



Handheld Mobile Computer
BT-W300/W200 Series



Instant Reading for Near and Far Codes
High-Speed Autofocus Handheld Mobile Computer

BT-W300/W200 Series

Impressive Reading Ability for Significant Improvements in Daily Work Efficiency

The drastically improved reading performance is provided by an autofocus function and a triple-core CPU in addition to a high-performance decoding algorithm.

Reading depth

Instant Reading for Near and Far Codes

Handheld Mobile Computer
BT-W300/W200 Series

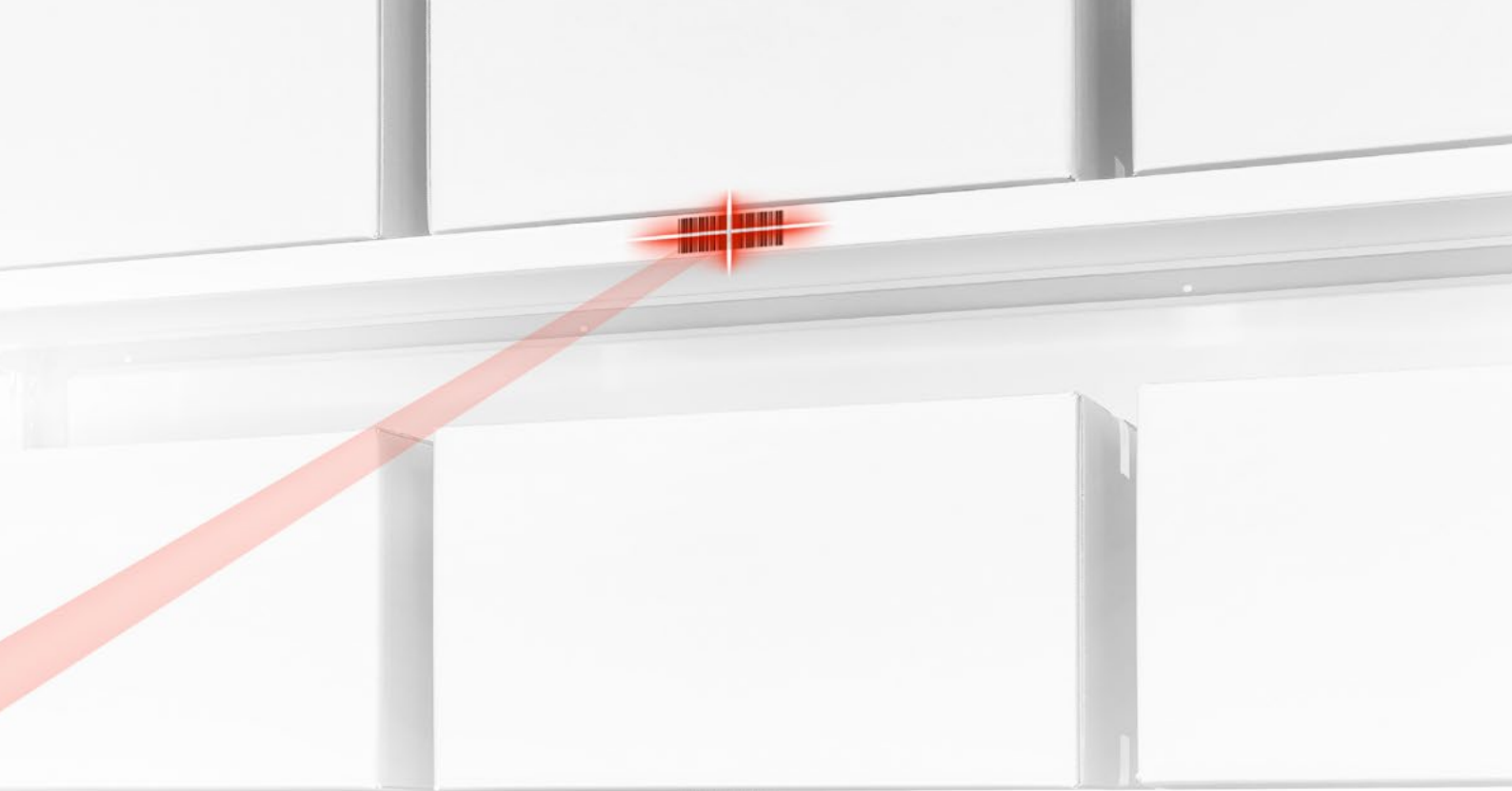
Max. reading distance

2300 mm*

Min. reading distance

25 mm*





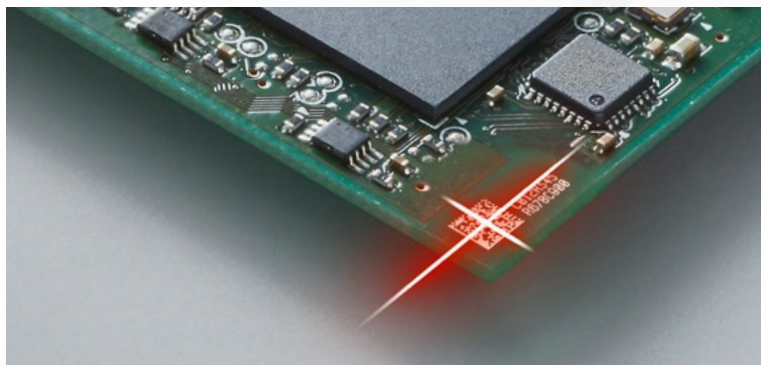
Reading speed

Instant reading simply by holding over a code



Reading resolution

Easy reading of extremely minute codes



*Reading distances as short as 25 mm for barcodes with a narrow bar width of 0.25 mm, or as long as 2300 mm for barcodes with a narrow bar width of 1.0 mm, are possible.

High-Speed Autofocusing for Improved Efficiency with Various Reading Operations



Before —
Reading from uncomfortable positions



After —
Easy reading from any position

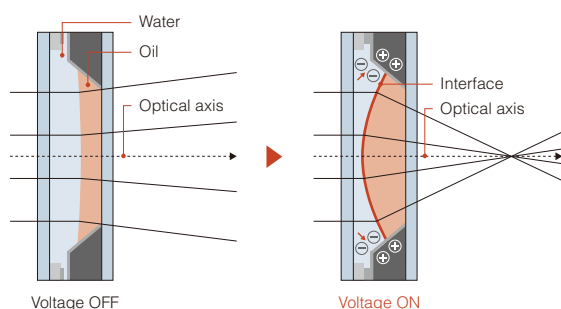


High-Speed Autofocus Function [CAMERA TYPE]

Instantly read codes whether they are near or far away.

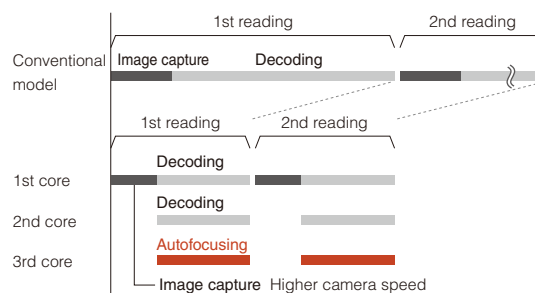
Liquid Lens

When voltage is applied to the electrodes on the liquid lens, the interface between the water and the oil changes. Changing the refraction makes it possible to adjust focus instantly.



Triple-Core CPU

Decoding is performed simultaneously by two cores, allowing for twice the reading speed compared with a conventional model. Meanwhile, autofocus is performed in parallel with the third core, eliminating focus adjustment times for reading.

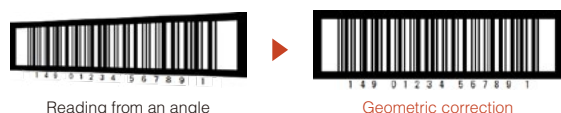


Instant Reading of Any Challenging Codes [CAMERA TYPE]

Reading is easy even at an angle or for dirty/scratched codes, resulting in fewer interruptions.

Geometric Correction Technology

Distorted codes, such as those on cylinders and other round surfaces, or those read from an angle, are corrected using the geometric correction technology.

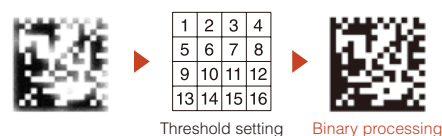


Decoding



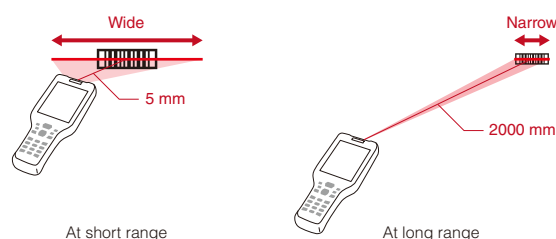
Contrast Algorithm for Local Concentration (CALC)

Our algorithm divides a code in to small pieces to perform binary processing using thresholds specified for each division. This enables accurate black/white classification without being affected by uneven print density.



Automatic Reading Distance Adjustment Mode [LASER TYPE]

With this mode, the laser width is automatically adjusted according to the distance from the barcode. At long range, the laser becomes narrower, while at short range, the laser becomes wider. This provides for a wide reading range.



Instant Reading of Non-Barcode Dates and Text

Date

OK

06/24/2020

06/2



Product number

OK

A1234B05

Product number

67890-00010-C1

989876-00001-



665

CD67/E/F89-00
G123 456-789

12

Transport Route
A Japan

Shipment source

Factory

1414
1-00000



Instant Reading of Any Text

Our OCR (Optical Character Recognition) technology is capable of reading various characters regardless of the font. This means operations can be improved even if the barcode is not regularly used.

Various Fonts

A B C 1 2 3 *A B C 1 2 3*
A B C 1 2 3 ABC123

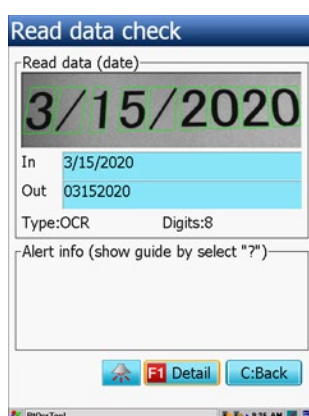
Various Date Formats

2020.3.15 20/3/15
3/15/2020 MARCH/15/2020

OCR Tool for Utilising Recognised Characters

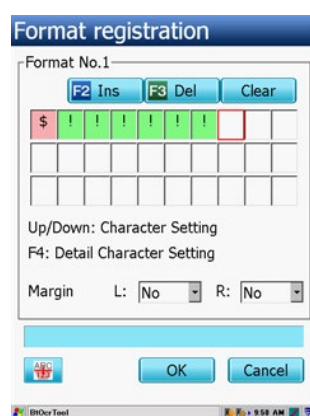
This tool improves not only reading but also operability by preventing reading failures and misreadings.

Date Reading and I/O Function



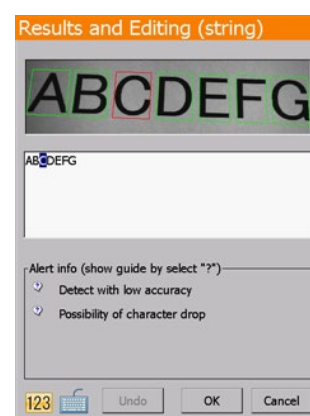
- Configure date output patterns
- Work with international date formats
- Specify date recognition ranges

Format Registration Function



- Register up to 50 formats
- Register specific character types
- Register a format just by reading a character string

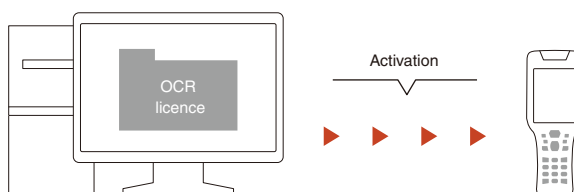
Alert Function



- Show characters in a red outline when an identification level is low
- Modify the character string manually
- Display the reasons of an alert

OCR Licence to Meet Character Recognition Needs [BT-OCR1]

The OCR licence (BT-OCR1) enables the Character Recognition functions of BT-W350/W250 devices. This feature can also be added as needed following the purchase of a main unit.



Resistance to Strong Impacts and Damage from Daily Use

Accumulated impact resistance

20000 impacts

* Impacts from 30 cm



Drop resistance

3.0 m

* Up to 4.0 m with a protector

Block-floating Structure

The impact-resistant structure can reduce both damages caused by drops and accumulated by long-term use, resulting in a reduced frequency of failure.



Key components such as the display, scanner, and main PCB are incorporated in a block structure with the chassis and the cushioning material. In addition, the block is not firmly fixed, reducing the energy of impacts being transmitted to the components.

Five-layer Structure for Increased Protection

The LCD screen is often subjected to shock and stressed by touch operation in daily use. The five-layer structure provides thorough protection against frequent failures associated with the LCD components.

- 1 Front mask**
Made of shock-resistant polycarbonate material.
The guard around the screen provides protection against direct impacts.
- 2 Front sheet**
Made with a double-sided hard film coating.
The front sheet protects the touch panel from impacts and scratches.
- 3 Touch panel film**
Made of highly scratch- and break-resistant film.
This highly resistant film helps prevent connection failures.
- 4 Touch panel glass**
Made of tempered glass with excellent impact resistance and high rigidity.
The touch panel glass protects the actual touch panel and the LCD.
- 5 Spacer**
Made from a polycarbonate sheet.
The space between the touch panel and the LCD prevents impacts.



Battery Degradation Control for Longer Use and Reduced Battery Replacement



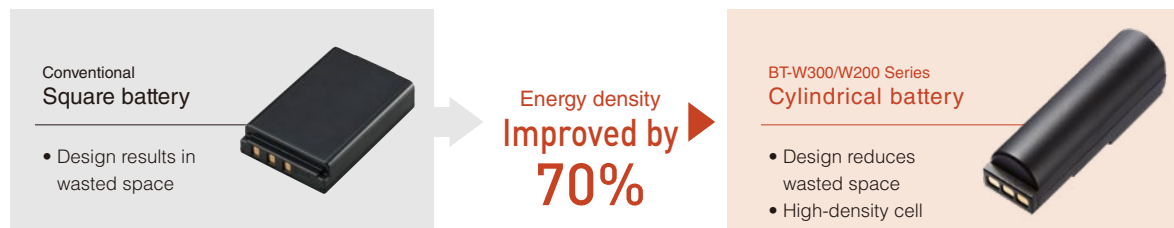
High-Capacity Battery for 32 Hours with Triple-Core CPU

The battery allows for long-term operation for worry-free use throughout the day, eliminating the need to fret about having to change the battery.

Battery Life Comparison







Advantages of Cylindrical Battery



Battery Degradation Control Algorithm for Extended Battery Life

The battery degradation control algorithm improves the battery life drastically, resulting in less-frequent battery replacement.

Factors of Battery Degradation and Degradation Control Algorithm Countermeasures

Battery Status		Factors of Degradation	Battery degradation control algorithm
Full charge		A full charge is maintained for an extended period	Stopping charging at 90% (before a full charge)
Quick charging		Charging is performed quickly	Slow charging
Deep discharging		The battery is used to 0% and left for a long time	Power-off before complete discharge
Frequent charging		The battery is charged at a high frequency	Charge starts when the threshold is reached

Ergonomic Design for Excellent Operability

Integrated body and battery design for round shape

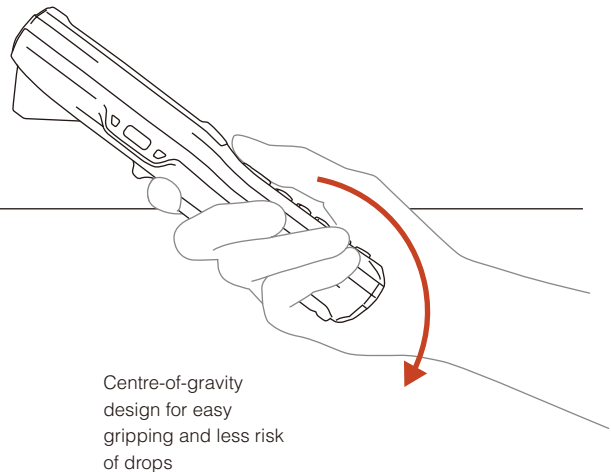


Notch where fingers naturally rest for improved grip



Optimised Centre-Of-Gravity Design for Minimised Strain and Easier Operability

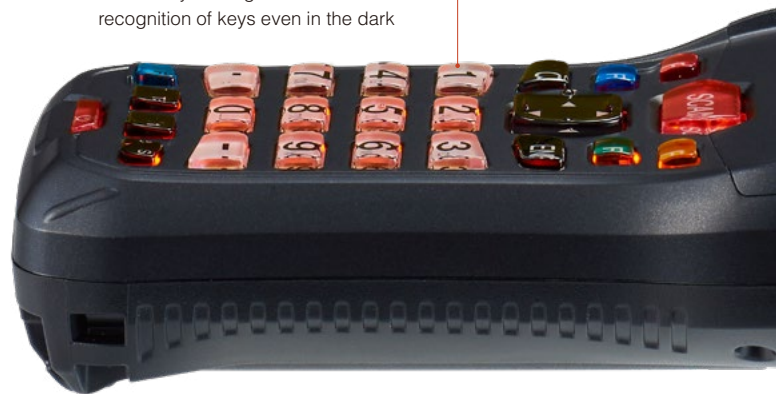
The centre-of-gravity design directs the weight of the device naturally into your hand. This helps to reduce the burden on workers by creating a more lightweight sensation and reducing the risk of drops.



Comfortable One-Handed Design with High-Operability Key Layout

All keys are placed within the thumb's reach for simple one-handed operation. Hard keys have been organised and spaced to ensure operability even while wearing protection gloves.

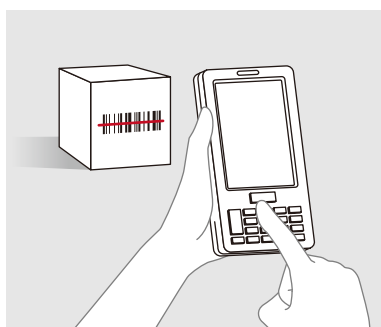
The built-in key backlight ensures visual recognition of keys even in the dark



All the Information of a Large-Screen PDA in a One-Handed Grip

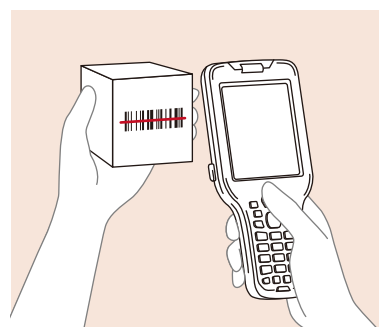
The optimal centre-of-gravity design and arrangement of keys result in outstanding one-handed operability with the large screen. The other hand is free for other tasks, resulting in dramatically increased work efficiency.

Conventional



Large-screen devices require both hands for operation

BT-W300/W350



One-handed operation is possible even with a large screen

Remote Management of Devices for Instant Support



Warehouse



Warehouse



Store



Factory



Store



- Remote management

2000
devices

Management office





Device Monitor Function

Device status information can be collected from each remote site to monitor operating conditions centrally. Their actual status can clearly be checked at the head office.

Remote Control Function

Devices can be controlled from a remote location with transferring files as needed. From this, it is possible to support and troubleshoot a device independent of its location.

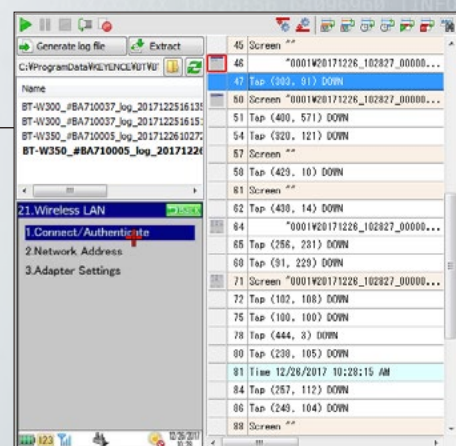
Log Collection for Failure Analysis

In addition to basic communication logs and operation logs, operation history and screen captures can be collected. This leads to prompt determination of failure causes and significantly reduced response man hours.

Main Logs

System log/Communication packet log/Application log/Accumulated log/Operation log

Operation log



Operation screens, touch positions and key presses are automatically recorded.

Dedicated to adding value for our customers

Direct Approach

Our technically trained sales engineers have extensive product knowledge along with application and industry experience. Customers can expect on-site support to quickly solve applications saving invaluable time.

KEYENCE Direct Sales System



Conventional Sales Style



Fast Delivery

KEYENCE has established a fast delivery system to deliver required products on demand. Products are shipped from warehouse centres in Singapore, Malaysia, India, Thailand, China, Taiwan, South Korea, U.S., Mexico, Canada, Brazil, the U.K., Germany, France, Belgium, Italy and Japan as well as many other locations worldwide.



Comprehensive Support

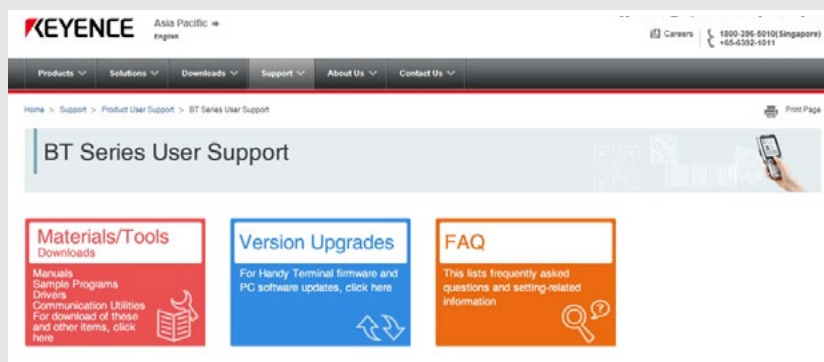
KEYENCE supports customers with extensive on-site manufacturing and automation knowledge. This includes comprehensive support from model selection to line operation with on-site operating instructions and precautions after product adoption.



Access a rich collection of easy start-up guides, manuals, sample projects, and more. Visit KEYENCE's special website for information useful to customers.

Visit us at the following website for more information.

www.keyence.com.sg/btus



Applicable to all sites, from distribution to logistics and to manufacturing



Receiving inspection/acceptance process



Order placement



Inventory management/clearance



Price check



Location management



Gas cylinder delivery/container management



Process management/results



Malpractice check/vital sign entry



Verify correct tip reel replacement

Device



Model	BT-W300
Type	Laser
Weight	Approx. 259 g

Model	BT-W350
Type	Camera
Weight	Approx. 256 g

Features

- Large, 3.5-inch high-visibility screen
- Excellent one-handed operability



Model	BT-W200
Type	Laser
Weight	Approx. 222 g

Model	BT-W250
Type	Camera
Weight	Approx. 217 g

Features

- Highly durable design with drop resistance up to 3.0 m
- 32 hours of continuous operation

With the OCR licence (BT-OCR1), character recognition functionality can be enabled on BT-W350/W250.

Peripheral Equipment

	Applicable models	Model	Model Name
	Common	BT-B5	Rechargeable Battery Pack
	Common	OP-88266	Hand Strap
	Common	BT-WUC8U (AC adapter and USB cable included)	Communication and Charging Unit, USB Type
	Common	BT-WUC8L (AC adapter included)	Communication and Charging Unit, LAN Type
	Common	BT-WUC81 (AC adapter included)	Standalone Charging Unit
	Common	BT-WUC84 (AC adapter included)	4-in-Line Charging Unit
	Common	BT-WCG14 (AC adapter included)	4-in-Line Charging Unit for Rechargeable Batteries
	Common	OP-99xx2 *	AC cable
	Common	BT-WHD1	Program Development Kit
	Common	BT-WHM1	Built-In Operation Management Software (BT Management Tool)
	BT-W350/250	BT-OCR1	OCR licence

* The AC cable model varies depending on the country. For details, contact a KEYENCE sales representative.

	Applicable models	Model	Model Name
	BT-W300/350	OP-88265	Protector
	BT-W200/250	OP-88264	
	BT-W300/350	OP-88268	Soft case
	BT-W200/250	OP-88267	
	Common	OP-88269	Belt Pouch
		OP-87164	Belt for Pouch
	BT-W300/350	OP-88271	Stylus (attachment included)
	BT-W200/250	OP-88270	
	Common	OP-88272	Pack of 5 styluses
	Common	OP-87163	Neck Strap
	Common	OP-87745 (1 strap is included with the terminal)	Wrist Strap (M) , 5-strap Set

Specifications

Model			BT-W300G/W300GM/W300GI		BT-W350G/W350GM/W350GI		BT-W200G/W200GM/W200GI		BT-W250G/W250GM/W250GI						
Type			Laser type		Camera type		Laser type		Camera type						
Controller			CPU		ARM Cortex® Triple Core										
			OS		Microsoft® Windows® Embedded Compact 7										
Main memory			RAM		512 MB (disk area: 32 MB)										
			ROM		512 MB (disk area: 222 MB), flash-ROM										
Display			LCD		Display method		3.5-inch transmissive TFT colour LCD, VA method				2.7-inch transmissive TFT colour LCD, VA method				
					Resolution (number of dots)		480 (W) × 640 (H) (VGA)				240 (W) × 320 (H) (QVGA)				
					Number of display colours		65,536								
					Font		MS P Gothic, MS UI Gothic, MS Gothic, Segoe UI, Courier New, Symbol, Tahoma, Times New Roman, Wingdings * Simsun and Nsimun need to be installed								
					Backlight		High-intensity white LED								
			Operation confirmation LED		3-colour LED (red, green, blue, yellow, cyan, magenta, white)										
Operations			Touch panel		Analogue resistive-film method (reinforced glass specifications)										
			Hard keys		Type		Set of arrow keys × 1 (4 directions), trigger keys × 3 (centre × 1, side × 2), function keys × 8 (F1 key, F2 key, F3 key, F4 key, Fn key, Tab key, character key, SFT key), data input keys × 14 (0 to 9 keys, ENT key, clear key, minus key, symbol key), power key × 1								
					Backlight		LED (orange)								
Scanner ^{*1}			Optical characteristics		Reading light source		Visible semiconductor laser (650 nm), output: 1.0 mW, Class 2 laser product (IEC60825-1)		High-intensity white LED		Visible semiconductor laser (650 nm), output: 1.0 mW, Class 2 laser product (IEC60825-1)		High-intensity white LED		
					Pointer light source		—		Visible semiconductor laser (657 nm), output: 1.0 mW, Class 2 laser product (IEC60825-1)		—		Visible semiconductor laser (657 nm), output: 1.0 mW, Class 2 laser product (IEC60825-1)		
					Scanning rate		100 scans/second		—		100 scans/second		—		
					Minimum resolution		0.127 mm		2D code: 0.127 mm Barcode: 0.076 mm		0.127 mm		2D code: 0.127 mm Barcode: 0.076 mm		
					Reading distance		10 to 1250 mm (narrow bar width: 0.508 mm) 5 to 630 mm (narrow bar width: 0.25 mm)		30 to 840 mm (CODE39 narrow bar width: 0.508 mm) 25 to 450 mm (CODE39 narrow bar width: 0.254 mm) 30 to 480 mm (QR cell size: 0.508 mm) 25 to 280 mm (QR cell size: 0.254 mm)		10 to 1250 mm (narrow bar width: 0.508 mm) 5 to 630 mm (narrow bar width: 0.25 mm)		30 to 840 mm (CODE39 narrow bar width: 0.508 mm) 25 to 450 mm (CODE39 narrow bar width: 0.254 mm) 30 to 480 mm (QR cell size: 0.508 mm) 25 to 280 mm (QR cell size: 0.254 mm)		
							Reading label width/ view range		—		124 × 76 mm (reading distance: 180 mm)		—		124 × 76 mm (reading distance: 180 mm)
			Supported codes		PCS		0.45 or more (Reflectance of white part: 70% or more)		—		0.45 or more (Reflectance of white part: 70% or more)		—		
							JAN/EAN/UPC (add-on code support), CODE128, GS1-128, CODE39, NW-7 (Codabar), CODE93, ITF, 2of5 (Industrial 2of5), COOP 2of5, GS1 DataBar		JAN/EAN/UPC (add-on code support), CODE128, GS1-128, CODE39, NW-7 (Codabar), CODE93, ITF, COOP 2of5, 2of5 (Industrial 2of5), QR, Micro QR, DataMatrix (ECC200), PDF417, GS1 DataBar, Composite		JAN/EAN/UPC (add-on code support), CODE128, GS1-128, CODE39, NW-7 (Codabar), CODE93, ITF, 2of5 (Industrial 2of5), COOP 2of5, GS1 DataBar		JAN/EAN/UPC (add-on code support), CODE128, GS1-128, CODE39, NW-7 (Codabar), CODE93, ITF, COOP 2of5, 2of5 (Industrial 2of5), QR, Micro QR, DataMatrix (ECC200), PDF417, GS1 DataBar, Composite		
			Wireless communication			Wireless LAN		Wireless standards		IEEE802.11a/b/g/n					
								Radio frequency		BT-W300G/W300GM/W350G/W350GM/W200G/W200GM/W250G/W250GM: 2.4 GHz (b,g,n:1 to 13ch), 5.2 GHz, 5.3 GHz(a/n) BT-W300G/W350GI/W200GI/W250GI: 2.4 GHz (b,g,n:1 to 13ch)					
Security methods		Security: WEP (64/128-bit)/WPA/WPA2 WPA encryption method: TKIP/AES Authorisation method: PSK/EAP-TLS/PEAP-MSCHAP-V2													
Bluetooth®		Wireless standards				Bluetooth® V2.1 + EDR									
		Supported profiles				SPP, PAN (PANU), FTP (Client), HSP (AG), HID (Host/Device)									
External recording media			Supported media		microSD or microSD (SDHC)										
			Supported capacity		32 GB max.										
Power supply			Main battery		Type		Dedicated lithium ion battery pack								
					Capacity		3250 mAh								
					Continuous usage time ^{*2}		Charge mode 1		Approx. 19 hours				Approx. 28 hours		
							Charge mode 2		Approx. 22 hours				Approx. 32 hours		
							Charge mode 3		Approx. 19 hours				Approx. 28 hours		
			Charging time		Approx. 8 hours (normal temperature)										
Backup battery			Clock		Built-in lithium secondary battery: approx. 1 month ^{*3}										
			RAM data		Electric double-layer capacitor: approx. 1 minutes ^{*3}										
Others			Buzzer		Scale: 16 levels, Volume: 3 levels										
			Vibration function		Available										
			Calendar/clock		Automatic calendar (year, month, day, hour, minute, second; up to year 2079), accurate within 80 seconds per month (normal temperature)										
Environmental resistance			Enclosure rating		IP64										
			Drop resistance ^{*4}		Onto concrete from 2.0 m (from 3.5 m with protector); Up to 20000 impacts from 30 cm				Onto concrete from 3.0 m (from 4.0 m with protector); Up to 20000 impacts from 30 cm						
			Ambient operating temperature ^{*5}		-20 to +50°C (no freezing)										
			Ambient operating humidity		20 to 85% RH (no condensation)										
			Ambient storage temperature		-20 to +60°C (no freezing)										
EMI			Ambient storage humidity		20 to 85% RH (no condensation)										
Dimensions			193 × 75.2 × 38.5 (30.3) mm (The value in parenthesis is the grip dimension.)				173 × 61.6 × 43 (30.3) mm (The value in parenthesis is the grip dimension.)		173 × 61.6 × 42 (30.3) mm (The value in parenthesis is the grip dimension.)						
Weight			Approx. 259 g (with rechargeable battery pack attached)		Approx. 256 g (with rechargeable battery pack attached)		Approx. 222 g (with rechargeable battery pack attached)		Approx. 217 g (with rechargeable battery pack attached)						
Accessories			Hand strap												

^{*1} Activation of a separate licence is required to enable character recognition. Refer to the manual for character recognition specifications. ^{*2} This is the continuous usage time with the operation confirmation LED and vibration function turned off, with the buzzer turned on (with low volume), with the backlight turned on (with low luminance), at normal temperature, and when barcode reading is performed and round trip wireless communication is made once per 20 seconds. ^{*3} When the main battery is not attached or has no remaining charge. ^{*4} This is a test value. The value is not guaranteed. ^{*5} In a low-temperature environment, the lithium ion battery's continuous usage time decreases. Be sure to check operations before using the product.

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SAFETY INFORMATION

Please read the instruction manual carefully in order to safely operate any KEYENCE product.

GLOBAL NETWORK

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WW1-2090

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