from rain or moisture.** Penetration of water into a power tool increases the risk of electric shock.
- c) **Do not misuse the connection cable in order to carry, or hang up the charger, or to pull the plug out of the socket. Keep the connection cable away from heat, oil, sharp edges or moving parts.** Damaged or tangled connection cables increase the risk of electric shock.
- d) **If operating the charger in a damp environment cannot be avoided, use a fault-current circuit breaker.** The use of a residual-current circuit breaker reduces the risk of electric shock.
- e) **Check the electrical equipment regularly. Immediately remove loose connections and scorched cables.** Loose connections or scorched cables can lead to electric shock and risk of fire.

2.3 Safety of people

- a) **Be alert, pay attention to what you are doing and take care when you are working with a power tool. Do not use a power tool when you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while using the power tool can result in serious injury.
- b) **Wear personal protective equipment and always safety glasses.** Wearing personal protective equipment such as a dust mask, non-slip safety shoes, safety helmet or hearing protection, depending on the type and use of the power tool, lowers the risk of injury.
- c) **Prevent accidental starting. Ensure that the power tool is switched off before you connect it to the power supply and/or the battery, pick it up or carry it.** Accidents can occur if you have your finger on the switch while carrying the power tool or if you connect the power tool to the power supply when it is switched on.
- d) **Avoid abnormal postures. Make sure you have a secure footing and keep your balance at all times.** This gives you better control of the power tool in unexpected situations.

- e) **Wear suitable clothing. Do not wear loose clothing or jewellery. Keep hair and clothing away from moving parts.** Loose clothing, jewellery or long hair can get caught in moving parts.
- f) **Do not lull yourself into a false sense of security and do not disregard the safety rules for power tools, even if you are familiar with the power tool after repeated use.** Careless action can lead to serious injuries within a split second.
- g) **Actively avoid accidentally switching on the power tool. If the tool is to be in idle mode for a long time, remove the battery beforehand.** This prevents unintentional start-up.

2.4 Use and handling of power tools

- a) **Do not overload the power tool. Use the power tool specific for the work you are doing.** With the appropriate power tool you will work better and more safely in the power range indicated.
- b) **Do not use any power tool which has a defective switch.** A power tool which can no longer be switched on or off is dangerous and must be repaired.
- c) **Remove the detachable battery before you make changes to device settings, change application tool parts or put away the power tool.** This precaution prevents unintentional start up of the power tool.
- d) **Keep unused power tools out of the reach of children. Do not let anyone use the power tool who is not familiar with it or has not read this operating instructions.** Power tools are dangerous when used by inexperienced people.
- e) **Maintain power tools and the application tool with care. Check whether moving parts function properly and do not jam, whether parts are broken or damaged in such a way that the function of the power tool is affected. Have damaged parts repaired before using the power tool.** Many accidents are caused by poorly serviced power tools.
- f) **Keep the tool sharp and clean.** Carefully maintained tools jam less often and are easier to manage.
- g) **Use power tools, application tools, etc. in accordance with these instructions. While doing so observe the work conditions and the activities to be performed.** The use of power tools for anything other than the intended application can lead to dangerous situations.

- h) **Keep handles and gripping surfaces dry, clean and free of oil and grease.** Slippery handles and gripping surfaces do not allow safe operation and control of the power tool in unforeseen situations.
- i) **Use the correct power tool.** Do not use under-performing tools for heavy loads. Do not use tools for purposes and work for which they are not intended.
- j) **Check your device for damage.** Before continued use of the tool safety equipment must be tested for proper and intended function. Check whether the function of moving parts is okay, whether they do not jam, whether any parts are broken, whether all other parts function properly and whether all conditions which must be met for the proper operation of the device have been met. Damaged protective devices and parts should be properly repaired, or replaced by trained customer service unless otherwise specified in this operating instructions. Damaged switches must be replaced by a customer service workshop. Do not use any tools which cannot be properly switched on and off using the start button.

2.5 Use and handling of battery tools

- a) **Charge the battery only with charging devices which are recommended by the manufacturer.** There is a risk of fire if the battery is used on an unsuitable charger and the battery can be permanently damaged.
- b) **Use only the specifically designated battery for the power tool.** The use of other batteries can lead to injuries and the risk of fire.
- c) **Keep the unused battery away from paper clips, coins, keys, nails, screws or other small metal parts which could cause a bypass of the contacts. Do not open the battery and do not short circuit it.** A short circuit between the battery contacts can lead to burns or fire.
- d) **Fluid can leak out of the battery in the event of incorrect use. Avoid contact with it. In the event of accidental contact with skin rinse with water. If the fluid comes into contact with the eye seek medical help.** Leaking battery fluid can lead to skin irritations or burns.
- e) **Do not use damaged or altered batteries.** Damaged or altered batteries can behave unpredictably and can lead to fire, explosion or injury.
- f) **Do not expose a battery to fire or high temperatures.** Fire or temperatures above 130°C can cause an explosion.

- g) **Follow all instructions for charging and never charge the battery or the battery tool outside of the temperature range specified in the operating instructions.** Incorrect charging or charging outside of the approved temperature range can damage the battery and increase the risk of fire.

2.6 Service

- a) **Only have your power tool repaired by qualified professional staff and only with original replacement parts which can be available at HS Technik GmbH.** This ensures that the safety of the power tool is maintained.
- b) **Never perform maintenance on damaged batteries.** All maintenance of batteries may only be completed by the manufacturer or authorised customer service locations.

3 Important information about this tool

3.1 Handling the associated lithium ion battery

- a) **Observe the operation instructions of the Li-Ion battery.**
- b) **If the battery will not be used over a longer period of time it may not remain on the charger or on the machine.** If an interruption of work of more than 3 hours is expected the battery must be removed from the tool. Otherwise it cannot be ruled out that the battery will be permanently damaged.
- c) **For safety reasons the Li-Ion battery should not remain on the activated charger for longer than 36 hours.** Remove the battery from the charger as soon as possible after charging is complete.
- d) **An empty battery should not be in contact with the machine or a charger disconnected from the mains for a longer period of time.** In both instances low currents flow which totally discharge the battery and can permanently damage it.
- e) **Always charge the Li-Ion battery as soon as possible after use and do not store it when empty.** If the battery is stored separately from the tool and the charger it's capacity will remain constant for a long period of time (loss approx. 5 % per year).
- f) **Always transport the battery separately from the machine if possible.** This prevents accidental switching on of the machine as well as a total discharge of the battery.
- g) **Do not subject the Lithium-Ion battery to high temperatures (above 50°C) or direct sunlight.** If the battery gets warmer than 50°C during operation (charging or discharging) it must be immediately separated from the charger or the tool.
- h) **Under extreme use or temperature conditions batteries may leak. In the event of a leaky battery avoid contact with the skin or eyes.** The battery fluid is corrosive and can cause chemical burns to tissue. If the fluid comes into contact with the skin it must be washed immediately with soap and water and then rinsed with lemon juice or vinegar. If the fluid comes into contact with the eyes they must be rinsed for at least 10 minutes with water and a doctor must be consulted immediately.
- i) **Ensure that the Li-Ion battery does not fall or is not subjected to vibrations or shocks.**
- j) **Clean the battery contacts regularly with a cotton swab dipped in high-proof alcohol.**



NOTE

Lithium-Ion batteries have almost no self-discharge and have no memory effect. With proper and professional handling your tool will be reliably supplied with high energy density for a long period of time.

3.2 Information on the associated charger

- a) Observe the operating instructions of the charger.
- b) The charger may not be connected to a step-up converter, generator or a direct current outlet.
- c) Ensure that the ventilation slots on the charger are not covered or blocked.
- d) Never charge the battery inside a box or a closed container. The battery may only be charged in a well ventilated location.
- e) Do not charge the battery at temperatures BELOW 10°C or ABOVE 40°C.
- f) Do not store the power tool, the charger and the battery in locations in which temperatures are above 50°C. In particular, avoid direct sunlight.

3.3 Structural modifications

No changes, additions or conversions to the power tool may be made without the approval of the manufacturer.

All conversion measures require written permission and confirmation by **HS-Technik GmbH**.



WARNING

In the event of the replacement of wear and tear parts only original replacement parts may be used.

3.4 Cleaning the device and disposal

Substances and materials used must be handled and disposed of properly, particularly when cleaning with solvents.

Do not throw the used battery into the household waste, fire or water, instead have it professional disposed of by a specialist or the manufacturer.



4 Start-up and use

DANGER

Risk of injury from damaged tools

Damaged tools can lead to injuries or damages.

- All damaged parts must be repaired before use.

Risk of injury from falling tools

Falling tools can lead to injuries or damages.

- Ensure you are self-belayed and have a secure footing.
- Avoid dropping the tool.



Risk of burns due to hot exhaust air

Hot air can escape through exhaust openings.

- Do not place any sensitive body parts directly in front of exhaust openings.

Risk of injury due to improper use

Improper use can lead to injuries or damage.

- Use the tool only for the intended purposes.

Risk of injury from substances

Substances such as lubricating oil and grease are flammable on the skin.

- Avoid contact with such substances.
- Should you still come into contact wash the affected area carefully.



NOTE

Maintain your tool with care. Follow the operating instructions during maintenance and cleaning. Keep the handle free of lubricants and dirt.



NOTE

Do not drop the tool, and do not let any other objects fall onto the tool. Protect it from impacts.



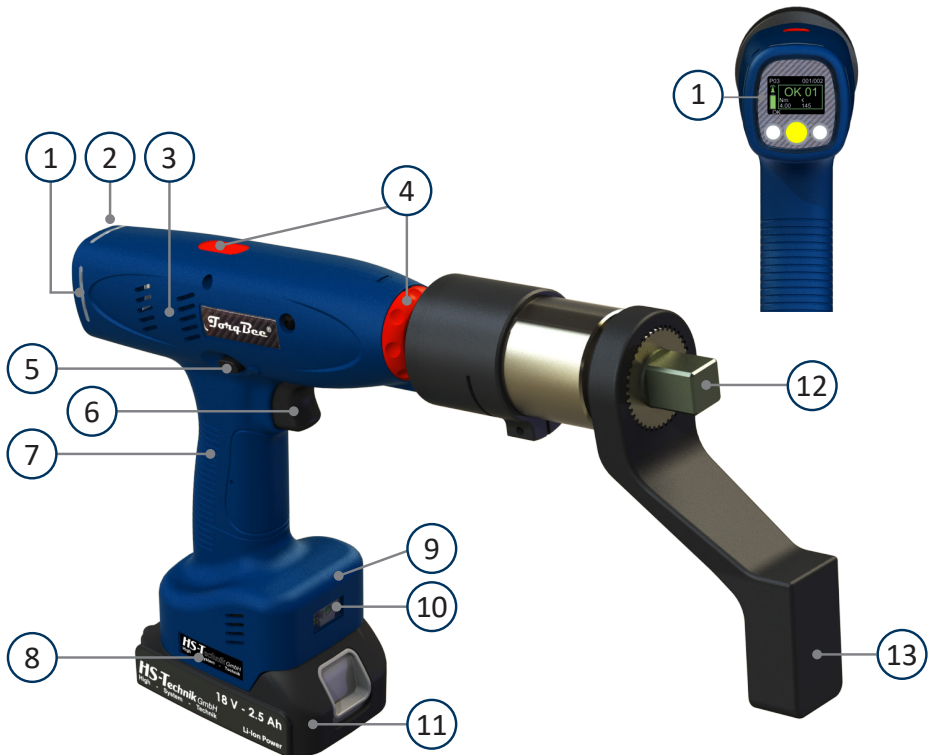
NOTE

Ensure that the tool does not come into contact with splashing water or oil.

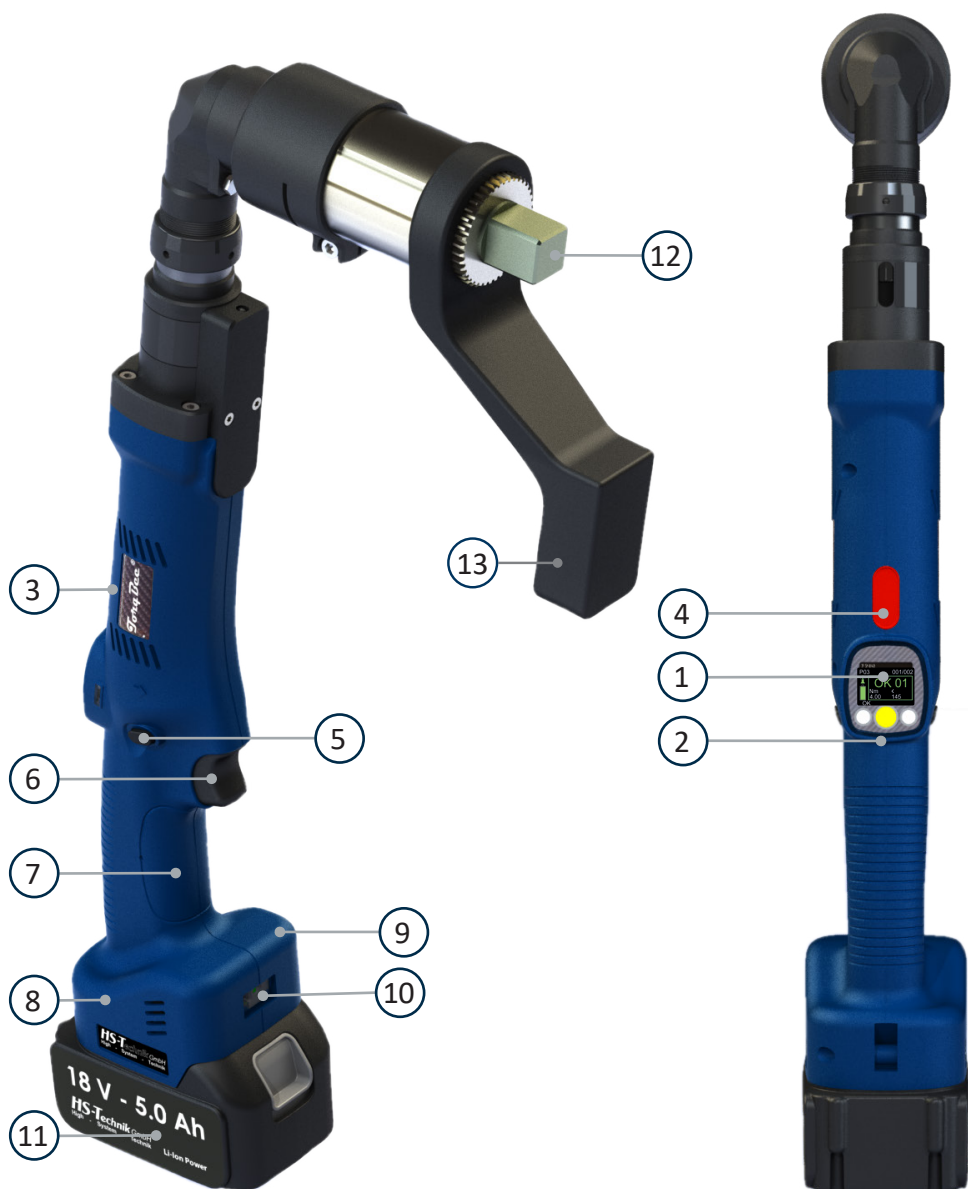
4.1 Tool structure

Tool structure with Norbar Multiplier

1. OLED-Display
2. Multi-colour LED
3. Brushless motor
4. Colour coding
5. Clockwise/counter clockwise direction
6. Start button
7. Ergonomic grip
8. USB Port
9. Optional Wi-Fi
10. Optional barcode scanner
11. 18 V Li-ion battery
12. 3/4" square drive
13. Reaction Arm*

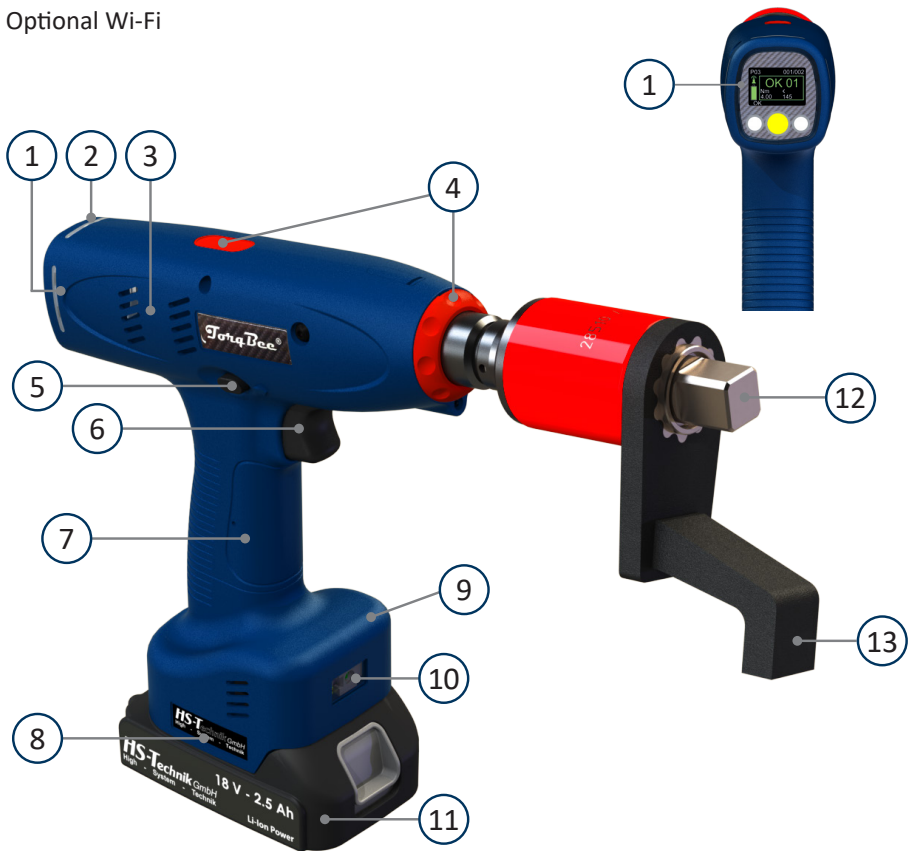


*Torque reaction arm incl. with Norbar, not included with RAD

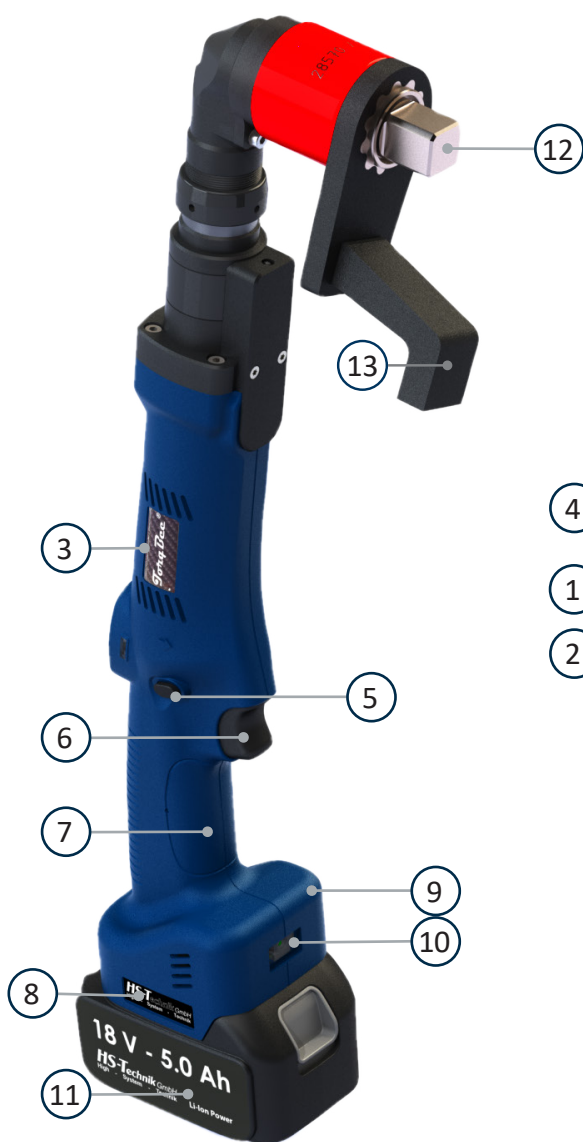


Tool structure with RAD Multiplier

- | | |
|--|------------------------------|
| 1. OLED-Display | 10. Optional barcode scanner |
| 2. Multi-colour LED | 11. 18 V Li-ion battery |
| 3. Brushless motor | 12. 3/4" square drive |
| 4. Colour coding | 13. Reaction Arm* |
| 5. Clockwise/counter clockwise direction | |
| 6. Start button | |
| 7. Ergonomic grip | |
| 8. USB Port | |
| 9. Optional Wi-Fi | |



*Torque reaction arm incl. with Norbar, not included with RAD





NOTE

Depending on the tool configuration various functions, which are described in the operating instructions, may be used. In addition these basic functions are associated with several sub-functions.

TorqBee® Features	HT-ECO	HT-EC
Multicolor LED control light	●	●
Intelligent battery management	●	●
HST-Tool-Manager programming software	●	●
Handle vibration alarm	●	●
OLED-display	●	●
Counting function for screws	●	●
Job / Sequence	●	●
Optional barcode reader	●	●
Optional Wi-Fi	●	●
Rotating torque transducer and angle encoder		●
Torque reaction sensor	●	

4.2 Reaction Arm

Tools of the HT series may only be operated with a suitable reaction arm. arm should be placed in a suitable position and transmits the resulting torque to the point of support.

Tools with Norbar Multiplier gears have a fixed reaction arm, there is no reaction moment pending on the screwdriver. Tools with RAD Multiplier gears have a rotatable reaction arm, there is a low residual reaction torque on the handle of the screwdriver.

DANGER

Risk of injury by the reaction arm

Incorrect use of the tool can lead to injuries.

- The tool may only be used, if the reaction arm is attached to a suitable support backup, otherwise it might absorb in serious injuries, due to the movement of the tool and the reaction arm.
- Support only in places, that are suitable to absorbing the high forces that will arise.



Risk of injury through modified or self-constructed reaction arms

Inappropriate reaction arms can lead to very serious injuries.

- Use only original, not modified reaction arms from HS-Technik. These are designed for the arising reaction moments. The use of any other reaction arms is at your own risk, HS-Technik assumes no liability for this!

4.2.1 Instruction for turning/changing the reaction arm for Norbar and RAD Multiplier

Norbar	RAD	Instruction
		Remove the retaining ring with a appropriate tool.
		Take off the reaction arm.
		Rotate the reaction arm as you wish. (only possible with Norbar Multiplier)
		Mount the reaction arm.
		Place the retaining ring on the notch.

4.3 Operation

4.3.1 Inserting and removing the battery

- In order to insert the battery (1), align it so that it can be easily pushed onto the mounting provided along the plastic guide. After sliding it on completely, the fastening clip (2) must lock the battery firmly and properly into place in the tool housing.
- In order to remove the battery push the fastening clip on the front side of the battery down and pull the battery forward and off.
- Don't use force to install the battery. If the battery can not be easily pushed on it was not correctly positioned.



NOTE

Always push the battery all the way in until it locks into place with a click.



WARNING

Risk of injury from falling battery

If the battery is not correctly locked it can fall out and cause injuries.

- Always ensure that the battery is fully locked into place.



1 - Battery

2 - Fastening clip

4.3.2 Press start button

Pressing or releasing the start button starts or stops the tool.



NOTE

The tool only starts up when the battery has sufficient capacity.



* – Start button

4.2.3 Clockwise / Counterclockwise rotation switch



WARNING

Risk of injury as a result of accidental actuation of the start button

When pulling the battery off the start button can accidentally be actuated.

- Ensure that the direction of rotation switch is in the „neutral“ position

- The tool has a slide switch to change the direction of rotation. Only use the slide switch after the tool has come to a complete stop. Changing the direction of rotation during operation will damage the device.
- Always put the slide switch in the neutral position when you are not using the tool.
- In order to change the direction, or set it, press the direction of the slide switch out to the left for clockwise direction ⤴ or out to the right for counter clockwise direction ⤵.

When the direction of slide switch is in the centre position the start button can not be actuated.



* – Clockwise / Counterclockwise slide switch

4.3.4 LED / Barcode scanner



WARNING

Risk of injury from the light emitting diode

Looking directly into the light emitting diode can lead to eye injuries.

- Never look directly into the light emitting diode.

After pressing the start button, the LED and the barcode scanner switch on. The after-glow time of the LED can be defined in the HST-Tool-Manager under Settings - General - Energy & Lighting after actuating the start button. The barcode scanner turns off after the barcode has been successfully scanned in and / or the start button has been actuated.



NOTE

Do not clean LED with harsh cleanser!



NOTE

The optional barcode scanner must be activated according in the HST-Tool-Manager Software under the hardware settings, so that it can be used.

4.2.5 Control light with multi-colour LED

The TorqBee® series has a LED control function, located around the tool near the OLED-display. This informs the worker at all times about the current tool status:

The LED can be programmed as steady, flashing or pulsating with different time settings and different colours for each LED signal.

Information concerning programming can be found in the HST-Tool-Manager operating instructions.



Colours:



4.3.6 Programming of the tools

In the TorqBee® ECO, EC and EC² series the tool is programmed using the HST-Tool-Manager Software. Make sure that the tool is properly configured and parametrised.



NOTE

See HST-Tool-Manager operating instructions.

4.3.7 Cancel order

If you want to execute an order later or if you scanned an incorrect barcode you can cancel it after it was enabled.

To do this press and hold the menu button (middle display button) for approx. 3 seconds. The cancel symbol will appear. Confirm this with the left display button.



4.3.8 Set-up menu

NOTE



In order to get into the setup menu the „Setup Menu“ must be activated under general settings in the HST-Tool-Manager software. Also activate „scanner selectable“ so that „scanner“ can be selected in the setup menu item. If you also activate „Manual mode selectable“ the setup menu items „M“ and „Scanner M“ will be enabled. In order to be able to select different programs per display the check mark next to „manual mode active“ must also be selected.



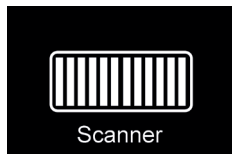
1. Button for menu activation and selection
2. Button for decreasing value (-)
3. Button for increasing value (+)
4. State of charge display

You will reach the set-up menu by pressing and holding the yellow display button for a longer period of time.

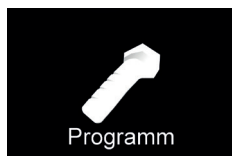
The following points are available in the set-up menu:



The current battery voltage, RSSI network coverage, and the firmware version can be displayed under menu item „Info“.



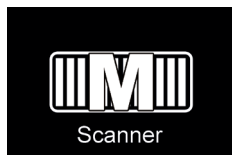
The scanner can be selected under the scanner menu item in order to read in the network settings using a barcode. Scanning for program selection is not possible in this mode.



A program from the list of saved programs can be selected under the program menu item.



Manual mode can be selected under menu item M (M = manual mode). This activates the „standard program“ (yellow star).



The scanner can be selected under the scanner M menu item in order to read barcodes for program selection. The barcodes and their assignment to a program must be saved in the tool.



You can leave the setup menu by selecting the menu item „Exit“. The tool reverts back to normal operation.

If the connection to the sequence control (radio connection via access point) is cancelled and a work order was already approved in the tool this should continue to be executed if possible. Even after completion of the work order the tool will attempt to send the tool results. If the connection to the sequence control can not be re-established the tool results must be saved manually (read and save tool with HST-Tool-Manager software).

Then work can be continued with the emergency strategy after the battery has been removed.

To do this hold down the start button and push the battery up.

After approx. 3 seconds the „set-up symbol“ appears in the display. You can now release the start button to get to the set-up menu.

By pressing the menu button (middle display button) you will get to the next menu item. By pressing the start button you can select a menu item.

Confirm your selection using the left key, cancel the selection using the right key.

Select scan mode under menu item „Scanner M“ in order to scan the barcode for program selection. Scan the barcode for the screw joint as you would during regular operation. After this you will receive approval for the corresponding program with the number of screws.

The tool results will not be sent to the sequence control for central storage. However, you can read out the tool results using the HST-Tool-Manager software and save it as a file.

Use the menu button to move forward until the „Scan M“ logo appears. The tool must be programmed accordingly with the HST-Tool-Manager.



Push the start button in order to select the setting.



In order to confirm the emergency strategy with the scan function push the left button on the display.

4.2.10 Operation



NOTE

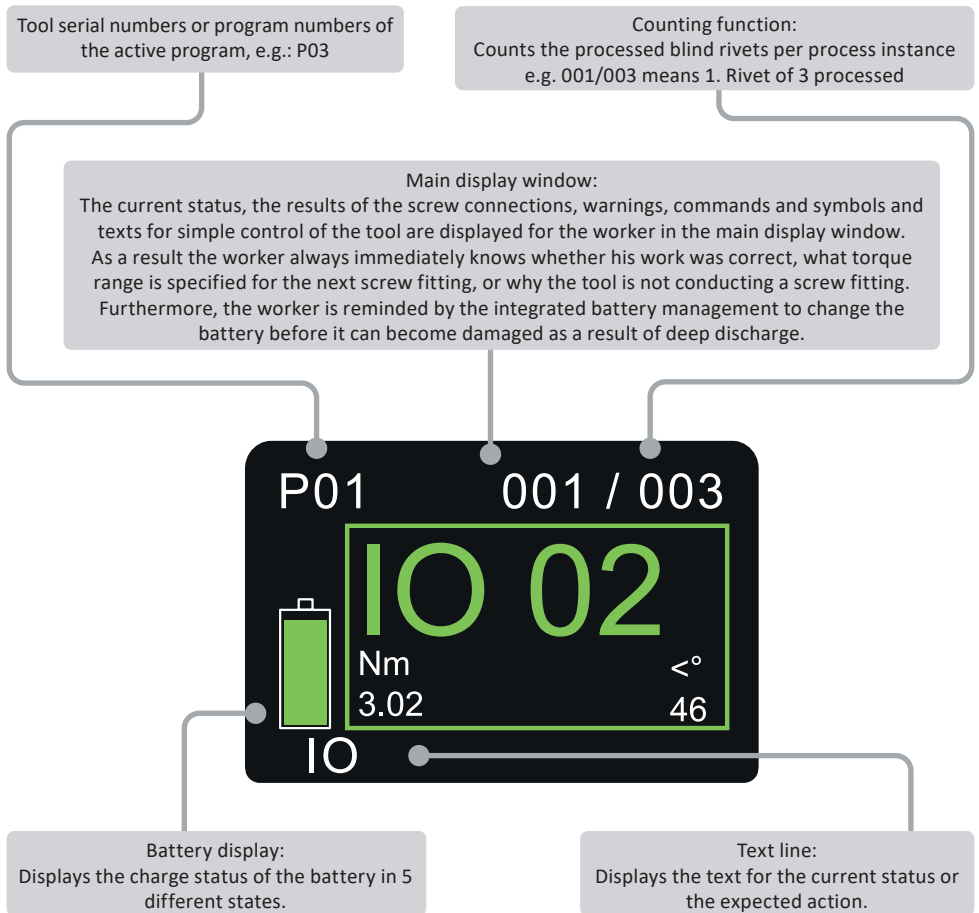
Hold the tool with its tool insert straight onto the tightening point with the required pressure, otherwise it can be damaged (cam-out effect).

In order to ensure the safety and reliability of the product repairs, any other possible maintenance or adjustments should be completed by HS-Technik GmbH or an authorised specialised company.

5 Display

5.1 Display indicators

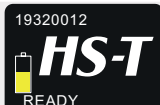
The display indicators can be adjusted in the HST-Tool-Manager so that, for example, precise values for the fittings, the angle of rotation, only one OK or NOK, or the count process can be displayed for the worker. The display indications can be shown in German and English. In addition which unit the values will be provided in (Nm, lbf.in, lbf.ft) can be set.



Display notification Meaning



Battery state of charge: 50 % - 100 %



Battery state of charge: 30 % - 50 %



Battery state of charge: 10 % - 30 %



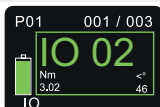
Battery state of charge: 5 % - 10 %



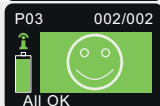
Battery state of charge: less than 5 %



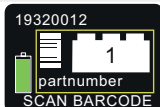
The device is ready for use.



The first of three screw connections was successful. Two screw connections have to be completed. Results of the first screw connection are displayed. This display is also available as NOK display.



Both screw connections were successful and reached the above reference (e.g. Nm), or were within the prescribed differential. This display is also available as NOK display.



Request for scan:

Component 1, 2 or 3 depending on the number in the building block of the display must be scanned before the tool will be enabled.

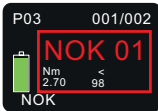
Display notification Meaning



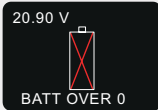
Product ID must be scanned before the tool will be enabled.



Tool is locked and is being configured using the HST-Tool-Manager via Wi-Fi.
Battery may not be removed.



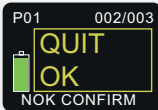
The targets could not be reached for the tightening process. Values of the fitting are displayed.



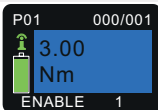
Maximum battery voltage exceeded



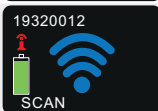
Battery voltage not reached



The NOK has been confirmed successfully.



The tool has received approval for program 1. One screw should be tightened with 3.00 Nm.



The tool is searching for the network.

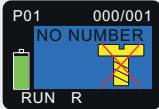


The tool found the network connection and is connecting to it.

Display notification Meaning



Previously lost connection to the network was restored.

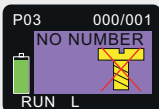


Releasing the start button during the tightening process is permitted. Start button was released during the tightening process. It can be continued to tighten. When using the barcode scanner the corresponding barcode will be displayed in the blue display indicator.

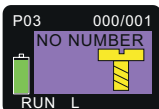


Tightening process running.

When using the barcode scanner the corresponding barcode will be displayed in the blue display indicator.

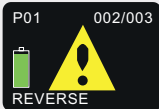


Releasing the start button during the loosening process is permitted. Start button was released during the loosening process. It's allowed to continue to be loosened. When using the barcode scanner the corresponding barcode will be displayed in the purple display indicator.



Loosening process running.

When using the barcode scanner the corresponding barcode will be displayed in the purple display indicator as an approval in the case of "NO NUMBER".



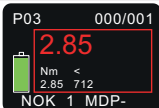
Screw has to be released respectively NOK has to be confirmed in order to process the next one.



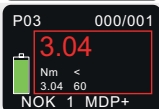
The direction of rotation switch is set to anti-clockwise motion; it may not be released, the previous NOK fitting must be acknowledged. This can be programmed in the setting (HST-Tool-Manager).



Start button was already pressed, when the tool got enabled. The start button must be released before the tool gets enabled.



Current redundancy of the torque has been below the limit.



Current redundancy of the torque has been above the limit.

Display notification Meaning



Worker must examine the screw himself after a tightening process and then personally acknowledge it afterwards with time input (e.g. 15 seconds) on the display. The timer runs backwards for orientation. (Image is at 10.9 seconds) If he does not acknowledge the screw within the time it is automatically valued as NOK.



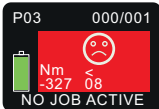
The period for the machine capability is expired and has to be renewed. The message can be acknowledged with the yellow display button. It will appear everytime the tool is powered up.



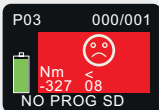
Tool must be serviced and is only approved again after confirmation by service.



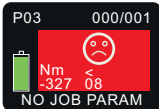
Maximum tightening time for the enabled program was exceeded.



Enabled program is deactivated on this tool.



Enabled program does not exist on this tool.



Enabled program sequence does not exist on this tool.



Maximum permissible torque exceeded → Contact the manufacturer



Maximum permissible current exceeded → Contact the manufacturer



Control system overheating → Contact the manufacturer

Display notification Meaning



Motor overheating → Contact the manufacturer



Maximum logic voltage exceeded, tool must be repaired!



SD-card in tool not available or defective.
Please contact the manufacturer.



Tool cannot connect to the network.



Tool could not find the set network.



Tool is in the wrong IP circle.

The most common error messages are pictured here. However, because there are many status and error messages in the field of electronics it is not possible to list them all. If you encounter a status or error message for which you do not know how to continue you may contact us at any time. Many displays can vary slightly depending on the software setting. To this end view your settings and the operating instructions of the HST-Tool-Manager. If an error appears repeatedly please contact our Support Team.

The display indicators (status notifications) were created partially with and partially without Wi-Fi connection to a higher-level control system. As soon as the power tool is connected to a control system the Wi-Fi symbol is displayed on the battery display.

5.2 HST-Tool-Manager

This excerpt shows only the most important functions for this tool type.

A complete guide for the HST-Tool-Manager is available for you to download on our website.

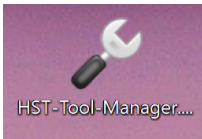
Download the current version of the HST-Tool-Manager in the downloads area on the HS-Technik website **www.hs-technik.com**.

NOTE

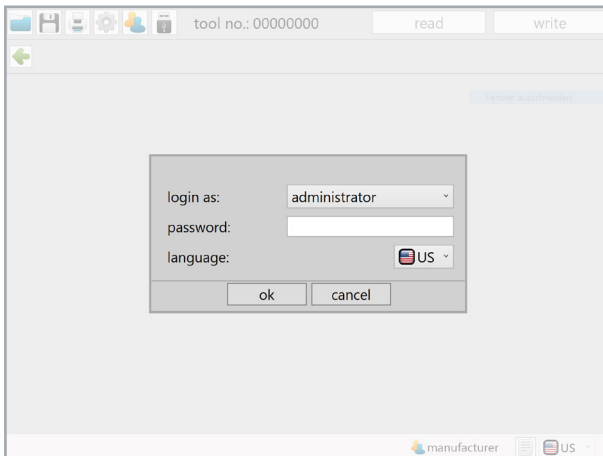


Always use the most current version of the HST-Tool-Manager from the website. The HST-Tool-Manager is backward compatible, i.e. it can also read and process older tool versions. If an update of your tool is necessary the HST-Tool-Manager will inform you.

1. Start the HST-Tool-Manager by double clicking the HST-Tool-Manager icon:



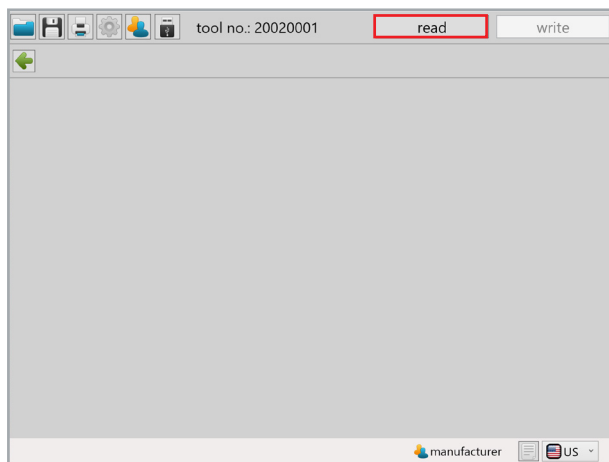
2. Log-in with the required User, a list of the passwords can be requested from HS-Technik (support@hs-technik.com).



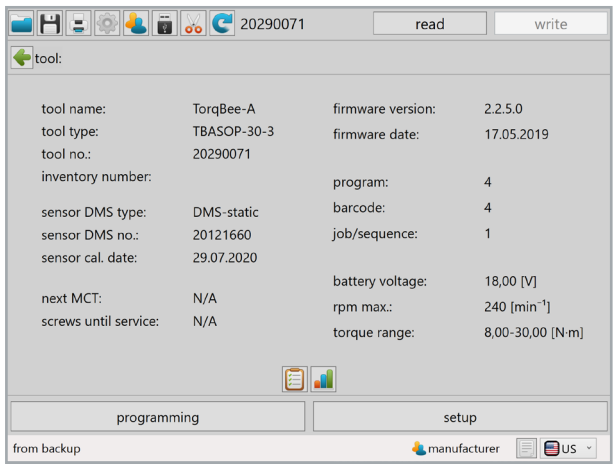
3. Insert the USB cable included into the Mini-USB socket at the bottom of the tool and the opposite end into an open USB interface on your laptop / tablet / PC.



4. Click on the „read“ button on the top right.



5. The HST-Tool-Manager will now read the settings from your tool and will display its progress using a green bar. At the end the tool overview will be displayed.



5.2.1 Setup

Clicking on setup takes you to the tool settings menu. Here, for example, the display, LED display or the energy savings settings can be parameterised.

The screenshot shows a software interface for a tool. At the top, there is a toolbar with icons for file operations, settings, and communication. The main area displays the tool's name and various parameters. A red box highlights the 'setup' button at the bottom right.

tool:	
tool name:	TorqBee-A
tool type:	TBASOP-30-3
tool no.:	20290071
inventory number:	
sensor DMS type:	DMS-static
sensor DMS no.:	20121660
sensor cal. date:	29.07.2020
next MCT:	N/A
screws until service:	N/A
firmware version:	2.2.5.0
firmware date:	17.05.2019
program:	4
barcode:	4
job/sequence:	1
battery voltage:	18,00 [V]
rpm max.:	240 [min ⁻¹]
torque range:	8,00-30,00 [N·m]

from backup manufacturer US

5.2.2 General → Process control

The screenshot shows the 'General → Process control' settings menu. It includes tabs for 'general', 'management', 'signals', 'graphics', 'system time', 'basic settings', and 'update'. The 'process control' tab is selected, showing settings for manual mode, waiting time, and abort on the display.

general | management | signals | graphics | system time | basic settings | update

process control | energy&lighting | features | TM version

☒ manual mode active
enable over: [dropdown]
☐ reverse enabled for open crowfoots

☐ waiting time between tightenings

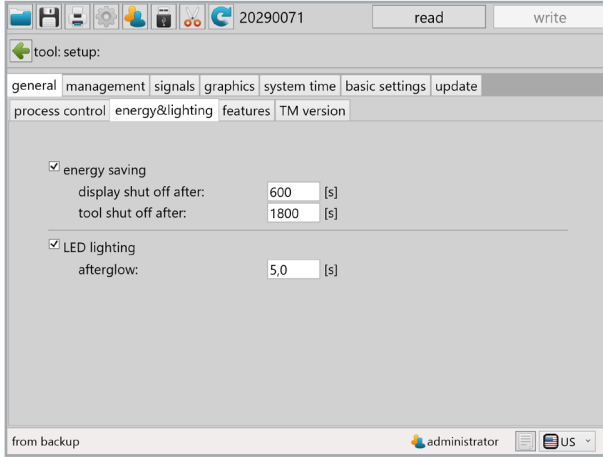
☒ abort on the display
time: 5,0 [s]

from backup administrator US

„Manual mode active“	<p>If the check box is activated the tool will operate in manual mode. I.e. the standard program (yellow start) will always be conducted. In this mode the counting function, Wi-Fi and barcode are deactivated.</p>
„enable over“	<p>The drop-down menu is used to select how the tool will be approved. In order to use this function manual mode must be deactivated.</p>
- „Start button“	<p>The start button must be pushed 3x quickly in succession in order to enable the tool. The tool then works in the standard program with the activated counter.</p>
- „Time“	<p>A time after which the tool will be enabled must be entered. The tool then works in the standard program with the activated counter.</p>
- „Start button & Time“	<p>A combination of the above described functions. The provision which is met first enables the tool. The tool then works in the standard program with the activated counter.</p>
- „Barcode“	<p>Activates the barcode scanner in the tool. A barcode must be scanned for the approval. Additional information for programming barcodes can be found in the operating instructions of the HST-Tool-Manager.</p>
- „External control“	<p>Activates the Wi-Fi in the tool. The tool will now be enabled by an external control (controller). Without approval the tool is locked.</p>
- „Barcode & external control“	<p>Activates the barcode scanner and Wi-Fi. The tool scans a barcode which is then sent to the external control (controller). Based on the scan the tool will be enabled via Wi-Fi by the external control.</p>
„reverse enabled for open crowfoots“	<p>Is used for open flat drives in particular. By activating the check box it's always possible to start the tool in reverse mode.</p>
„Waiting time between tightenings“	<p>If the function is activated a time for the waiting period between two fittings must be entered. For this period the tool will be without function between two fittings; it will not start.</p>
„abort on the display“	<p>If the function is activated a time for the interruption of the order must be pressed for this period in order to cancel the current job. The yellow menu button must be pressed for this time in order to interrupt an order.</p>

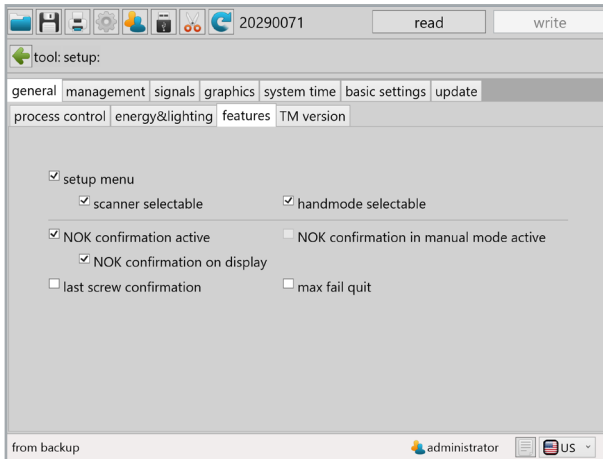
5.2.3 General → Energy & Lighting

Here you can parametrise the energy savings options and the LED work lighting.



„Energy saving“	The energy saving options can be activated or deactivated with the check-box.
„Display shut off after“	Time in seconds without action after which the OLED-display of the tool will switch off and the screen saver is activated. Default value: 600 seconds (10 minutes)
„Tool shut off after“	Time in seconds without action after which the tool turns off. Default value: 1,800 seconds (30 minutes)
„LED lighting“	The LED lighting can be activated or deactivated with the check-box.
„Afterglow“	The amount of time the LED lighting continues to glow after completion of the work process.

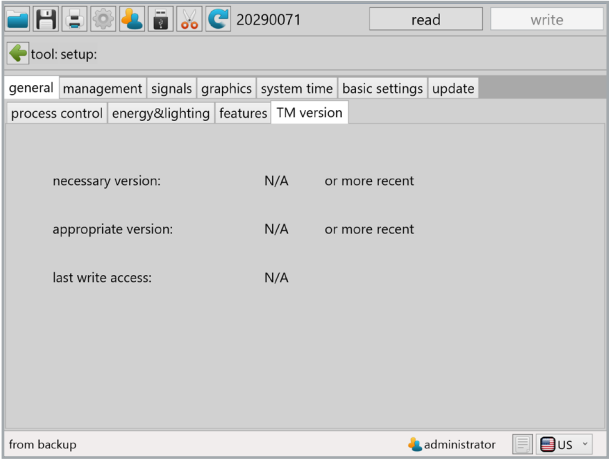
5.2.4 General → Features



„Setup menu“	Activates and deactivates the setup menu using the display buttons. If this function is activated you can enter the setup menu by holding down the yellow menu button on the display.
„Scanner selectable“	If this function is activated you can activate and deactivate the barcode scanner using the setup menu on the tool.
„Handmode selectable“	If this function is activated you can activate and deactivate handmode using the setup menu on the tool.
„NOK confirmation active“	Activates and deactivates the NOK confirmation using the yellow menu button.
„NOK confirmation in manual mode active“	Activates and deactivates the NOK confirmation using the yellow menu button when the tool is being operated in manual mode.
„NOK confirmation on display“	NOK confirmation on display using the yellow menu button.
„last screw confirmation“	Confirmation of last screw with yellow button on display.
„max fail quit“	A maximum number of errors can be defined. If it is exceeded it must be acknowledged for approval using the yellow button on the display.

5.2.5 General → TM version

The TM version tab will display the HST-Tool-Manager version required for this tool, at minimum, the version intended for the application, and the version last written with on the tool.



5.2.6 Management

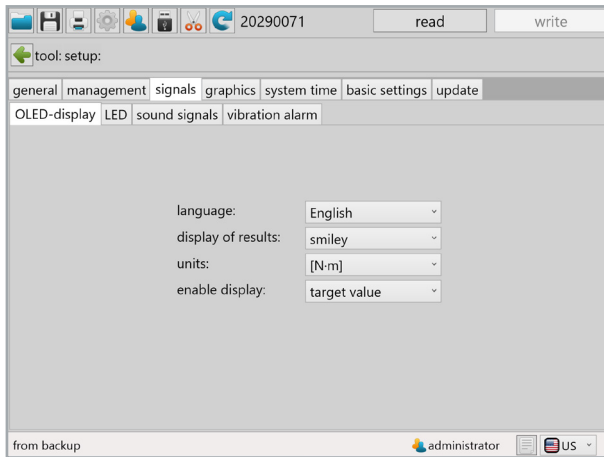
The data on the operating site and the inventory number of the tool can be saved under administration.

location max. 20 characters

inventory number max. 40 characters

The screenshot shows a software interface titled "tool: setup:". At the top, there is a toolbar with icons for file operations and a status bar displaying "20290071" and buttons for "read" and "write". Below the toolbar is a tabbed menu with options: "general", "management", "signals", "graphics", "system time", "basic settings", and "update". The "management" tab is currently selected. In this tab, there are two input fields: "location:" and "inventory number:". The "location:" field is a single-line text box, and the "inventory number:" field is a single-line text box. At the bottom of the window, there is a status bar that says "from backup" on the left and "administrator" with a user icon and a language dropdown set to "US" on the right.

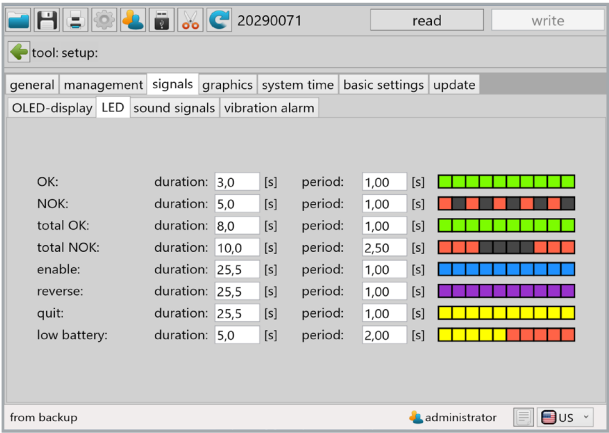
5.2.7 Signals → OLED-display



„Language“	Select the language on the OLED-display, German or English Default: English
„display of results“	Select the result presentation on the OLED-display.
„Units“	Selection of the physical unit for the torque.
„enable display“	Selection for what is to be displayed on the OLED-display when the tool is enabled.

5.2.8 Signals → LED

The LEDs around the OLED-display can be parametrised under the LED tab. The colour of the LEDs can be changed by clicking on the coloured square.



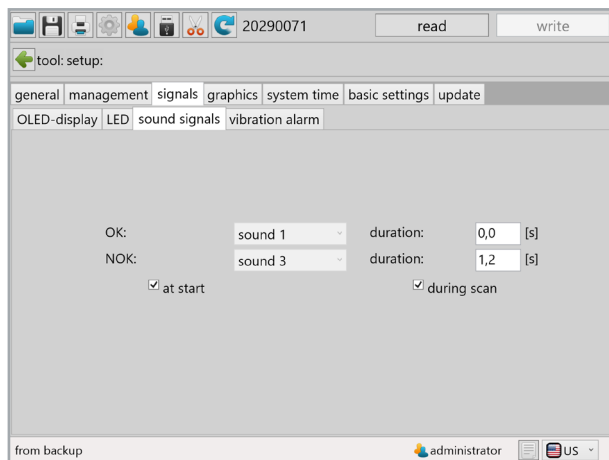
„Duration“

The duration of the display in seconds, max. 25.5 seconds.

„Period“

The duration of the sequence of the 10 parametrisable indicator fields. Period 1.00 seconds means that the 10 fields will be shown one after another within 1.00 seconds.

5.2.9 Signals → Sound signals



„Duration“

For the duration the time of the acoustic signal for OK and NOK results will be parametrised in seconds, max. value 3.0 seconds.

„at start“

When the check-box is selected a signal will sound when the tool starts.

„during scan“

When the check-box is selected a signal will sound when the tool is scanned.

5.2.10 Signals → Vibration alarm

tool: setup:

general management signals graphics system time basic settings update

OLED-display LED sound signals vibration alarm

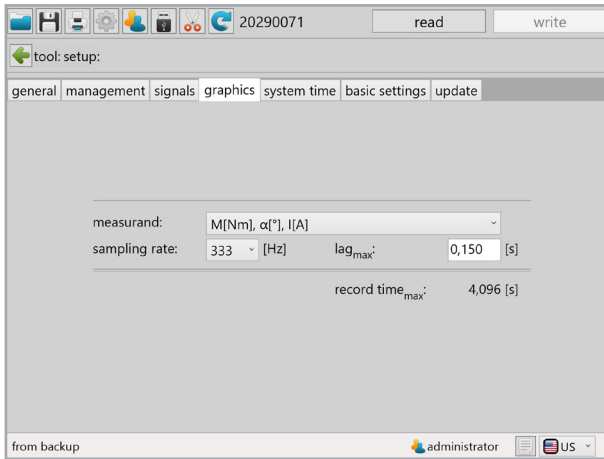
single OK	duration:	0,00	[s]
single NOK	duration:	1,50	[s]
total OK	duration:	0,00	[s]
total NOK	duration:	3,00	[s]

from backup administrator US

„Duration“

For the duration the time of the vibration for OK and NOK results will be parametrised in seconds.

5.2.11 Graphics



„Measurand“

Selection of the physical parameters of the curve display depending on the tool type.

- Torque, angle, current, voltage
- Torque, angle, current
- Torque, angle
- Torque
- Torque 1, torque 2, MDM/MDP¹
- Torque 1, torque 2, angle 1, angle 2²

„Sampling rate“

Defines the standard sampling rate with which the curve is recorded, Default 333 Hz.

„lag_{max}“

Defines the time for which the recording of the graph continues after reaching the target criteria.

Recommended max. value 0.250 seconds, Default: 0.150 seconds

„Record time_{max}“

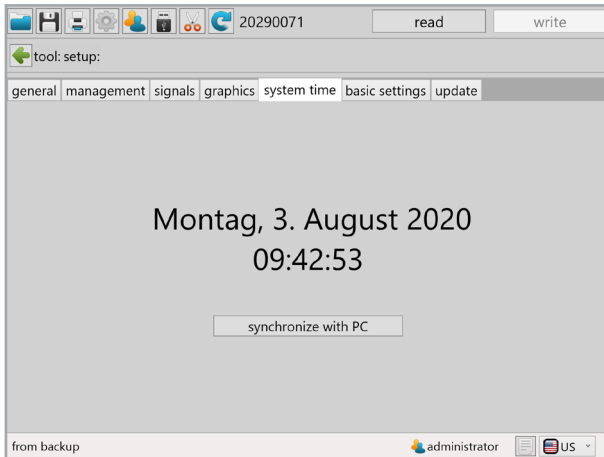
Shows how many seconds can be recorded for the selected criteria per fitting.

If the recording time is not sufficient the beginning of the recording will be discarded.

¹ Is only available with the EC2 tool type and enables graphic recording of the redundant torque encl. the permissible tolerance (MDM/MDP).

² Is only available with the EC2 tool type and enables graphic presentation of the redundant torque and the redundant angle.

5.2.12 System time

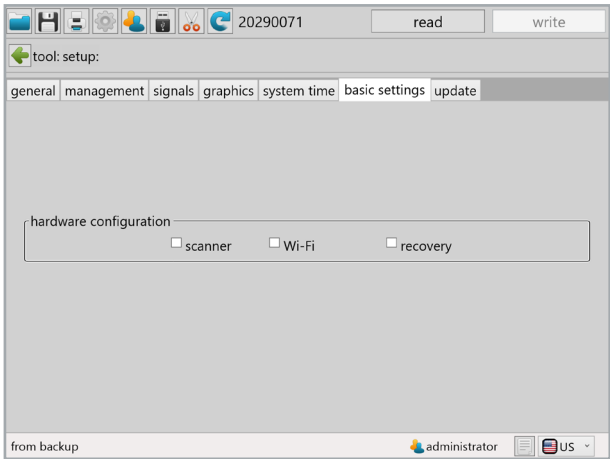


In the system time tab the real time clock (RTC) can be synchronised with the time of the computer connected.

The real time clock is still supplied with power internally via a capacitor even if the battery is disconnected from the tool. The internal memory for the RTC can be charged via both USB and the battery. The internal memory is fully charged after approx. 30 min. In order for the time stamp of the tool to be correct, the internal memory for the RTC must be fully loaded at the latest after 2 weeks.

If the system time and the time on the tool amount to a difference of more than 30 seconds a notification will appear during the read out of the tool.

5.2.13 Basic settings

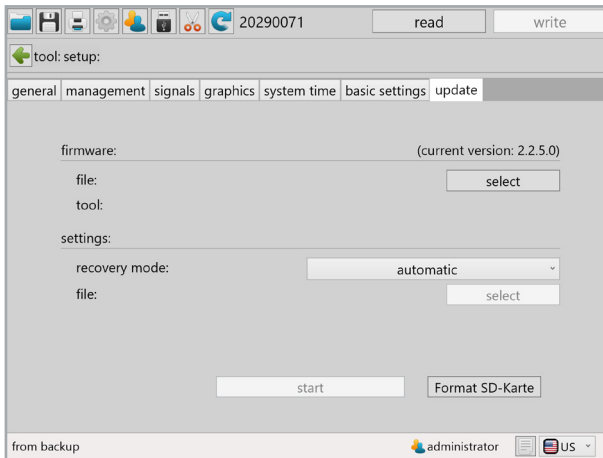


Under „basic settings“ accessories can be activated, such as Wi-Fi and barcode scanner as well as the recovery function.

Wi-Fi and scanner are automatically activated if these functions are selected under „General → Process control → Enable over“.

„Scanner“	Activates and deactivates the barcode scanner. A prerequisite is that the tool is equipped with a barcode scanner.
„Wi-Fi“	Activates and deactivates the Wi-Fi module. A prerequisite is that the tool is equipped with Wi-Fi.
„Recovery“	Activates and deactivates the recovery function. This function enables the continuation of a screw connection order after a battery change. This enables a battery change during an ongoing screw connection order without any loss of data.

5.2.14 Update



Select

Click on select and find the .upd file provided by HS-Technik GmbH. Please select automatic under „Recovery mode“. Then click „start“.

The progress of the update will be displayed using a status bar and confirmed at the end with „done“. The tool is now up-to-date with the current firmware and has the same settings as prior to the update.

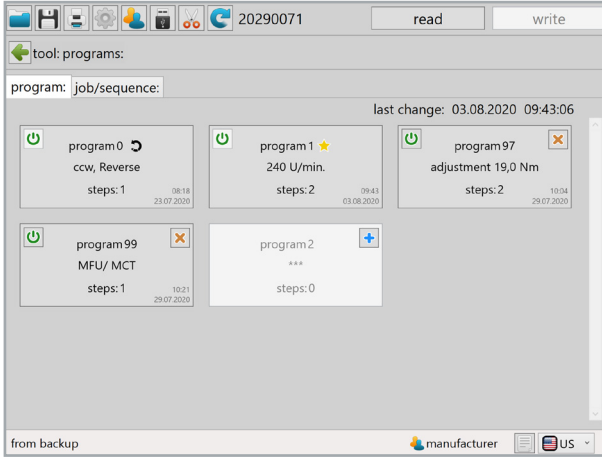


NOTE

Do not pull out the USB cable during the update process!

5.2.15 Programs

Clicking on „Program“ takes you to the program settings menu.



The programs are created here; in doing so many parameters must be set which will have a large influence on the process.

A detailed guide on this can be found in the operating instructions of our HST-Tool-Manager (download at www.hs-technik.com/software)



NOTE

We recommend using the support of the HS-Technik service personnel during initial start-up in order to determine the perfect parameters for your application.

6 Accessories



WARNING

Incorrect use of possible accessories, or accessories from other manufacturers could present a risk (of injury) to persons.



NOTE

Only use accessories for their stated purpose. Please contact us at any time, should you have any queries.

An exploded view and a replacement parts list can be requested from us with specification of the Item no. at info@hs-technik.com or by telephone at +49 (0) 7628 / 9111-0.



NOTE

All tools will be delivered with software.

7 Storage

Observe the following information when storing tools, batteries and chargers:

- Remove the battery when you are not using the tool.
- If you will not be using the battery for a longer period of time it should be stored, fully charged, in a dry, dust-proof area.
- Store the tool and charger in a dry environment protected against splashing water.
- Store the tool and charger in a well ventilated space and protected against exposure to dust.
- Ensure that the storage environment is free of aggressive chemicals and vapours.

8 TorqBee® HT - ECO - Series

Technical data

8.1 Technical data for all tool types

Description	TBXECO-Y
Operating voltage	18 VDC
Noise emissions (L_{pA})	< 72 dB(A)
Measurement uncertainty (K_{pA})	2.5 dB(A)
Vibration (a_{hv})	< 2.5 m/s ²
Measurement uncertainty (K_{hv})	0.1 m/s ²
Operating altitude	< 2000 mNN
Operating temperature	10 - 40 °C
Storage temperature	0 - 50 °C
HST-PR-1850 battery (weight)	Li-Ion, 18 V, 5.0 Ah (600 g)
HST-PR-2830 charger	220 - 240 VAC, 50 - 60 Hz, 65 W

The values given for noise emissions and vibration were measured using a standardised test method and can be used for comparison with other power tools. They can also be used for a preliminary estimate of the load.



NOTE

The actual emissions can differ from the above information depending on the type and manner of use of the tool and, in particular, depending on the type of work-piece.

8.1.1 Pistol tool with RAD Multiplier

Pistol Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBPECO-150*	50 - 150 Nm	4.0 - 40.0 U/min	3/4" - square	312 × 72 × 211 mm	1.80 kg
TBPECO-300*	90 - 300 Nm	2.0 - 20.0 U/min	3/4" - square	312 × 72 × 211 mm	1.80 kg
TBPECO-525*	165 - 525 Nm	1.0 - 10.0 U/min	3/4" - square	326 × 72 × 211 mm	2.20 kg
TBPECO-645*	200 - 645 Nm	0.7 - 7.0 U/min	3/4" - square	365 × 72 × 250 mm	3.20 kg
TBPECO-1250*	400 - 1250 Nm	0.4 - 4.0 U/min	3/4" - square	365 × 72 × 250 mm	3.20 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.1.2 Angle tool with RAD Multiplier

Angel Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBAECO-190*	60 - 190 Nm	4.0 - 40.0 U/min	3/4" - square	474 × 72 × 132 mm	2.24 kg
TBAECO-380*	120 - 380 Nm	2.0 - 20.0 U/min	3/4" - square	474 × 72 × 146 mm	2.53 kg
TBAECO-675*	220 - 675 Nm	1.0 - 10.0 U/min	3/4" - square	474 × 72 × 146 mm	2.53 kg
TBAECO-830*	260 - 830 Nm	0.7 - 7.0 U/min	3/4" - square	482 × 72 × 185 mm	3.90 kg
TBAECO-1250*	500 - 1250 Nm	0.4 - 4.0 U/min	3/4" - square	482 × 72 × 185 mm	3.90 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.1.3 Pistol tool with Norbar Multiplier

Pistol Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBPECO-250*	65 - 250 Nm	2.0 - 20.0 U/min	3/4" - square	380 × 72 × 215 mm	3.75 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.1.4 Angel tool with Norbar Multiplier

Angel Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBAECO-500*	180 - 500 Nm	1.0 - 10.0 U/min	3/4" - square	520 × 72 × 238 mm	4.80 kg
TBAECO-1000*	300 - 1000 Nm	0.5 - 5.0 U/min	3/4" - square	585 × 72 × 241 mm	5.20 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8 TorqBee® HT - EC - Series

Technical data

8.2 Technical data for all tool types

Description	TBXEC-Y
Operating voltage	18 VDC
Noise emissions (L_{pA})	< 72 dB(A)
Measurement uncertainty (K_{pA})	2.5 dB(A)
Vibration (a_{hv})	< 2.5 m/s ²
Measurement uncertainty (K_{hv})	0.1 m/s ²
Operating altitude	< 2000 mNN
Operating temperature	10 - 40 °C
Storage temperature	0 - 50 °C
HST-PR-1850 battery (weight)	Li-Ion, 18 V, 5.0 Ah (600 g)
HST-PR-2830 charger	220 - 240 VAC, 50 - 60 Hz, 65 W

The values given for noise emissions and vibration were measured using a standardised test method and can be used for comparison with other power tools. They can also be used for a preliminary estimate of the load.



NOTE

The actual emissions can differ from the above information depending on the type and manner of use of the tool and, in particular, depending on the type of work-piece.

8.2.1 Pistol tool with RAD Multiplier

Pistol Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBPEC-150*	50 - 150 Nm	4.0 - 40.0 U/min	3/4" - square	312 × 72 × 211 mm	1.90 kg
TBPEC-300*	90 - 300 Nm	2.0 - 20.0 U/min	3/4" - square	312 × 72 × 211 mm	1.90 kg
TBPEC-525*	165 - 525 Nm	1.0 - 10.0 U/min	3/4" - square	326 × 72 × 211 mm	2.30 kg
TBPEC-645*	200 - 645 Nm	0.7 - 7.0 U/min	3/4" - square	365 × 72 × 250 mm	3.30 kg
TBPEC-1250*	400 - 1250 Nm	0.4 - 4.0 U/min	3/4" - square	365 × 72 × 250 mm	3.30 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.2.2 Angel tool with RAD Multiplier

Angel Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBAEC-190*	60 - 190 Nm	4.0 - 40.0 U/min	3/4" - square	474 × 72 × 132 mm	2.24 kg
TBAEC-380*	120 - 380 Nm	2.0 - 20.0 U/min	3/4" - square	474 × 72 × 146 mm	2.53 kg
TBAEC-675*	220 - 675 Nm	1.0 - 10.0 U/min	3/4" - square	474 × 72 × 146 mm	2.53 kg
TBAEC-830*	260 - 830 Nm	0.7 - 7.0 U/min	3/4" - square	482 × 72 × 185 mm	3.90 kg
TBAEC-1250*	500 - 1250 Nm	0.4 - 4.0 U/min	3/4" - square	482 × 72 × 182 mm	3.90 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.2.3 Pistol tool with Norbar Multiplier

Pistol Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBPEC-250*	65- 250 Nm	2.0 - 20.0 U/min	3/4" - square	380 × 72 × 215 mm	3.75 kg

*

W = Wi-Fi option

B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

Dimensions and weight indications without battery.

8.2.4 Angel tool with Norbar Multiplier

Angel Tool	Torque	Speed (neutral)	Tool adapter	Dimensions L × W × H	Weight
TBAEC-500*	180 - 500 Nm	1.0 - 10.0 U/min	3/4" - square	520 × 72 × 238 mm	4.80 kg
TBAEC-1000*	300 - 1000 Nm	0.5 - 5.0 U/min	3/4" - square	585 × 72 × 241 mm	5.20 kg

*

W = Wi-Fi option

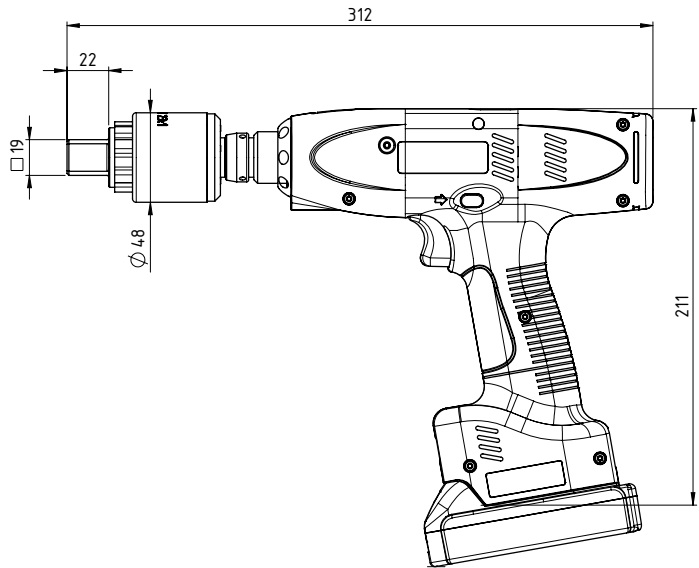
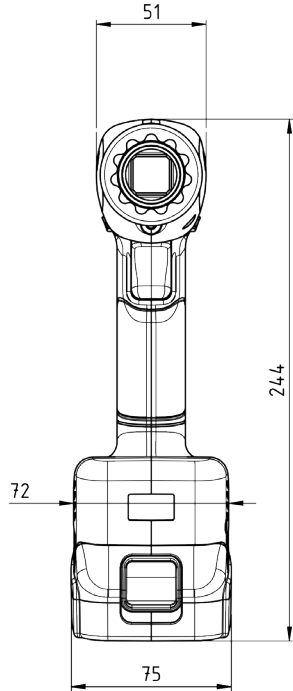
B = Barcode reader option

WB = Wi-Fi & barcode reader option

The tools must be used with suitable torque reaction arm only!

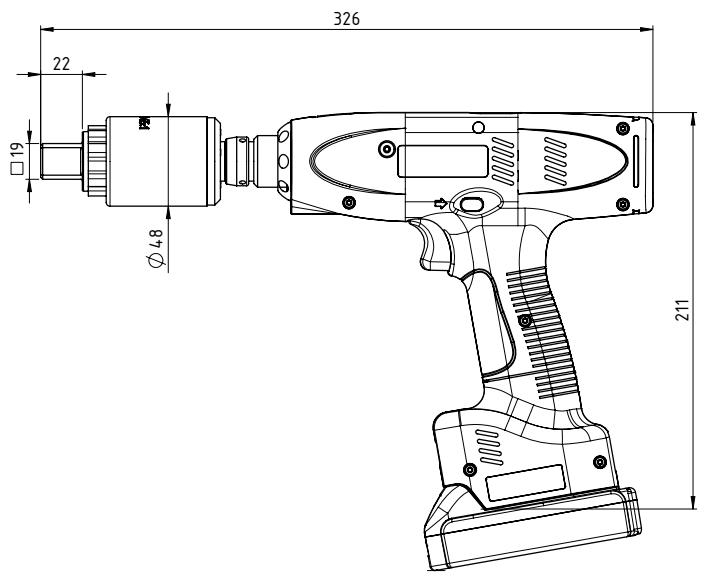
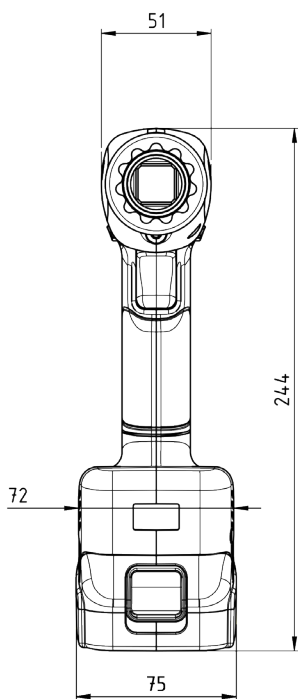
Dimensions and weight indications without battery.

TBPECO-150-300
TBPEC-150-300



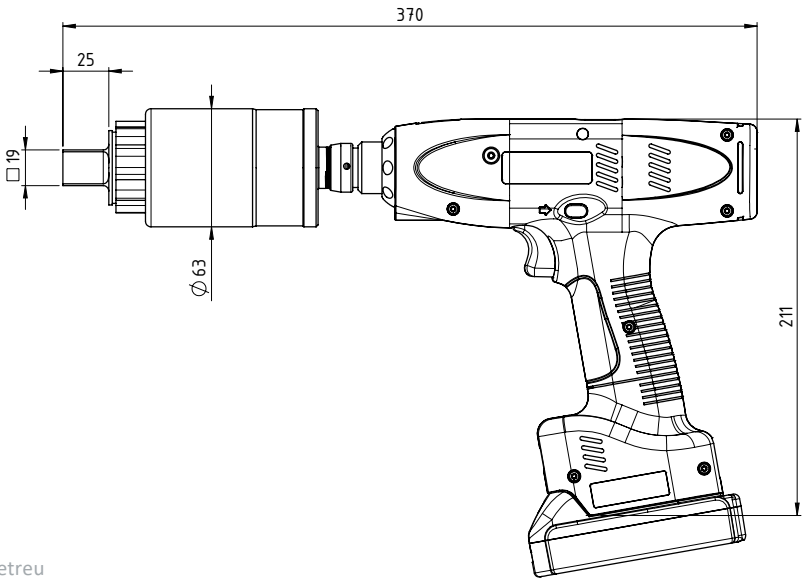
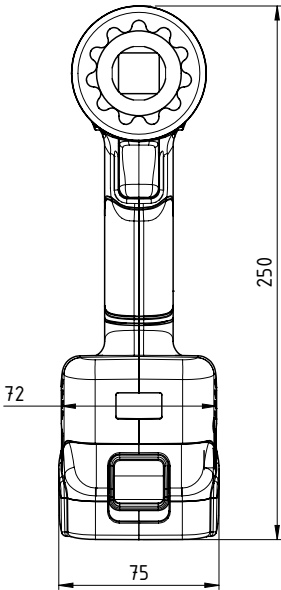
Specifications in mm
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TBPECO-525
TBPEC-525



Specifications in mm
Not shown to scale

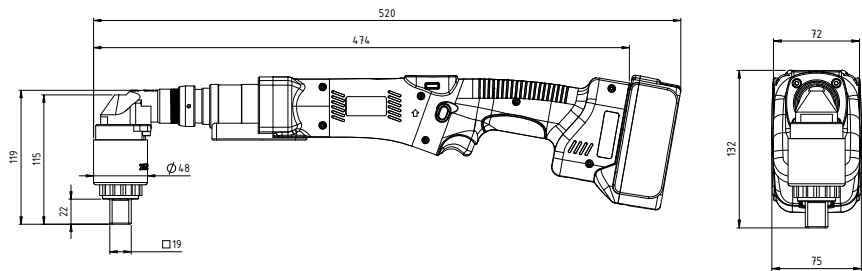
TBPECO-645-1250
TBPEC-645-1250



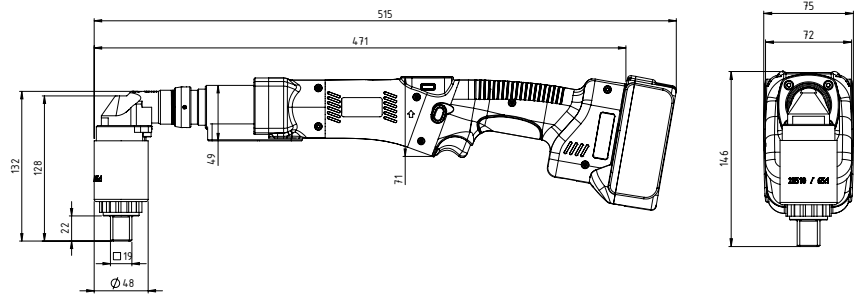
Angaben in mm
Nicht maßstabsgetreu

HT-ECO-Series

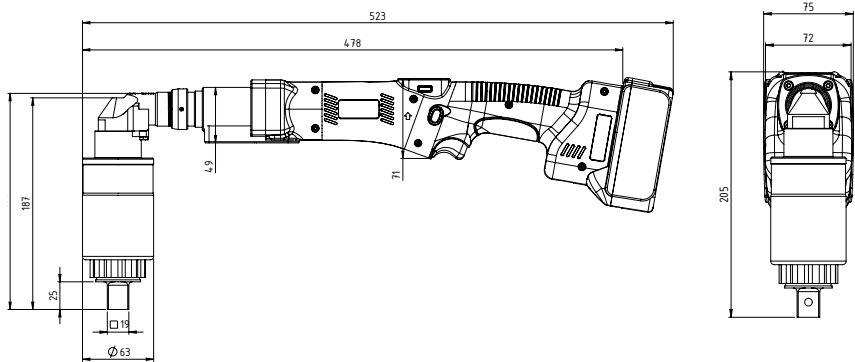
TBAECO-190



TBAECO-380-675

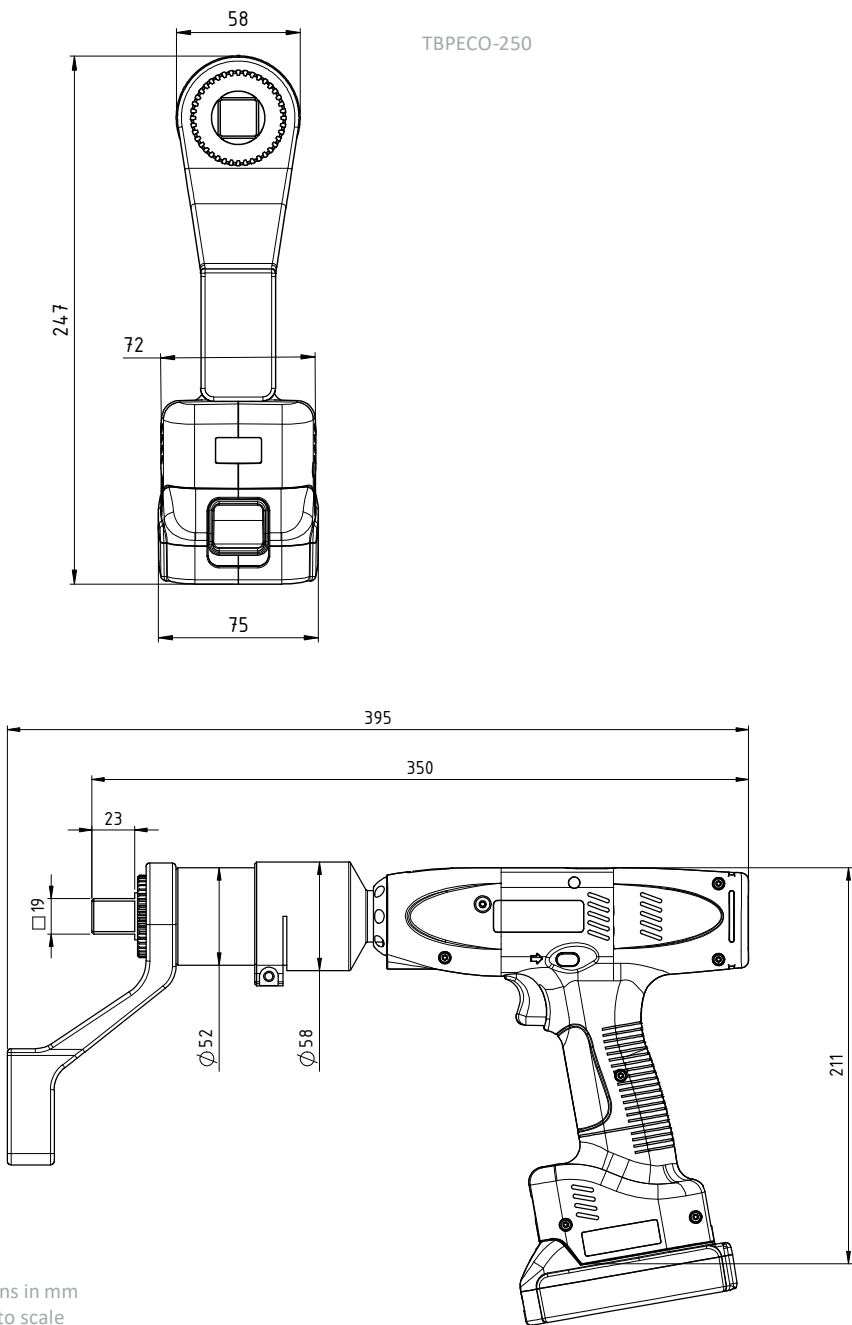


TBAECO-830-1250



Specifications in mm
Not shown to scale

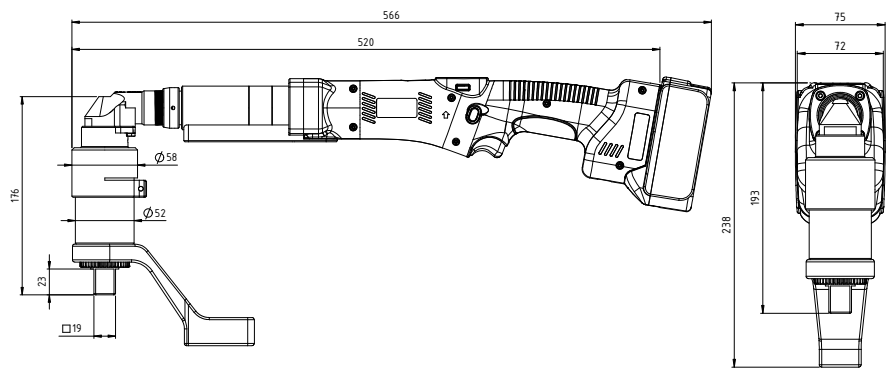
TBPECO-250



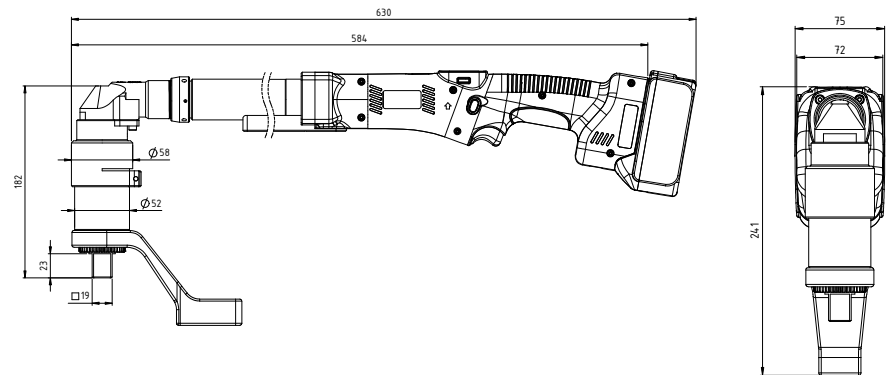
Specifications in mm
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HT-ECO-Series

TBAECO-500



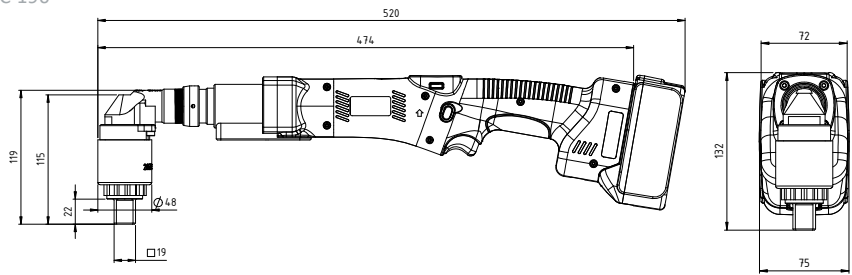
TBAECO-1000



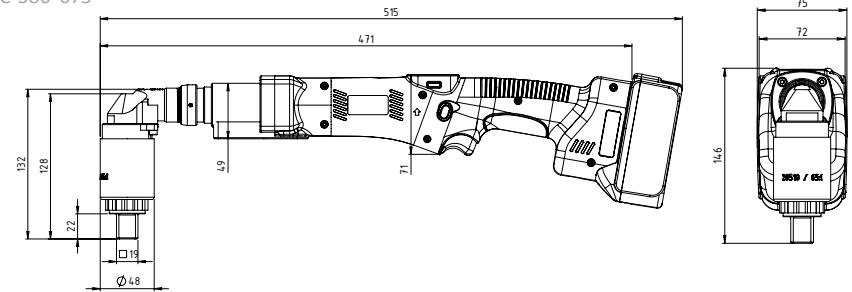
Specifications in mm
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HT-EC-Series

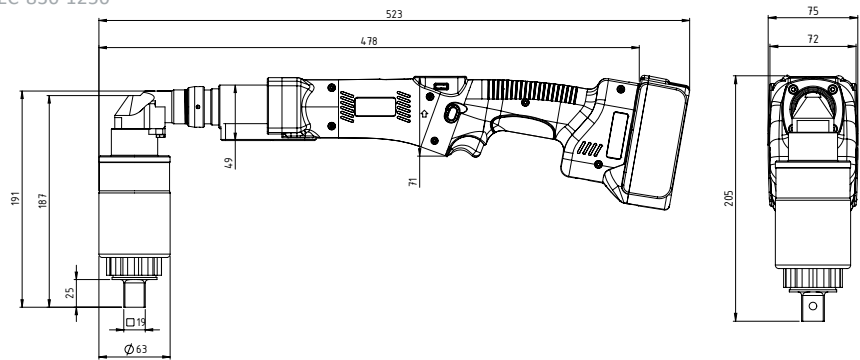
TBAEC-190



TBAEC-380-675

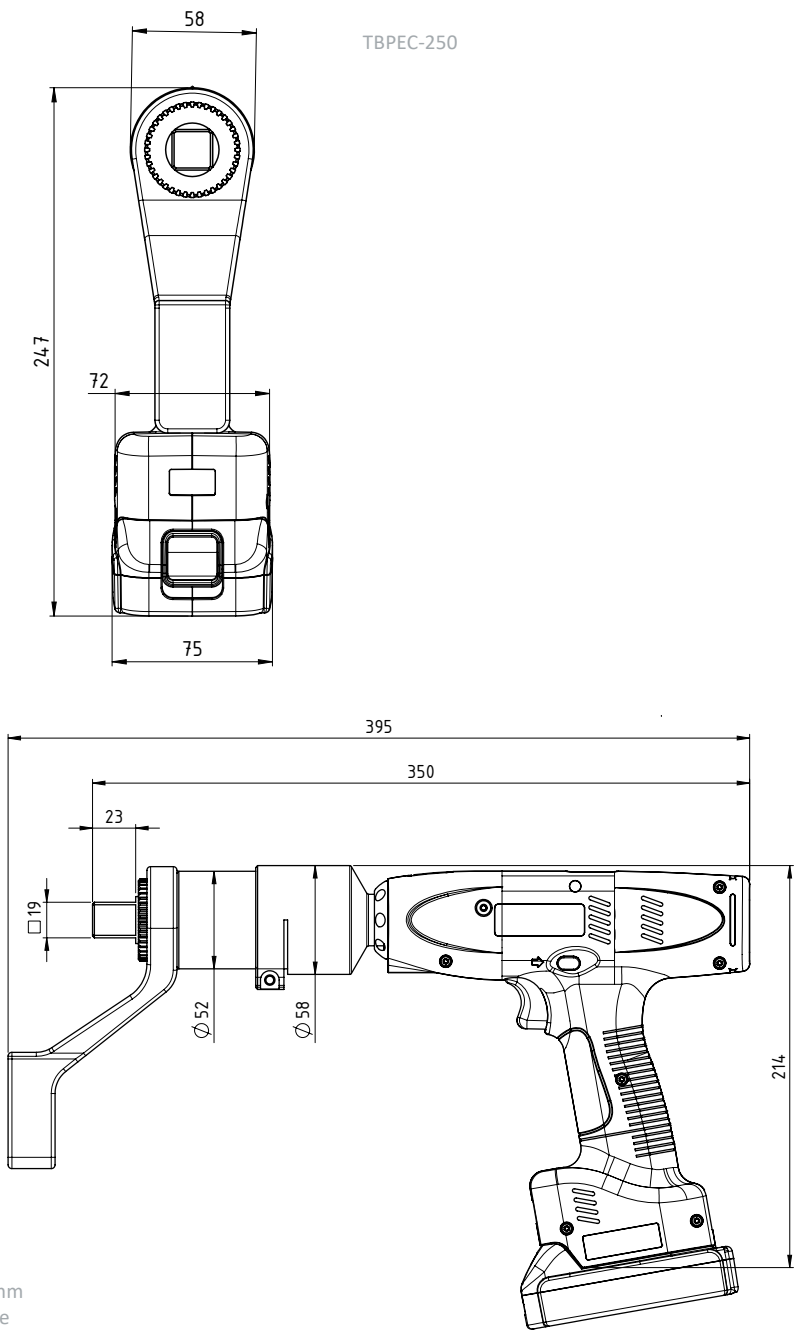


TBAEC-830-1250



Specifications in mm
Not shown to scale

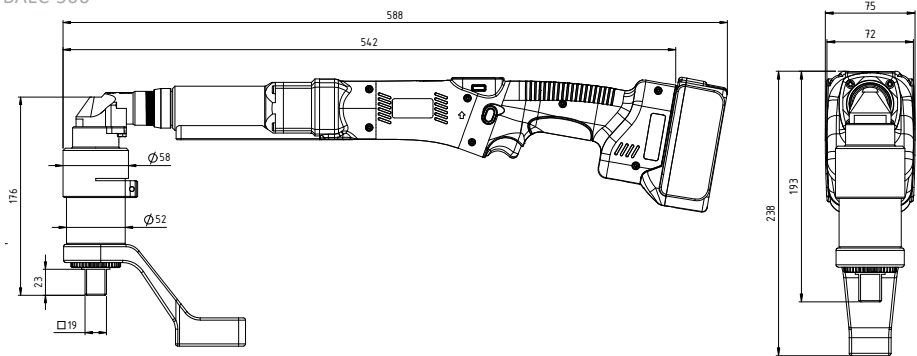
TBPEC-250



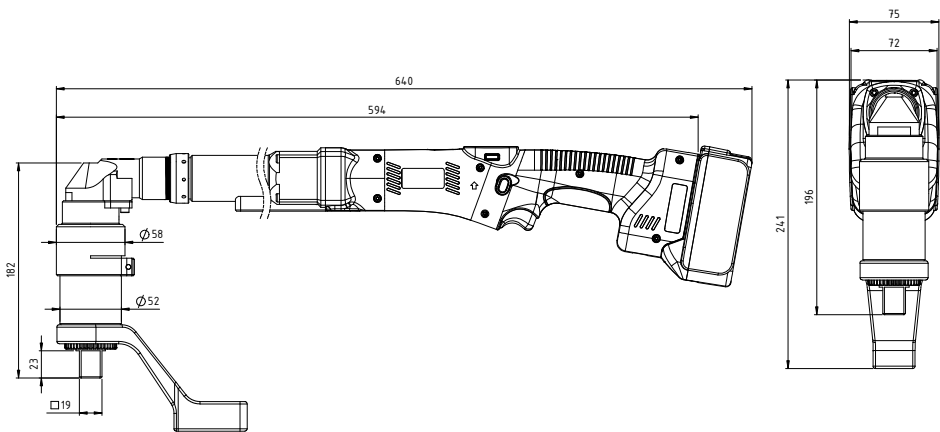
Specifications in mm
Not shown to scale

HT-EC-Series

TBAEC-500



TBAEC-1000



Specifications in mm
Not shown to scale

9 Troubleshooting and Fault repair

The TorqBee® by HS-Technik is a very stable and long-lasting tool.

Please contact HS-Technik GmbH if unknown errors occur.

Repairs:

Telephone: +49 (0)7628 / 91 11-0

E-mail: repaircenter@hs-technik.com

Programming:

Telephone: +49 (0)7628 / 91 11-0

E-mail: support@hs-technik.com

Please note the following information:

- Serial number of the tool (see battery compartment of the device)
- What error has occurred?
- When did the error first appear?
- What have you done to fix the error?

We reserve the right to make errors, technical changes to our products and changes to the delivery program in the course of further development.

CE Declaration of conformity

We, the manufacturer, hereby declare that the named tool complies with the essential protection requirements of the listed EU directives regarding design and construction type.

The prerequisite for this is the intended use of the tool as well as compliance with the installation and commissioning instructions.

If the product or its accessories are modified without our consent, this declaration becomes invalid.

Tool description: Battery shut-off tool

Type designation: TBPECO-y TBAECO-y
TBPEC-y TBAEC-y

Manufacturer: HS-Technik GmbH
Im Martelacker 12
D-79588 Efringen-Kirchen

Directives: 2006/42/EU
2014/30/EU
2014/53/EU

Applied standards: EN 62841-1:2015+AC:2015, EN 62841-2-2:2014
EN 61000-6-3:2007+A1:2011+AC:2012, EN 61000-6-2:2005+ AC:2005
EN 55014-1:2006+A1:2009+A2:2011, EN 55014-2:1997+AC:1997+A1:2001+A2:2008
EN 60950-1:2006+A11:2009+A1:2010+A12:2011+AC:2011+ A2:2013, EN 62311:2008
EN 301 489-1 V1.9.2, EN 301 489-3 V1.6.1, EN 301 489-17 V2.2.1
EN 300 328 V1.9.1, EN 301 893 V1.8.1, EN 300 440-2 V1.4.1

HS-Technik GmbH
Im Martelacker 12, D-79588 Efringen-Kirchen

February 2021



Florian Hanke
CEO

HS-Technik GmbH
High - System - Technik

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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HS-Technik GmbH
High - System - Technik

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The technical data in this printed material provide guidance, but are without guarantee!
We reserve the right to make structural changes. Our construction suggestions are not binding!

07092021