

- Thank you for purchasing the TOPCON WT-100 Wireless terminal.
- Please read this operator's manual carefully before using this product.
- The specifications and general appearance of the instrument, and the content of this manual are subject to change without notice.
- Some of the diagrams shown in this manual may be simplified for easier understanding.

PRECAUTIONS FOR SAFE OPERATION

For the safe use of the product and prevention of injury to operators and other persons as well as prevention of property damage, items which should be observed are indicated by an exclamation point within a triangle used with WARNING and CAUTION statements in this instruction manual.

The definitions of the indications are listed below. Be sure you understand them before reading the manual's main text.

Definition of Indication

	WARNING	Ignoring this indication and making an operation error could possibly result in death or serious injury to the operator.
	CAUTION	Ignoring this indication and making an operation error could possibly result in minor injury or property damage.

Definition of Indication

	This symbol indicates items for which caution (hazard warnings inclusive) is urged. Specific details are printed in or near the symbol.
	This symbol indicates items which are prohibited. Specific details are printed in or near the symbol.
	This symbol indicates items which must always be performed. Specific details are printed in or near the symbol.

PRECAUTIONS

General

WARNING

- Do not use the unit in areas exposed to high amounts of dust or ash, in areas where there is inadequate ventilation, or near combustible materials. An explosion could occur.
- Do not perform disassembly or rebuilding. Fire, electric shock, or burns could result.

Power Supply

WARNING

- Do not short circuit. Heat or ignition could result.
- Do not place articles such as clothing on the battery charger while charging batteries. Sparks could be induced, leading to fire.
- Do not use voltage other than the specified power supply voltage. Fire or electrical shock could result.
- Do not use batteries other than those designated. An explosion could occur, or abnormal heat generated, leading to fire.
- Do not use damaged power cords, plugs or loose outlets. Fire or electric shock could result.
- Use only the specified battery charger to recharge batteries. Other chargers may be of different voltage rating or polarity, causing sparking which could lead to fire or burns.
- Do not use the battery or charger for any other equipment or purpose. Fire or burns caused by ignition could result.
- Do not heat or throw batteries into fire. An explosion could occur, resulting in injury.

- To prevent shorting of the battery in storage, apply insulating tape or equivalent to the terminals. Otherwise shorting could occur, resulting in fire or burns.
- Do not use batteries or the battery charger if wet. Resultant shorting could lead to fire or burns.
- Do not connect or disconnect power supply plugs with wet hands. Electric shock could result.

CAUTION

- Do not touch liquid leaking from batteries. Harmful chemicals could cause burns or blisters.

Wireless technology

WARNING

- Do not use within the vicinity of hospitals. Malfunction of medical equipment could result.
- Use the instrument at a distance of at least 22 cm from anyone with a cardiac pacemaker. Otherwise, the pacemaker may be adversely affected by the electromagnetic waves produced and cease to operate as normal.
- Do not use onboard aircraft. The aircraft instrumentation may malfunction as a result.
- Do not use within the vicinity of automatic doors, fire alarms and other devices with automatic controls as the electromagnetic waves produced may adversely affect operation resulting in an accident.

Precautions

- Confirm battery remaining level before operating.
- Do not leave the instrument under strong sunlight for a long time. It may cause the instrument to malfunction.
- When transporting the instrument, provide some protection to minimize the risk of shocks. Heavy shocks may cause the measurement to be faulty.
- The instrument can not be submerged underwater. WT-100 is designed based on the International Standard IP54, therefore it is protected from the normal rainfall.
- Remove the battery from the instrument when you would not use it for long period. If this instrument with the battery set in it is stored, the electrolyte may leak to cause a trouble.
- Always clean the instrument after use. If the instrument becomes wet from rain, dry moisture. To clean the instrument, dust off well and then wipe clean with a soft cloth.
- To remove the dust on the surface of the parts made by plastic, never use thinner or benzene. Use a clean cloth moistened with neutral detergent.
- This product is for professional use only!
The user is required to be a qualified surveyor or have a good knowledge of surveying, in order to understand the user and safety instructions, before operating, inspecting or adjusting.
- Wear the required protectors (safety shoes, helmet, etc.) when operating.

EXCEPTIONS FROM RESPONSIBILITY

- The user of this product is expected to follow all operating instructions and make periodic checks (hardware only) of the product's performance.
- The manufacturer, or its representatives, assumes no responsibility for results of faulty or intentional usage or misuse including any direct, indirect, consequential damage, or loss of profits.
- The manufacturer, or its representatives, assumes no responsibility for consequential damage, or loss of profits due to any natural disaster, (earthquake, storms, floods etc.), fire, accident, or an act of a third party and/or usage under unusual conditions.
- The manufacturer, or its representatives, assumes no responsibility for any damage (change of data, loss of data, loss of profits, an interruption of business etc.) caused by use of the product or an unusable product.
- The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage different to that explained in the operator's manual.
- The manufacturer, or its representatives, assumes no responsibility for damage caused by incorrect operation, or action resulting from connecting to other products.

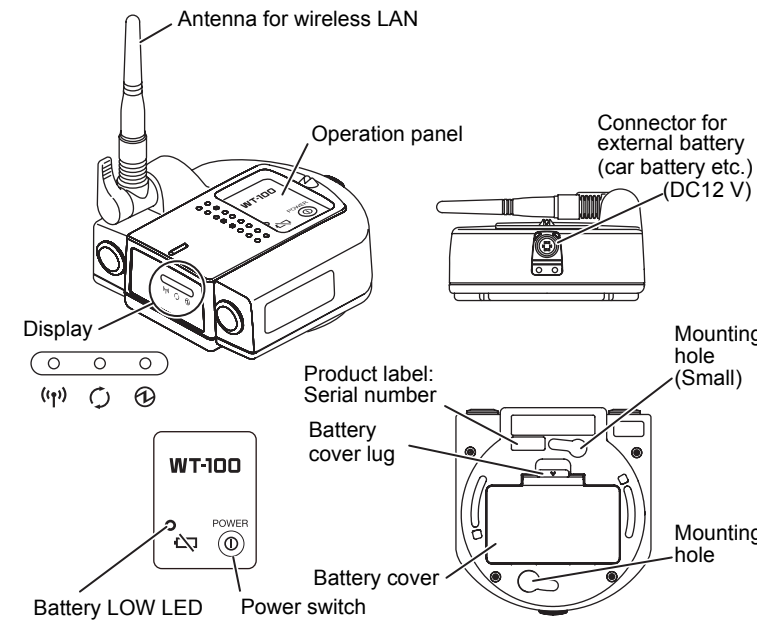
STANDARD PACKAGE COMPONENTS

- Wireless terminal WT-100 1 unit
- Battery BT-66Q 1 pc.
- Instruction manual 1 sheet

OPTIONAL ACCESSORIES

- Battery Charger BC-30D, AC/DC Converter AD-14, AC cable
- Tilt holder model-4
- Cable for connection to an external battery

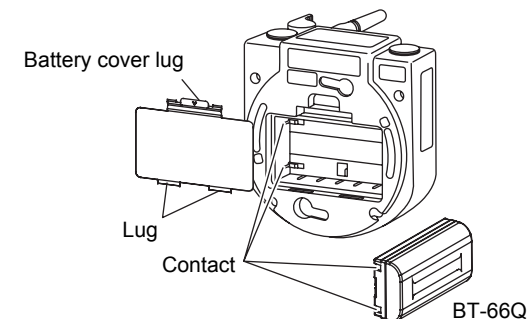
NOMENCLATURE AND FUNCTIONS



Name	LED	Function or status
Power switch		Turns ON/OFF the power.
Battery Low LED	ON solid	The battery power is low. Replace it with the full-charged battery.
Wireless LED	ON solid	The wireless LAN function is valid.
	Flash	Data are being sent/received.
	OFF	The wireless LAN is not valid.
System LED	ON solid	This instrument (WT-100) is operating normally.
	Flash	Flashes when the system executes any processing.
	OFF	This instrument does not operate normally.
Power LED	ON solid	The power is ON.
	OFF	The power is OFF.

INSTALLING AND REPLACING THE BATTERY

1. Push down the battery cover lug to remove the battery cover.
2. As illustrated, load the battery BT-66Q along the contact's direction.
3. Fit the lugs of the battery cover to the holes first. Then, push the battery cover lug until the cover is locked.



Note:

- Attach a ferrite clamp filter (ZCAT2035-0930 or equivalent) to the power cable when using an external battery. Always wind the cable through the clamp filter in a single loop. Do not remove the ferrite clamp filter from the cable. Removal of the ferrite clamp filter may cause harmful interference and will void the user's authority to operate this equipment.

BASIC OPERATION

1. Turn on the power.
Press the power switch.
Power LED lights. Make sure Wireless LED, System LED and Power LED light up on the front surface.

Note:

- When the LED does not light or flash, check if the battery is securely inserted.

2. Wireless LAN connection

■Connecting to Imaging Station IS series

- Refer to the description about setup of wireless LAN in the IS series instruction manual.

■Connecting to Data Collector FC-250

- Refer to the description about use of wireless LAN in the FC-250 instruction manual.

Note:

The factory default setting of WT-100 is shown below.

- SSID1: WT-100-W6●●●●●
- Encryption key: Not used.
- Encryption scheme: Not used.
- Wireless channel: Auto
- * "W6 ●●●●●" is the same as the serial number on the bottom of the instrument.

Sometimes an error message indicating the communication error with DHCP server is displayed on the product connected to WT-100. In this case, network connection with WT-100 is normal.

INITIALIZATION

In the following cases, it is necessary to initialize WT-100.

- Can't connect even after checking how to connect or the setting of the product (IS series, FC-250, etc.) that should be connected to WT-100.
- When you change IP address of this instrument and forget the IP address.
- When you want to change the setting back.

Note:

- All setting contents will be deleted upon initialization. So please write down any necessary information beforehand.

- When you want to carry out initialization, contact the Topcon head office or your local Topcon dealer.

SPECIFICATIONS

Wireless function

Communication range:

Approx. 300m (This is applied when IS2 is used. This can be changed depending on any obstacle between the communicating instruments or ambient conditions.)

Support format:

IEEE802.11g, IEEE802.11b

Channel:

11 (1 - 11ch)

Band:

2.4GHz (2412 - 2462MHz)

Network speed:

IEEE802.11g: 54Mbps (Max.)
IEEE802.11b: 11Mbps (Max.)

Transfer mode:

IEEE802.11g: Orthogonal Frequency Division Multiplexing (OFDM)
IEEE802.11b: Direct sequence spread spectrum (DSSS)

Access mode:

Infrastructure mode

Security:

WEP (64/128bit)
WPA-PSK (TKIP/AES)
WPA2-PSK (TKIP/AES)
Hidden SSID (Enable/Disable)

Software function

LAN setup mode:

Fixed IP address (Manual setting)
DHCP server (Enable/Disable)

Routing function:

Dynamic routing, Static routing

Others

Operating temperature range:
-20°C - +50°C

Storing temperature range:
-30°C - +60°C

Weight:
0.4kg (Including BT-66Q)

Size:
126mm (L) x 123mm (W) x 67mm (H) (When antenna is folded)

Protecting against water and dust:
IP54 (Based on the standard IEC60529)

Battery BT-66Q (Li-ion)

Output voltage:
7.4V

Capacity:
2500mAh




Operating time (+20°C):
Approx. 8 hours or more

- The operating time of the battery is changed according to the ambient temperature and the operating status of the instrument.

Region/ Country	Directives/ Regulations	Labels/Declarations
		<p>Means of conformity This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: - Reorient or relocate the receiving antenna. - Increase the separation between the equipment and receiver. - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. - Consult the dealer or an experienced radio/TV technician for help.</p>
U.S.A.	FCC	<p>This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. To comply with RF exposure requirements for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.</p> <p>WARNING: Change or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Specified cables must be used for connection to external power supply in order to meet FCC emission limits.</p> <p>Model Number: WT-100 Trade Name: TOPCON CORPORATION</p> <p>Manufacturer Name: TOPCON CORPORATION Address: 75-1, Hasunuma-cho, Itabashi-ku, Tokyo, 174-8580 JAPAN Country: JAPAN</p> <p>U.S.A. Representative Responsible party: TOPCON POSITIONING SYSTEMS,INC. Address: 7400 National Drive Livermore, CA94551, U.S.A Telephone number: 925-245-8300</p>
California, U.S.A.	Proposition65	<p>WARNING : Handling the cord on this product or cords associated with accessories sold with this product, will expose you to lead, a chemical known to the State of California to cause birth defects or other reproductive harm. <i>Wash hands after handling.</i></p>
California, U.S.A.	Perchlorate Material (CR Lithium Battery)	<p>This product contains a CR Lithium Battery which contains Perchlorate Material-special handling may apply. See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/ Note : This is applicable to California, U.S.A. only</p>

Region/ Country	Directives/ Regulations	Labels/Declarations
California and NY, U.S.A.	Recycling Batteries	<p><u>DON'T THROW AWAY RECHARGEABLE BATTERIES, RECYCLE THEM.</u></p> <p><u>Topcon Positioning Systems Inc., United States Return Process for Used/Rechargeable Nickel Metal Hydride, Nickel Cadmium, Small Sealed Lead Acid, and Lithium Ion, Batteries</u></p> <p>In the United States Topcon Positioning Systems Inc., has established a process by which Topcon customers may return used rechargeable Nickel Metal Hydride(Ni-MH), Nickel Cadmium(Ni-Cd), Small Sealed Lead Acid(Pb), and Lithium Ion(Li-ion) batteries to Topcon for proper recycling and disposal. Only Topcon batteries will be accepted in this process.</p> <p>Proper shipping requires that batteries or battery packs must be intact and show no signs of leaking. The metal terminals on the individual batteries must be covered with tape to prevent short circuiting and heat buildup or batteries can be placed in individual plastic bag. Battery packs should not be disassembled prior to return.</p> <p>Topcon customers are responsible for complying with all federal, state, and local regulations pertaining to packing, labeling, and shipping of batteries. Packages must include a completed return address, be prepaid by the shipper, and travel by surface mode. <u>Under no circumstance should used/recyclable batteries be shipped by air.</u></p> <p>Failure to comply with the above requirements will result in the rejection of the package at the shipper's expense.</p> <p>Please remit packages to: Topcon Positioning Systems, Inc. C/O Battery Return Dept. 150 7400 National Dr. Livermore, CA 94551</p> <p><u>DON'T THROW AWAY RECHARGEABLE BATTERIES, RECYCLE THEM.</u></p>
Canada	RSS	<p>This Class B digital apparatus meets all requirements of Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.</p> <p>This class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.</p> <p>This device complies with Industry Canada license-exempt RSS Standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device.</p> <p>Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.</p> <p>Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.</p> <p>Conformément a la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.</p> <p>To comply with RF exposure requirements for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating in conjunction with any other antenna or transmitter.</p> <p>Une distance minimale de 20 cm entre l'antenne et toute personne doit être maintenue pour respecter les exigences à l'égard de l'expositions humaine aux radiofréquences. Ce dispositif ne doit pas être utilisé a proximité d'une autre antenne ou d'un autre émetteur.</p>

REGULATIONS

Region/ Country	Directives/ Regulations	Labels/Declarations
EU	EMC-Class B	 <p>EMC NOTICE In industrial locations or in proximity to industrial power installations, this instrument might be affected by electromagnetic noise. Under such conditions, please test the instrument performance before use.</p>
EU	R&TTE: Class 2	<p>R&TTE Directive</p> <p>WIRELESS TERMINAL WT-100 Hereby, TOPCON CORP., declares that the above-mentioned equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This equipment may be operated in CS, DA, DE, ET, EN, ES, EL, FR, IT, LV, LT, NL, MT, HU, PL, PT, SL, SK, FI, SV, IS, NO.</p> <p>France: Outdoor use limited to 10mW e.i.r.p. within the band 2454-2483.5MHz.</p> <p>Please inquire below if you wish to receive a copy of Topcon's Declaration of Conformity.</p> <p>Topcon Europe Positioning B.V. Essebaan 11, 2908 LJ Capelle a/d IJssel, The Netherlands Tel:+31-10-4585077 Fax:+31-10-2844949 http://www.topcon-positioning.eu/index.asp</p>
EU	WEEE Directive	 <p>WEEE Directive This symbol is applicable to EU members states only.</p> <p>Following information is only for EU-member states: The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about the take-back and recycling of this product, please contact your supplier where you purchased the product or consult.</p> <p style="text-align: right;">TOPCON CORPORATION</p>
EU	EU Battery Directive	 <p>EU Battery Directive This symbol is applicable to EU members states only.</p> <p>Battery users must not dispose of batteries as unsorted general waste, but treat properly.</p>

TOPCON CORPORATION

75-1 Hasunuma-cho, Itabashi-ku, Tokyo 174-8580, Japan <http://www.topcon.co.jp>

Please see the attached address list or the following website for contact addresses.

GLOBAL GATEWAY <http://global.topcon.com/>

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