AUTO-ID

Products Catalog

AUTO-ID Products

DENSO
DENSO WAVE



QR Code
30th Anniversary

Invented since 1994

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QR Code 30th Anniversary

Invented since 1994

Getting an extra boost from industry and society,
the QR Code celebrates its 30th anniversary.
DENSO WAVE will continue to work with you to help improve
the efficiency of industry and the convenience of society.

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CREATE YOUR NEW WORKSTYLE

Creating new work methods together

DENSO WAVE's QR Code® is a common everyday sight. Devices and systems that scan QR Code and barcodes using automatic identification technology are branded AUTO-ID products. With needs and applications growing ever more diverse, we encounter QR Code in settings ranging from manufacturing plants and food plants to logistics checkpoints. Applications include procedures at stores and warehouses, hospitals, entertainment, offices, and transportation. AUTO-ID products are also used with other devices to create solutions and systems that improve productivity and safety across a wide range of daily scenarios.



In factories

For verifying components

QR Code eliminate component input errors.



In logistics

For delivery inspections

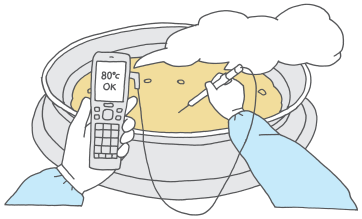
Order data is loaded into a handy terminal and matched against delivered items for reliable delivery confirmation.



In stores

For inventory taking

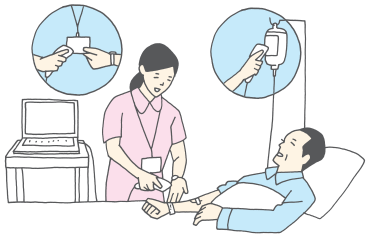
RFID high-output handy terminals can be used to scan all in-store items at once.



Hospital meals

For temperature management

Enables temperature recording via suitable terminals to reduce the work involved in providing meals.



In healthcare

For administering medicines

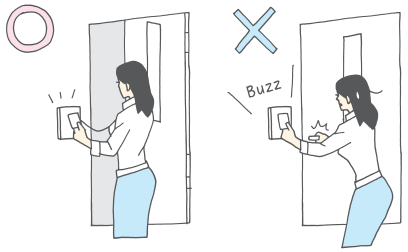
Drug barcodes are scanned to prevent medical errors.



In entertainment

For controlling admissions

Facilitates admission control even at locations where gates can't be installed.



In offices

For managing office access

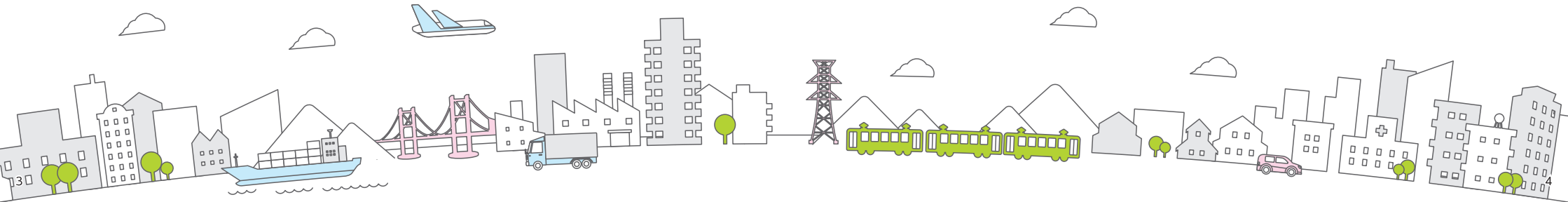
Systems can be used to manage access times and personnel and to restrict access.



In duty-free shops

For tax exempt procedure

When a passport is held over the scanner, character and image data are read automatically, thereby simplifying tax exempt documentation procedures.



Handheld terminal

BHT-M80

▶P.13

Equipped with Android™
The large 5.0-inch screen enables various operations.



BHT-M70

▶P.15

Equipped with Android™
High operability and scalability to meet on-site and operational needs.



BHT-M60

▶P.17

Equipped with Android™
Operational efficiency fosterd by one-handed operation.



BHT-S40

▶P.19

Handle more information in one hand with a large 3.2-inch screen.



BHT-S30

▶P.21

Compact model in a pocketable size.



		BHT-M80	BHT-M70	BHT-M60		BHT-S40	BHT-S30
OS		Android™*1*2	Android™*1*2	Android™*1*2		BHT-OS	BHT-OS
Screen		**5.0 inch HD**	**4.0 inch WVGA**	**3.2 inch WVGA**		**3.2 inch WVGA**	**2.4 inch QVGA**
Inter-face	Wireless LAN	●	●	●		●	●
	Bluetooth®*5	●	●	●		●	●
	Wireless WAN	●	●	●		—	—
Readable medium		1D Codes 2D Codes OCR	1D Codes 2D Codes OCR	1D Codes 2D Codes OCR		1D Codes 2D Codes	1D Codes 2D Codes
Protection rating		**IP65,67**	**IP65,67**	**IP65,67**		**IP65**	**IP54**

BHT-1500

▶P.23

Achieving both an ultra-compact body and excellent visibility



BHT-1400

▶P.25

Characterized by a large screen, robustness, and single-handed operability



BHT-1300 Windows®-OS

▶P.27

Perfectly suitable for any situation



BHT-1336QWB NEW

▶P.29

Continuing the usability of the BHT-1300 series



		BHT-1500	BHT-1400		BHT-1300	BHT-1336QWB
OS		BHT-OS	Windows®*3		Windows®*3	BHT-OS
Screen		**2.0 inch QVGA**	**3.2 inch WVGA**		**2.4 inch QVGA**	**2.4 inch QVGA**
Inter-face	Wireless LAN	—	●		●	●
	Bluetooth®	●	●		●	●
	Wireless WAN	—	—		—	—
Readable medium		1D Codes	1D Codes 2D Codes OCR *4		1D Codes 2D Codes	1D Codes 2D Codes
Protection rating		**IP54**	**IP65**		**IP54**	**IP54**

*1 Available with Android™ 10 or Android™ 13. *2 Android is a trademark of Google LLC. *3 Windows is the registered trademark of Microsoft Corporation in the U.S. and other countries.
*4 Supported by OCR model"BHT-1461QWB-CE-O" only. *5 Bluetooth® is the registered trademark of Bluetooth SIG, Inc.

Sales availability varies by country and region. Please contact us for more information.

Handy scanner

	SF1 ▶P.31	SE1 ▶P.32		GT20 ▶P.33	AT20 ▶P.35	AT30 ▶P.37
	Small and robust scanner	Pocket-size model		Robust, high-spec model	Standard model focusing on operability	2D scanners also support "touch scanning"
						
Interface: RS-232C	—	—		●	●	●
Interface: USB keyboard	—	—		●	●	●
Interface: USB COM	—	—		●	●	●
Interface: PS/2 keyboard	—	—		—	—	—
Interface: Bluetooth®	●	●		●	●	—
Interface: Ethernet	—	—		—	—	—
Readable medium	1D Codes 2D Codes	1D Codes 2D Codes		1D Codes 2D Codes	1D Codes 2D Codes	1D Codes 2D Codes
Protection rating	**IP54**	**IPX2**		**IP65**	**IP42**	**IP42**

Unique products

	HC76TR/TU/QU NEW ▶P.38	SH1 ▶P.39	SC1-QB ▶P.40		QS20P ▶P.41	GT20QD ▶P.42
	Contact scanning model for POS	A compact model that is easy to keep clean	Optimal design for 24/7 use in healthcare settings		Micro QR Code contact scanning model	Designed for direct part marking on metallic workpieces
						
Interface: RS-232C	●	—	—		●	●
Interface: USB keyboard	●	●	—		●	●
Interface: USB COM	●	●	—		●	●
Interface: PS/2 keyboard	—	—	—		—	—
Interface: Bluetooth®	—	—	●		—	—
Interface: Ethernet	—	—	—		—	—
Readable medium	1D Codes 2D Codes *1	1D Codes 2D Codes	1D Codes 2D Codes		2D Codes	1D Codes 2D Codes
Protection rating	—	—	**IP65**		—	**IP65G**

*1 HC76QU supports 2D codes only.

Sales availability varies by country and region. Please contact us for more information.

1D Codes · 2D Codes

Fixed type scanner

QM30

▶P.43

Ultra-small 3.5 cm case dimensions incorporation into a wide range of devices



Inter-face	USB keyboard	●
	USB COM	●
Readable medium		1D Codes, 2D Codes
Protection rating		—

QB33

▶P.44

Compact installation and built-in model



Inter-face	RS-232C	●
	USB keyboard	—
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	—
Readable medium		1D Codes, 2D Codes
Protection rating		IP54

QK30

▶P.45

High-speed scanning of mobile QR Code®



Inter-face	RS-232C	●
	USB keyboard	●
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	—
Readable medium		1D Codes, 2D Codes
Protection rating		IPX2

FD2

▶P.46

From the smallest workpieces to long distance reading Freedom at the push of a button



Inter-face	RS-232C	●
	USB keyboard	●
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	●
Readable medium		1D Codes, 2D Codes
Protection rating		IP65

1D Codes · 2D Codes

Wearable scanner

Wearable SF1

▶P.47

Tough and clean wearable scanner



Inter-face	RS-232C	—
	USB keyboard	—
	USB COM	—
	PS/2 keyboard	—
	Bluetooth®	●
	Ethernet	—
Readable medium		1D Codes, 2D Codes
Protection rating		IP54

RFID

Handheld terminal

BHT-1281QULWB-CE

▶P.48

Outstanding scanning performance and ease of use



OS		Windows®
Screen		3.5 inch HVGA
Inter-face	Wireless LAN	●
	Bluetooth®	●
	Wireless WAN	—
Readable medium		1D Codes, 2D Codes, RF TAG
Protection rating		IP54

RFID

Handheld terminal

BHT-1408QUMWB

▶P.49 NEW

Specified low-power radio station handheld terminal



OS		BHT-BASIC 4.0
Screen		2.8 inch QVGA
Inter-face	Wireless LAN	●
	Bluetooth®	●
	Wireless WAN	—
Readable medium		1D Codes, 2D Codes, RF TAG
Protection rating		IP54

RFID

Reader/Writer

SP1

▶P.51

High-speed reading, RF tag reading distance*4 Approx. 8m
1W high-output handy scanner



1Inter-face	RS-232C	—
	USB keyboard	—
	USB COM	—
	PS/2 keyboard	—
	Bluetooth®	●
	Ethernet	—
Readable medium		1D Codes, 2D Codes, RF TAG
Protection rating		IP54

UR50

▶P.53

A fixed type scanner of UHF RF tags ideal for factory automation and logistics
(250 mW / middle-distance type)



1Inter-face	RS-232C	●
	USB keyboard	—
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	●
Readable medium		RF TAG
Protection rating		IP65

UR40

▶P.54

A fixed type scanner of UHF RF tags ideal for factory automation and logistics
(1 W / long-distance type)



1Inter-face	RS-232C	●
	USB keyboard	—
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	●
Readable medium		RF TAG
Protection rating		IP65

UR20

▶P.55

Ultra-thin stationary scanner that can be installed anywhere



1Inter-face	RS-232C	●*1
	USB keyboard	—
	USB COM	●*2
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	●*3
Readable medium		RF TAG
Protection rating		—

UR30

▶P.57

Portable and stationary RFID



1Inter-face	RS-232C	—
	USB keyboard	—
	USB COM	—
	PS/2 keyboard	—
	Bluetooth®	●
	Ethernet	—
Readable medium		RF TAG
Protection rating		IP55

SE1-BUB-C

▶P.58

Pocket RFID



1Inter-face	RS-232C	—
	USB keyboard	—
	USB COM	—
	PS/2 keyboard	—
	Bluetooth®	●
	Ethernet	—
Readable medium		1D Codes, RF TAG
Protection rating		IPX2

*1 The line up of only UR20/UR21. *2 The line up of only UR21/UR22. *3 The line up of only UR22.
*4 Settings restrictions may apply for cer tain countries and functions. The scan distance shown is a reference value and it may vary accordingly, depending on the actual environmental conditions. Evaluation condition = Avery Dennison AD-229r6

Sales availability varies by country and region. Please contact us for more information.

RFID

TAG

E-paper tag

▶P.59

Combining the RFID's feature which automates read/write with visibility of paper label.



Navigation TAG®

▶P.60

LED-equipped UHF-band RF tag Lights up what you're looking for



Band	UHF	UHF
Protection rating	**IP54**	**Equivalent to IP53**

IC card

Reader/Writer

QK30-IC

▶P.61

IC cards + mobile QR Code®



Inter-face	RS-232C	—
	USB keyboard	●
	USB COM	●
	PS/2 keyboard	—
	Bluetooth®	—
	Ethernet	—
Readable medium		1D Codes, 2D Codes, IC CARD
Protection rating		**IPX2**

OCR

Handheld terminal

OCR-capable hand-held terminal

▶P.62

Smooth scanning of diverse range of characters



BHT-M80 BHT-M70 BHT-M60

OS	Android™*1
Readable medium	1D Codes, 2D Codes, OCR
Protection rating	**IP65,67**

OCR

Fixed type scanner

FC1

▶P.62

Quick scanning of passport information and images



QK30-OP-U

▶P.63

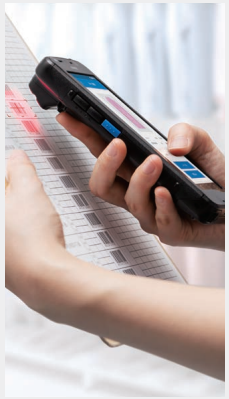
Instantaneous scanning of passports



		FC1	QK30-OP-U
Inter-face	RS-232C	—	—
	USB keyboard	●	●
	USB COM	●	●
	PS/2 keyboard	—	—
	Bluetooth®	—	—
	Ethernet	—	—
Readable medium		1D Codes, 2D Codes, OCR	1D Codes, 2D Codes, OCR
Protection rating		**IPX2**	**IPX2**

DENSO WAVE's three strengths

Core technologies that are continuously refined



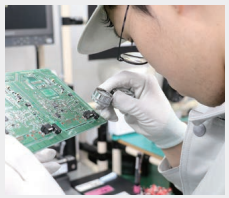




DENSO WAVE unveiled the BHT-1, the world's first CCD scanner-integrated handheld terminal, in 1987. In the early 1990s, we launched R&D on RFID and have, as an industry leader, introduced numerous AUTO-ID products.
Our accumulated technologies have been inspired by dedicated attention to the voice of our customers in developing new products and unwavering commitment to improving the accuracy and usability of our products.

Made-in-Japan quality







DENSO WAVE handles all product planning, development, engineering, production, and service operations in-house.
Drawing on extensive experience with automotive parts quality testing, DENSO WAVE performs repetitive tests and inspections based on rigorous standards and criteria that go well beyond the usage conditions envisioned. DENSO WAVE is proud to deliver to the world products marked by uncompromising DENSO quality.

Worldwide support service to ensure product safety and reliability



Leveraging DENSO Group's network and sales outlets located around the world, we go beyond proposing products suitable for each customer's business type to provide detail-oriented customer service, including after-sales service.
In the event that products malfunction, we're capable of providing onsite repair services.

*1 Available with Android™ 10 or Android™ 13.

Sales availability varies by country and region. Please contact us for more information.

Handheld terminal with Android™

BHT-M80

Equipped with Android™ (Available with Android™ 10 or Android™ 13)
The large 5.0-inch screen enables various operations.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes　2D Codes　OCR

Supported by BHT OCR MODULE R1(Software)

Display

5.0 inch touch panel color LCD

OS

Android™
(Available with Android™ 10 or Android™ 13)

Interface

Bluetooth®/Wireless LAN 4G(LTE)

Card slot

micro SD(SDHC/SDXC),SDHC Support micro SIM,DSDV Support

Robustness

Protection Class IP 65,IP 67

Drop Resistance: Up to 3.0 m

Features

- **Smartphone-type model with a large 5.0-inch touch panel**
- **High-speed 4G/GPS + satellite navigation system supported, allowing getting the highly precise location.**
- **Resistance against 3.0-meter drops. 1m x 2,000 times fall impact resistance to withstand daily operations**
- **Equipped with a new decode engine and high-density sensor,Stress-free reading of labels covered by wrapping film and deformed labels**

[Components]

•Device •Hand strap •Operation guide
*Battery is not supplied with the product.

Product Configuration



[Device]
BHT-M80-QW
BHT-M80-QWG

+[Battery]
BT1S (2900 mAh battery)
BT1 (4020 mAh battery)
BT1L (5800 mAh battery)
BT1S-W (Wireless 2900 mAh battery)

+[Communication Unit]
CU-M80U (USB type: With a spare battery charger)
CU-M80UQ (USB type: Without a spare battery charger)*1
CU-M80L (LAN type: With a spare battery charger)

Dimensions



Options



CU-M80U CU-M80L / CU-M80UQ*1 / CH-M80W / CH-M80-4 / CH-BT1-4 / AD8*1 / WHBHT-M80*2 / HBBHT-M80 / PNBHT-1700 / CB00-US1500/4A-4C / CB00-US100/3-4C*3

Model			CU-M80U	CU-M80L	CU-M80UQ*1	CH-M80W	CH-M80-4	CH-BT1-4
Communication system			USB2.0 (High Speed conformant)	Ethernet	USB2.0 (High Speed conformant)	—	—	—
Charging time	Unit	2900mAh Battery(Wireless charger)	Approx.2 hours	Approx.2 hours	Approx.2 hours	Approx.4 hours	Approx.3 hours	—
		4020mAh Battery	Approx.3 hours	Approx.3 hours	Approx.3 hours	—	Approx.4 hours	—
		5800mAh Battery	Approx.4 hours	Approx.4 hours	Approx.4 hours	—	Approx.6 hours	—
	Battery communication charge	2900mAh Battery(Wireless charger)	Approx.3 hours	Approx.3 hours	—	—	—	Approx.3 hours
		4020mAh Battery	Approx.4 hours	Approx.4 hours	—	—	—	Approx.4 hours
		5800mAh Battery	Approx.6 hours	Approx.6 hours	—	—	—	Approx.6 hours
Dimensions			131(D)×100(W)×85(H)mm	131(D)×100(W)×85(H)mm	130(D)×109(W)×61(H)mm	126(D)×100(W)×125(H)mm	75(D)×432(W)×130(H)mm	183(D)×184(W)×53(H)mm
Power supply			AC adapter*4	AC adapter*4	AC adapter(AD8)*4*5	AC adapter*4	AC adapter*4	AC adapter*4

*1:Quick Charge™3.0 supported compatible *2:The waistpack case does not include belt. *3:You also need the conversion cable to equip the BHT terminal with earphones and other devices. *4:AC adaptor sold separately. *5:You need the USB Type-C - Type-A conversion cable(1.5m) when connecting the main unit to a USB adapter.

Software [P.65-77]

Development/kitting/operation tools
Software Development Kit for Android (SDK)
BHT Booster　BHT Link
BHT OCR MODULE R1

Terminal management/maintenance tool
BHT DMS　BHT Remote
BHT Security Package

Useful Software(Free-Preinstall)
BHTSetting　WlanManager　SNTPSetting
BHT Browser　BHT Booste　Battery Monitor
ApplicationLauncher　HardTest　BHT Logger

*Some software has optional features for a fee.

Specification

Model			2D Code model	
			Wireless LAN connection **BHT-M80-QW**	Wireless LAN+Wireless WAN **BHT-M80-QWG**
Operating System			Android™ 10 / Android™ 13	
CPU			Qualcomm® SDM660 64 bit 2.20 GHz(Octa-Core)	
Memory	RAM		4 GB	
	Flash ROM		64 GB	
Display	Screen size and resolution*1		5.0-inch high-definition (720×1,280 dots)	
	Display device		Dot matrix liquid crystal display (color)	
	Backlight		White LED	
Reader	Reading method		Area sensor	
	Supported code	2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417, Maxi Code, Data Matrix (ECC200), and GS1 Composite	
		Barcode	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), and Interleaved 2 of 5 (ITF) Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), and Standard 2 of 5 (STF), GS1 DataBar (RSS)	
		OCR*2	Supported	
	Minimum resolution	2D Codes	0.127 mm	
		Barcode	0.076 mm	
	Marker		Cross guide marker	
	Confirmation of reading		Blue LED, speaker, and vibrator	
Key Entry	Number of keys		5 keys (including the power key) and 2 trigger keys	
Touch screen			Dragontrail® Pro*3 Capacitive multi-touch screen with glove touch support and water droplet false touch prevention	
Communication	Wireless LAN	Applicable standard	Compliant with IEEE802.11a/b/g/n/ac and MU-MIMO 2x2	
		Frequency	5 GHz-band (W52, W53, W56 and W58) 2.4 GHz-band (1 to 13 channels) *USA, Canada,Taiwan(1 to 11 channels)	
		Security	Encryption:OPEN, Enhanced Open, WEP(40/128), TKIP and AES WPA authentication: WPA and WPA2 and WPA3 User authentication: PSK, EAP-TLS, and PEAP	
	Wireless WAN applicable standard		—	Supported: GSM/W-CDMA/LTE,VoLTE FDD-LTE (4G) - Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 19, 20, 25, 26, 28 W-CDMA/UMTS/HSPA/HSPA+ (3G) - Bands 1, 2, 5, 6, 8, 19 GSM/GPRS/EDGE (2G) - Bands 850, 900, 1800, 1900MHz
	GPS		—	A-GPS/GLONASS/QZSS/BeiDou/Galileo
	Bluetooth®connection		Bluetooth® Ver5.1+EDR/LE (Supported Profile: RFCOMM/A2DP/AVCTP/ACDTP/GVDP/AVRCP/DUN/DI/HFP/HID/HSP/IOP/MAP/OPP/BNEP/PAN/PBAP/SAP/SPP/HOGP/SCPP)	
	Wired connection		USB Ver.2.0(USB Type-C)	
	NFC*4		ISO/IEC14443A&B, FeliCa, ISO/IEC15693(RFID)	
Camera	Rear		13-megapixel auto-focusing with a LED light	
	Front		5-megapixel auto-focusing	
Card slot	Memory		microSD (SDHC and SDXC (up to128 GB))SDHC Speed class 4 support	
	SIM		—	Nano SIM×2,DSDV(4G×4G)
Microphone receiver			Attached*5	
Speaker			90dB or more at 10 cm away (at 2.8kHz)	
Sensor			G-sensor, gyro sensor, proximity sensor, light intensity sensor, and geomagnetic sensor	
Power Supply	Main battery		Lithium-ion battery	
	Wireless charging		Supported	
	USB charging		Compliant with Qualcomm® Quick Charge™ 3.0	
	Operating time*8	BT1S·BT1S-W(2900 mAh)	Approx. 14 hours*9	
		BT1(4020 mAh)	Approx. 20 hours*9	
		BT1L(5800 mAh)	Approx. 29 hours*9	
Environmental Performance	Operating temperature*6		-20°C to 50°C	
	Operating humidity		5 to 95%RH (non-condensing and non-icing)	
	Protective class*7		IP65 and IP67	
	Drop resistance*7		Above concrete floor, 3.0 m, 60 times or more from 1.5 m	
Weight (including the battery)			Approx. 345 g (including BT1S), approx. 365 g (including BT1), and approx. 395 g (including BT1L)	

*1: The LCD display is manufactured with precise technology.The rate of non-defective pixels is 99.99% or more, which means that 0.01% or less pixels could be stuck or dead. *2: Chargeable license is required. *3: Dragontrail® Pro is a registered trademark of AGC Inc. *4: Before using the NFC function, perform test reading sufficiently using the target NFC card. *5: A headset or headphone can be connected through the USB Type-C cable. A USB Type-C-to-audio jack (3.5 mm) conversion cable is optional. *6: 0°C to 40°C during charging. *7: These are the values tested at a room temperature, and not guaranteed values. *8: The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *9: This is a result of measurement based on the JEITA HT Standard Operation Mode G, and may change depending on the operating environment and system settings.

Handheld terminal with Android™

BHT-M70

Equipped with Android™ (Available with Android™ 10 or Android™ 13)

High operability and scalability to meet on-site and operational needs.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes　2D Codes　OCR

Supported by BHT OCR MODULE R1(Software)

Display

4.0 inch touch panel color LCD

OS

Android™
(Available with Android™ 10 or Android™ 13)

Interface

Bluetooth®/Wireless LAN 4G(LTE)

Card slot

micro SD(SDHC/SDXC),SDHC Support micro SIM,DSDV Support

Robustness

Protection Class IP 65,IP 67

Drop Resistance: Up to 2.5 m

Features

- **Model with Large Screen and Physical Key**
- **High-speed 4G/GPS + satellite navigation ystem supported, allowing getting the highly precise location.**
- **Resistance against 2.5-meter drops .Drop resistance of over 1.5 m x 60 times, strong enough for daily operation**
- **Equipped with a new decode engine and high-density sensor,Stress-free reading of labels covered by wrapping film and deformed labels**

[Components]

•Device •Hand strap •Operation guide

*Battery is not supplied with the product.

Product Configuration



[Device]
BHT-M70-QW
BHT-M70-QWG

+[Battery]
BT3(3050 mAh battery)

+[Communication Unit]
CU-M70U (USB type: With a spare battery charger)
CU-M70UQ (USB type: Without a spare battery charger)*1
CU-M70L (LAN type: With a spare battery charger)

Dimensions



Options



With a spare battery charger	Without a spare battery charger	4-slot main unit charger	4-slot battery charger	AC adaptor	Stylus pen	USB Type-C - Type-A conversion cable(1.5m)	USB Type-C - AudioJack conversion cable(3.5m)
CU-M70U CU-M70L	Coming Soon CU-M70UQ*1	CH-M70-4	CH-BT1-4	AD8*1	PNBHT-1700	CB00-US1500/4A-4C	CB00-US100/3-4C*2

Model		CU-M70U	CU-M70L	CU-M70UQ*1	CH-M70-4	CH-BT1-4
Communication system		USB2.0 (High Speed conformant)	Ethernet	USB2.0 (High Speed conformant)	—	—
Charging time	Unit	Approx.2 hours	Approx.2 hours	Approx.2 hours	Approx.3 hours	—
	Battery communication charge	Approx.3 hours	Approx.3 hours	—	—	Approx.3 hours
Dimensions		170(D)×105(W)×112(H)mm	170(D)×105(W)×112(H)mm	130(D)×109(W)×115(H)mm	130(D)×437(W)×129(H)mm	183(D)×184(W)×53(H)mm
Power supply		AC adapter*3	AC adapter*3	AC adapter*3*4	AC adapter*3	AC adapter*3

*1:Quick Charge™3.0 supported compatible *2:You also need the conversion cable to equip the BHT terminal with earphones and other devices. *3:AC adaptor sold separately.
*4:You need the USB Type-C - Type-A conversion cable(1.5m) when connecting the main unit to a USB adapter.

Software [P.65-77]

Development/kitting/operation tools
Software Development Kit for Android (SDK)
BHT Booster　BHT Link
BHT OCR MODULE R1

Terminal management/maintenance tool
BHT DMS　BHT Remote
BHT Security Package

Useful Software(Free-Preinstall)
BHTSetting　WlanManager　SNTPSetting
BHT Browser　BHT Booste　Battery Monitor
ApplicationLauncher　HardTest　BHT Logger
*Some software has optional features for a fee.

Specification

Model			2D Code model	
			Wireless LAN connection **BHT-M70-QW**	Wireless LAN+Wireless WAN **BHT-M70-QWG**
Operating System			Android™ 10 / Android™ 13	
CPU			Qualcomm® SDM660 64 bit 2.20 GHz(Octa-Core)	
Memory	RAM		4 GB	
	Flash ROM		64 GB	
Display	Screen size and resolution*1		4.0-inch WVGA (480×800 dots)	
	Display device		Dot matrix liquid crystal display (color)	
	Backlight		White LED	
Reader	Reading method		Area sensor	
	Supported code	2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417, Maxi Code, Data Matrix (ECC200), and GS1 Composite	
		Barcode	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), and Interleaved 2 of 5 (ITF) Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), and Standard 2 of 5 (STF), GS1 DataBar (RSS)	
		OCR*2	Supported	
	Minimum resolution	2D Codes	0.127 mm	
		Barcode	0.076 mm	
	Marker		Cross guide marker	
	Confirmation of reading		Blue LED, speaker, and vibrator	
Key Entry	Number of keys		27 keys (including the power key) , cursol keys, and 3 trigger keys	
Touch screen			Dragontrail® Pro*3	
Communication	Wireless LAN	Applicable standard	Capacitive multi-touch screen with glove touch support and water droplet false touch prevention	
		Frequency*4	Compliant with IEEE802.11a/b/g/n/ac and MU-MIMO 2x2 5 GHz-band (W52, W53, W56 and W58) 2.4 GHz-band (1 to 13 channels) *USA, Canada,Taiwan(1 to 11 channels)	
		Security	Encryption:OPEN, Enhanced Open, WEP(40/128), TKIP and AES WPA authentication: WPA and WPA2 and WPA3 User authentication: PSK, EAP-TLS, and PEAP	
	Wireless WAN applicable standard*4		—	Supported: GSM/W-CDMA/LTE,VoLTE FDD-LTE (4G) - Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 17, 19, 20, 25, 26, 28 TDD-LITE(4G)-Bands 39,40,41 W-CDMA/UMTS/HSPA/HSPA+ (3G) - Bands 1, 2, 5, 6, 8, 19 GSM/GPRS/EDGE (2G) - Bands 850, 900, 1800, 1900MHz
	GPS		—	A-GPS/GLONASS/QZSS/BeiDou/Galileo
	Bluetooth®connection		Bluetooth® Ver5.1+EDR/LE (Supported Profile:RFCOMM/A2DP/AVCTP/ACDTP/GVDP/AVRCP/DUN/DI/HFP/HID/HSP/IOP/MAP/OPP/BNEP/PAN/PBAP/SAP/SPP/HOGP/SCPP)	
	Wired connection		USB Ver.2.0(USB Type-C)	
	NFC*5		ISO/IEC14443A&B, FeliCa, ISO/IEC15693(RFID)	
Camera	Rear		13-megapixel auto-focusing with a LED light	
Card slot	Memory		microSD (SDHC and SDXC (up to128 GB))SDHC Speed class 4 support	
	SIM		—	Nano SIM×2,DSDV(4G×4G)
Microphone receiver			Attached*6	
Speaker			90dB or more at 10 cm away (at 2.8kHz)	
Sensor			G-sensor, gyro sensor, proximity sensor, light intensity sensor, and geomagnetic sensor	
Power Supply	Main battery		Lithium-ion battery	
	USB charging		Compliant with Qualcomm® Quick Charge™ 3.0	
	Operating time*9	BT3(3050 mAh)	Approx. 20 hours*9	
Environmental Performance	Operating temperature*7		-20°C to 50°C	
	Operating humidity		5 to 95%RH (non-condensing and non-icing)	
	Protective class*8		IP65 and IP67	
	Drop resistance*8		60 times or more from 1.5 m above concrete floor, 2.5 m	
Weight (including the battery)			Approx. 330 g(including BT3)	

*1: The LCD display is manufactured with precise technology.The rate of non-defective pixels is 99.99% or more, which means that 0.01% or less pixels could be stuck or dead. *2: Chargeable license is required.
*3: Dragontrail® Pro is a registered trademark of AGC Inc. *4: Actual operating channels/frequencies and bandwidths may vary depending on local regulations and approval agencies. *5: Before using the NFC function, perform test reading sufficiently using the target NFC card.*6: A headset or headphone can be connected through the USB Type-C cable. A USB Type-C-to-audio jack (3.5 mm) conversion cable is optional.
*7: 0°C to 40°C during charging. *8: These are the values tested at a room temperature, and not guaranteed values. *9: The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *10: This is a result of measurement based on the JEITA HT Standard Operation Mode G, and may change depending on the operating environment and system settings.

Handheld terminal with Android™

BHT-M60

Equipped with Android™ (Available with Android™ 10 or Android™ 13)
Operational efficiency fosterd by one-handed operation.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes　2D Codes　OCR

Supported by BHT OCR MODULE R1(Software)

Display

3.2 **3.2 inch touch panel color LCD**

OS

Android™
(Available with Android™ 10 or Android™ 13)

Interface

Bluetooth®/Wireless LAN 4G(LTE)

Card slot

micro SD(SDHC/SDXC),SDHC Support micro SIM Support

Robustness

Protection Class IP 65,IP 67

Drop Resistance: Up to 3.0 m

Features

- **Keyed model with excellent one-handed operation**
- **High-speed 4G/GPS + satellite navigation system supported, allowing getting the highly precise location.**
- **Resistance against 3.0-meter drops. 1m x 2,000 times fall impact resistance to withstand daily operations**
- **Equipped with a new decode engine and high-density sensor, Stress-free reading of labels covered by wrapping film and deformed labels**

[Components]

•Device •Hand strap •Operation guide
*Battery is not supplied with the product.

Product Configuration



[Device]
BHT-M60-QW
BHT-M60-QWG

+[Battery]
BT2S(1900 mAh battery)
BT2(3200 mAh battery)

+[Communication Unit]
CU-M60U (USB type: With a spare battery charger)
CU-M60UQ (USB type: Without a spare battery charger)*1
CU-M60L (LAN type: With a spare battery charger)

Dimensions



Options



With a spare battery charger	Without a spare battery charger	4-slot main unit charger	Single -slot battery charger	4-slot battery charger	AC adaptor	Waist case	Stylus pen	USB Type-C - Type-A conversion cable(1.5m)	USB Type-C - Audiolack conversion cable(3.5m)
CU-M60U CU-M60L	CU-M60UQ*1	CH-M60-4	CH-BT2	CH-BT2-4	AD8*1	WHBHT-M60/ S40/S30*2	PNBHT-1700	CB00-US1500/ 4A-4C	CB00-US100/ 3-4C*3

Model			CU-M60U	CU-M60L	CU-M60UQ*1	CH-M60-4	CH-BT2	CH-BT2-4
Communication system			USB2.0 (High Speed conformant)	Ethernet	USB2.0 (High Speed conformant)	—	—	—
Charging time	Unit	1900mAh Battery	Approx.2 hours	Approx.2 hours	Approx.2 hours	Approx.2 hours	—	—
		3200mAh Battery	Approx.3 hours	Approx.3 hours	Approx.3 hours	Approx.4 hours	—	—
	Battery communication charge	1900mAh Battery	Approx.2 hours	Approx.2 hours	—	—	Approx.2 hours	Approx.2 hours
		3200mAh Battery	Approx.4 hours	Approx.4 hours	—	—	Approx.3 hours	Approx.3 hours
Dimensions			127(D)×101(W)× 113(H)mm	127(D)×101(W)× 113(H)mm	127(D)×90(W)× 113(H)mm	127(D)×361(W)× 113(H)mm	112(D)×81.7(W)× 30.4(H)mm	128.8(D)×99.9(W)× 66.5(H)mm
Power supply			AC adapter*4	AC adapter*4	AC adapter(AD8)*4*5	AC adapter*4	AC adapter*4	AC adapter*4

*1:Quick Charge™3.0 supported compatible *2:The waistpack case does not include belt *3:You also need the conversion cable to equip the BHT terminal with earphones and other devices. *4:AC adaptor sold separately. *5:You need the USB Type-C - Type-A conversion cable(1.5m) when connecting the main unit to a USB adapter.

Software [P.65-77]

Development/kitting/operation tools
- Software Development Kit for Android (SDK)
- BHT Booster
- BHT Link
- BHT OCR MODULE R1

Terminal management/maintenance tool
- BHT DMS
- BHT Remote
- BHT Security Package

Useful Software(Free-Preinstall)
- BHTSetting
- WlanManager
- SNTPSetting
- BHT Browser
- BHT Booste
- Battery Monitor
- ApplicationLauncher
- HardTest
- BHT Logger

*Some software has optional features for a fee.

Specification

Model			2D Code model	
			Wireless LAN connection **BHT-M60-QW**	Wireless LAN+Wireless WAN **BHT-M60-QWG**
Operating System			Android™ 10 / Android™ 13	
CPU			Qualcomm® SDM660 64 bit 2.20 GHz(Octa-Core)	
Memory	RAM		4 GB	
	Flash ROM		64 GB	
Display	Screen size and resolution*1		3.2-inch WVGA (480×800 dots)	
	Display device		Dot matrix liquid crystal display (color)	
	Backlight		White LED	
Reader	Reading method		Area sensor	
	Supported code	2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417, Maxi Code, Data Matrix (ECC200), and GS1 Composite	
		Barcode	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), and Interleaved 2 of 5 (ITF), Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), and Standard 2 of 5 (STF), GS1 DataBar (RSS)	
		OCR*2	Supported	
	Minimum resolution	2D Codes	0.127 mm	
		Barcode	0.076 mm	
	Marker		Cross guide marker	
	Confirmation of reading		Blue LED, speaker, and vibrator	
Key Entry	Number of keys		27 keys (including the power key), cursor keys, and 3 trigger keys	
Touch screen			Dragontrail® Pro*3 Capacitive multi-touch screen with glove touch support and water droplet false touch prevention	
Communication	Wireless LAN	Applicable standard	Compliant with IEEE802.11a/b/g/n/ac and MU-MIMO 2x2	
		Frequency	5 GHz-band (W52, W53, W56 and W58) 2.4 GHz-band (1 to 13 channels) *USA, Canada,Taiwan(1 to 11 channels)	
		Security	Encryption:OPEN, Enhanced Open, WEP(40/128), TKIP and AES WPA authentication: WPA and WPA2 and WPA3 User authentication: PSK, EAP-TLS, and PEAP	
	Wireless WAN applicable standard		—	Supported: GSM/W-CDMA/LTE,VoLTE FDD-LTE (4G) - Bands 1, 3, 5, 7, 8, 19, 20, 26, 28 TDD-LTE (4G) - Bands 39, 40, 41 W-CDMA/UMTS/HSPA/HSPA+ (3G) - Bands 1, 5, 6, 8, 19
	GPS		—	A-GPS/GLONASS/QZSS/BeiDou/Galileo
	Bluetooth®connection		Bluetooth® Ver5.1+EDR/LE (Supported Profile: RFCOMM/A2DP/AVCTP/ACDTP/GVDP/AVRCP/DUN/DI/HFP/HID/HSP/IOP/MAP/OPP/BNEP/PAN/PBAP/SAP/SPP/HOGP/SCPP)	
	Wired connection		USB Ver.2.0(USB Type-C)	
	NFC*4		ISO/IEC14443A&B, FeliCa, ISO/IEC15693(RFID)	
Camera	Rear		13-megapixel auto-focusing with a LED light	
Card slot	Memory		microSD (SDHC and SDXC (up to128 GB))SDHC Speed class 4 support	
	SIM		—	Nano SIM×1
Microphone receiver			Attached*5	
Speaker			90dB or more at 10 cm away (at 2.8kHz)	
Sensor			G-sensor, gyro sensor, proximity sensor, light intensity sensor, and geomagnetic sensor	
Power Supply	Main battery		Lithium-ion battery	
	Wireless charging		Not Supported	
	USB charging		Compliant with Qualcomm® Quick Charge™ 3.0	
	Operating time*8	BT2S(1900 mAh)	Approx. 14 hours*9	
		BT2(3200 mAh)	Approx. 24 hours*9	
Environmental Performance	Operating temperature*6		-20°C to 50°C	
	Operating humidity		5 to 95%RH (non-condensing and non-icing)	
	Protective class*7		IP65 and IP67	
	Drop resistance*7		Above concrete floor, 3.0 m, 60 times or more from 1.5 m	
Weight (including the battery)			Approx. 305 g (including BT2S), approx. 320 g (including BT2)	

*1: The LCD display is manufactured with precise technology.The rate of non-defective pixels is 99.99% or more, which means that 0.01% or less pixels could be stuck or dead. *2: Chargeable license is required. *3: Dragontrail® Pro is a registered trademark of AGC Inc. *4: Before using the NFC function, perform test reading sufficiently using the target NFC card. *5: A headset or headphone can be connected through the USB Type-C cable. A USB Type-C-to-audio jack (3.5 mm) conversion cable is optional. *6: 0°C to 40°C during charging. *7: These are the values tested at a room temperature, and not guaranteed values. *8: The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *9: This is a result of measurement based on the JEITA HT Standard Operation Mode G, and may change depending on the operating environment and system settings.

Handheld terminal with BHT-OS

BHT-S40

Handle more information in one hand with a large 3.2-inch screen.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty. The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes　2D Codes

Display

3.2 inch color LCD

OS

BHT OS　**BHT-BASIC 4.0**

Interface

Bluetooth®/Wireless LAN

Card slot

micro SD , micro SDHC Support

Robustness

Drop Resistance: Up to 2.5 m

Features

- **Large 3.2-inch screen**
- **Combines visibility and operability**
- **Equipped with a new decode engine and high-density sensor,Stress-free reading of labels covered by wrapping film and deformed labels**

[Components]

•Device •Hand strap •Operation guide

*Battery is not supplied with the product.

Product Configuration



[Device]

BHT-S40-Q
BHT-S40-QW
BHT-S40B
BHT-S40BW

+[Battery]

BT2S (1900 mAh battery)
BT2 (3200 mAh battery)

+[Communication Unit]

CU-S40U(USB type communication unit)
CU-S40L(LAN type communication unit)
CU-S40R(RS232C type communication unit)

Dimensions



Options



CU-S40U
CU-S40L
CU-S40R

CH-S40-4

CH-BT2

CH-BT2-4

SCBHT-S40

WHBHT-M60/S40/S30[*1]

NSBHT-1300

CB00-US1500/4A-4C

Model			CU-S40U	CU-S40L	CU-S40R	CH-S40-4	CH-BT2	CH-BT2-4
Communication system			USB2.0 (High Speed conformant)	Ethernet	RS232C	—	—	—
Charging time	Unit	1900mAh Battery	Approx.2 hours /7 hours[*2]	Approx.2 hours	Approx.2 hours	Approx.2 hours	—	—
		3200mAh Battery	Approx.3 hours /9 hours[*2]	Approx.3 hours	Approx.3 hours	Approx.3 hours	—	—
	Battery communication charge	1900mAh Battery	—	—	—	—	Approx.2 hours	Approx.2 hours
		3200mAh Battery	—	—	—	—	Approx.3 hours	Approx.3 hours
Dimensions			110(D)×90(W)×125.8(H)mm			123.1(D)× 367.9(W)× 141.3(H)mm	112(D)× 81.7(W)× 30.4(H)mm	128.8(D)× 99.9(W)× 66.5(H)mm
Power supply			AC adapter[*3] Supply from the connection[*4]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]

*1: The waistpack case does not include belt. *2:When connected to a PC *3:AC adaptor sold separately. *4:It is can be charged using a power adaptor (e.g., USB charger or by connecting to a PC's USB port.

Software [P.65-77]

Development/kitting/operation tools

- BHT-BASIC4.0 Development Pack
- BHT Browser for S Series
- BHT-BASIC4.0 Transfer Utility (EXE/DLL Pack)
- BHT-BASIC4.0 Remote Debugger
- BHT Term Emulator[*1]
- BHT Setting

Terminal management/maintenance

- BHT Manager[*1]

*1: Support only for Wireless LAN model.

Specification

Model			2D Code model		Barcode Model	
			(Bluetooth®)	(Bluetooth®+Wireless LAN)	(Bluetooth®)	(Bluetooth®+Wireless LAN)
			BHT-S40-Q	BHT-S40-QW	BHT-S40-B	BHT-S40-BW
OS			BHT-OS			
CPU			32-bit RISC microprocessor			
Memory	Flash memory		128 MB (with a user area of approx. 84 MB)			
Display	Number of dots[*1]		3.2-inch QVGA (480×800 dots)			
	Display device		Dot matrix liquid crystal display (color)			
	Number of displayed characters[*2]	Small font	10 chrs. x 16 lines (full-width) or 20 chrs. x 16 lines (half-width)			
		Standard font	8 chrs. x 13 lines (full-width) or 16 chrs. x 13 lines (half-width)			
	Backlight		White LED			
Scanner	Reading system		Area sensing		Advanced Scan Plus (CCD)	
	Readable codes	2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417,Maxi Code, Data Matrix (ECC200), and GS1 Composite		—	
		Barcode	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), Standard 2 of 5 (STF), and GS1 DataBar(RSS)			
	Minimum resolution	2D Codes	0.127 mm		—	
		Barcode	0.076 mm		0.125 mm	
	Marker		Cross guide marker		—	
	Scan confirmation		3 color (blue, red, and green) LEDs, speaker, and vibrator			
Key Entry	Number of keys		21keys(including power key)+cross cursor key+3 trigger keys			
Communication	Wireless LAN connection	Applicable standard	—	Compliant with IEEE.802.11ac/a/b/g/n	—	Compliant with IEEE.802.11ac/a/b/g/n
		Frequency	—	5GHz-band (W52,W53,W56 and W58) 2.4GHz-band (1 to 13 channels)	—	5GHz-band (W52,W53,W56 and W58) 2.4GHz-band (1 to 13 channels)
		Access method	—	Infrastructure mode and ad-hoc mode	—	Infrastructure mode and ad-hoc mode
		Security	—	Encryption : WEP (40/128), TKIP, and AES WPA authentication : WPA and WPA2 User authentication : PSK, EAP-TLS, and PEAP	—	Encryption : WEP (40/128), TKIP, and AES WPA authentication : WPA and WPA2 User authentication : PSK, EAP-TLS, and PEAP
	Bluetooth®connection		Bluetooth® Version 5.0+EDR/LE (Supported profiles: GAP, SPP, HID, DUN, and GATT)			
	Wired connection		USB Version 2.0 (USB Type-C)			
Power supply	Main battery		Lithium-ion battery			
	Operating time[*4]	BT2S(1900mAh)	55hours[*5]/14hours[*6]	55hours[*5]/21hours[*7]	57hours[*5]/15hours[*6]	57hours[*5]/23hours[*7]
		BT2(3200mAh)	95hours[*5]/25hours[*6]	95hours[*5]/40hours[*7]	98hours[*5]/27hours[*6]	98hours[*5]/42hours[*7]
Card slot			FAT32-compliant microSD or microSDHC(~32GB)×1			
Additional Functions			Clock, speaker, vibrator, battery voltage indicator, keyboard backlight, and remote wakeup			
Environmental Performance	Operating temperature[*3]		-20℃ to 50℃			
	Operating humidity		5 to 95%RH (non-condensing and non-icing)			
	Protective class[*8]		IP65			
	Drop resistance[*8]		Above concrete floor, 2.5 m, 60 times or more from 1.5 m			
Weight (including the battery)			Approx. 242 g (including BT2S), approx. 256 g (including BT2)			

*1: The LCD display is manufactured with precise technology. The rate of non-defective pixels is 99.99% or more, which means that 0.01% or less pixels could be stuck or dead. *2: The small font is 48-dot size and the standard 60-dot size. There are also 24-dot, 30-dot, and 40-dot fonts. *3: 0 to 40 during charging. *4: The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *5: Reading once per five seconds with the LCD backlight lit only during reading. *6: One cycle (30seconds): Reading (1second), Bluetooth communication (sending 1KB through a continuous connection), screen update (1second), and wait, with the LCD backlight lit only during reading, Bluetooth communication, and screen update. *7: Assuming a ratio among reading, wireless communication, screen update, and wait of 1:1:1:20, with the LCD backlight lit only during reading, wireless communication, and screen update. *8: These are the values tested at a room temperature, and not guaranteed values.

Handheld terminal with BHT-OS

BHT-S30

Compact model in a pocketable size.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes　2D Codes

Display

2.4 inch color LCD

OS

BHT OS　**BHT-BASIC 4.0**

Interface

Bluetooth®/Wireless LAN

Card slot

micro SD , micro SDHC Support

Robustness

Drop Resistance: Up to 2.0 m

Features

- **2.4-inch compact screen**
- **Pocket size. Highly portable**
- **Lightweight model weighing approx. 219g,reducing the burden of long-hour operation(with BT2S)**
- **Equipped with a new decode engine and high-density sensor, Stress-free reading of labels covered by wrapping film and deformed labels**

[Components]
•Device •Hand strap •Operation guide
*Battery is not supplied with the product.

Product Configuration



[Device]
BHT-S30-Q
BHT-S30-QW
BHT-S30B
BHT-S30BW

+[Battery]
BT2S (1900 mAh battery)
BT2 (3200 mAh battery)

+[Communication Unit]
CU-S40U(USB type communication unit)
CU-S40L(LAN type communication unit)
CU-S40R(RS232C type communication unit)

Dimensions



Options



Communication Unit	4-unit main unit charger	Single-unit battery charger	4-unit battery charger	Soft case	Waist case	Neck strap	USB Type-C - Type-A conversion cable(1.5m)
CU-S40U **CU-S40L** **CU-S40R**	**CH-S40-4**	**CH-BT2**	**CH-BT2-4**	**SCBHT-S30**	**WHBHT-M60/S40/S30**[*1]	**NSBHT-1300**	**CB00-US1500/4A-4C**

Model			CU-S40U	CU-S40L	CU-S40R	CH-S40-4	CH-BT2	CH-BT2-4
Communication system			USB2.0 (High Speed conformant)	Ethernet	RS232C	—	—	—
Charging time	Unit	1900mAh Battery	Approx.2 hours /7 hours[*2]	Approx.2 hours	Approx.2 hours	Approx.2 hours	—	—
		3200mAh Battery	Approx.3 hours /9 hours[*2]	Approx.3 hours	Approx.3 hours	Approx.3 hours	—	—
	Battery communication charge	1900mAh Battery	—	—	—	—	Approx.2 hours	Approx.2 hours
		3200mAh Battery	—	—	—	—	Approx.3 hours	Approx.3 hours
Dimensions			110(D)×90(W)×125.8(H)mm			123.1(D)× 367.9(W)× 141.3(H)mm	112(D)× 81.7(W)× 30.4(H)mm	128.8(D)× 99.9(W)× 66.5(H)mm
Power supply			AC adapter[*3] Supply from the connection[*4]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]	AC adapter[*3]

*1: The waistpack case does not include belt. *2:When connected to a PC *3:AC adaptor sold separately. *4:It is can be charged using a power adaptor (e.g., USB charger or by connecting to a PC's USB port.

Software [P.65-77]

Development/kitting/operation tools
- BHT-BASIC4.0 Development Pack
- BHT Browser for S Series
- BHT-BASIC4.0 Transfer Utility (EXE/DLL Pack)
- BHT-BASIC4.0 Remote Debugger
- BHT Term Emulator[*1]
- BHT Setting

Terminal management/maintenance
- BHT Manager[*1]

*1: Support only for Wireless LAN model.

Specification

Model			2D Code model (Bluetooth®) BHT-S30-Q	2D Code model (Bluetooth®+Wireless LAN) BHT-S30-QW	Barcode Model (Bluetooth®) BHT-S30-B	Barcode Model (Bluetooth®+Wireless LAN) BHT-S30-BW
OS			BHT-OS			
CPU			32-bit RISC microprocessor			
Memory	Flash memory		128 MB (with a user area of approx. 84 MB)			
Display	Number of dots[*1]		2.4-inch QVGA (240×320 dots)			
	Display device		Dot matrix liquid crystal display (color)			
	Number of displayed characters[*2]	Small font	10 chrs. x 13 lines (full-width) or 20 chrs. x 13 lines (half-width)			
		Standard font	8 chrs. x 10 lines (full-width) or 16 chrs. x 10 lines (half-width)			
	Backlight		White LED			
Scanner	Reading system		Area sensing		Advanced Scan Plus (CCD)	
	Readable codes	2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417,Maxi Code, Data Matrix (ECC200), and GS1 Composite		—	
		Barcode	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), Standard 2 of 5 (STF), and GS1 DataBar(RSS)			
	Minimum resolution	2D Codes	0.127 mm		—	
		Barcode	0.076 mm		0.125 mm	
	Marker		Cross guide marker		—	
	Scan confirmation		3 color (blue, red, and green) LEDs, speaker, and vibrator			
Key Entry	Number of keys		21keys(including power key)+cross cursor key+3 trigger keys			
Communication	Wireless LAN connection	Applicable standard	—	Compliant with IEEE.802.11ac/a/b/g/n	—	Compliant with IEEE.802.11ac/a/b/g/n
		Frequency	—	5GHz-band (W52,W53,W56 and W58) 2.4GHz-band (1 to 13 channels)	—	5GHz-band (W52,W53,W56 and W58) 2.4GHz-band (1 to 13 channels)
		Access method	—	Infrastructure mode and ad-hoc mode	—	Infrastructure mode and ad-hoc mode
		Security	—	Encryption : WEP (40/128), TKIP, and AES WPA authentication : WPA and WPA2 User authentication : PSK, EAP-TLS, and PEAP	—	Encryption : WEP (40/128), TKIP, and AES WPA authentication : WPA and WPA2 User authentication : PSK, EAP-TLS, and PEAP
	Bluetooth®connection		Bluetooth® Version 5.0+EDR/LE (Supported profiles: GAP, SPP, HID, DUN, and GATT)			
	Wired connection		USB Version 2.0 (USB Type-C)			
Power supply	Main battery		Lithium-ion battery			
	Operating time[*4]	BT2S(1900mAh)	55hours[*5]/14hours[*6]	55hours[*5]/21hours[*7]	57hours[*5]/15hours[*6]	57hours[*5]/23hours[*7]
		BT2(3200mAh)	95hours[*5]/25hours[*6]	95hours[*5]/40hours[*7]	98hours[*5]/27hours[*6]	98hours[*5]/42hours[*7]
Card slot			FAT32-compliant microSD or microSDHC(~32GB)×1			
Additional Functions			Clock, speaker, vibrator, battery voltage indicator, keyboard backlight, and remote wakeup			
Environmental Performance	Operating temperature[*3]		-20℃ to 50℃			
	Operating humidity		5 to 95%RH (non-condensing and non-icing)			
	Protective class[*8]		IP54			
	Drop resistance[*8]		Above concrete floor, 2.0 m, 60 times or more from 1.2 m			
Weight (including the battery)			Approx. 219 g (including BT2S), approx. 233 g (including BT2)			

*1: The LCD display is manufactured with precise technology. The rate of non-defective pixels is 99.99% or more, which means that 0.01% or less pixels could be stuck or dead. *2: The small font is 48-dot size and the standard 60-dot size. There are also 24-dot, 30-dot, and 40-dot fonts. *3: 0 to 40 during charging. *4: The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *5: Reading once per five seconds with the LCD backlight lit only during reading. *6: One cycle (30seconds): Reading (1second), Bluetooth communication (sending 1KB through a continuous connection), screen update (1second), and wait, with the LCD backlight lit only during reading, Bluetooth communication, and screen update. *7: Assuming a ratio among reading, wireless communication, screen update, and wait of 1:1:1:20, with the LCD backlight lit only during reading, wireless communication, and screen update. *8: These are the values tested at a room temperature, and not guaranteed values.

Handheld terminal with BHT-OS

BHT-1500

Achieving both an ultra-compact body and excellent visibility



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes

Display

2.0 **2.0 inch color LCD**

OS

BHT OS **BHT-BASIC 4.0**

Interface

Bluetooth®

Card slot

micro SDHC Support

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Ease of use for on-site workers- Lightest in class (approximately 128 g)**
- **Equipped with 2.0-inch color LCD- Largest in class for superb clarity and legibility**
- **High compatibility with existing models (BHT-OS models)**
- **Easy Pack Ad basic business application preinstalled for instant deployment**
- **Compatible with eneloop® rechargeable batteries**

[Components]

•Device •Hand strap •Operation guide

*Batteries not provided with product

Product Configuration



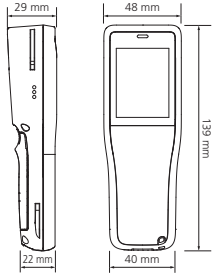
[Device]

BHT-1505B (Batch model)
BHT-1505BB (Bluetooth® model)

+[Communication Unit]

CU-AR1-15 (RS-232C)
CU-AL1-15 (Ethernet)
CU-AU1-15 (USB)

Dimensions



Options



Communication Unit	Communication Cable	Four-device charger	Soft case	Waist case	Neck strap	Neck strap (with reel)
CU-AR1-15 CU-AL1-15 CU-AU1-15	**CBBHT-US2000/ C15-4A**	**CH-A4-15**	**SCBHT-1500 (LG) SCBHT-1500 (BK)**	**WHBHT-900/ 1500*1**	**NSBHT-1300**	**NS1-001**

Model			CU-AR1-15	CU-AL1-15	CU-AU1-15	CH-A4-15	CBBHT-US2000/C15-4A
Communication	BHT↔Host	Communication system	RS-232C	Ethernet (100BASE-T)	USB2.0 Full Speed conformant	—	USB2.1 Full Speed conformant
Charging	Charging time	Unit	Approx.5 hours				
Dimensions			110(D)×95(W)×98(H) mm			117(D)×368(W) ×115(H) mm	2.0 m (Cable)
Power supply			AC adapter*1		Supply from the connection/AC adapter*1	AC adapter*1	Supply from the connection*2

*1: The AC adapter is an option. *2: The BHT-1500 can be charged by connecting it to a USB charger or other power adapter, or a PC USB port. When charging the BHT-1500, use a device that satisfies the following output and USB charging specifications. Output specifications: (voltage) DC5±0.25 V/(current) 1.0 A or higher USB charging specifications: Battery Charging Specification Rev. 1.2

Software [P.65-77]

Development/kitting/operation tools

- BHT-BASIC4.0 Development pack
- BHT-BASIC4.0 Transfer Utility (EXE / DLL Pack)
- BHT-BASIC4.0 Remote Debugger
- BHT Setting

Specification

Model			1D Code model	
			(Batch model) **BHT-1505B (BK)**	(Bluetooth® model) **BHT-1505BB (BK)**
OS			BHT-OS	
CPU			32 bit RISC Microprocessor	
Memory*1	Flash memory		32 MB (User area: 12 MB)	
Display	Number of dots*2		240×320 dots (2.0 inches)	
	Display system		Liquid crystal dot matrix display (color)	
	Backlight		White LED	
Scanner	Reading system		Advanced Scan Plus(CCD)	
	Readable codes		EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 Databar(RSS)	
	Minimum resolution		0.125 mm	
	Scanning reference position		110 mm	
	Scan confirmation		Visual (3 color LED), acoustic (signal sound) and haptic (vibration)	
Keypad	Number of keys		21keys(including power key)+cross cursor key+trigger key	
Network	Optical interface	Transmission mode	Infrared ray (IrDA Ver 1.2 [Low Power] physical layer conformity)	
		Transmission speed	Up to 115.2kbps, 460.8kbps	
		Transmission distance	Approx. 0.15 m MAX.	
	Bluetooth®		—	Bluetooth® 2.1+EDR(HID/SPP/DUP)
Card slot			MicroSDHC × 1 slot (up to 32 GB)	
Power supply	Main battery		3 Alkaline AAA battery or 3 AAA eneloop battery	
	Operating time*3	Alkaline battery	85 hours*4	
		eneloop	70 hours*4	
Additional functions			Clock, buzzer, vibration, battery voltage indicators	
Environmental requirements	Operating temperature		-5~50°C*5	
	Operating humidity		20 to 80% RH (no condensation or frost)	
	Protection rating		IP54	
	Drop resistance*6		2.0 m drop on a concrete floor. 1.2 m drop on a concrete floor, 10 times each on all 6 sides (test result after a total 60 drops).	
Weight(incl. battery)			Approx.128 g	

*1: User file area includes font file area (approx. 400kb). *2: The LCD panel is manufactured using high-precision technologies. While the effective pixel count is more than 99.99%, please be aware that there may be up to 0.01% of dead or stuck-on pixels. *3: Operation hours may vary according to operating conditions. *4: With one reading pass over a 5s period and backlight level 1. *5: Zero to 40°C when batteries are being recharged. *6: Result obtained in a test under regular temperature is shown. Test value, not guaranteed.

Handheld terminal with Windows®

BHT-1400

Characterized by a large screen, robustness, and single-handed operability



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes | 2D Codes | OCR

Supported by OCR model"BHT-1461QWB-CE-O" only

Display

3.2 inch touch panel color LCD

OS

Windows® Compact 7

Interface

Bluetooth®/Wireless LAN

Card slot

micro SDHC Support

Robustness

Protection Class IP 65



Drop Resistance: Up to 2.0 m



Features

- **Large 3.2-inch WVGA screen for ease of use**
- **Resists repeated minor impacts in daily use and more significant impacts.**
- **Ergonomically designed for easy single-handed use**
- **2.0 GB high-capacity memory**
- **Operates at temperatures between -20°C and 50°C.**

[Components]

•Device •Hand strap with stylus •Operation guide

*Battery and battery cover are not supplied with the product

Product Configuration

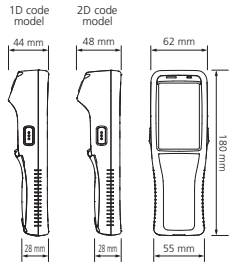


[Device]
BHT-1461BWB-CE
BHT-1461QWB-CE

+[Battery]
BT-140LA-C (Battery + battery cover)
BT-110LA (Battery only)

+[Communication Unit]
CU-AR1-14 (RS-232C)
CU-AL1-14 (Ethernet)
CU-AU1-14 (USB)

Dimensions



Options



CU-AR1-14
CU-AL1-14
CU-AU1-14

Four-battery charger



CH-1104

Four-device charger



CH-A4-14

Soft case



SCBHT-1400

Waist case



WHBHT-1400[*1]

Neck strap



NSBHT-1300

Model			CU-AR1-14	CU-AL1-14	CU-AU1-14	CH-1104
Communication	BHT↔Host	Communication system	RS-232C	Ethernet (100BASE-T)	USB2.0 Full Speed conformant	—
Charging	Charging time	Unit	Approx.3 hours		Approx.12 hours[*2]	—
		Charging of the battery cartridge	—			Approx.3 hours
Dimensions			110(D)×95(W)×109(H) mm			205.5(D)×190(W)×29(H) mm
Power supply			AC adapter[*3]		Supply from the connection/ AC adapter[*3]	AC adapter[*3]

*1: Waist case does not include belt. *2: The value changes depending on the supply capacity of the source (three hours when an AC adapter is used). *3: The AC adapter is an option.

Software [P.65-77]

Development/kitting/operation tools
- Software Development Kit
- BHT Windows Simulator[*1]
- Remote desktop Plug-in
- Web browser Plug-in
- Application package for OCR intraduction[*2]

Terminal management/maintenance tool
- BHT DMS
- Version Manager

Useful Software
- kbif CE
- Wlan Manager
- Application Launcher
- BHT Backup

*1: Some functions are not supported. *2: Only BHT-1461QWB-CE-O is supported.

Specification

Model			1D Code model (Bluetooth®+Wireless LAN model) BHT-1461BWB-CE	2D Code model (Bluetooth®+Wireless LAN model) BHT-1461QWB-CE	OCR model (Bluetooth®+Wireless LAN model) BHT-1461QWB-CE-O
OS			Windows Embedded Compact 7		
CPU			ARM Cortex-A8 800 MHz		
Memory	Flash memory		2.0 GB(User area: 1.2 GB)		
Display	Number of dots[*1]		480×800 dots (3.2 inches)		
	Display system		Liquid crystal dot matrix display (color)		
	Backlight		White LED		
Scanner	Reading system		Advanced Scan Plus(CCD)	Area sensor(CMOS)	
	Readable codes	2D Codes	—	QR Code®, micro QR Code, SQRC®, iQR Code, PDF417, micro PDF417, MaxiCode, DataMatrix(ECC200), GS1 Composite	
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)		
		OCR	—	—	Capable of scanning dot matrix characters used for the best-before date and characters on printed matter. Supported characters: alphabetical letters (uppercase), numerals, nine symbols (- . : / ( ) ＃¥), space Typical fonts: Gothic, Mincho, OCR-B, dot matrix characters, etc.
	Minimum resolution	2D Codes	—	0.167 mm	
		1D Codes	0.125 mm		
	Scanning reference position		110 mm	100 mm	
	Marker		—	Area guide marker	
	Scan confirmation		Visual (2 color LED), acoustic (signal sound) and haptic (vibration)		
Keypad	Number of keys		21keys(including power key)+cross cursor key+3 trigger keys		
Network	Wireless LAN	Compatible standards	IEEE802.11b/g/n compliant		
		Access method	Infrastructure mode		
		Security	Encryption: WEP(40/128)/TKIP/AES WPA authentication: WPA/WPA2 User authentication: PSK/EAP-TLS/PEAP/LEAP/EAP-FAST		
	Bluetooth®		Bluetooth® Ver2.1+EDR based class 2		
Card slot			MicroSDHC × 1 slot (up to 32 GB)		
Power supply	Main battery		Lithium-ion battery		
	Operating time[*2]		36 hours[*3]/30 hours[*4]	35 hours[*3]/32 hours[*4]	29 hours[*3]/27 hours[*4]
Additional functions			Clock, speaker, vibration, battery voltage indicator, key backlight		
Environmental requirements	Operating temperature		-20~50°C[*5]		
	Operating humidity		20 to 80% RH (no condensation or frost)		
	Protection rating		IP65		
	Drop resistance[*6]		2.0 m drop on a concrete floor. 1.5 m drop on a concrete floor, 10 times each on all 6 sides (test result after a total 60 drops).		
Weight(incl. battery)			Approx.255 g		

*1: The LCD panel is manufactured using high-precision technologies. While the effective pixel count is more than 99.99%, please be aware that there may be up to 0.01% of dead or stuck-on pixels. *2: The described operating time is a reference figure under regular temperatures and may vary depending on usage conditions. *3: With one reading pass over a 5s period and backlight level 1. *4: When ratios of reading, wireless communication, rewriting of screen and holding durations are 1:1:1:20 under continued wireless operation and backlight level 1. *5: Zero to 40°C when batteries are being recharged. *6: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handheld terminal with Windows®

BHT-1300 Windows®-OS

Perfectly suitable for any situation

Versatile terminal running on Windows OS, usable in any environment



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our Website to receive the three-year warranty.
The consumable parts specified by Denso carries a one-year warranty.

Scanner

1D Codes 2D Codes

Display

2.4 **2.4 inch touch panel color LCD**

OS

Windows OS **Windows® Compact 7**

Interface

Bluetooth®/Wireless LAN

Card slot

micro SDHC Support

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Uses the widespread and versatile Windows® operating system and taps into extensive developer support base.**
- **Compact and lightweight; weighs approximately 193 g (with thin battery).**
- **Runs up to 28 hours, even with always on wireless connection.**
- **Dome-shaped keys provide reliable response even when wearing gloves.**
- **2.0 GB high-capacity memory**
- **Operates at temperatures between -20°C and 50°C.**

[Components]

•Device •Hand strap with stylus pen •Operation guide

*Battery and battery cover are not supplied with the product

Product Configuration



[Device]

BHT-1361B-CE (Batch model)
BHT-1361BWB-CE (Bluetooth® + Wireless LAN model)
BHT-1361Q-CE (Batch model)
BHT-1361QWB-CE (Bluetooth® + Wireless LAN model)

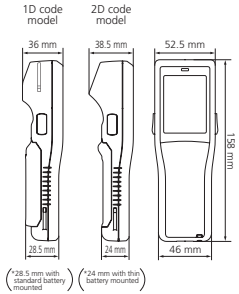
+[Battery]

BT-130LA-CE-C (Thin battery + battery cover)
BT-130L-CE-C (Standard battery + battery cover)
BT-130LA (Thin battery only)
BT-20LB (Standard battery only)

+[Communication Unit]

CU-1301A (RS-232C)
CU-1311A (Ethernet)
CU-1321 (USB)

Dimensions



Options



Communication Unit	Communication Cable	Single battery charger	Four-battery charger	Four-device charger	Soft case	Waist case	Neck strap	Touch-scan attachment	Head protector
CU-1301A CU-1311A CU-1321	CBBHT-US2000 /C13-4A-CE	CH-201B	CH-1104	CH-1354	SCBHT-1300	WHBHT-1300*1	NSBHT-1300	EA-13B*2	HPBHT-1300B HPBHT-1300Q

Model				CU-1301A	CU-1311A	CU-1321	CH-201B	CH-1104	CH-1354	CBBHT-US2000/C13-4A-CE
Communication	BHT↔Host	Communication system		RS-232C	Ethernet (100BASE-T)	USB2.0 Full Speed conformant	—	—	—	USB 2.0 Full Speed conformant
Charging	Charging time	Unit	Standard battery	Approx.3.5 hours		Approx.10 hours	—	—	Approx.3.5 hours	Approx.10 hours*3/Approx.3.5 hours*4
			Thin battery	Approx.2.5 hours		Approx.6 hours	—	—	Approx.2.5 hours	Approx.6 hours*3/Approx.2.5 hours*4
		Charging of the battery cartridge	Standard battery	—	—	—	Approx.3 hours	Approx.3 hours	—	—
			Thin battery	—	—	—	Approx.3 hours	Approx.2 hours	—	—
Dimensions				109(D)×95(W)×111(H) mm			65(D)×44(W)×28(H) mm	205.5(D)×190(W)×29(H) mm	112(D)×368(W)×128(H) mm	2.0 m(Cable)
Power supply				AC adapter*5		Supply from the connection/ AC adapter*5	AC	AC adapter*5		Supply from the connection*6

*1: Waist case does not include belt. *2: For Barcode model. *3: Supply from PC *4: Using USB charger *5: The AC adapter is an option. *6: The BHT-1300 can be charged by connecting it to a USB charger or other power adapter, or a PC USB port. When charging the BHT-1300, use a device that satisfies the following output and USB charging specifications. Output specifications: (voltage) DC5±0.25V/ (current) 1.2A or higher USB charging specifications: Battery Charging Specification Rev. 1.2

Software [P.65-77]

Development/kitting/operation tools

- Software Development Kit
- BHT Windows Simulator
- Remote desktop Plug-in
- Web browser Plug-in

Terminal management/maintenance tool

- BHT DMS*1
- Version Manager

Useful Software

- kbif CE
- Wlan Manager
- Application Launcher
- BHT Backup

*1: Support only for Bluetooth® + Wireless LAN model.

Specification

Model			1D Code model (Batch model) BHT-1361B-CE	1D Code model (Bluetooth®+Wireless LAN model) BHT-1361BWB-CE	2D Code model (Batch model) BHT-1361Q-CE	2D Code model (Bluetooth®+Wireless LAN model) BHT-1361QWB-CE
OS			Windows Embedded Compact 7			
CPU			ARM Cortex-A8 800 MHz			
Memory	RAM		Mobile DDR 512 MB			
	Flash memory		2.0 GB(User area: 1.2 GB)			
Display	Number of dots*1		240×320 dots (2.4 inches)			
	Display system		Liquid crystal dot matrix display (color)			
	Backlight		White LED			
Scanner	Reading system		Advanced Scan Plus(CCD)		Area sensor(CMOS)	
	Readable codes	2D Codes	—		QR Code®, micro QR Code, SQRC®, iQR Code, PDF417, micro PDF417, MaxiCode, DataMatrix(ECC200), GS1 Composite	
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)			
	Minimum resolution	2D Codes	—		0.167 mm	
		1D Codes	0.125 mm			
	Scanning reference position		50 mm		100 mm	
	Marker		—		Area guide marker	
	Scan confirmation		Visual (2 color LED), acoustic (signal sound) and haptic (vibration)			
Keypad	Number of keys		21keys(including power key)+cross cursor key+3 trigger keys			
Network	Wireless LAN	Compatible standards	—	IEEE802.11b/g/n	—	IEEE802.11b/g/n
		Access method	—	Infrastructure mode	—	Infrastructure mode
		Security	—	Encryption: WEP(40/128)/TKIP/AES WPA authentication: WPA/WPA2 User authentication: PSK/EAP-TLS/ PEAP/LEAP/EAP-FAST	—	Encryption: WEP(40/128)/TKIP/AES WPA authentication: WPA/WPA2 User authentication: PSK/EAP-TLS/ PEAP/LEAP/EAP-FAST
	Bluetooth®		—	Bluetooth® Ver2.1+EDR based class 2	—	Bluetooth® Ver2.1+EDR based class 2
Card slot			microSDHC/microSD card (~32 GB)×1			
Power supply	Main battery		Lithium-ion battery			
	Operating time*2	Standard battery	30 hours*3	30 hours*3/28 hours*4*5	29 hours*3	29 hours*3/27 hours*4*5
		Thin battery	17 hours*3	17 hours*3/15 hours*4*5	16 hours*3	16 hours*3/14 hours*4*5
Additional functions			Clock, speaker, vibration, battery voltage indicator, key backlight			
Environmental requirements	Operating temperature		-20~50°C*6			
	Operating humidity		20 to 80% RH (no condensation or frost)			
	Protection rating		IP54			
	Drop resistance*7		2.5 m drop on a concrete floor (with head protector). 2.0 m drop on a concrete floor. 1.2 m drop on a concrete floor, 10 times each on all 6 sides (test result after a total 60 drops).			
Weight			Approx.193 g(With thin battery mounted), Approx.211 g(With standard battery mounted)			

*1: The LCD panel is manufactured using high-precision technologies. While the effective pixel count is more than 99.99%, please be aware that there may be up to 0.01% of dead or stuck-on pixels. *2: The described operating time is a reference figure under regular temperatures and may vary depending on usage conditions. *3: With one reading pass over a 5s period and backlight level 1. *4: When ratios of reading, wireless communication, rewriting of screen and holding durations are 1:1:1:20 under continued wireless operation and backlight level 1. *5: Read out: Wireless communication: Screen rewritten: Character=1:1: 1: 20. Backlight level 1 wireless communication is on. Other time wireless communication is off. *6: Zero to 40°C when batteries are being recharged. *7: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handheld terminal with BHT-OS

BHT-1336QWB NEW

Continuing the usability of the BHT-1300 series

Reliability built with experience. Equipped with BHT-OS.



GLOBAL PRODUCTS

3 YEAR WARRANTY

* It is necessary to register your product on our website to receive the three-year warranty.
The consumable parts specified by DENSO carries a one-year warranty.

Scanner

1D Codes 2D Codes

Display

2.4-inch color LCD

OS

BHT-BASIC 4.0

Interface

Bluetooth®/Wireless LAN

Card slot

micro SDHC Support

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Runs the proprietary BHT-OS for high reliability and compatibility**
- **Peripherals and software for the previous model can be used continuously**
- **Compact and lightweight; weighs approximately 200 g (with standard battery)**
- **Dome-shaped keys provide reliable response even when wearing gloves**
- **Operates at temperatures between -20°C and 50°C**

[Components]

•Device •Battery (BT-20LB) •Hand strap •Battery cover
•Operation guide

Product Configuration



[Device]

BHT-1336QWB
*Standard battery (BT-20LB) and battery cover are included with the device.

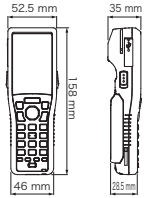
+[Battery]

BT-130LA-C (Thin battery + battery cover)
BT-130L-C (Standard battery + battery cover)
BT-130LA (Thin battery only)
BT-20LB (Standard battery only)

+[Communication Unit]

CU-1301A (RS-232C)
CU-1311A (Ethernet)
CU-1321 (USB)

Dimensions



Options



Communication Unit
CU-1301A CU-1311A CU-1321



Single battery charger
CH-201B



Four-battery charger
CH-1104



Four-device charger
CH-1354



Soft case
SCBHT -1300



Waist case
WHBHT -1300[*1]



Neck strap
NSBHT -1300



USB Type-C - Type-A conversion cable (1.5 m)
CB00-US1500/ 4A-4C

Model				CU-1301A	CU-1311A	CU-1321	CH-201B	CH-1104	CH-1354
Communication	BHT↔Host	Communication system		RS-232C	Ethernet (10BASE-T)	USB2.0 Full Speed conformant	—	—	—
Charging	Charging time	Unit	Standard battery	Approx.3 hours		Approx.7 hours[*2]	—	—	Approx.3 hours
			Thin battery	Approx.2 hours		Approx.4 hours[*2]	—	—	Approx.2 hours
		Charging of the battery cartridge	Standard battery	—		—	Approx.3 hours	Approx.3 hours	Approx.3 hours
			Thin battery	—		—	Approx.2 hours	Approx.2 hours	Approx.2 hours
Dimensions				109(D)×95(W)×111(H) mm			65(D)×44(W) ×28(H) mm	205.5(D)×190(W) ×29(H) mm	117.5(D)×368(W) ×127.7(H) mm
Power supply				AC adapter[*3]		Supply from the connection/ AC adapter[*3]	AC adapter[*3]		

*1: Waist case does not include belt. *2: The value changes depending on the supply capacity of the source. When an AC adapter is used, approx. 3 hours for the standard battery or approx. 2 hours for the thin battery. *3: The AC adapter is an option.

Software [P.65-77]

Development/kitting/operation tools

BHT-BASIC4.0 Development pack BHT-BASIC4.0 Creator BHT Advanced Pack II
BHT-BASIC4.0 Transfer Utility (EXE / DLL Pack) BHT-BASIC4.0 Simulator
BHT-BASIC4.0 Spec Checker (a tool to check specification differences)
BHT-BASIC definition file (BHTDEF.INC) BHT-BASIC4.0 Program Converter
BHT security certificate conversion tool Japanese font EZ Wireless II BHT Setting

Terminal management /maintenance tool

BHT Manager

Specification

Model			(Bluetooth® + Wireless LAN model) **BHT-1336QWB**
OS			BHT-OS
CPU			32 bit RISC Microprocessor
Memory	Flash memory		64 MB(User area: Approx.37 MB)
Display	Number of dots[*1]		2.4-inch QVGA (240 × 320 dots)
	Display system		Liquid crystal dot matrix display (color)
	Displayable characters[*2]	Small fonts	10 characters × 16 lines (double byte), 20 characters × 16 lines (single byte)
		Standard fonts	8 characters × 13 lines (double byte), 16 characters × 13 lines (single byte)
	Backlight		White LED
Scanner	Reading system		Area Sensor
	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, rMQR Code®, PDF417, micro PDF417, MaxiCode, DataMatrix (ECC200), GS1 Composite
		1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)
	Minimum resolution	2D Codes	0.167 mm
		1D Codes	0.125 mm
	Marker		Laser marker (area)
	Scan confirmation		3-color LED (blue, red, green), speaker, vibrator
Keypad	Number of keys		21 keys (including power key) + cross cursor key + 3 trigger keys
Network	Wireless LAN[*3]	Compatible standards	IEEE802.11a/b/g/n/ac compliant
		Frequency	5 GHz band (W52, W53, W56), 2.4 GHz band (1–13 ch)
		Access method	Infrastructure mode, ad-hoc mode
		Security	Encryption: WEP (40/128)/TKIP/AES WPA authentication: WPA/WPA2 User authentication: PSK/EAP-TLS/PEAP
	Bluetooth®		Bluetooth® Ver.5.0 + EDR/LE (Supported profile: GAP/SPP/HID/DUN/GATT)
	Cradle interface		USB Ver. 2.0 (USB Type-C®)
Card slot			FAT32-compliant microSD or microSDHC (32 GB max) × 1
Power supply	Main battery		Lithium-ion battery
	Operating time[*5]	Standard battery	55 hours[*6]/21 hours[*7]
		Thin battery	32 hours[*6]/12 hours[*7]
Additional functions			Clock, speaker, vibration, battery voltage indicator, key backlight, remote wake-up
Environmental requirements	Operating temperature[*4]		-20~50°C
	Operating humidity		5–95% RH (non-condensing and non-icing)
	Protection class		IP54
	Drop resistance		2.0 m drop on a concrete floor. 1.2 m drop on a concrete floor, 10 times each on all 6 sides (test result after a total 60 drops).
Weight			Approx. 200 g (with standard battery), approx. 180 g (with thin battery)

*1: The LCD panel is manufactured using high-precision technologies. While the effective pixel count is more than 99.99%, please be aware that there may be up to 0.01% of dead or stuck-on pixels. *2: The small fonts are 48-dot fonts and the standard fonts are 60-dot fonts. Additionally, 24-dot fonts, 30-dot fonts, and 40-dot fonts can be set. *3: According to the Radio Act, use of W52 and W53 outdoors is prohibited (unless permitted by law or regulation). *4: Zero to 40°C when batteries are being recharged. *5: The described operating time is a reference figure under regular temperatures and may vary depending on usage conditions. *6: With one reading pass over a 5s period and backlight on. *7: When ratios of reading, wireless communication, rewriting of screen, and holding durations are 1:1:1:20, with backlight on only during reading, wireless communication, and rewriting of screen.

Handy scanner

SF1

Small and robust scanner

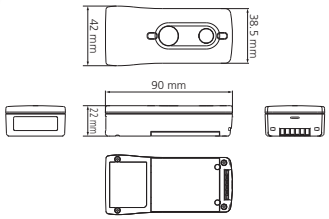


SF1-BB/QB　　SF1-QBi

[Components]

•Device •Battery (attached to the main unit)

Dimensions



Scanner

1D Codes　2D Codes

Weight

Approx.80 g*

*With battery

Interface

Bluetooth®

Robustness

Protection Class IP 54

Drop Resistance: Up to 2.5 m

Features

- **Magnesium frame for class-leading robustness**
- **Operates at temperatures between -20°C and 50°C.**
- **Supports iOS (light gray model)**

Options

Single device charge — **CH-SF11**

Four-device charger — **CH-SF14**

Hand strap — **HSSE1**

Neck strap (with reel) — **NS1-001**

Belt clip (with reel) — **AW1-001**

Bluetooth® Communication Unit — **BA20-RU**

Model		CH-SF11	CH-SF14	BA20-RU*1
Communication	BA↔Host	—	—	RS-232C/USB*2
	Scanner↔BA	—	—	Bluetooth® Ver2.1
Charging	Charging time	2.5 hours		—
Power supply		AC adapter		Supplied from the connection/AC adapter

*1: This product has a built in wireless system based on Bluetooth® Wireless Technology.
*2: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration.

Software

Software for setting

QR_kbif ▮Scanner Setting*1 ▮Scanner Setting 2D*2 ▮SQRC Setting*2 ▮BA Setting ▮DENSO SF1 SDK for iOS ▮Connection support sample tool for wireless scanners

*1: For 1D Code model *2: For 2D Code model

Specification

Model			1D Code model	2D Code model	
			SF1-BB	SF1-QB	SF1-QBi
Enclosure color			Dark gray		Light gray
Scanner	Reading system		Advanced Scan Plus (CCD)	Area senser	
	Readable codes	2D Codes	—	QR Code®, SQRC®, iQR, micro QR Code, DataMatrix(ECC200), PDF417, micro PDF417, MaxiCode,Aztec, GS1 Composite	
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)		
	Minimum resolution	2D Codes	—	0.167 mm	
		1D Codes	0.125 mm		
	PCS value		0.3 min		
	Slope angle/elevation angle		±50°		
	Scan confimation		Visual (3 color LED), acoustic (signal sound) and haptic (vibration)		
Communication interface	Interdace		Bluetooth® Ver2.1+EDR based class 2		
	Profile		SPP, HID		SPP,HID,SPP(for iOS)
Power	Power supply		Lithium-ion battery		
	Operating time*1		48 hours	24 hours	
Environmental requirements	Operating temperature*2		-20~50°c		
	Operating humidity		10 to 90% RH (no condensation or frost)		
	Protection rating		IP54		
	Drop resistance*3		2.5 m drop on a concrete floor, 1.5 m × 100 times drop on a concrete floor, 0.5 m × 3000 times		
Weight (incl. battery)			Approx.80 g		

*1: Reading codes once every five seconds. *2: Zero to 40°C when batteries are being recharged. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

SE1

Pocket-size model

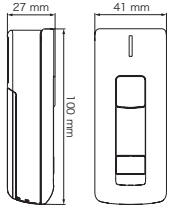


[Components]

•Device •Operation guide

*The product does not include batteries.
*BA20-RU is sold separately.

Dimensions



GLOBAL PRODUCTS

Scanner

1D Codes　2D Codes

Weight

Approx.110 g*

*With battery

Interface

Bluetooth®

Robustness

Protection Class IPX2

Drop Resistance: Up to 1.2 m

Features

- **Runs for up to 100 hours; accepts ordinary alkaline batteries in the event of unanticipated dead batteries.**
- **Compatible with eneloop® rechargeable batteries**

Options

Single device charger — **CH-SE11**

Four-device charger — **CH-SE14**

Hand strap — **HSSE1**

Neck strap — **NSBHT-1300**

Silicone cover for SE1 series (Clear)

Silicone cover for SE1 series (Black)

Bluetooth® Communication Unit — **BA20-RU**

Model		BA20-RU*1
Communication	BA↔Host	RS-232C/USB*2
	Scanner↔BA	Bluetooth® Ver.2.1
Power supply		Supply from the connection

*1: This product has a built in wireless system based on Bluetooth® Wireless Technology.
*2: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration. Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub.

Software

Software for setting

QR_kbif ▮Scan Tune App ▮BA Setting ▮SQRC Setting*1

*1: For 2D Code model.

Specification

Model			1D Code model SE1-BB	2D Code model SE1-QB
Scanner	Reading system		Advanced Scan Plus (CCD)	Area sensor
	Readable codes	2D Codes	—	QR Code®, micro QR Code, iQR Code, SQRC®, PDF417, micro PDF417, DataMatrix(ECC200), Aztec, GS1 Composite, MaxiCode
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE32, CODE39, CODE93, CODE128, GS1-128(EAN-128), MSI, Plessey, GS1 DataBar(RSS)	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS), Standard 2 of 5(STF)
	Minimum resolution	2D Codes	—	0.167 mm
		1D Codes	0.125 mm	
	PCS value		0.30 min	
	Slope angle/elevation angle		±50°	
	Scan confirmation		Visual (2 color LED), acoustic (signal sound)	
Communication interface	Interface		Bluetooth® Ver2.1+EDR based class 2	
	Profile		SPP, HID	
Power	Power supply		Alkaline AA battery × 2 or eneloop × 2	
	Operating time		100 hours*1	50 hours*1
Environmental requirements	Operating temperature		-5~50°C	
	Protection rating		IPX2	
	Drop resistance*3		1.2 m × 6 times drop on concrete floor.	
Weight (incl. battery)			Approx. 110 g*4	

*1: Reading codes once every five seconds. *2: Result obtained in a test under regular temperature is shown and not meant as a guarantee. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee. *4: When using eneloop.

Handy scanner

GT20

Robust, high-spec model



GLOBAL PRODUCTS

5 YEAR WARRANTY

* For USB model and RS-232C model. The warranty covers only the body and not the cable or battery.

3 YEAR WARRANTY

* For Bluetooth model. Body only.

Scanner

1D Codes　2D Codes

Weight

Approx.180 g

Interface

USB/RS-232C

Bluetooth®

Robustness

Protection Class IP 65

Drop Resistance: Up to 2.0 m

Features

- **Drop resistance of 2 m × 60 times (among best in class) for peace of mind**
- **Features magic keys for assigning various functions to speed up work.**
- **Free software available for easy setting of parameters on PC**
- **Operates at temperatures between -20°C and 50°C.**

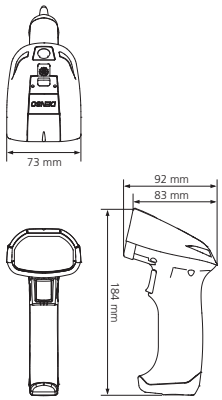
[Components]

RS-232C model · USB model
- Device
- Interface cable
- AC adapter(For RS-232C model)
- Operation guide

Bluetooth® model
- Device (with battery)
- Charger
- AC adapter
- Hand strap
- Operation guide

*BA20-RU is sold separately.

Dimensions



Options

Charger

CH-GT20L

Holder

S-GT20


S-GT21[*1]

Neck strap

NSBHT-1300

Communication Unit

BA20-RU

Hands-free stand

H-GT10


H-GT11


H-GT20


H-GT21[*2]

Waist case

K-GT10

Model		CH-GT20L	BA20-RU[*3]
Communication	BA↔Host	—	RS-232C/USB[*4]
	Scanner↔BA	—	Bluetooth® Ver.2.1
Charging	Charging time	2.5 hours	—
Power supply		AC adapter	Supply from the connection

*1: S-GT21 can be used in two ways (on the desk or on the wall). *2: This product is the oil resistance mechanism. *3: This product has a built in wireless system based on Bluetooth® Wireless Technology. *4: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration. Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub.

Software

Software for setting

QR_kbif　Scanner Setting[*1]　Scanner Setting 2D[*2]　SQRC Setting[*3]　BA Setting

*1: For 1D Code model. *2: For 2D Code model.

Specification

Model			1D Code model (USB model) GT20B-SM(U)	1D Code model (RS-232C model) GT20B-SM(R)	1D Code model (Bluetooth® model) GT20B-SB-V2	2D Code model (USB model) GT20Q-SM(U)	2D Code model (RS-232C model) GT20Q-SM(R)	2D Code model (Bluetooth® model) GT20Q-SB-V2
Scanner	Reading system		Advanced Scan Plus(CCD)			Area sensor(CMOS)		
	Readable codes	2D Codes	—			QR Code®, SQRC®, iQR Code, micro QR Code, DataMatrix(ECC200), PDF417, micro PDF417, MaxiCode, Aztec, GS1 Composite		
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE32, CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)			EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)		
	Minimum resolution	2D Codes	—			0.167 mm		
		1D Codes	0.125 mm					
	Marker		—			Area guide marker		
	PCS value		0.30 min					
	Slope angle/elevation angle		±50°					
	Scan confimation		Visual (3 color LED), acoustic (signal sound) and haptic (vibration)					
Communication interface	Interface		USB[*1]	RS-232C	Bluetooth® Ver2.1+EDR based class 2	USB[*1]	RS-232C	Bluetooth® Ver2.1+EDR based class 2
	Connection interface		USB connector (type A)	Dsub-9S	—	USB connector (type A)	Dsub-9S	—
	Profile		—	—	SPP, HID	—	—	SPP, HID
	Cable		2 m Cable	2 m Cable, 5 m Cable	—	2 m Cable	2 m Cable, 5 m Cable	—
Power			USB port[*2]	AC adapter	Built-in battery	USB port[*2]	AC adapter	Built-in battery
Environmental requirements	Operating temperature[*3]		-20~50°c					
	Operating humidity		10~90% RH (no condensation or frost)					
	Protection rating		IP65					
	Drop resistance[*4]		2.0 m × 60 times drop on concrete floor.					
Weight			Approx. 180 g (excl. cable)		Approx. 230 g (incl. cable)	Approx. 180 g (excl. cable)		Approx. 230 g (incl. cable)

*1: Two methods are supported: a USB keyboard interface and a USB-COM interface. The factory default is a USB keyboard interface for GT20B and a USB-COM interface for GT20Q. *2: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub. *3: Zero to 40°C when batteries are being recharged. *4: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

AT20

Standard model focusing on operability



AT20



AT21

GLOBAL PRODUCTS

5 YEAR WARRANTY

* The warranty covers only the device and not the cable or battery.

Scanner

1D Codes　2D Codes

Weight

Approx.105 g

Interface

USB/RS-232C

Bluetooth®

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Deep scanning range from close to distant targets**
- **Also supports mobile QR Code®. Allows use with services including mobile coupons and mobile membership cards.**
- **The Bluetooth® model allows connection to tablet terminals and smartphones.**
- **Free software available for easy setting of parameters on PC**

[Components]

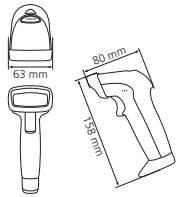
RS-232C model · USB model
- Device
- Interface cable
- AC adapter
  (Only for the RS-232C model with a power supply through the AC adapter)
- Operation guide

Bluetooth® model
- Device (with battery)
- Charger (CH-AT10L)
- AC adapter
- Hand strap
- Operation guide

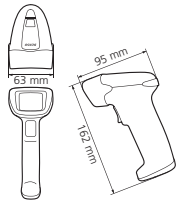
*BA20-RU is sold separately.

Dimensions

RS-232C model·USB model



Bluetooth model



Options

Charger



CH-AT10L

Holder



S-AT20



S-AT21



S-AT30

Neck strap



NSBHT-1300

Bluetooth® Communication Unit



BA20-RU

Hands-free stand



H-AT10



H-AT20



H-AT21



H-AT20-2



H-AT20-3

Model		CH-AT10L	BA20-RU*1
Communication	BA↔Host	—	RS-232C/USB*2
	Scanner↔BA	—	Bluetooth® Ver.2.1
Charging	Charging time	2.5 hours	—
Power supply		AC adapter	Supply from the connection

*1: This product has a built in wireless system based on Bluetooth® Wireless Technology. *2: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration. Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub.

Software

Software for setting

QR_kbif　Scanner Setting*1　Scanner Setting 2D*2　SQRC Setting*2　BA Setting*3

*1: For 1D Code model. *2: For 2D Code model. *3: For Bluetooth model.

Specification

Model		1D Code model		
		(RS-232C model) AT20B-SM(R) AT21B-SM(R)	(USB model) AT20B-SM(U) AT21B-SM(U)	(Bluetooth® model) AT22B-SB-V2
Scanner	Reading system	Advanced Scan Plus(CCD)		
	Readable codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2of5(ITF), Standard 2of5(STF), Codabar(NW-7), CODE32, CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS), MSI, Plessey		
	Minimum resolution	0.125 mm		
	Slope angle/elevation angle	±50°		
	Scan confirmation	Visual (3 color LED), acoustic (signal sound)		Visual (4 color LED), acoustic (signal sound)
Communication interface	Interface	RS-232C	USB(COM, HID)*1	Bluetooth® Ver2.1+EDR based class 2
	Connection interface	Dsub-9pin	USB connector (type A)	—
	Profile	—		SPP, HID
	Cable	2 m straight		—
Power supply		AC adapter, Supply from the connection*3	Supply from the connection*3	Built-in Battery(SB-10L)
Environmental requirements	Protection rating	IP42		IP54
	Drop resistance*5	2.0 m drop on concrete floor. 0.2 m drop on concrete floor, over 100000 times.		1.8 m × 6 times drop on concrete floor
Weight		Approx. 105 g(excl. cable)		Approx. 200 g (incl. battery)

Model		2D Code model						
		(RS-232C model) AT20Q-SM(R)/ AT21Q-SM(R)	(USB model) AT20Q-SM(U)/ AT21Q-SM(U)	(RS-232C model) AT21Q-HM(R)	(USB model) AT21Q-HM(U) USB model	(RS-232C model) AT25Q-SM(R)/ AT26Q-SM(R)	(USB model) AT25Q-SM(U)/ AT26Q-SM(U)	(Bluetooth® model) AT27Q-SB-V2
Scanner	Reading system	Area sensor(CMOS)						
	Readable codes 2D Codes	QR Code®, micro QR Code, SQRC®, rMQR Code®, iQR Code, DataMatrix(ECC200), PDF417, micro PDF417, MaxiCode, Aztec, GS1 Composite						QR Code®, micro QR Code, SQRC®, iQR Code, DataMatrix(ECC200), PDF417, micro PDF417, MaxiCode, Aztec, GS1 Composite
	Readable codes 1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Standard 2 of 5(STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)						
	Minimum resolution 2D Codes	0.167 mm		0.125 mm		0.167 mm		
	Minimum resolution 1D Codes	0.125 mm		0.10 mm		0.125 mm		
	Marker	LED Marker				Area guide marker		
Communication interface	Interface	RS-232C	USB (COM, HID)*2	RS-232C	USB (COM, HID)*2	RS-232C	USB (COM, HID)*2	Bluetooth® Ver2.1+EDR based class 2
	Connection interface	Dsub-9S	USB connector (type A)	Dsub-9S	USB connector (type A)	Dsub-9S	USB connector (type A)	—
	Profile	—						SPP, HID
	Cable	2 m straight						—
Power	Power supply	AC adapter / Supply from the connection*3	Supply from the connection*3	AC adapter / Supply from the connection*3	Supply from the connection*3	AC adapter / Supply from the connection*3	Supply from the connection*3	Built-in Battery(SB-10L)
	Operating time*4	—						28 hours
Environmental requirements	Protection rating	IP42						IP54
	Drop resistance*5	2.0 m drop on concrete floor. 0.2 m drop on concrete floor, over 100000 times.						1.8 m × 6 times drop on concrete floor
Weight		Approx. 110 g (excl. cable)						Approx. 200 g (incl. battery)

*1: Two interfaces are supported (USB keyboard [HID] and USB-COM). The interface is set to USB-COM at shipment. *2: Two interfaces are supported (USB keyboard [HID] and USB-COM). The interface is set to USB-COM at shipment. *3: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub. *4: When codes are scanned every five seconds (using fully charged new batteries). In the case of connection established with the AT22B-SB (master) through communication with the BA20-RU. *5: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

AT30

2D scanners also support "touch scanning"



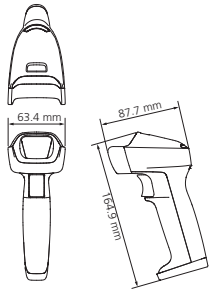
AT30Q



AT31Q

[Components]
- Device
- Interface cable
- AC adapter
  (Only for the RS-232C model with a power supply through the AC adapter)
- Operation guide

Dimensions



DESIGN AWARD 2016 / GLOBAL PRODUCTS / 5 YEAR WARRANTY

* The warranty covers only the device and not the cable or battery.

Scanner

1D Codes / 2D Codes

Weight

Approx.125 g

Interface

USB/RS-232C

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Supports both touch scanning and distant scanning.**
- **The scanner features a new design that incorporates an open space at the top to allow users to check codes while scanning.**
- **Also supports mobile QR Code®. Allows use with services including mobile coupons and mobile membership cards.**
- **Free software available for easy setting of parameters on PC**

Options

Holder
S-AT30

Hands-free stand
H-AT30

Software
Software for setting
- QR_kbif
- Scanner Setting 2D
- SQRC Setting

Specification

Model			2D Code model	
			(USB model) **AT30Q-SM(U)/AT31Q-SM(U)**	(RS-232C model) **AT30Q-SM(R)/AT31Q-SM(R)**
Scanner	Reading system		Area Sensor (CMOS)	
	Readable codes	2D Codes	QR Code, SQRC, iQR Code, Micro QR Code, Data Matrix (ECC200), PDF417, Micro PDF417, Maxicode, Aztec, GS1 Composite	
		1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 Databar (RSS)	
	Minimum resolution	2D Codes	0.167 mm	
		1D Codes	0.125 mm	
	Marker		LED point marker	
	PCS value		0.30 min	
	Angle		±50°	
	Skew angle		360°	
	Image capture		BMP, JPEG output, thumbnail view	
	Scanning confirmation		Visual (3 color LED), acoustic (signal sound)	
Communication interface	Interface		USB*1	RS-232C
	Connection interface		USB connector (A type)	Dsub-9S
	Cable		2 m	2 m, 5 m
Power			Supply from the connection*2	Supply from the connection, directed AC adapter
Environment requirements	Operating temperature		-5~50°C	
	Operating humidity		10 to 90% RH (without dews)	
	Protection rating		IP42	
	Drop resistance*3		2.0 m drop on concrete floor. 0.2 m drop on concrete floor, over 100000 times.	
Weight (excl. cable)			Approx. 125 g	

*1: Two methods are supported: a USB keyboard interface and a USB-COM interface. The factory default is USB-COM interface. *2: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

HC76TR / TU / QU NEW

Easy-to-hold and easy-to-scan Contact scanning model for POS



[Components]
- Device
- Operation guide

5 YEAR WARRANTY

*The warranty covers only the device and not the cable, etc.

Scanner

1D Codes / 2D Codes

*HC76QU only. Excluding HC76TR and HC76TU.

Weight

Approx.85 g

Interface

USB/RS-232C

Robustness

Drop Resistance: Up to 1.5 m

Features

- **Grip design allows scanning at any angle**
- **Touch scanning model for ease of use by anyone**
- **Supports various payment methods with the addition of a 2D model**



HC76QU

Options

Holder
S-70

Software
Software for setting
- QR_kbif
- Scanner Setting

Specification

Model			1D Code model			2D Code model
			(RS-232C model) **HC76TR**		(USB model) **HC76TU**	(USB model) **HC76QU**
Scanner	Trigger switch		No			Yes
	Reading system		Advanced Scan(CCD)			Area Sensor
	Readable codes	2D Codes	—			QR Code Model 1, 2, micro QR Code, SQRC®, rMQR Code®, GS1 Composite
		1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)			
	Minimum resolution	2D Codes	—			0.167 mm
		1D Codes	0.125 mm			0.125 mm
	PCS value		0.45 min			
	Maximum reading width		65 mm (including left and right margins)			
	Scanning confirmation		Blue LED, buzzer			
Communication interface	Interface		RS-232C		USB 1.1*1	USB 1.1*1
	Connection interface		D-SUB9 (female)	DIN-8P (male)	USB connector (type A)	USB connector (type A)
	Cable		2 m straight cable	0.6 m curl cable	2 m straight cable	2 m straight cable
Power	Power supply		Power supply host type / AC adapter supply type	Power supply host type	Supply from the connection*2	Supply from the connection*2
Environmental performance	Drop resistance*3		1.5 m × 30 times drop on concrete floor			
	Operating temperature		0–40°C			
	Operating humidity		10–90% RH (non-condensing and non-icing)			
	Ambient light		10,000 lux or lower (daylight color fluorescent lamps)			
Weight (excl. cable)			Approx. 85 g			

*1: Supports both USB keyboard interface and USB-COM interface. *2: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

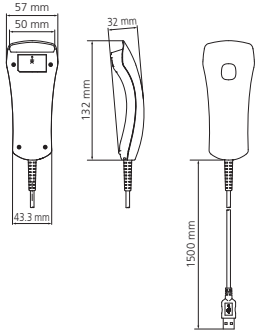
SH1

[Components]
- Device
- Operation guide

A compact model that is easy to keep clean



Dimensions



Scanner

1D Codes 2D Codes

Weight

Approx.55 g

Interface

USB

Robustness

Drop Resistance: Up to 1.5 m

Features

- **Antibacterial* design with a smooth, flat profile to always keep it clean**

*Device only, excluding cable, etc.

- **Slim, compact model ideal for use in confined spaces**
- **Includes vibration function for reliable scanning confirmation**







Software

Software for setting

QR_kbif Scanner Setting Scanner Setting 2D*
SQRC Setting*

*2D Code model only

Specification

Model			1D Code model **SH1-BU**	2D Code model **SH1-QU**
Scanner	Reading system		Advanced Scan Plus(CCD)	Area Sensor
	Readable codes	2D Codes	—	QR Code®, SQRC®, Micro QR Code, DataMatrix (ECC200), PDF417, Micro PDF417, MaxiCode, Aztec, GS1 Composite
		1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Standard 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)	
	Minimum resolution	2D Codes	—	0.167 mm
		1D Codes	0.125 mm	
	PCS value		0.3 min	
	Angle		±50°	
	Scanning confirmation		Blue LED, buzzer, vibrator	
Communication interface	Interface		USB 1.1*1	
	Connection interface		USB connector(type A)	
	Cable		1.5 m straight cable	
Power	Power supply		Supply from the connection*2	
Environmental performance	Drop resistance*3		1.5 m × 30 times drop on concrete floor	
	Operating temperature		-5–50°C	
	Operating humidity		10–90% RH (non-condensing and non-icing)	
	Ambient light		10,000 lux or lower (daylight color fluorescent lamps)	
Weight (excl. cable)			Approx. 55 g	

*1: Supports both USB keyboard interface and USB-COM interface. *2: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

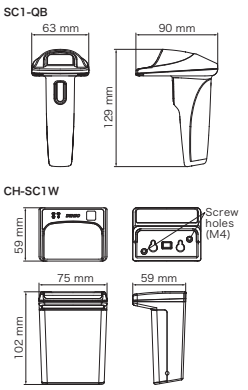
SC1-QB

[Components]
- Device
- Charger
- USB cable
- Operation guide

Ideal for medical settings



Dimensions



Scanner

1D Codes 2D Codes

Weight

Approx.130 g

Interface

Bluetooth®

Robustness

Protection Class: IP65

Drop resistance: Up to 2.0 m

Features

- **Seamless design with a smooth profile to maintain cleanliness**
- **Antibacterial and antichemical features for medical settings**
- **Built-in capacitor to eliminate the need for battery replacement**
- **Wireless charging by simply placing the device on the charger Fully charged in 3 minutes, continuous operation for 30 minutes**



- **Convenient operation with wireless connection**
- **Lightweight and compact design to reduce the burden on operators**



- **Robustness and dustproof/waterproof performance to withstand daily operations**



Specification

Model			**SC1-QB**
Scanner	Reading system		Area Sensor
	Readable codes	2D Codes	QR Code®, SQRC®, rMQR Code®, Mcro QR Code, DataMatrix (ECC200), PDF417, Micro PDF417, MaxiCode, Aztec, GS1 Composite
		1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Standard 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS), ISBT128
	Minimum resolution	2D Codes	0.127 mm
		1D Codes	0.076 mm
	PCS value		0.3 min
	Angle		±50°
	Annunciation function		LED (blue, green, red), buzzer, vibrator
Communication interface	Interface*1		Bluetooth® 5.0 Low Energy based class 2
Power	Type		Capacitor
	Charging time		Approx. 3 minutes
	Operating time*2		Approx. 30 minutes
Environmental performance	Drop resistance		2.0 m drop on concrete floor, 0.5 m drop on concrete floor × 2,000 times.
	Operating temperature		-20–50°C
	Operating humidity		10–90% RH (non-condensing)
	Protection class		IP65
	Ambient light		100,000 lux or lower
Weight			Approx. 130 g

*1: Connection with the BA-20 series is not possible since the interface differs. *2: This is the operating time when the device is paired with the charger, the QR code is read once every five seconds with the trigger in the auto-off mode, and communication with the charger is repeated.

Charger specification

Model		**CH-SC1W**
Charger	Charging indication	LED (blue, green, red)
	Communication interface	USB 2.0 (Full Speed) USB-HID keyboard input/ USB-COM connection
Power	Power supply	USB charging (5 VDC)
	Battery	AA eneloop® × 2
Environmental performance	Operating temperature	0–40°C
	Operating humidity	20–90% RH (non-condensing)
	Protection class	IP22
Weight		Approx. 125 g (excl. batteries)

*eneloop® is a registered trademark of the Panasonic Group.
*Alkaline batteries cannot be used. Use eneloop® batteries.

Handy scanner

QS20P

Micro QR Code® contact scanning model

[Components]
- Device
- Operation guide



GLOBAL PRODUCTS

Scanner

2D Codes

Weight

Approx.170 g

Interface

USB/RS-232C

Features

- **Capable of scanning micro QR Code® with minimum cell size of 0.1 mm**
- **Pen-style model for easy targeting**

Software

Software for setting
- QR_kbif

Specification

Model		2D Code model	
		(USB model) **QS20P-A11-U**	(RS-232C model) **QS20P-A11-R**
Scanner	Readable codes	QR Code®, micro QR Code, DataMatrix(ECC200)	
	Minimum resolution	0.1 mm	
	Scanning reference position	0 mm(touch)	
	Reading size	11×11 mm	
	PCS value	0.45 min	
	Slope angle / elevation angle	±35°	
Communication interface	Interface	USB	RS-232C
	Connection interface	USB connector (type A)	Dsub-9 P
	Cable	3 m	2 m
Power supply		Supply from the connection	AC adapter
Environmental requirements	Operating temperature	0~40°C	
	Drop resistance*1	1.0 m × 6 times drop on concrete floor.	
Weight(incl. cable)		Approx. 180 g	Approx. 170 g

*1: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

Handy scanner

GT20QD

Designed for direct part marking on metallic workpieces

[Components]
- Device
- Interface cable
- Operation guide



GLOBAL PRODUCTS

Scanner

1D Codes 2D Codes

Weight

Approx.210 g

Interface

USB/RS-232C

Robustness

Protection Class IP 65G*

Drop Resistance: Up to 2.0 m

* In compliance with JIS C 0920
(with the connector cover for the interface cable locked).

Features

- **Drop resistance of 2.0 m × 6 times (among industry best)**
- **Allows reliable scanning even with metallic targets and micro codes.**
- **G grade oil-resistant construction (among industry best).**

Options

Holder **S-GT20** Hands-free stand **H-GT20 / H-GT21**

Software

Software for setting
- Scanner Setting DPM
- QR_kbif
- SQRC Setting

Specification

Model			2D Code model	
			(RS-232C model) **GT20QD-SM(R)**	(USB model) **GT20QD-SM(U)**
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, iQR Code, PDF417, micro PDF417, MaxiCode, DataMatrix(ECC200), GS1 Composite	
		1D Codes	EAN-13/8(JAN-13/8),UPC-A/E, UPC/EAN (With add-on), Interleaved 2 of 5 , Codabar(NW-7), CODE 39, CODE 93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)	
	Minimum resolution	2D Codes	0.1mm	
		1D Codes	0.1mm	
	Marker		Visual (1 color LED)	
Communication interface	Interface		RS-232C	USB(COM, HID)*1
	Connection type		Dsub-9 P	USB connector (type A)
Power supply			AC adapter	
Environmental requirements	Protection rating		IP65G*2	
	Drop resistance*3		2.0 m × 6 times drop on concrete floor.	
Weight(excl. cable)			Approx. 210 g	

*1: USB (COM.HID) support 2 systems for USB keyboard interface and USB-COM interface. *2: Comply with JIS C0920. Interface cable connector covers locked condition is guaranteed.
*3: This is a test value not a guaranteed value.

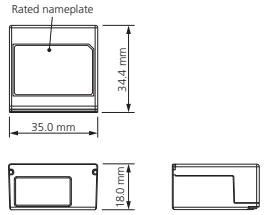
Fixed type scanner

QM30

Ultra-small 3.5 cm case dimensions incorporation into a wide range of devices.



Dimensions



Scanner

1D Codes 2D Codes

Weight

Approx.18 g

Interface

8-pin board to wire connector/ USB

Features

- **DENSO WAVE's smallest and lightest ever integral scanner.**
- **3.5 cm case dimensions allows installation in a wide range of devices.**
- **Incorporates latest module developed by DENSO WAVE.**
- **Operates at temperatures between -10°C and 50°C.**

Software

Software for setting

Scanner Setting 2D SQRC Setting

Specification

Model			2D Code model	
			QM30-SU	**QM30-SS**
Enclosure color			Black	
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code,SQRC®, DataMatrix,PDF417,micro PDF417,Aztec	
		1D Codes	EAN-13/8,UPC-A/E,UPC/EAN(With add-on), Interleaved 2 of 5,CODABAR(NW-7),CODE39,CODE93,CODE128(EAN-128),GS1 DataBar(RSS)	
	Minimum resolution	2D Codes	0.167 mm	
		1D Codes	0.125 mm	
	Image sensor		480,000-pixel CMOS image sensor	
	Lighting		Red LED	
	Marker		Red LED	
	Field of view (in degrees)		Horizontal: 40°, vertical: 30°	
	LCD code		Supported	
	PCS value		0.30 or higher	
	Skew angle		360°	
	Elevation angle, inclination angle		±50°	
Communication interface	Interface		USB 2.0 compliant (COM, HID)	Serial (TTL level)
	Connector		USB connector micro USB	8-pin board to wire connector
Power, current consumption			DC5V ±5%, 500 mA (scanning) , 180 mA(standby)	
Environmental requirements	Operating humidity		10 to 90% (no condensation or freezing)	
	Operating remperature		-10~50°C	
Weight			Approx. 18 g	

Fixed type scanner

QB33

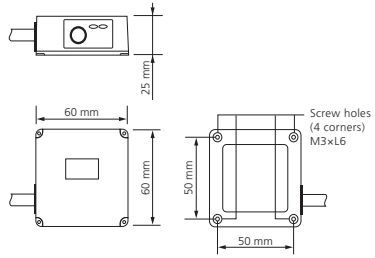
Compact installation and built-in model



[Components]

•Device •Operation guide

Dimensions



GLOBAL PRODUCTS

Scanner

1D Codes 2D Codes

Weight

Approx.120 g

Interface

USB/RS-232C

Features

- **Wide scanning model for installation in confined spaces**
- **Scan low quality 2D code with scanning algorithm as the developer of QR code.**
- **Operates at temperatures between -20°C and 50°C.**

Software

Software for setting

QR_kbif Scanner Setting SQRC Setting

Specification

Model			2D Code model	
			(RS-232C model) **QB33-SR**	(USB model) **QB33-SU**
Enclosure color			White	
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, iQR Code, PDF417, micro PDF417, MaxiCode, DataMatrix(ECC200), Aztec, GS1 Composite	
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5, Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)	
	Minimum resolution	2D Codes	0.20 mm	
		1D Codes	0.15 mm	
	Scanning reference position		40 mm	
	Reading sight*1		62×39 mm	
	Lighting		1 color(Blue, Green, Red)	
	Scan confirmation		Visual (3 color LED), acoustic (signal sound) and haptic (vibration)	
Communication interface	Interface		RS-232C*2 (mini D-sub15PIN)	USB
	Cable		0.5 m	2 m
Power	Power rating		5V	
	Power supply		Supplied from the connection target	
Additional functions	Operation button		1 button (magic key)	
Environmental requirements	Operating temperature		-20~50°C	
	Protection range		IP54	
Weight			Approx. 120 g	Approx. 150 g

*1: Value at the scanning reference position *2: When the RS-232C model is connected to an external device by using the D-sub9PIN, a D15-to-D9S conversion cable and an AC adopter are required.

Fixed type scanner

QK30

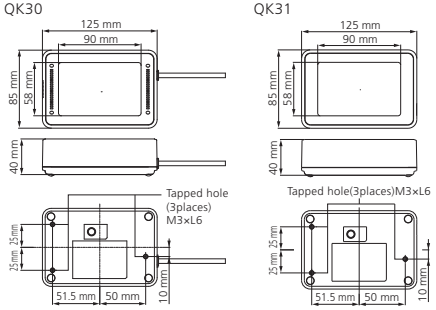
High-speed scanning of mobile QR Code®



GLOBAL PRODUCTS

[Components]
•Device •Operation guide

Dimensions



Scanner

1D Codes 2D Codes

Weight

Approx.170 g

Interface

USB/RS-232C

Features

- **Offers high-speed scanning of mobile QR Code® and barcodes.**
- **Ideal for use with mobile coupons and mobile membership cards**
- **Wide scanning angle handles even codes displayed on large-screen smartphones**
- **Range of silicone cases for different environments**
- **Free software available for easy setting of parameters on PC**

Options

Silicone cover


Silicone cover for QK30 series (Blue) *


Silicone cover for QK30 series (Black) *


Silicone cover for QK30 series (Clear) *

* QK31 does not support.

Software

Software for setting
- QR_kbif
- Scanner Setting 2D
- SQRC Setting

Specification

Model			2D Code model		
			Stationary type	Built-in type	
			(USB model) **QK30-U**	(USB model) **QK31-U**	(RS-232 model) **QK31-R**
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, rMQR Code®, iQR Code, PDF417, micro PDF, DataMatrix, Aztec, GS1 Composite, MaxiCode		
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, Interleaved 2 of 5(ITF), Codabar(NW-7), CODE39, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS), UPC/EAN(With add-on), CODE93, Standard 2 of 5(STF)		
	Minimum resolution	2D Codes	0.25 mm		
		1D Codes	0.18 mm		
	Reading sight		70×50 mm		
	Scanning reference position		7 mm*1		
	Scan confirmation		Visual (3 color LED), acoustic (signal sound)	—	
Communication interface	Interface		USB1.1(COM, HID)*2		RS-232C
	Connection type		USB connector: type A (with an integrated cable)	USB connector: type B (with a detachable cable)	Mini-DIN connector (with a detachable cable)
	Cable		1.5 m	1.4 m (Sold separately)	1.5 m (Sold separately)
Power			Supplied from the connection target*3		
Environmental requirements	Operating temperature		-5~50°C		
	Operating humidity		10-90% RH (no condensation or frost)		
	Protection range		IPX2	—	
Weight			250 g(incl. cable)	170 g(excl. cable)	

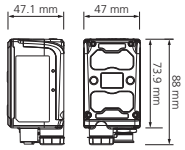
*1: Height from dust-proof plate *2: Two systems are supported: USB keyboard interface and USB-COM interface.When using in USB-COM interface mode, please download the USB driver from the DENSO WAVE website (free of charge). 3: Please check the connection beforehand because this type of connection may not be possible depending on the model of the PC or USB hub.

Fixed type scanner

FD2

From minute workpieces to longdistance scanning, complete freedom simply with the touch of a button

Dimensions





Scanner

1D Codes 2D Codes

Weight

Approx.217 g

Interface

USB/Ethernet/RS-232C

Features

- **No detailed adjustments based on the workpiece are necessary.**
  High-speed, stable scanning is possible from codes marked on 2 mm diameter pins to codes marked on large parts at a distance of 1.2 m simply with the touch of a button.
- **Compact design makes installation easy even in limited spaces**

Software

Software for setting
- Scanner Setting F

Specification

Model			Standard type **FD2-HS1000-ERU**	Wide type **FD2-HW1000-ERU**
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, rMQR Code®, DataMatrix(ECC200), PDF417, micro PDF417, Maxi CodeEAN.UCC Composite(GS1 DataBar Composite)	
		1D Codes	EAN-8/13, UPC-A/E, UPC/EAN(With add-on), CODE39, CODABAR(NW-7), Interleaved 2 of 5, CODE128, GS1-128(EAN-128), RSS(GS1 DataBar)	
	Minimum resolution	2D Codes	0.06 mm	
		1D Codes	0.08 mm	
	Scanning distance		110~1200mm	50~720mm
	Reading sight		185×148mm (at scanning distance of 600 mm)	384×307mm (at scanning distance of 600 mm)
	Adjustment		Auto focus, lighting filter auto tuning	
	Number of scan conditions		16	
Communication interface	Interface		Ethernet, RS-232C,USB	
	Industrial protocols		EtherNet/IP, ORiN	
Power supply			DC24V±10%	
Environmental requirements	Operating temperature		-10~45°C	
	Protection range		IP65	
	Vibration resistance		Oscillation frequency: 10 to 500 Hz, sweep: 11 min, half amplitude: 0.75 mm (acceleration upper limit: 100 m/s2)	

Wearable SF1

Tough and clean wearable scanner



Scanner

1D Codes / 2D Codes

Weight

Approx.80 g*
*With battery. SF1-QBi-T only

Interface

Bluetooth®

Robustness

Protection Class IP 54

Drop Resistance: Up to 2.5 m

Features

- **Cable-free design lets users wear or hold the scanner during use.**
- **Made of carefully selected materials, the attachment ensures comfort and convenience when using the product.**
- **Magnesium frame for class-leading robustness (SF1-QBi-T).**





Product Configuration



[Scanner]
SF1-QBi-T
+
[Scanner holder]
AW4-001-R
+
[Attachment base]
AW3-001-R

[Wearable attachment]
AW2-001-R

Options

Communication Unit

CH-SF11

4 serial unit rechargers

CH-SF14

Communication Unit

BA-20-RU

Software

Software for setting
QR_kbif ▪DENSO SF1 SDK for iOS ▪Scanner Setting 2D
SQRC Setting ▪BA Setting

Specifications for main unit

Model			2D Code model **SF1-QBi-T**
Exterior color			Dark gray
Scanner	Read system		Area sensor
	Readable codes	2D Codes	QR Code®, SQRC®, Micro QR Code, DataMatrix (ECC200), PDF417, Micro PDF417, Maxicode, Aztec, GS1 Composite
		1D Codes	EAN-13/8, UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Standard 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)
	Minimum resolution	2D Codes	0.167mm
		1D Codes	0.125mm
	PCS value		0.3 or higher
	Elevation angle, inclination angle		±50°
	Scan confirmation		Confirmation W-LED (blue, green, red), buzzer, vibrator
Network	Method		Bluetooth® Ver. 2.1 +EDR-based class 2
	Profile		SPP, HID, SPP (for iOS)
Power	Power supply		Lithium-ion battery
	Operating time *1		24 hours
	Charging time		2.5 hours
Environmental performance	Protection rating		IP54
	Drop resistance*2		Drop impact test: 2.5/1.5 m, 100 times; tumble impact test: 0.5 m, 3,000 times
	Operating temperatures*3		-20~50°c
	Operating humidity		10 to 90% RH (no condensation or freezing)
	Ambient light		10,000 lux or lower (daylight color fluorescent lamps)
Weight (incl. battery)			Approx. 80 g
Trigger switch			Button type/touch type
Supported iOS devices			Made for iPhoneX,iPhone8,iPhone8Plus,iPad Pro 12.9-inch (2nd generation),iPad Pro 10.5-inch,iPad(5th generation), iPod touch(6th generation)

*1: When code is scanned once every 5 seconds *2: Test (not guaranteed) value *3: Allowable ambient temperatures during charging range from 0 to 40°C.

Wearable attachment

Model	AW2-001-R
Color	Black and cyan (blue)
Trigger switch	Button type
Weight	Approx. 50 g

BHT-1281QULWB-CE

(Windows® Embedded Compact7)

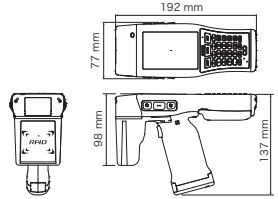
Outstanding scanning performance and ease of use



[Components]

- Device
- Stylus pen
- Operation guide
- Battery

Dimensions



Scanner

1D Codes / 2D Codes / RF TAG

Display

3.5-inch color LCD

OS

Windows® Compact 7

Interface

Bluetooth®/ Wireless LAN

Software [P.65-77]

Development/kitting/operation tools
Microsoft Visual Studio 2008
Software Development Kit for BHT Windows CE version (Free)
Keyboard interface software [kbifCE] (Free)
SQRC Setting

*To develop an application that uses functions specific to BHT, the library/class library included in the Software Development Kit (SDK) for BHT is required.
*The class library for BHT supports the following version. Microsoft .NET Compact Framework 3.5

Product Configuration

[Device] + [Battery] + [Communication Unit]

BHT-1281QULWB-CE
*Lithium-ion battery is included with the device.

BT-120L-C (High-capacity battery + battery cover)
BT-110L (High-capacity battery only)

CU-1233 (RS-232C)
CU-1211 (Ethernet)

Options

Communication unit	Communication cable	Four-battery charger	Four-device charger	Waist case
CU-1233 **CU-1211**	**CBBHT-US1800/ C12-4A**	**CH-1104**	**CH-1254**	**WHBHT-1281QULWB-CE**

Model			CU-1233	CU-1211	CH-1104	CH-1254	CBBHT-US1800/C12-4A
Communication system			RS-232C*1	Ethernet (100BASE-T) *1	—	—	USB 2.0 (High Speed conformant)*1
Charging time	Unit*2	High-capacity	Approx. 9 hours	Approx. 9 hours	—	Approx. 4.5 hours	—
	Charging of the battery cartridge	High-capacity battery	—	—	Approx. 6 hours	—	—
Dimensions			133 (D) × 97 (W) × 101 (H)		205.5 (D) × 190 (W) × 29.0 (H) mm	117.5 (W) × 368 (D) × 89.2 (H) mm	1.8 m (cable length)
Power supply			AC adapter		AC adapter	AC adapter	—

*1: Cable is an option. *2: BHT-1200 can be charged using a power adaptor (e.g., USB charger). Make sure the device in question meets the following output and USB charge specifications. Output specification: 5 ± 0.25 VDC (voltage), 1.2 A or higher (current); USB charge specifications: Battery Charging Specifications, Rev 1.2.

Specification

Model				BHT-1281QULWB-CE
OS				Windows® Embedded Compact7
CPU				ARM Cortex-A8 800 MHz
Memory	RAM			Mobile DDR 512 MB
	Flash memory			2.0 GB
Display	Number of dots*1			3.5-inch HVGA (320 × 480 dots)
	Display system			Liquid crystal dot matrix display (color)
	Backlight			White LED
Scanner	RFID	Readable and recordable RF tag		ISO/IEC18000-63 (Class1 Gen2)-supported Tag
		Frequency		916.8 to 920.8 MHz
		Channel spacing/number of channels		200 kHz/6 ch
		Transmission power		1 W or less
		Modulation method		PR-ASK
		Transmission rate		40 kbps
		Scanning distance*2		Approx. 5,000 mm
		Power adjustment		20 levels
	Scanner	Reading system		Area Sensor
		Readable codes	2D Codes	QR Code®, Micro QR Code, SQRC®, iQR Code, PDF417, Micro PDF417, MaxiCode, DataMatrix (ECC200), GS1 Composite
			1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5, Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)
		Minimum resolution	2D Codes	0.167 mm
			1D Codes	0.125 mm
		Marker		Area guide marker
		Scan confirmation		3-color LED (blue, red, green), speaker, vibrator
Keyboard	Number of keys			30 keys (excluding the power key) + 4 trigger keys
Communication interface	Wireless LAN	Compatible standards		IEEE802.11b/g/n
		Frequency		IEEE802.11b/g/n: 2.4 GHz band
		Communication distance*3		IEEE802.11b/g/n: Indoor: Approx. 150 m, Outdoor: Approx. 300 m
		Communication rate*3		IEEE802.11b: 11/5.5/2/1 Mbps, IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps, IEEE802.11n: 65/58.5/52/39/26/19.5/13/6.5 Mbps
		Security		WEP40, 128, WPA-PSK (TKIP, AES), WPA2-PSK (TKIP, AES), WPA-1x (TKIP, AES/EAP-TLS, PEAP, LEAP, EAP-FAST), WPA2-1x (TKIP, AES/EAP-TLS, PEAP, LEAP, EAP-FAST), 802.1x (EAP-TLS, PEAP, LEAP, EAP-FAST)
	Bluetooth®			Bluetooth® Ver 2.0 + EDR Class 2
Card slot				microSDHC × 1
Power supply	Main battery			Lithium-ion battery × 2
	Operating time*4	RF tag continuous reading*5		Approx. 8 hours
		Wireless LAN communication*6		Approx. 60 hours
Additional functions				Clock, speaker, vibration, battery voltage indicator, key backlight, G-sensor function
Environmental performance	Operating temperature*7			-20–40°c
	Protection class			IP54
	Drop resistance*8			1.2 m drop on a concrete floor, 5 times each on all 6 sides (test result after a total 30 drops).
EMC standard				VCCI Class B
Weight (including stylus pen and batteries)				Approx. 570 g

*1: The LCD panel is manufactured using high-precision technologies. While the effective pixel count is more than 99.99%, please be aware that there may be up to 0.01% of dead or stuck-on pixels. *2: Evaluation condition = Avery Dennison AD-229r6. The scan distance shown is a reference value and it may vary accordingly, depending on the actual environmental conditions. *3: The communication distance shown is a reference value and may vary depending on the actual environmental conditions. The communication rate shown is a theoretical value based on the standard and does not guarantee the actual communication rate. *4: The described operating time is a reference figure under regular temperatures and may vary depending on usage conditions. *5: When 50 RF tags were read simultaneously with the backlight at low level, the vibrator OFF, and the speaker ON. *6: When ratios of reading, wireless communication, rewriting of screen, and holding durations are 1:1:1:20, with the backlight at low level, the vibrator/buzzer OFF, the power saving ON (Fast PSP), the wireless communication ON only while communicating, and the other functions OFF. *7: Zero to 40°C when batteries are being recharged. *8: Result obtained in a test under regular temperature is shown and not meant as a guarantee.

RFID handheld terminal with BHT-OS

BHT-1408QUMWB NEW

RFID handheld terminal capable of 21 hours of operation.



Scanner

1D Codes / 2D Codes / RF TAG

Display

2.8-inch color LCD

OS

BHT-BASIC 4.0

Interface

Bluetooth®/Wireless LAN

Card slot

micro SDHC Support

Robustness

Drop Resistance: Up to 1.2 m

Features

- **Handheld terminal easy to carry and operate**
- **High-speed reading of 700 tags/second*1 to accelerate various operations**
- **21 hours*2 of continuous operation**
- **Passed 1.2 m × 30 drop tests to withstand daily operations**
- **RFID operation is possible instantly as it is a specified-low-power radio station**

*1:The reading speed described is a reference value and may vary depending on the actual reading conditions.
*2:When wireless LAN is used.

[Components]

•Device •Battery (BT-110L) •Hand strap •Operation guide

Product Configuration

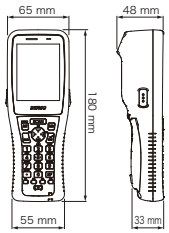


[Device] **BT-1408QUMWB**

+[Battery] **BT-110L** (3450 mAh battery)

+[Communication Unit]
CU-AR1-14 (RS-232C)
CU-AL1-14 (Ethernet)
CU-AU1-14 (USB)

Dimensions



Options

Communication unit



CU-AR1-14
CU-AL1-14
CU-AU1-14

Four-battery charger



CH-1104

Four-device charger



CH-A4-14

Soft case



SCBHT-1400QU

Waist case



WHBHT-M60/S40/S30

Model			CU-AR1-14	CU-AL1-14	CU-AU1-14	CU-A4-14	CH-1104
Communication	BHT↔Host	Communication system	RS-232C	Ethernet (100BASE-T)	USB2.0 Full Speed conformant	—	—
Charging	Charging time	Unit	Approx.5 hours	Approx.5 hours	Approx. 5 hours*1(9.5 hours)*2	Approx.6 hours	—
		Charging of the battery cartridge	—	—	—	—	Approx.6 hours
Dimensions			110 (D) × 95 (W) × 109 (H) mm			118 (D) × 368 (W) × 123 (H) mm	206 (D) × 190 (W) × 29 (H) mm
Power supply			AC adapter*3		Supply from the connection/AC adapter*3	AC adapter*3	

*1: The device can be charged using a power adaptor (e.g., USB charger) or by connecting to a PC's USB port.
*2: When charged with the power from the USB port (USB bus power). *3: The AC adapter is an option.

Software [P.65-77]

Development/kitting/operation tools

BHT-BASIC4.0 Development pack BHT-BASIC4.0 Creator
BHT Advanced Pack II BHT-BASIC4.0 Transfer Utility (EXE / DLL Pack)
BHT-BASIC4.0 Simulator BHT Setting SQRC Setting

Terminal management/maintenance tool

BHT Manager

Specification

Model				BHT-1408QUMWB
OS				BHT-OS
CPU				32-bit RISC microprocessor
Memory				64 MB (User area: Approx. 27 MB)
Display	Number of dots			2.8-inch QVGA (240 × 320 dots)
	Display system			Liquid crystal dot matrix display (color)
RFID	Readable and recordable RF tag			ISO/IEC18000-63 (GS1 EPC Gen2)-supported Tag
	Scanning distance			0 to 2 m*1
	Reading speed			Maximum 700 tags/second*1
	Transmission power			500 mW or less*2
	Power adjustment			20 levels or specified in dBm
Scanner	Reading system			Area Sensor
	Readable codes		2D Codes	QR Code®, Micro QR Code, SQRC®, rMQR Code®, PDF417, Micro PDF417, MaxiCode, DataMatrix (ECC200), GS1 Composite
			1D Codes	EAN-13/8 (JAN-13/8), UPC-A/E, UPC/EAN (with add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar (NW-7), CODE39, CODE93, CODE128, GS1-128 (EAN-128), GS1 DataBar (RSS)
	Minimum resolution		2D Codes	0.167 mm
			1D Codes	0.125 mm
	Marker			Laser marker (area)
	Scan confirmation			3-color LED (blue, red, green), speaker, vibrator
Keyboard	Number of keys			21 keys (including the power key) + cross cursor key + 3 trigger keys
Communication interface	Wireless LAN	Compatible standards		IEEE802.11a/b/g/n/ac
		Frequency*3		5 GHz band (W52, W53, W56), 2.4 GHz band (1–13 ch)
		Access method		Infrastructure mode, ad-hoc mode
		Security		Encryption: WEP (40/128)/TKIP/AES WPA authentication: WPA/WPA2 User authentication: PSK/EAP-TLS/PEAP
	Bluetooth®			Bluetooth® Ver 5.0 + EDR/LE (Supported profile: GAP/SPP/HID/DUN/GATT)
Card slot				microSDHC × 1
Power supply	Main battery			Lithium-ion battery
	Operating time*4	2 tag readings/10 seconds		Approx. 28 hours*5
		2-second tag reading/10 seconds		Approx. 16 hours*6
		When wireless LAN is used		Approx. 21 hours*7
		When Bluetooth® is used		Approx. 16 hours*8
Additional functions				Clock, speaker, vibration, battery voltage indicator, key backlight, remote wake-up
Environmental performance	Operating temperature*9			-20–50°c
	Operating humidity			5–95% RH (non-condensing and non-icing)
	Protection class			IP54
	Drop resistance			1.2 m drop on a concrete floor × 30 times
Weight (including stylus pen and battery)				Approx. 300 g

*1: The scanning distance and reading speed shown are reference values and they may vary accordingly, depending on the actual scanning conditions. The scanning distance may vary depending on the tags used. Evaluation condition = Avery Dennison AD-229r6 (power 27 dBm). *2: Since the radiated power is 500 mW or less, the requirements for specified low-power radio station equipment are satisfied. *3: According to the Radio Act, use of W52 and W53 outdoors is prohibited (unless permitted by law or regulation). *4: The described operating time is a reference figure under regular temperatures and may vary depending on usage conditions. *5: Two readings in 10 seconds (power: 24 dBm) with the backlight level 1. *6: Two-second reading in 10 seconds (power: 24 dBm) with the backlight level 1. *7: When ratios of reading (power: 24 dBm), wireless communication, rewriting of screen, and holding durations are 1:1:1:20, with the backlight level 1, the wireless communication ON only while communicating, and the other functions OFF. *8: One cycle (30 seconds) = Reading (power: 24 dBm, 1 second), Bluetooth® communication, rewriting of screen, and holding, with the backlight level 1, the Bluetooth® device always ON, and the module off timer setting at 100 msec. *9: Zero to 40°C when batteries are being recharged.

RFID Handy scanner

SP1

High-speed reading, RF tag reading distance*1
Approx.8m 1W high-output handy scanner



Scanner

1D Codes　2D Codes　RF TAG

Weight

Approx.400 g

Interface

Bluetooth®

Robustness

Protection Class IP 54

Drop Resistance: Up to 1.5 m

Features

- **With the new scanning method (AutoLinkProfile), Improved scanning performance. Reduce stocktaking time by 50%*2**
- **RF scanning distance*2 Approx. 8 m**
- **Easy connection to smart devices**
- **Supports Android™ and iOS (MFi certified)**

*1: Settings restrictions may apply for certain countries and functions. The scan distance shown is a reference value and it may vary accordingly, depending on the actual environmental conditions. Evaluation condition = Avery Dennison AD-229r6
*2: Comparing the scanning time for 5,300 tags between the previous SP1 and the next-generation. The results are based on our own test and not guaranteed.

[Components]

•Device •Hand strap •Operation guide

Product Configuration

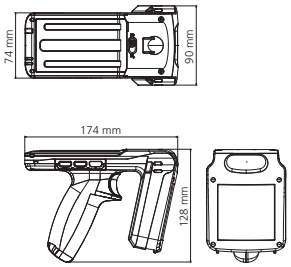
[Device] + [Battery] + [Communication Unit]

SP1-QUBi

BT-SP1LA-C (Standard battery + battery cover)
BT-SP1L-C (High-capacity battery + battery cover)

CU-SP1A (USB)

Dimensions



Options

Communication Unit — **CU-SP1A**



4 serial battery rechargers — **CH-1804** (for Standard battery), **CH-SP104A***1 (for High-capacity battery)

4 serial unit rechargers*2 — **CH-SP1L4**



USB direct Cable — **CBSP-US2000/4**



Attachment — **EA-SP1-AM80**



Universal Adapter (Quad Lock®is available) — **EA-SP1-AS**



Quad Lock® — **QLA-UNI-2**



Shoulder strap*3 — **SBSP1**



Model			CU-SP1A	CH-1804	CH-SP104A*1	CH-SP1L4*2	CBSP-US2000/4
Communication unit			USB 2.1 Full Speed conformant	—	—	—	USB 2.1 Full Speed compatible
Charging unit	Charging time	Main unit charging	3.5/7 hours	—	—	Approx.3.5/7 hours	—
		Battery cartridge	4/8 hours	Approx.4 hours	Approx.8 hours	—	—
Dimensions			158×110×85 mm	135×110×65 mm	135×110×65 mm	141×464×90 mm	2 m
Power Supply			AC adapter	AC adapter	AC adapter	AC adapter	Supply from connected device

*1: does not charge BT-SP1LA-C *2: Does not include smart device charging function. *3: The attachment cannot be mounted or dismounted when the shoulder strap is attached to the SP1

Software [P.65-77]

Development/kitting/operation tools

DENSO SP1 SDK for Android/iOS/Xamarin* RF-Edge (Please see page [P.76] for details.)

*Please refer to the manual included with the SDK for application development.

Specification

Model				SP1-QUBi
Scanner	RFID	Readable and recordable RF tag		ISO/IEC 18000-63 TypeC(EPCglobal Class1 Gen2)-compatible Tags
		Scanning speed*1		700 scans/second
		Scanning distance*2		Approx.8 m
		Output adjustment		10 dBm to 30 dBm
	Scanner	Type		Area sensor
		Readable codes	2D Codes	QR Code®,Micro QR Code,SQRC®, rMQR Code®, PDF417,Micro PDF417,MaxiCode, DataMatrix(ECC200), GS1 DataBar Composite(EAN.UCC Composite)
			1D Codes	EAN-13/8(JAN-13/8),UPC-A/-E,UPC/EAN(With add-on), Interleaved 2 of 5, Codabar(NW-7),CODE39,CODE93,CODE128,GS1-128(EAN-128),GS1 DataBar(RSS)
		Minimum resolution	2D Codes	0.167 mm
			1D Codes	0.125 mm
		PCS value		0.3 or greafter
		Elevation/tilt angle		±50°
		Scan confirmation		Blue/red 2-color LED,buzzer
Transmitter unit	Bluetooth®			Bluetooth® Ver.2.1+EDR Standard Class2
	Profile			SPP, SPP (iOS)
	Cradle			USB
Power supply	Main battery			Lithium-ion battery
	Operating time*3	Standard battery		Approx.3 hours
		High-capacity battery		Approx.6 hours
Internal				80,000 RFID tags, 1,000 barcodes
Environmental requirements	Operating temperature*4			-20~40°C
	Protection rating			IP54
	Drop resistance*5			30 drops from 1.2 m onto concrete(5 times on each of 6 faces).1.5m
EMC standerd				VCCI ClassA
Weight				Approx.400 g(with standard battery);Approx.450 g(with high-capacity battery)
Supported countries				Japan

*1: Scannung speed is a reference value and varies depending on the actual operating environment. *2: Scanning distance is a reference value and varies depending on the actual operating environment. Communicatino disfance varies depending on the actual tags. Evaluations are based on the Avery Dennison AD-229r6. *3: Reference values using DENSO WAVE conditions at room temperature.May vary depending on the actual operting conditions. *4: 0°C to +40°C for charging.Operation between -10°C and -20°C possible oniy using high-capacity battery.Operation apply between -10°C and -20°C and between 40°C and 50°C. *5: Test figures at room temperature. Do not constitute guaranteed values.

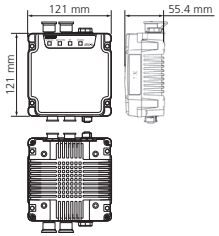
RFID fixed type scanner

UR50

A fixed type scanner of UHF RF tags ideal for factory automation and logistics (250 mW / middle-distance type)

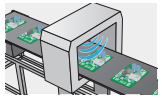
[Components]
•Device •Operation guide

Dimensions





Examples of Use


Visualization of production status


Rewriting returnable box slips

Scanner

RF TAG

Interface

USB/Ethernet

Options

	model
External antenna	URAN-50M1
Power/control cable* (2 m)	CBUR-PS2000/17-NC
Ethernet cable (2 m)	1585D-M4UBJM-2
USB cable (1.5 m)	CB00-US1500/4A-5B-01
I/O cable (2 m)	CBUR-PS2000/12-NC
Coaxial cable cable (5 m/10 m)	CBAN-CTNC5000/10000

*: Includes RS232C serial communications

Features

- **UR50 reads tags reliably even on fast-moving conveyor belt assembly lines***
- **Reading ranges configured to match applications**
- **Antenna-integrated structure allows easy installation.Up to 2 external antennas can be added to secure a stable communication zone.**

*: There are setting limits depending on the country or the function. This is a reference value and may vary depending on the operating environment.

Specification

Model			UR50
RF Tag Communication Part	Output frequency (for United States of America)		915.25 MHz to 927.5 MHz, (at 250kHz intervals) (50 channels in total)
	Compatible Standard		ISO/IEC 18000-63 (GS1 EPC Gen2) compliant
	Transmission Output		250 mW or below
	Gain (polarization) Integrated/Extended Antenna		+3 dBi or below (linearly, circularly polarized wave) / +2 dBi or below (circularly polarized)
	Reading Distance*1 Integrated/Extended Antenna		3 m (linearly polarized), 2 m (circularly polarized) / 1 m (circularly polarized)
	Number of Antennas Connectable		Maximum of 2 (URAN-50M1 supported)
Display Part	Display LED		4 LEDs(STATUS LED, NETWORK LED, RF LED, POWER LED)
External Input/ Output	Input		4 pins (trigger, reset, forced halt)
	Output		4 pins(OK, NG, BUSY, WARNING, ERROR)
Interface	RS-232C		115.2 Kbps maximum
	USB		USB-COM interface
		Standard	USB1.1compliant(12Mbps)
		Connector	Micro-USB Type-B
	Ethernet	Standard	IEEE802.3 100BASE-T compliant
		Supported Protocols	TCP, UDP, EtherNet/IP
ORiN			Supported
Input Power Supply*2	Operating Power Supply Voltage		24V DC + 10% -15%
	Electric Current Consumption		600mA Max
Environmental Conditions	Indoor or Outdoor Operation		Indoor use
	Protection Rating		IP65*3
	Compatible Standard Safety/ Vibrations and Impacts		UL61010/IEC60068
	Operating Temperature Range		-20~50°C
	Operating Humidity Range		10%-95% RH (no condensation or freezing)
External Dimensions (main body / external antenna) (W)×(D)×(H)*4			121×121×55.4mm/70×70×30mm
Weight (main body / external antenna)*5			Approx. 640 g / Approx. 75 g

*1: This is a reference value and may vary depending on the operating environment. *2: Class 2 power supply is recommended *3: With all cables and caps connected *4: Shipped state

Software

Development/operation tools
UR40-H-ERU/UR50-M-ERU System Program

Software for setting
Scanner Setting F

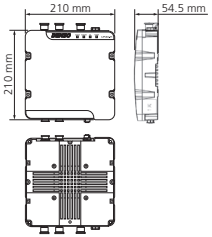
RFID fixed type scanner

UR40

A fixed type scanner of UHF RF tags ideal for factory automation and logistics (1W / long-distance type)

[Components]
•Device •Operation guide

Dimensions





Examples of Use


Reliable inspection of shipping and receiving


Rewriting returnable box slips

Scanner

RF TAG

Interface

USB/Ethernet

Options

	model
External antenna	URAN-40H1
Power/control cable* (2 m)	CBUR-PS2000/17-NC
Ethernet cable (2 m)	1585D-M4UBJM-2
USB cable (1.5 m)	CB00-US1500/4A-5B-01
I/O cable (2 m)	CBUR-PS2000/12-NC
Coaxial cable cable (5 m/10 m)	CBAN-CTNC5000/10000

*: Includes RS232C serial communications

Features

- **High-speed reading rate of 600 tags/second* for accurate and quick execution of tasks**
- **Reading ranges configured to match applications**
- **Antenna-integrated structure allows easy installation.Up to 3 external antennas can be added to secure a stable communication zone.**

*: There are setting limits depending on the country or the function. This is a reference value and may vary depending on the operating environment

Specification

Model			UR40
RF interface	Output frequency (for Europe)		865.7 MHz, 866.3 MHz, 866.9 MHz, 867.5 MHz(4 channels in total)
	Output frequency (for Australia, New Zealand)		920.25 MHz, 925.75 MHz, (at 500kHz intervals) (12 channels in total)
	Output frequency (for United States of America, Canada)		915.25 MHz to 927.5 MHz, (at 250kHz intervals) (50 channels in total)
	Application standard		ISO/IEC 18000-63 (GS1 EPC Gen2) compliant
	Transsmission output		1 W max.
	Number of Antennas Connectable		Maximum of 3 (URAN-40H1 supported)
Internal/External antenna	Gain(for Europe) Internal/External		+5 dBi max. (linearly, circularly polarized) / +5 dBi max. (circularly polarized)
	Gain(for Australia, New Zealand, United States of America, Canada)Internal/External		+6 dBi max. (linearly, circularly polarized) / +6 dBi max. (circularly polarized)
	Reading Distance*1 Internal/External		8 m (linearly polarized),6 m (circularly polarized) / 6 m (circularly polarized)
Display Part	Display LED		4 LEDs(STATUS LED, NETWORK LED, RF LED, POWER LED)
External Input/ Output	Input		4 pins (trigger, reset, forced halt)
	Output		4 pins(OK, NG, BUSY, WARNING, ERROR)
Interface	RS-232C		115.2 Kbps maximum
	USB		USB-COM interface
		Standard	USB1.1compliant(12Mbps)
		Connector	Micro-USB Type-B
	Ethernet	Standard	IEEE802.3 100BASE-T compliant
		Supported Protocols	TCP, UDP, EtherNet/IP
ORiN			Supported
Input Power Supply*2	Operating Power Supply Voltage		24V DC + 10% -15%
	Electric Current Consumption		1A Max
Environmental Conditions	Indoor or Outdoor Operation		Indoor use
	Protection Rating		IP65*3
	Compatible Standard Safety/ Vibrations and Impacts		UL61010/IEC60068
	Operating Temperature Range		-20~50°C
	Operating Humidity Range		10%-95% RH (no condensation or freezing)
External Dimensions (main body / external antenna)(W)×(D)×(H)*4			210×210×54,5mm/210×210×37mm
Weight (main body / external antenna)*5			Approx. 1780 g / Approx. 700 g

*1: This is a reference value and may vary depending on the operating environment. *2: Class 2 power supply is recommended *3: With all cables and caps connected *4: Shipped state

UR20 SERIES

Ultra-thin stationary scanner that can be installed anywhere



Scanner

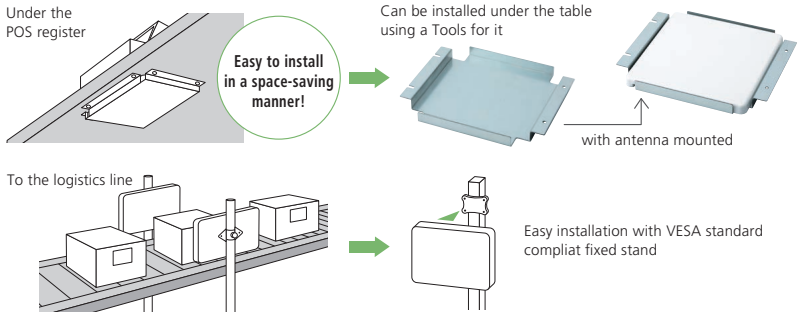
RF TAG

Interface

USB/RS-232C/LAN

Features

Can be additionally installed on an existing register



Communication distance can be adjusted to suit the operation.

Two models with different reading distances and interfaces.

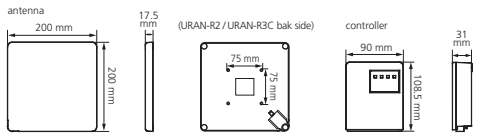
[Components]

UR21-MR-01
- Controller(URCT-M21)
- Antenna(URAN-R2)
- Antenna cable (between antenna and controller)
- Rear cover (lock nuts included in package)
- Safety Precautions
- Screws for securing the antenna

UR21-MS-01
- Controller(URCT-M21)
- Antenna(URAN-S1)
- Antenna cable (between antenna and controller)
- Rear cover (lock nuts included in package)
- Safety Precautions

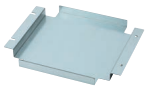
UR22-MR-01
- Controller(URCT-M22)
- Antenna(URAN-R3C)
- Antenna cable (between antenna and controller)
- Rear cover (lock nuts included in package)
- Safety Precautions
- Screws for securing the antenna

Dimensions



Options

Antenna fixture



B-URANR1-01

Antenna
URAN-R3C*
URAN-R2
URAN-S1

Antenna cable
CBAN-CG27000/GT27-01*

*: Only for UR22

Software

Control Command DLL File

This file can be downloaded for free from QB Direct on our Website.

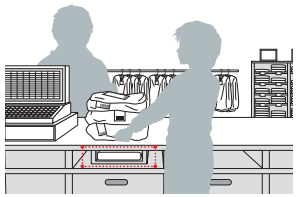
Specification

Model			(RS-232C/USB Model) UR21-MR-01*1	(RS-232C/USB Model) UR21-MS-01*1	(LAN Model) UR22-MR-01*1
Scanner	RFID	Readable and recordable RF tag	ISO/IEC18000-63 TypeC(EPCglobal Class1 Gen2)-supported Tag		
		Transmission rate	40 kbps		
		Scanning distance*2	0~1300 mm(Avery Dennison AD-237r6), AD-229r6		0~2600 mm(Avery Dennison AD-237r6), AD-229r6 0~2200 mm(Avery Dennison AD-227)
		Output adjustment	8 levels		5.0~23.0 dBm
LED indication function			PW: power supply (green), COM (red), ANT1 (orange), ANT2 (orange) 4 total		
Interface			RS-232C(D-SUB 9P), USB(mini USB B Type)		LAN(RJ45), USB(mini USB B Type)
Power		Power supply	Custom AC adapter(100 V)		
		Current consumption	1300 mA MAX(excluding inrush current)		
Operating temperature			0~40°C		-5~50°C
Dimensions			Controller : 90 × 108.5 × 31 mm / Antenna : 200 × 200 × 17.5 mm		
Weight			Controller : Approx.130 g Antenna : Approx.360 g	Controller : Approx.130 g Antenna : Approx.250 g	Controller : Approx.130 g Antenna : Approx.400 g
Supported countries			EU, Australia	EU, Australia, China, USA, CANADA, Taiwan, Thailand, Hong Kong, Korea, Singapore, Indonesia, Vietnam, Malaysia, Phillipines, Russia	EU, China

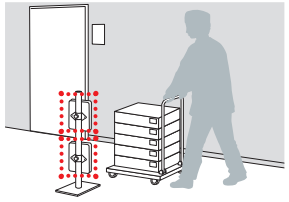
*1: Do not connect antennas, controllers, and cables that are not specified by DENSO WAVE.The use of such antennas, controllers, and cables may result in violation of the Radio Act; the user may be punished under the act. *2: The communication distance differs depending on the target tag. The communication distance is subject to change depending on the conditions in the actual environment.

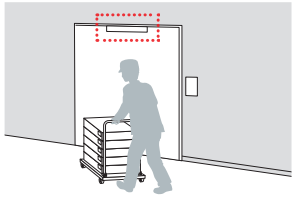
Applications

POS operations at apparel stores



Entering and Exiting Gate





UR30 SERIES

Portable and stationary RFID



UR31

[Components]

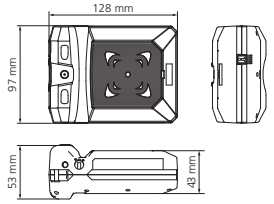
Battery-powered model
- Device • Hand strap • Battery cover
- Operation guide

*Battery not supplied with product

Power cable model
- Device • Hand strap
- External power adaptor
- Operation guide

*Power cable not supplied with product

Dimensions



Scanner

RF TAG

Weight

Approx.300 g

Interface

Bluetooth®

Robustness

Drop Resistance: Up to 2.0 m

Features

- **Capable of wide-area mass scanning RF tags from a distance of approximately 2.5 m**
- **Allows hand-held or standalone use.**
- **Operates at temperatures between -20°C and 50°C.**
- **Choice of power cable and battery-powered models**

Software

Software for setting

UR30 Setting BA Setting

Product Configuration

[Device]	+ [Battery]	+ [rechargers]	+ [Bluetooth Communication Unit]
UR31-MC-01	**BT-110L**	**CH-UR31**	**BA20-RU**

[Device]	+ [Power cable]	+ [Bluetooth® Communication Unit]
UR31-MP-01	**CBUR-PS3000/ 3-NC-01**	**BA20-RU**

Options

Device charger



CH-UR31

Communication unit



BA20-RU

Model			CH-UR31	BA20-RU*1
Communication	BA↔Host		—	RS-232C/USB*2
	Scanner↔BA		—	Bluetooth® Ver.2.1
Charging	Charging time	Unit	12 hours	—
Power Supply			AC adapter	Supplied from the connection target

*1: This product has a built in wireless system based on Bluetooth® Wireless Technology. *2: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration.

Specification

Model			(Battery model) UR31-MC-01	(Power cable model) UR31-MP-01
Scanner	RFID	Readable and recordable RF tag	ISO/IEC18000-63 TypeC(EPC global Class1 Gen2)-supported Tag	
		Transmission rate*1	Approx.2.5 m	
		Scan confirmation	Visual (3 color LED), acoustic (signal sound)	
Communication Interface	Interface		Bluetooth® Ver.2.1+EDR based Class2	
	Profile		SPP	
Power	Power supply		24V DC +10%/-15%	Lithium-ion battery
	Operating time		—	28 hours*2/12 hours*3
Environmental requirements	Protection rating		IP55	
	Drop resistance*4		2.0 m×6 times drop on concrete floor	
	Operating temperature*5		-20~50°C	
Weigh(excl. batteries)			Approx.300 g (excl,cable)	Approx.350 g (including ,battely)
Supported countries			Japan	

*1: The communication distance varies according to the target tag. The communication distance is subject to change depending on the conditions in the actual environment. *2: Reading bar codes once every five seconds. *3: Bluetooth:RFtag scanning:standby=1:2:6. *4: Result obtained in a test under regular temperature is shown and not meant as a guarantee. *5: 0 to 40°C during charging.

SE1-BUB-C

Pocket RFID

[Components]

• Device • Operation guide

* Rechargeable Ni-MH batteries (eneloop) are not included in the package.
*BA20-RU/BA11-RKU is sold separately.



Scanner

1D Codes RF TAG

Weight

Approx.115 g*

*With thin battery

Interface

Bluetooth®

Features

- **Specified low-power model doesn't require license registration for ease of deployment and management.**
- **Allows target scans from 3 cm, even with RFID.**
- **Compatible with eneloop® rechargeable batteries**

Software

Software for setting

Scan Tune App BA Setting

Options

Single device charger	Four-device charger	Hand strap	Neck strap	Silicone cover		Communication Unit
CH-SE11	CH-SE14	HSSE1	NSBHT-1300	Silicone cover for SE1 series (Clear)	Silicone cover for SE1 series (Black)	BA20-RU

Model			CH-SE11	CH-SE14	BA20-RU*1
Communication	BA↔Host		—	—	RS-232C/USB*2
	Scanner↔BA		—	—	Bluetooth® Ver.2.1
Charging	Charging time	Unit	11 hours		—
Power Supply			AC adapter		Supplied from the connection target

*1: This product has a built in wireless system based on Bluetooth® Wireless Technology. *2: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration.

Specification

Model			SE1-BUB-C
Scanner	RFID	Readable and recordable RF tag	ISO/IEC18000-63 TypeC(EPCglobal Class1 Gen2)-supported Tag
		Transmission rate	40 kbps
		Scanning distance*1	30 mm
	Scanner	Reading system	Advanced scan plus(CCD)
		Readable codes	EAN-13/8(JAN-13/8), UPC-A/E, UPC/EAN(With add-on), Interleaved 2 of 5(ITF), Codabar(NW-7), CODE32, CODE39, CODE93, CODE128,GS1-128(EAN-128), MSI, Plessey, GSI DataBar(RSS)
		Minimun resolution	0.125 mm
		PCS value	0.3 or more
		Slope angle/elevation angle	±50°
		Scan confirmation	Visual (3 color LED), acoustic (signal sound)
Communication Interface	Interface		Bluetooth® Ver.2.1+EDR based Class2
	Profile		SPP, HID
Power	Power supply		eneloop×2
	Operating time		12 hours*2
Environmental requirements	Protection rating		IPX2
	Drop resistance*3		1.2 m×6 times drop on concrete floor
	Operating temperature*4		-5~50°C
Weigh(excl. batteries)			Approx.115 g
Supported countries			Japan

*1: The communication distance varies according to the target tag. The communication distance is subject to change depending on the conditions in the actual environment. *2: Reading bar codes once every five seconds. *3: Result obtained in a test under regular temperature is shown and not meant as a guarantee. *4: 0 to 40°C during charging.

E-paper tag

Combining the RFID's feature which automates read/write with visibility of paper label.

Manufactured by:Netronix.inc.



Interface

UHF

Display

2.9 inch Monochrome LCD

Robustness

Protection Class IP 54

Features

- **Rewritable with UHF band RFID equipment.Easily rewritable with our RFID scanner**



- **Battery-less, so no loss of displayed information due to battery failure during operation**
- **Semi-permanent retention of display information**

Examples of Use



- Optimizing/ Automating replacement of slips.
- Reducing use of papers for slips.

Target model

[RFID scanner]

BHT-1408QUMWB, SP1, UR50, UR40

Specification

Band		UHF
Frequency		It varies by country.
Display		2.9 inch(296 x 128dot)
Display colors		Black and White
Communication distance	Inventory	Approx. 160cm *This is a test values and distance varies by the manufacturer of RFID scanners. *This is a test value obtained under room temperature conditions. It is not a guaranteed value.
	Update Image	Approx. 60cm *This is a test values and distance varies by the manufacturer of RFID scanners. *This is a test value obtained under room temperature conditions. It is not a guaranteed value.
Panel's life		1,000,000 times
Memory		EPC(UII) : 480bit(60byte) User area : 61440bit(7680byte) *User can use 32768bit(4096byte) while image updating.
Protective class		IP54
Dimensions		103(W)× 46(H)×6.6(D) mm
Wight		Approx. 35g

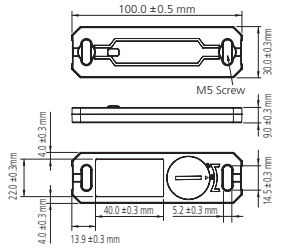
Navigation TAG®

LED-equipped UHF-band RF tag Lights up what you're looking for

Manufactured by：Securitag Assembly Group Co., LTD



Dimensions



Interface

UHF

Operational time

100 days*

(in a case where a cycle, in which lighting is on for one second and off for 59 seconds, isrepeated 1440 times per day)

*Operational time is a reference value measured under room temperature and variesdepending on the actual operational conditions.

*The specification value is obtained using Panasonic's button cells.

Robustness

Protection Class Equivalent to IP53

Features

- **Equipped with a high-brightness LED. You can visually recognize the LED emission in a dark place, such as a warehouse,or even under lighting**
- **You can turn on the LED from a distance of up to 8m*1**
- **The tag is translucent, and you can recognize the light even from the side**
- **Being highly durable*2, you can use it repeatedly**

*1:The reading distance is a reference value when using SP1 scanner and may differ depending on the actual environmental conditions.
*2:Drop durability on concrete from a height of 1.2 m (20 tags tested)

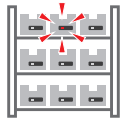
Software

Development/operation tools

DENSO SP1 SDK for Android*

*: Application Development Support Kit forNavigationTAG is included in the SDK for SP1
*: with simplified app.

Examples of Use



- Shelve and box searches



- Basket cart searches



- Checked baggage searches
- Digital picking system

Target model

[RFID scanner] **SP1**

[Handheld terminal with Android™] **BHT-M80**

Specification

Model	**Navigation TAG®**
Tag communication method	UHF
Frequency range	860~960MHz *Global band
Power supply	Battery (button cell: CR2032)
Operational time	100 days (in a case where a cycle, in which lighting is on for one second and off for 59 seconds, is repeated 1440 times per day) *Operational time is a reference value measured under room temperature and varies depending on the actual operational conditions. *The specification value is obtained using Panasonic's button cells.
Writing/reading distance	Up to 8 m *The reading distance is a reference value calculated by using SP1 with the tags, with the actual distance depending on operational conditions.
Operational temperature	-30~60°C *Please use the product within the operational temperature range of SP1 (-20 to 40°C).
Protection rating	Equivalent to IP53
Drop durability	1.2 m x once (Dropped on a concrete floor) (20 tags tested)
LED color	Red
Weight	Approx.26g (including the battery)
Material	Polycarbonate
How to fix	Screws(M5), double-sided tape, bundling bands *not included in the product package

IC Card reader/writer

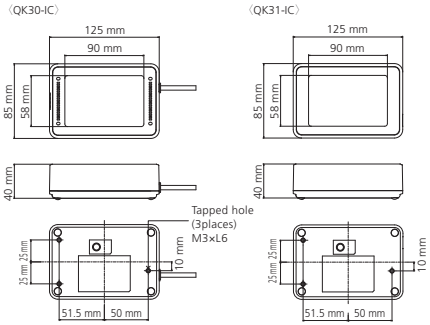
QK30-IC

IC cards + mobile QR Code®



[Components]
•Device •Operation guide

Dimensions



Scanner

1D Codes 2D Codes IC CARD

Interface

USB

Features

Supports a wide range of scanning target form factors for an expanded range of applications

NFC compatible

Options

Silicone cover



Silicone cover for QK30Series(Blue)*
Silicone cover for QK30Series(Black)*
Silicone cover for QK30Series(Clear)*
*: QK31-IC does not support

Software

Software for setting
QR_kbif Sccanner Setting 2D SQRC Setting

IC card-related
IC card device development Support library for Windows

Specification

Model			(Stationary type) QK30-IC(N)	(Built-in type) QK31-IC(N)
Scanner	IC card	Used regulation	Guidanced reading and writing transmission equipment	
		Used card	FeliCa(Standard/Lite/Plug(NFC Dynamic Tag)), MIFARE(Classic/Ultralight/Ultralight C/DESFire/DESFire EV1) ISO/IEC 14443 Type A/B	
	Scanner	1D Codes	EAN-13/8(JAN-13/8), UPC-A/E, Interleaved 2 of 5(ITF), Codabar(NW-7), CODE39, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS), UPC/EAN(With add-on), CODE93, Standard 2 of 5(STF)	
		2D Codes	QR Code®, micro QR Code, SQRC®, rMQR Code®, iQR Code, PDF417, micro PDF, DataMatrix, Aztec, GS1Composite, MaxiCode	
Communication	Method		USB 1.1(COM) (for IC cards)USB 1.1(COM/HID) (for 2D codes/barcodes)	
	Connector type		USB connector Type A×2(integrated with cables)	USB connector Type B×2(detachable from cables)
	Cable		2 m	1.4 m (optional)
Power Supply	Electric supply		Supply from the connection*1	
Environmental Performance	Protection Class		IPX2	—
	Operating temperature		-5~50°C	
	Operating humidity		10~90% RH(no dew formation or freezing)	
Weight			Approx. 300 g(incl. cable)	Approx.170 g(excl. cable)

*1: Depending on the USB interface that the scanner is connected to (PC type and/or the USB-HUB), the USB interface may not power the scanner.

OCR Handheld terminal

OCR-Capable Android™ based hand held terminal

Smooth scanning of diverse range of characters

A "character recognition" function can be added by purchasing an OCR license (BHT OCR MODULE R1).



BHT-M80
See [P.13] for details.



BHT-M70
See [P.15] for details.



BHT-M60
See [P.17] for details.

Software
BHT OCR MODULE R1 (fee required)
OCR See [P.68] for details.

OCR Fixed type scanner

FC1

Quick scanning of passport information and images

[Components]
•Device
•Operation guide



Scanner

1D Codes 2D Codes OCR

Interface

USB

Features

Streamlines the task of photocopying passports at accommodation facilities

Software

Software for setting
QR_kbif Scanner Setting OCR
SQRC Setting

Specification

Model			Stationary type FC1-QOPU
Scanner	Readable codes	2D Codes	QR Code®, micro QR Code, SQRC®, PDF417, micro PDF, Aztec, GS1 Composite
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/C, UPC/EAN(With add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)
		OCR-B font	Machine readable passport (MRP) in conformity with ICAO Document 9303, Part 1, Volume 1 (passport OCR 44 characters x 2 lines) Machine readable visa format-A (MRV-A) in conformity with ICAO Document 9303, Part 2 (full-size visa OCR 44 characters x 2 lines)
	Minimun resolution	2D Codes	0.25 mm
		1D Codes	0.18 mm
	Reading Sight		85 mm×55 mm
	Scanning reference position		0~5 mm*1
	Scan confirmation		Visual (1 color LED)
Communication interface	Interface		USB 2.0 conforment (COM, HID)*2
	Connector type		USB connector mini B
	Cable		Selling separately
Power	Power Supply		Supplied from the connection target*3
Environmental Performance	Protection rating		IPX2
	Operating temperature		0~50°C
	Operating humidity		10~90% RH (no condensation or frost)
Dimensions			135(W)×112(D)×99(H) mm
Weight(excl. cable)			Approx.315 g

*1: Height from the dust proof plate. In the case of scanning 1D/2D Codes and OCR-B front. *2: Two interfaces are supported (USB keyboard and USB-COM). To use the scanner in the USB-COM interface mode, download the USB driver from our website (free of charge). *4: Depending on the USB interface that the scanner is connected to (PC type and/or the USB-HUB), the USB interface may not power the scanner.

OCR Fixed type scanner

QK30-OP-U

Instantaneous scanning of passports

[Components]
- Device
- EA-QK30 (Attachment)
- Operation guide



Scanner

1D Codes / 2D Codes / OCR

Interface

USB

Features

Outstanding scanning performance simplifies duty-free procedures

Software

Software for setting

QR_kbif ▮Scanner Setting 2D ▮SQRC Setting

Specification

Model			Stationary type **QK30-OP-U**
Scanner	Readable codes	2D Codes	QR Code, micro QR Code, SQRC, iQR Code, PDF417, micro PDF, DataMatrix, Aztec, GS1 Composite, MaxiCode
		1D Codes	EAN-13/8(JAN-13/8), UPC-A/C, UPC/EAN(With add-on), Interleaved 2 of 5 (ITF), Standard 2 of 5 (STF), Codabar(NW-7), CODE39, CODE93, CODE128, GS1-128(EAN-128), GS1 DataBar(RSS)
		OCR-B font	Machine readable passport (MRP) in conformity with ICAO Document 9303, Part 1, Volume 1 (passport OCR 44 characters x 2 lines) Machine readable visa format-A (MRV-A) in conformity with ICAO Document 9303, Part 2 (full-size visa OCR 44 characters x 2 lines)
	Minimun resolution	2D Codes	0.25 mm
		1D Codes	0.18 mm
	Scanning reference position		0 mm*1/7 mm*2
	Scan confirmation		Visual (3 color LED) and acoustic (signal sound)
Communication interface	Interface		USB1.1 conformant(COM, HID)*3
	Connector type		USB connector(Atype)
	Cable		1.5 m
Power			Supplied from the connection target*4
Environmental Performance	Protection rating		IPX2
	Operating temperature		-5~50°C
	Operating humidity		10~90% RH(no condensation or frost)
Dimensions			131(W)×94(D)×81(H) mm
Weight (incl. cable and attachment)			Approx.350 g

*1: Height from the top of attachment. In the case of scanning OCR-B font. *2: Height from the dustproof plate. In the case of scanning 1D/2D codes. *3: Two interfaces are supported (USB keyboard and USB-COM). To use the scanner in the USB-COM interface mode, download the USB driver from our website (free of charge). *4: Depending on the USB interface that the scanner is connected to (PC type and/or the USB-HUB), the USB interface may not power the scanner.

Information on maintenance service

Free-of-charge warranty service

DENSO WAVE provides a free-of-charge warranty period for each product.
Usually, the warranty period for a handy terminal is one year and that for scanners ranges from one to five years according to the device.

Service name	Service description	Repair period	Cost	Contract period
Free-of-charge warranty service	During the warranty period, if a product develops problems under normal conditions of use, DENSO WAVE will repair it free of charge.	Within 10 business days	Free of charge	1 to 5 years Varies according to the device.

Warranty period extension service

Although the warranty period for a handy terminal is usually one year, it can be extended to three years depending on the product by making a prior application via the website.

Applicable products for warranty period extension from one to three years

BHT-M80/M70/M60/S40/S30/1500/1400/1300

* Prior application via the website is required.

Apply at the link below.

https://www.denso-wave.com/en/adcd/member/warranty/index.html

Bluetooth® Communication unit

BA20-RU



Target model:
AT27Q-SB/SE1/ SE1-BUB-C/SF1/Wearable SF1/
UR31-MC-01/GT20B-SB-V2/GT20Q-SB-V2

Model		BA20-RU
Transmission interface	BA ⟷ Host	RS-232C/USB*1
	Scanner ⟷ BA	Bluetooth® Ver2.1

●This product has a built in wireless system based on Bluetooth Wireless Technology.
*1: Supports both USB keyboard interface and USB-COM interface. Please use USB-COM interface mode for configuration.

[Setting details]

*Please select one interface type.
*Only needs to connect a non built in Bluetooth device.

RS-232C set
- Transmission unit
- RS-232C Cable (CBBA-RS2000/9)
- ACadapter (AD2-1005/3000)



RS-232C set (built-in charger)*1
- Transmission unit
- RS-232C Cable (CBBA-RS2000/9-1)



K/E set
- Transmission unit
- Keyboard I/F cable (CBBA-KYS2000/6)



USB-COM set
- Transmission unit
- USB cable (CBBA-US2000/4)



*1: The AC adaptor is not included. Please make sure to order the AC Adopter when using the RS-232C interface cable.

Download the USB driver from the DENSO WAVE QB direct web site.

Software Lineup

●: Supported

Handheld terminal

OS	Category	Software	Page	Summary	BHT-M80	BHT-M70	BHT-M60
Android model	Development/ kitting/ operation tools	Application Development support kit (SDK)	P.67	The development support kit supports the development of applications for BHT terminals that run on Android	●	●	●
		BHT Booster	P.67	Handy terminal work app development tool for easy creation and customization of work apps	●	●	●
		BHTLink	P.68	Communication application program and library for file transfers between Android BHT and PC	●	●	●
		BHT OCR MODULE R1	P.68	Smooth scanning of diverse range of characters. Optical character recognition (OCR) tool for handy terminals equipped with Android OS	●	●	●
	Terminal management/ maintenance tools	BHT DMS	P.69	Terminal management system to support users from kitting to operations management	●	●	●
		BHT Remote	P.70	Software to remote-control an Android BHT on a PC	●	●	●
		BHT Security Package	P.70	Package for complete elimination of Android security risks	●	●	●

OS	Category	Software	Page	Summary	BHT-S40	BHT-S30	BHT-1500	BHT-1336 QWB	BHT-1406 QIWBseries	BHT-1408 QUMWB
BHT-OS model	Development/ kitting/ operation tools	BHT-BASIC4.0 Development Pack	P.71	A software package required for the development of BHT applications	●	●	●	●		●
		BHT Browser	-	Browser software for using wireless BHT as a web clientw						
		BHT-BASIC4.0 Transfer Utility(EXE)	P.71	Communication between the BHT and your PC (downloading and uploading) is simple and easy with a botton	●	●	●	●	●	●
		BHT-BASIC4.0 Transfer Utility DLL Pack	P.72	DLL for communication between BHT and PC can be called from Windows application	●	●	●	●	●	●
		BHT-BASIC4.0 Remote Debugger	P.72	Stepwise monitoring tool which greatly reduces debugging work in developing BHT software	●	●	●			
		BHT Term Emulator	P.73	Software for using a wireless BHT terminal as a terminal for an online system	●*1	●*1		Scheduled to be supported		
		BHT Setting	P.72	Setting various BHT parameters form a PC	●	●	●	●		●
	Terminal management/ maintenance tools	BHT Manager	P.73	Software for Operation Support after the Introduction of BHT	●*1	●*1		●*1		●

OS	Category	Software	Page	Summary	BHT-1400	BHT-1300 (Windows)
Windows model	Development/ kitting/ operation tools	Software Development Kit	P.74	Development support kit for supporting application development for devices with Windows-OS	●	●
		Simulator	P.74	Tool that allows application development and debugging on a PC	●*2	●
		Remote desktop Plug-in	P.74	A plug-in for controlling BHT terminals at will in the remote desktop environment	●	●
		Web browser Plug-in	P.75	A plug-in for controlling BHT terminals at will in the web browser environment	●	●
	Terminal management/ maintenance tools	Version Manager	P.75	Application for automatically updating files on BHT terminals with Windows-OS	●	●
		BHT DMS	P.69	Terminal management system to support users from kitting to operations management	●	●

RFID / IC cardmodel / OCRmodel / 1D Code · 2D Code

OS	Category	Software	Page	Summary	Target model
RFID	Android model	RF-Edge	P.76	Verification application to support RFID adoption	SP1
IC card model	Windows model	IC card device development support library for Windows	P.76	Reduce the development period of IC card devices	QK30-IC/PR-700/PR-800
OCR model	Android model	BHT OCR MODULE R1	P.68	Smooth scanning of diverse range of characters. Optical character recognition (OCR) tool for handy terminals equipped with Android OS	BHT-M80/BHT-M70/BHT-M60
	Windows model	Application package for OCR intraduction	P.77	Application for OCR scanning test and simplified OCR operation to support OCR introduction	BHT-1461QWB-CE-O
1D Code · 2D Code	Barcode/QR Code Generation software	–	P.77	Software that can generate various barcodes and QR codes	–
	QR Code Generation Site	–	P.84	Web site where you can create QR codes for free	–

*1: Only wireless LAN models are supported.
*2: Some functions are not supported.

Development/ kitting/ operation tools

Application Development support kit (SDK)

Android
BHT-OS
Windows

The development support kit supports the development of applications for BHT terminals that run on Android™

•The SDK, OS, tool, and samples are downloadable from our support page.

Details of SDK

- OS: OS for running the SDK
- SDK: Library for developing the BHT applications (Java, Xamarin*2, NET*3)
- Sample program: Sample program for developing BHT applications (Java, Xamarin*2, NET*3)
- Application
  OCR application program pre-installed in the product
- Tools
  Bluetooth master connection tool
  SQRC Setting connection manual
  BHT Remote PC application manual

Items that can be controlled by the library

- Barcode and 2D code scanning and buzzer/vibrator notification control (Java, Xamarin*2, NET*3)
- OS update function
- Power management (shutdown, restart)
- SNTP setup
- System setup(Date and Time Setting, Backlight setting etc.)
- Device Settings(Touch panel enable/disable)
- BHT Setting(For kittng)
- OCR

Sample programs (examples)

- For controlling the scanner
- For controlling devices (device information indication, system setup, camera control, printer control)
- For controlling Bluetooth (Bluetooth SPP master/client operation)
- BHTSDK For API testing*1
- For Kittng*1
- For OCR control

*1 BHT-M80, M60 only *2 Android10 only *3 Android13 only

Supported BHT models	BHT-M80, M70, M60

Downloadable from QBdirect on our website free of charge

Regarding the supported OS, the system requirements are different depending on your development environment. Please refer to the official websites of the respective companies. (recommended environment: Android Studio, Xamarin for Visual Studio)

The above information is as of May, 2022. Please refer to the following web site to confirm the latest information. ▶ www.denso-wave.com/en/index.html

Development/ kitting/ operation tools

BHT Booster

Android
BHT-OS
Windows

Handy terminal work app development tool for easy creation and customization of work apps

•BHT Booster comes with 6 pre-installed templates based on the work carried out in the workplace, allowing work apps to be created and used immediately.
•Work apps can also be customized to suit how the BHT is used and the situation in the workplace, making it the perfect solution for customers "wishing to adopt terminals and work apps with as short a development period as possible and at minimal cost", and customers "developing Android™ apps for the first time".

1. Ready for use straight from the box

•6 work menus have been prepared based on work carried out in the workplace.
•Work can be created and started immediately by starting a terminal app, and selecting a prepared template.

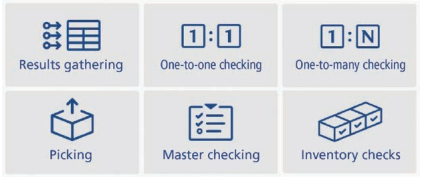
2. Operational efficiency achieved by anyone with a single BHT

•No development computer or Android app development experience necessary. Work apps can be created easily in the workplace, allowing tests to be carried out immediately from the handy terminal. Trouble-free kitting can also be carried out with ease by distributing created work settings files.

3. Further productivity improvements by linking with other software

•By using in conjunction with "BHTLink" software for transferring files between the handy terminal and computer, or the "BHT DMS" handy terminal batch management system, master and results files can be sent and received even easier.

[Work template list]



[Operation image]



Supported BHT models	BHT-M80, M70, M60

Free

Development/ kitting/ operation tools

BHTLink

Android
BHT-OS
Windows

Communication application program and library for file transfers between Android™ BHT and PC

•Files can be transferred via 4G or Wi-Fi to reduce man-hours required to develop wireless communication programs.
•Supports communication via LAN cradle and USB cradle.

•Ready-to-use applications and an embeddable library are included.

[System configuration]





PC application image

Supported BHT models	BHT-M80, M70, M60

Supported OS	Windows®10 (32/64bit)	Windows®11 (WOW64)

One server license is required for each PC.
In addition, as many client licenses as number of BHT units used are required. (Some exceptions apply)
* Unlimited licenses are also available (only partially supported)

*Please contact us for details.

Development/ kitting/ operation tools

BHT OCR MODULE R1

Android
BHT-OS
Windows

Smooth scanning of diverse range of characters. Optical character recognition (OCR) tool for handy terminals equipped with Android™ OS

•This character recognition tool helps streamline and reduce errors when checking expiry dates in distribution centers, and when checking slips with characters at manufacturing and logistics sites.

1. Scanning of up to 50 characters possible at a time

•Even long character strings prone to mistakes with visual checks can be scanned accurately.

2. Scanning of 2 rows possible at a time*

•Information printed over two rows can be scanned at one time. Work can be carried out efficiently even when necessary to check multiple pieces of information.
* Scheduled for support in March 2022 with OS update for BHT-M60, M70, and M80.

3. Extensive range of functions to support smooth scanning

•Up to 100 Kanji, special symbols, or special characters can also be registered as images.
•Equipped with format registration function which automatically distinguishes character types simply by scanning a character string.
•Equipped with "View Finder" function capable of targeting nearby character strings while viewing the screen.

Package/form expiry dates, part numbers, and all types of numbers such as the following can be scanned.



Food/medicine expiry dates (dates printed on paper/cardboard, etc.)



Delivery invoices (printed section)



Other forms



7-segment displays such as those on scales

Supported BHT models	BHT-M80, M70, M60

Require 1 license for one BHT. One license is available for one product.

Terminal management/ maintenance tools

BHT DMS (Device Management System)

Android | BHT-OS | Windows

The terminal management system supports the user from setup to operation management.

- Integrated management via the network reduces the workload of the system administrator.
- The real-time monitoring of terminal information enables collective management of terminals.

[Possible usage]

Case 1: Periodic update of the work system

Example: Applications and work data are distributed from the administration headquarters to terminals in advance. The terminals can be updated concurrently before work on the day of system switchover.

Case 2: Emergency troubleshooting during operation

Example: Data can be distributed remotely from the administration headquarters in the event of an emergency. This enables on-site restoration of the work system and data.

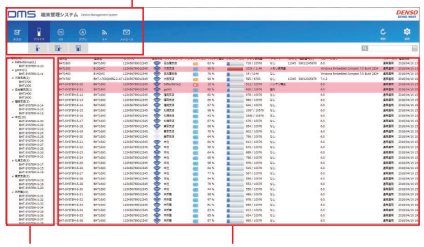
- On-premises version two models (Lite and Standard) are available depending on the intended usage.

Function	On-premises		The cloud
	Lite	Standard	
Registering devices information	○	○	○
Application, OS Ver management	○	○	○
Group management	-	○	○
Communication	-	○	○
Security	-	○	○
System logging	○	○	○
Operational application linkage	○	○	○
Alert	-	○	○
Notification email	-	-	○
Remote control*1	○	○	○
Multiple administrator use	-	-	○
LTE line use	○*2	○*2	○

＊More than 1000 terminals must be managed with separate servers.
*1: Requires "BHT Remote" license.
*2: Requires a global IP for the server; IPv6 not supported or use of a separate SIM is required.

[Image of the main screen]

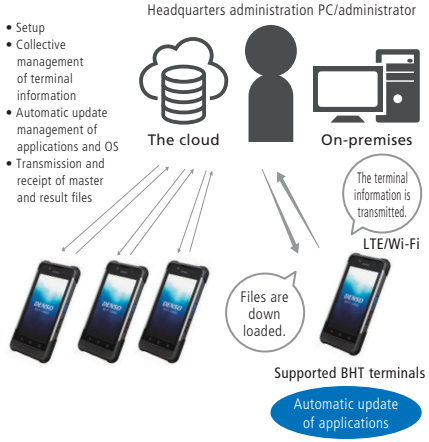
Functions are assigned to respective tabs for easy identification.



Terminals can be managed by group at each facility.
* This does not apply to the Lite version.

The table shows the terminal operation status (e.g., terminal name, date and time of last update, telephone number, remaining battery life).

[System Architecture]



- Supported BHT terminals

Terminal name	Model			On-premises	The cloud
BHT-M80	BHT-M80-QW	BHT-M80-QWG		○	○
BHT-M70	BHT-M70-QW	BHT-M70-QWG		○	○
BHT-M60	BHT-M60-QW	BHT-M60-QWG		○	○
BHT-1400	BHT-1461QWB-CE-O	BHT-1461QWB-CE	BHT-1461BWB-CE	○	×
BHT-1300	BHT-1361QWB-CE	BHT-1361BWB-CE		○	×

On-premises /The Cloud

Supported OS: Windows®10/11 (32/64bit)*

＊Please contact us for details.

The cloud supported browsers: Google Chrome

On-premises: Require 1 license for one PC. The cloud: Require 1 license for one BHT

Terminal management/ maintenance tools

BHT Remote

Android | BHT-OS | Windows

Software to remote-control an Android™ BHT on a PC

- Software to remote-control a networked Android BHT on a PC for smooth communication, higher on-site operational efficiency and reduction of burden on the management side.
- There are three modes available for real-time operational management, from which you can choose the one suitable for the intended use.

1. "Assistant Mode" to remotely support the worker

In this mode, the manager can share the operation screen with the worker, making it suitable for usage such as lectures on the operation method by an operator.

2. "Desk Top Mode" for data entry and changing settings while remaining undetected by the worker

In this mode, the manager can change the password and other data while the screen is off on the worker's side, so it is suitable for updating programs and changing settings.

3. "View Mode" for constant checking of the operational situation

The screen of the handy terminal used on-site can be viewed at the control center to monitor the operational situation, and for early troubleshooting.

image



Supported BHT models	BHT-M80, M70, M60

Supported OS: Windows®10 (32/64bit)

Require 1 license for one BHT.One license is available for one product.
*Unlimited licenses are also available.

Terminal management/ maintenance tools

BHT Security Package

Android | BHT-OS | Windows

Package for complete elimination of Android™ security risks

- This package incorporates key security functions based on handy terminal development know-how accumulated by DENSO WAVE over many years.

Dedicated terminal usage method supported with 3 applications and functions

1. Terminal functionality restriction, information leakage prevention
BHT Setting (device setting function)

- Taking photographs of confidential information with the camera, terminal hijacking from Bluetooth, eavesdropping with the microphone, and the outflow of data from USB memory devices or SD cards is prevented by restricting terminal functionality.

2. Monitoring and control of communication with unauthorized sites, etc.
BHT Firewall

- Accidental or intentional information leakage is prevented by monitoring and controlling communication. Damage caused by spoof websites or unauthorized apps is prevented by blocking communication with other than pre-set connection destinations or apps.

3. Monitoring and control of unauthorized operation
BHT Security Manager

- In addition to detecting abnormalities including behavior leading to unauthorized operation such as consecutive password entry, or unauthorized switching to developer mode, terminals can also be controlled remotely by administrators.



All apps pre-installed on terminal!



BHT Setting | BHT Firewall | BHT Security Manager

Supported BHT models	BHT-M80, M70, M60

Require 1 license for one BHT.One license is available for one product.
*Unlimited licenses are also available.

Development/ kitting/ operation tools

BHT-BASIC4.0 Development Pack

Android / BHT-OS / Windows

A software package required for the development of BHT applications

❶ BHT-BASIC4.0 Compiler

Compile a source program to BHT execute form

- Enable to compile and edit a source code by 1 button.

❷ BHT-BASIC4.0 Remote Debugger*

Debug as connecting BHT with PC by cable and simulating the execute status.

- Single line stepwise execution can be performed, and breakpoints to monitor running state can be set.
- Managing multiple application programs as one workspace can be achieved.

*BHT-800 series is not supported.

❸ BHT-BASIC4.0 Transfer Utility

- Communication between the BHT and your PC (downloading and uploading) is simple and easy with a button.

[Including]
- BHT-BASIC4.0 Compiler
- BHT-BASIC4.0 Remote Debugger
- BHT-BASIC4.0 Transfer Utility

Supported BHT models	BHT-S40, S30, 1500, BHT-1408QUMWB

Supported OS	Windows®10 (32/64bit (WOW64))	Windows®11 (64bit (WOW64))

Require 1 license for one PC. One license is available for one product.

BHT-BASIC4.0 Transfer Utility [EXE]

Android / BHT-OS / Windows

Communication between the BHT and your PC (downloading and uploading) is simple and easy with a button.

- The BHT application programs can be downloaded to the PC.
- Enable to upload barcode data BHT collected by text file, and download master data like name of commodity.

Supported BHT models	BHT-S40, S30, 1500

Supported OS	Windows®10 (32/64bit (WOW64))	Windows®11 (64bit (WOW64))

Require 1 license for one PC.

BHT-BASIC4.0 Transfer Utility DLL Pack

Android / BHT-OS / Windows

DLL for communication between BHT and PC can be called from Windows application

- Communication software for data exchange between the BHT and a PC DLL (Dynamic Link Library) package to enable data transfer utilities' communication function in Visual Basic and Visual C++ environment.
- Data exchange with the BHT is achievable with a very simple program.

Supported BHT models	BHT-S40, S30, 1500

Supported OS	Windows®10 (32/64bit (WOW64))	Windows®11 (64bit (WOW64))

Require 1 license for one PC.

BHT-BASIC4.0 Remote Debugger

Android / BHT-OS / Windows

Stepwise monitoring tool which greatly reduces debugging work in developing BHT software

- Single line stepwise execution can be performed, and brake point to monitor running state can be set. Easy debugging of programs can be achieved by checking the value of variables and the state of the stack.
- Managing multiple application programs as one workspace can be achieved.

Supported BHT models	BHT-S40, S30, 1500

Supported OS	Windows®10 (32/64bit (WOW64))	Windows®11 (64bit (WOW64))

Require 1 license for one PC.

BHT Setting

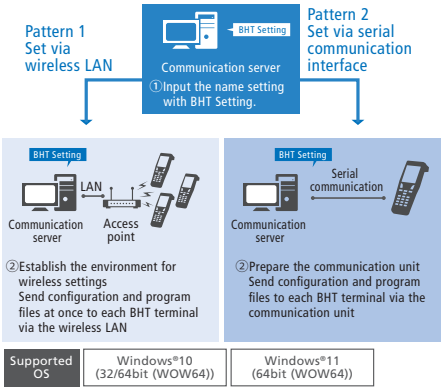
Android / BHT-OS / Windows

Setting tool for making complicated introduction work easier

- Making configuration settings and installing applications required to introduce handy terminals become easier
- Configuration setting information can be inputted on the PC and sent to BHT terminals via wireless LAN or serial communication interface.
- Settings unique to each individual device, such as IP address, are also supported.

Supported BHT models	BHT-S40, S30, 1500, BHT-1336QWB, BHT-1408QUMWB

Downloadable from QBdirect on our website free of charge



Supported OS	Windows®10 (32/64bit (WOW64))	Windows®11 (64bit (WOW64))

Software

Development/ kitting/ operation tools

BHT Term Emulator

Android / BHT-OS / Windows

Software for using a wireless BHT terminal as a terminal for an online system

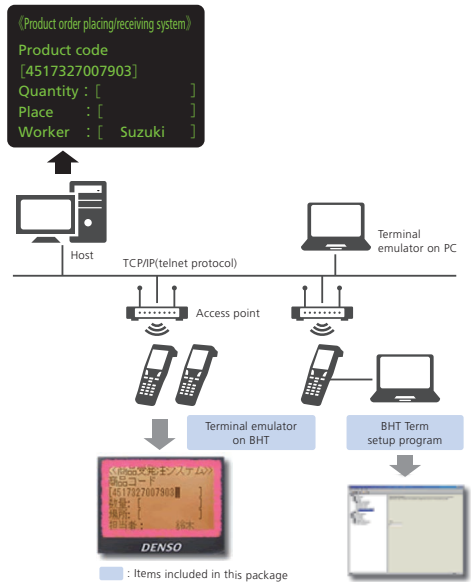
- Existing online applications can be used without any modification.
- No relay server for terminal connection is required.
- The BHT Term setup program included in the package enables easy setup depending on the usage environment.

Supported BHT models	Wireless LAN models of BHT-S40, S30)

Supported OS	Windows®10 (32/64bit (WOW64))

One license is required for one BHT terminal. One license is available from one product.

■System configuration



Terminal management/ maintenance tools

BHT Manager

Android / BHT-OS / Windows

Software for Operation Support after the Introduction of BHT

- It is possible to automatically update the OS and applications of all BHTs operated through the LAN, distribute master data, and collect user data from your desk.
- Centralized management through the network reduces the burden on the system administrator.
- Since the software can be used by regular users, operation does not depend on the skill of the system administrator.

Required Software:
Microsoft SQL Server 2005, 2008, or 2008 R2 Express Edition, and Microsoft .NET Framework 3.5 SP1

Supported BHT models	Wireless LAN models of BHT-S40, S30, BHT-1336QWB, BHT-1408QUMWB

Supported OS	BHT Manager 32bit	BHT Manager 64bit	
	Windows®10 (32/64bit)	Windows®10 (64bit)*	Windows®11 (64bit)*

One license is required for one BHT terminal. One license is available from one product.

Sample Usage: Updating the applications at all offices in the country from the headquarters (A company with 100 chain offices)

Before introducing BHT Manager

The staff visit each office, and update the applications and OS.

Visits	Five offices /day
Number of days required for update	20 days in total

Assuming 50 thousand yen/day, 1 million yen + transportation expense are required for update.

Significant cost reduction

After introducing BHT Manager

The staff updates the applications and OS through the company network.

Visits	Not required
Number of days required for update	One day in total

With BHT Manager, update can be completed with only an operational expense of 50 thousand yen.

Development/ kitting/ operation tools

Software Development Kit

Android / BHT-OS / Windows

Development support kit for supporting application development for BHT terminals with Windows®-OS

- A complete set of SDK, OS, tools and samples is provided on DENSO WAVE's support page.

Description of SDK	Items controlled by the library	Sample program examples
•OS OS for relevant SDK •SDK Library and sample programs for developing BHT applications •SDK_RDP Library for developing remote desktop applications •Tools Remote display application for displaying BHT screen on the PC	•Barcode and 2D code reading function •RFID control (for products supporting RFID only) •Wireless LAN communication function •3G communication control and GPS information collection (for products supporting 3G only) •Bluetooth SPP communication function •Serial communication function (YMODEM communication function) •Power OFF and reset •LED control •Backlight control •Buzzer and vibrator control •Camera control •Key input control •Compatible screen display function •OS update function	•For basic configuration settings (reading setting, buzzer/vibrator setting, OS update setting, setting for connecting with Bluetooth devices) •For socket programming •For language display •For key allocation setting (backlight, screen rotation and software input panel) •For wireless LAN connection setting •For COM communication setting •For automatic reconnection with Bluetooth devices

Supported BHT models	BHT1400*, 1300 (Windows-OS)

*Some functions are not supported.

* Since some restrictions may apply, please visit Microsoft's website for details.
https://www.microsoft.com/ja-jp/dev/support/tools.aspx

HP Downloadable from QBdirect on our website free of charge

Simulator

Android / BHT-OS / Windows

Tool that allows application development and debugging on a PC

- Simulation and debugging on a PC are possible without an actual device.

Supported BHT models	BHT1400*, 1300 (Windows-OS)

*Some functions are not supported.

Require 1 license for one PC.

【Conceptual image of main screen】



Saving the settings and status, setting which device is to be targeted, and connecting/disconnecting with a visual PC

Registering codes in the case where scan testing is performed during simulation

Settings for the battery level and the presence or absence of LAN-CU, the LED status and the vibrator status are displayed.

Key operation during simulation

Remote desktop plug-in

Android / BHT-OS / Windows

A plug-in for controlling BHT terminals at will in the remote desktop environment

- BHT local devices (e.g., barcode scanners, buzzers or vibrators) can be controlled in the Windows® remote desktop environment.

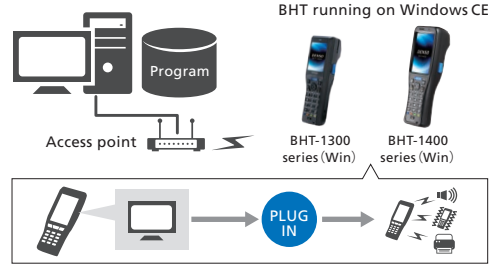
Advantages of using remote desktop

- Development is possible using Visual Studio.
- Development is required only on the server side. Thus, development costs can be significantly reduced.
- When updating applications, only applications on the server side need to be modified. This makes the process less time-consuming.
- No information is left on the BHT side. This helps ensure security.

Supported BHT models	BHT1400*, 1300 (Windows-OS)

*Some functions are not supported.

HP Downloadable from QBdirect on our website free of charge



Supported OS	Windows®10 (32/64bit)

To use the remote desktop feature, a license must be obtained from Microsoft Corporation. To purchase a license, please contact Microsoft Corporation or a dealer.

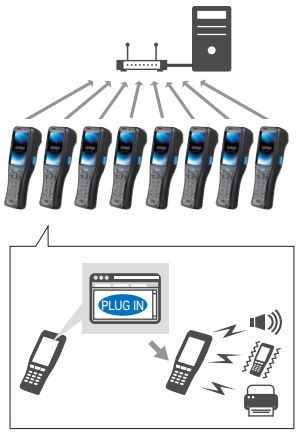
Development/ kitting/ operation tools

Web browser plug-in

Android / BHT-OS / Windows

A plug-in for controlling BHT terminals at will in the web browser environment

•The plug-in enables control of BHT local devices (e.g., barcode scanners, buzzers, or vibrators) in the web browser environment.



Advantages of using web browsers

- Systems for business operations can be easily established by using web server services, which enable excellent control of simultaneous multiple access.
- Development is possible based on HTML and JavaScript.
- When updating applications, only applications on the server side need to be modified. This makes the process less time-consuming.
- No information is left on the BHT side. This helps ensure security.
- Settings can be optimized for business operations by limiting some of the functions of Internet Explorer.

Supported BHT models	BHT1400*, 1300 (Windows-OS)

*BHT1406QWBseries not available

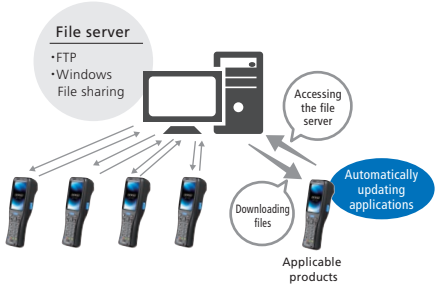
Terminal management/ maintenance tools

Version Manager

Android / BHT-OS / Windows

Application for automatically updating files on BHT terminals with Windows®-OS

•Applications, OS, master files, etc. can be automatically downloaded and uploaded by accessing the file server from each terminal.



Menu screen



File update setting screen



Main functions

- Automatic updating of applications and OS
- Automatic updating of master files
- Uploading of update logs
- Automatic periodical resetting of BHT terminals

Supported BHT models	BHT1400*, 1300 (Windows-OS)

*BHT1406QWB series not available

One license is required for one BHT terminal. One license is available from one product.

RFID

RF-Edge

Android / BHT-OS / Windows

Verification application to support RFID adoption

•"I want to check" whether I can use RFID. "I want to check" the benefits through actual use.RF-Edge is equipped with all the functions necessary for verification.

1. Extensive range of functions necessary for verification

•Menus capable of simulating actual use are also available.

Verification work menus		Work menus
1. Recommended settings	2. Tag rewriting	7. Arrival/shipment work
3. Sorting of scanning result	4. Filter function	8. Inventory check work
5. JAN conversion	6. Verification results output	9. Tag searching

2. Short time to adoption, inexpensive

•With RF-Edge, there is no need to develop verification software, reducing the total cost, and shortening the time up to adoption.

3. No expertise required

•RF-Edge is equipped with the functions and recommended settings necessary for verification, making operation easy even without expert RFID knowledge.

4. Small-scale adoption possible

•Small-scale adoption is possible with a minimal initial cost. You'll see the benefits by managing small quantities of goods.

[Screen image]



Scanning environment setting complete with a simple swipe!



Also equipped with extensive range of menus capable of simulating actual use

Supported models	RFID scanner: SP1 Andorid™ terminal:AQUOS

One license is required for one SP1. One license is available for one product.
* Unlimited licenses are also available.

IC card model

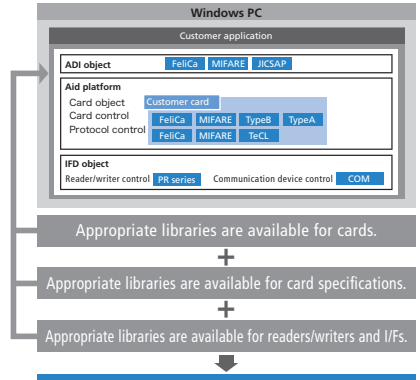
IC card device development support libray for Windows®

Android / BHT-OS / Windows

Reduce the development period of IC card devices

•Supporting for reader writer processing, various card processing, communication, encryption by library.

•Lineup 3 types IC card, FeliCa®, MIFARE®, JICSAP (TypeA/TypeB).



Supported models	OK30-IC

Supported OS	Windows®10 (32/64bit)

Use Maximum 5 license by 1 software. To operate reader writer, additional license is separately needed.

Software

OCR model

Application package for OCR introduction

Android
BHT-OS
Windows

Application for OCR scanning test and operation to support OCR introduction

•Test evaluation tool (free of charge)
Tool that allows evaluation of whether actual target objects can be adequately scanned and confirmation of optimum settings for OCR introduction before introduction

- Easy character string pattern setting: Character string pattern can be registered by just scanning character strings.
- Easy user dictionary setting: Special fonts, etc. can be registered.
- Support function for stable operation: Stability of scanning and scanning rate can be evaluated.
- Simplified evaluation application: Data can be collated with a configuration file and dates can be read.

•Past record collection application (chargeable)
Application that allows start of operation without new application development at the time of introduction

- Arrival
- Shipment
- Inventory check

Past record collection and expiration date input are possible by linking data to locations.

- Collation: Collation by flexible combinations of barcodes, 2D Codes and text recognized with OCR is supported.
- Expiration date: Collation is possible by automatically setting the expiration date with reference to the date of scanning based on the product master registration.

【Simulated screens】

Test evaluation tool
(User dictionary setting screen)



Past record collection application
(Arrival screen)

Supported models	BHT-1461QWB-CE-O

One license is granted per product.
The application can be used on up to 20 BHT terminals per license.

Code generation application

Application for generating barcodes and 2D Codes

•In addition to barcodes and 2D Codes, GS1 DataBar (RSS) and GS1 Composite can be generated.

QRdraw® II NEW	Software to generate barcodes and 2D codes on a PC.	Windows® 10(32bit/64bit(WOW64)) Windows® 11(WOW64)	One license is required per PC. One license is granted per product.
QRmaker® II NEW	ActiveX control to support QR Code generation functionality in user applications.	Windows® 10(32bit/64bit(WOW64)) Windows® 11(WOW64)	One license is granted per product for development. Redistribution of executable only modules together with the developed application is permitted without a license. For the terms and conditions for redistribution of this application, please refer to the user's manual packed with the product.
QRmaker® JV	For generating QR Code without depending on OS in a server environment where Java (JDK)* runs *Generated QR Code can be freely distributed; however, using QR Code classes (including conversion to applets, etc.) distributed from a server is not permitted.	Hardware requirements: Java Development Kit 1.18 or higher (The attached sample runs on JDK 1.4)	One license is required per server (per CPU). If a server has more than one CPU, 0.1 license is required per additional CPU.

•SQRC® can be generated.

SQRC® maker	In addition to generate QR code, it has SQRC generation function. *Please note that unlike QRmaker, the runtime library cannot be redistributed. *Barcodes or 2D Codes that are generated using this application cannot be used by distributing them via the Internet. If you wish to distribute them via the Internet, please use QKeys. (As long as such barcodes or 2D Codes are used within an office, they can be distributed via the Internet and used.)	Supported OS :Windows10(32bit/64bit)	One license is required per PC. One license is granted per product. For SQRC generation, a SQRC generation license is required. It is necessary to separately conclude a license agreement with DENSO WAVE.
QKeys®	The SQRC generation function can be used by any systems and services connected to the Internet.	Does not depend on the OS	For operation, it is necessary to apply for the cloud service. For details, please contact DENSO WAVE.
Q Platform®	The SQRC generation function can be used by any systems and services connected to the Internet. (See P.84 for details)	Does not depend on the OS	For operation, it is necessary to apply for the cloud service. For details, please contact DENSO WAVE.

QR Code® solution

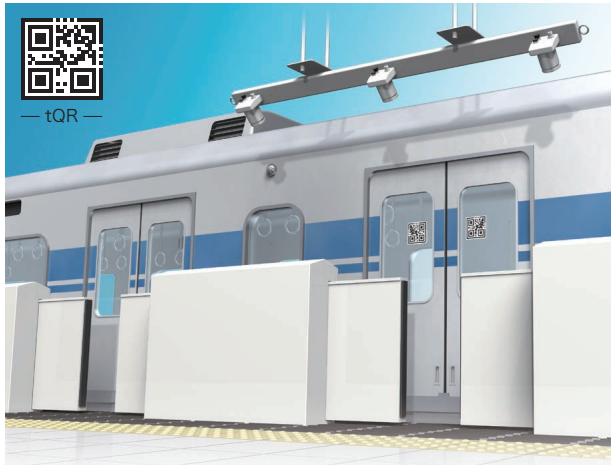
The QR Code, which was created in 1994 for the production management of auto parts, has been used for mobile ticketing and cashless payment with the spread of smart phones, and the opportunities for daily use have been increasing dramatically.
As a QR Code developer, DENSO WAVE will create new value together with our customers by developing solutions that meet the needs of society.

Solution for railway operators P.79
Offline face authentication solution P.80
Next generation QR codes P.81
DENSO WAVE service platform P.83
QR code creation site P.84

Solution for railway operators

Platform door opening/closing system using new QR Code (tQR)

This system controls the opening and closing of platform doors by reading the QR Code attached to the car door. It enables easier installation of platform doors.

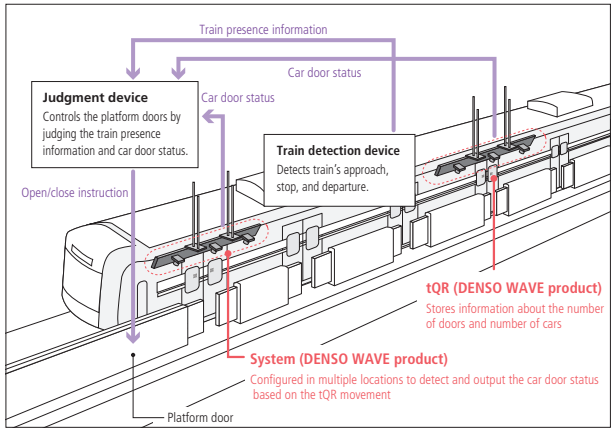


Feature 1
Shorter construction period
Installation is possible without any modifications to the trains. The construction period can be shortened by simply attaching QR labels to the car doors.

Feature 2
One-action operation by the conductor
Platform doors can be opened and closed in succession using only the door control on the train side. One-action operation by the conductor can be realized.

Feature 3
Only the necessary doors are opened and closed
With the train information stored in the code, optimal door control is possible. It is possible to open and close only the necessary doors for the train type or the number of cars.

System overview

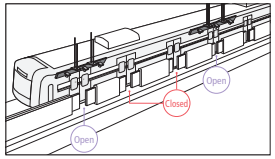


1 One system monitors one door location.
(Multiple units are recommended for each platform.)

2 Receiving a train presence signal from the train detection device, the QR codes (tQR) attached to the car doors are read.

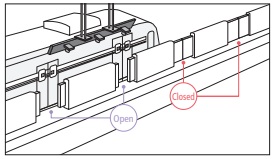
3 Detecting the open/closed status of the target car door with the lateral movement of tQR, the car door status is output to the judgment device.

Supports cars with different number of doors



By using tQR data on the judgment device side, it is possible to change the doors that open and close for each train type (local train, express train, etc.).

Supports different number of cars



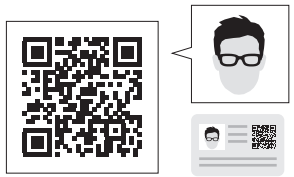
If the number of cars is different, it is possible to only open and close platform doors where cars stop.

Offline face authentication solution

Face authentication SQRC

This application enables identity authentication by converting facial feature information into SQRC (QR Code that contains private information).

Issuance of face authentication SQRC



Attached to employee/ membership ID card

Offline verification



Dedicated reader (Encryption key setting)

Smartphone/tablet/PC (Android™/Windows®)

Facial information captured by a camera



Feature 1
Easy to install anywhere
Offline authentication does not require a communication environment. Face authentication can be easily installed anywhere without large-scale equipment construction.

Feature 2
No server required, meaning low costs
No expensive server installation costs are required. The costs for security measures essential for servers can also be reduced.

Feature 3
Low risk of information leakage
Since no personal information is stored on the server, there is no need to worry about information leakage due to hacking. Reading with regular QR code readers is also restricted.

Face authentication SQRC implementation examples



Enhancement of facility security



Prevention of inspector impersonation



Identification at entrances to event venues

What is an SQRC®?

SQRC is a registered trademark of DENSO WAVE Incorporated.

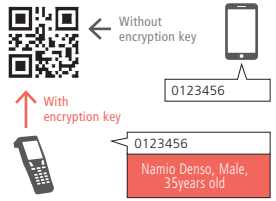
SQRC looks like a normal QR code, but it is a QR code that can contain public data and private data in one code. The private data can be read only with a dedicated reader with an encryption key.

Feature 1
Two information areas



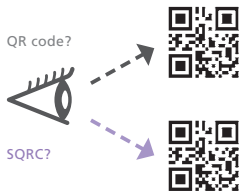
Data is stored in the two information areas.

Feature 2
Reading restriction



Data can be read only with a reader with the encryption key.

Feature 3
Looks like a QR code



It is undistinguishable from its appearance, preventing counterfeiting and tampering.

*This function does not guarantee the security of the code data.

QR Code solutions

Next generation QR codes

rMQR Code®

This is a rectangular QR code easy to display in narrow spaces.
It works with blank spaces and narrow workpieces where conventional QR codes cannot be printed.

rMQR(Rectangular Micro QR)

rMQR Code is a matrix 2D code that is rectangular and easy to print in small spaces, yet easy to read and can store a large amount of information. It works where there is a need for printing in narrow spaces where conventional QR codes cannot be printed. It is ISO certified and can be used freely and with confidence by all users worldwide (Standard number: ISO/IEC 23941:2022).

Feature 1: Space saving and large capacity

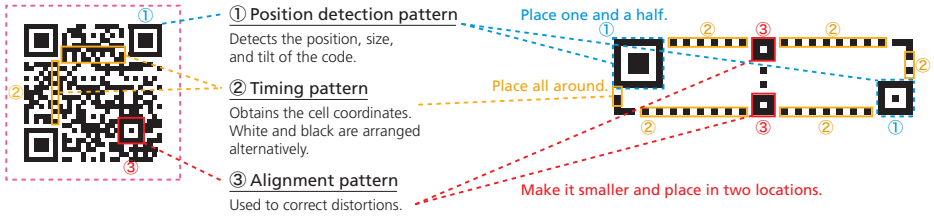
An rMQR Code can store up to 361 numeric characters, offering a large capacity in a small size.

Feature 2: High-speed reading similar to QR codes

Three patterns similar to QR codes are applied. By reading the cells and detecting distortions, high-speed reading is achieved, similar to that of regular QR codes.

Feature 3: Shape variations

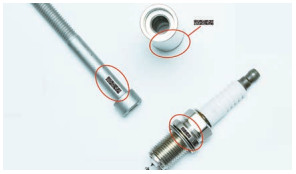
The number of vertical cells can be selected from seven to seventeen according to the space available.

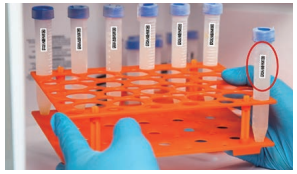


Specification

Code size	Maximum: 17 cells × 139 cells Minimum: 7 cells × 43 cells, 11 cells × 27 cells
Data size (maximum)	Numbers: 361 characters Alpha-numeric: 219 characters Binaries: 150 characters Kanji: 92 characters
Error correction (Data recovery rate)	Level M (approx. 15%) Level H (approx. 30%)

Applications


Electronic parts/equipment (traceability)


Medical/research field (safety management)



Retail field (product management)

Next generation QR codes

Frame QR®

Frame QR is a registered trademark of DENSO WAVE Incorporated.

Frame QR is a QR Code with a canvas field that can be used freely in the code.
The canvas field can be set freely according to your needs, so it can be used for a wide range of applications.



Feature 1: The canvas field in the center of the QR code can be used freely.
Feature 2: The shape of the canvas field can be set freely according to you needs.

Frame QR usage examples

Business card



Advantage:
Your photo can be displayed in a catchy Frame QR.

Advertisement

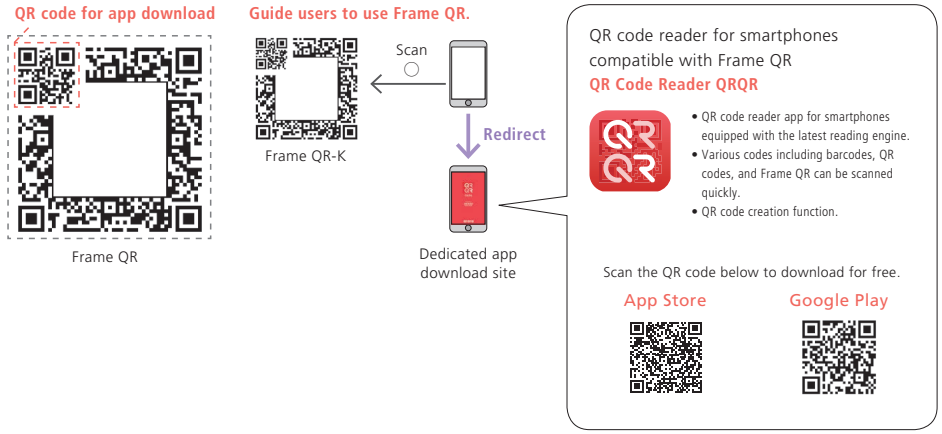


Advantage:
The content can be understood before scanning.

Frame QR®-K

Frame QR-K is a new code that combines a Frame QR and a QR code.
When scanned with a general QR code reader, you will be directed to the download site for the Frame QR reader app.

Feature: It can be used while making use of the canvas field, which is a feature of Frame QR.



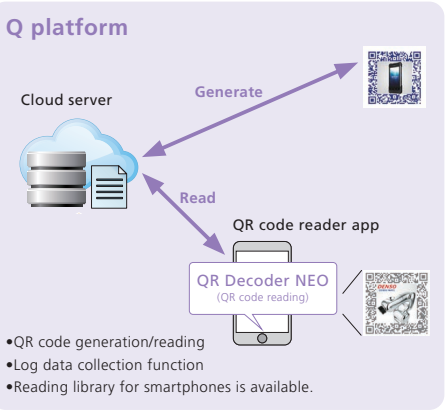
QR Code solutions

DENSO WAVE service platform

Q platform®

Q platform is a registered trademark of DENSO WAVE Incorporated.

Q platform is a cloud service that generates and reads unique QR codes®, realizing various solutions.



[Overview]

This is a service made up of a cloud system (Q platform) that generates and reads unique QR codes® (SQRC, Frame QR) and collects the log data, and a library for smartphone apps to link with the cloud (QR Decoder NEO).

Q platform functionality overview

Function	Overview
Reading function	SQRC, Frame QR
Generation function	QR code, SQRC, Frame QR
Log collection	Timestamp and the number of generations, reads, and requests for the above QR codes.

QR Decoder NEO

1D/2D code reader software made by the QR code developer

Feature 1
Smooth scanning of any code



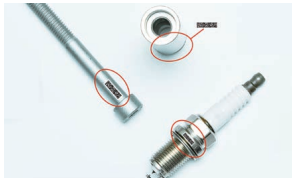
QR Decoder NEO reads a variety of code types including difficult-to-read codes such as faint, dirty, and distorted codes without stress.

Feature 2
Supports devices other than smartphones and web browsers



In addition to smartphones, it supports a wide range of devices and environments such as POS terminals, kiosks, and web browsers.

Feature 3
Supports various codes including DENSO WAVE's own codes



It supports reading of various codes including DENSO WAVE's own codes such as rMQR Code® and SQRC®*, expanding the range of usage.

Specification

OS	iOS	Android™	Windows®
Supported versions	iOS13 / iOS14 / iOS15 / iOS16	Android 11 / Android 12 / Android 13	Windows® 10 Enterprise 20H2
Development language	Swift	Java	C#
2D codes	QR Code® / Micro QR Code / SQRC®* / rMQR Code® / Frame QR®* / PDF417 / Data Matrix / MaxiCode / Aztec		
1D codes	UPC-A / UPC-E / EAN-13 / EAN-8 / Code 128 / GS1-128 (EAN-128) / Codabar (NW7) / Code39 / Code93 / Interleaved 2of5 (ITF) / GS1 DataBar (RSS) / EAN UCC COMPOSITE		
Supported browser	Microsoft Edge / Google Chrome / Safari		

*: To read SQRC and Frame QR, a separate contract for Q platform is required.

QR code creation site

QRQR Manager

QR Code is a registered trademark of DENSO WAVE Incorporated.

QRQR Manager is a website to create QR codes, making use of DENSO WAVE's generation engine.

[Overview]

QRQR Manager is a free QR code creation site developed and operated by Arara Inc.
By registering for a free account, you can view past creation history and access analysis information at any time.





Feature 1
QRQR Wi-Fi

QRQR Wi-Fi is a QR code (Frame QR) that allows you to join a Wi-Fi network just by scanning it. Anyone can easily join a Wi-Fi network as there is no need to have the knowledge on Wi-Fi settings or enter a password. It can be used in various situations such as stores, facilities, and homes.

Feature 2
Effect measurement

You can check the statistics of the number of scans/number of unique users/location of scans for QR codes created with QRQR Manager in real time. The access status can be checked with a graph, and consistent management from QR code creation to effect measurement is possible.

Feature 3
QR code creation history

By registering for an account, you can view all QR code creation histories even while in different environments. Because you can check the creation date/individual name/QR code information, smart management is possible even in situations where a large number of QR codes are created.

QRQR Manager [Free QR code creation site]

■QR codes and QRQR Wi-Fi (Frame QR to join a Wi-Fi network) can be created free of charge.
■Function to analyze the access to the created QR codes is available.

https://m.qrqrq.com/

QRQR Manager can be accessed from here.

Healthcare solution

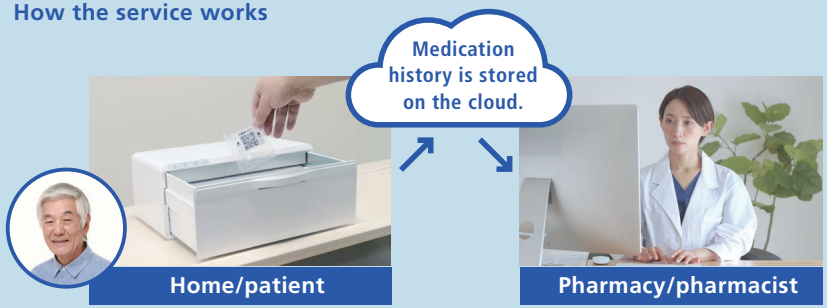
Medication visualization solution

Medication management service

Okusuri Nonda?

This is a cloud service to provide appropriate medication guidance by visualizing the patient's medication status.

How the service works



When the patient takes out medication from the dedicated box...

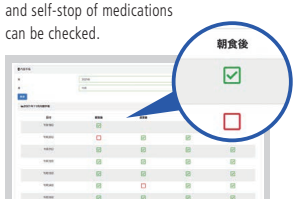
Medication status can be checked remotely!

What the service enables

Records which medications were taken out and when.



Forgotten or mistakenly taken medications and self-stop of medications can be checked.



Medication guidance based on the correct medication status is possible.



A variety of other functions that streamline your work are available.

Patient benefits

Ease of taking medication

By grouping medications taken together, patients do not have to worry about which medication to take and when, and can avoid taking the wrong medication.



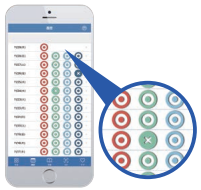
Preventing forgetting to take medication

Medication alerts prevent forgetting to take medication.



Watching over by the family

By sharing the medication status in real time, family members who live far away can watch over their loved ones.



*Smartphone itself is not included in the service.

Robotics / IoT Solutions

Robotics

DENSO WAVE offers a comprehensive range of robotics solutions and reliable support to bring "ease of use" to all those involved in robot work in a variety of situations including design, startup, operation, and maintenance.

Collaborative Robots

COBOTTA®



Anywhere, anytime, hassle-free.
A robot that collaborates with everyone.

Ergonomic form, and portable compact body.
COBOTTA can be taken anywhere by anyone for immediate work automation.

1 safety design



3 easy to use



2 Portable body



4 open platform



Click here for details.
(DENSOWAVE website)

IoT Solutions

"ORiN" middleware technology integrated into the computer enables communication with various FA equipment, realizing unified access from existing equipment to new equipment.

Data Integration Controller

IoT Data Server





IoT Data Server is a "Data Integration Controller" consisting of high reliable industrial computer and non-programming data integration software.
It equips standard data management functions developed especially for data collection, process, saving, notice and publishing. These functions will help the data management in various scenes from the production cell system to production line, factory, cloud system.

Data Integration Software

IoT Data Share





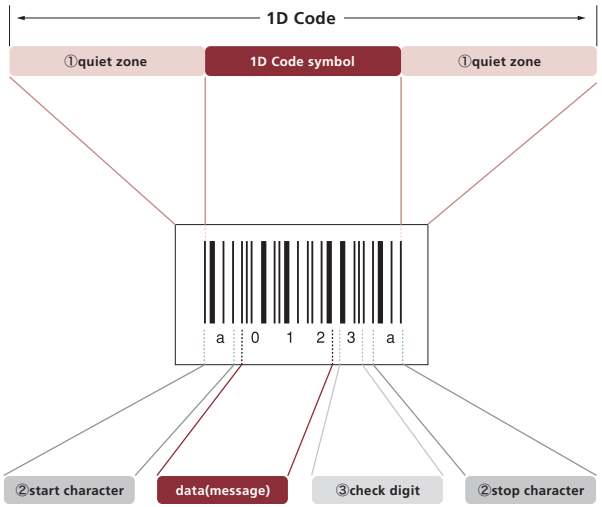
IoT Data Share is "Data Integration Software" that enables to connect various automation devices without programming and to provide functions of data collect, process, save, notify and publish.The collected data can be used as a trigger with setting any conditions. To link with such trigger, emailing, database writing, and external functions are available.

Click here for details.
(DENSOWAVE website)

What is a "1D Code" ?

1D Code Structure

Although there are many types of barcode, its structure is as below in general. Black and white stripes expresses various character and data.



①Quiet zone (margin)
Spaces, normally white, where nothing printed are required at each end of the code and they should be 10 times that of a narrow bar.

②Start／Stop character
Indicates the start/stop of the data. Depending on the code system, start/stop character varies.

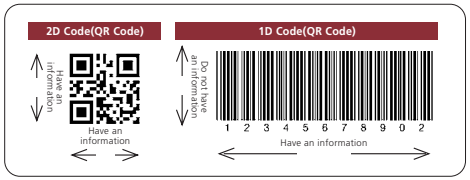
③Check digit
(symbol check character)
Confirm that there are no error in reading by means of one digit of compiled data. It is also called as symbol check character.

The kind and feature of 1D Code

	EAN(JAN)	Interleaved 2 of 5	Codabar(NW-7)	CODE39	CODE128	GS1 DataBar(RSS)
Symbol	4912345678904	1234567890	a123456a	*CODE39*	CODE128	(01)15012345678976
The kind of character	●Numeric character (0-9)	●Numeric character (0-9)	●Numeric character (0-9) ●Synbok (-,$,:,/,+,.) ●Start/stop character (a-d)	●Numeric character (0-9) ●Synbok (-,$,:,/,+,.) ●Alphabet (A-Z) ●Start/stop character (*)	●Full ASCI code (128 kinds) ●3 types of start character (stop character is 1 type) ●4 types of non data function character ●4 types of code setting selection character	●Numeric character (0-9)
Feature	●The most opularized cide as common commodity code ●Compatible with EAN in Europe, and UPC in US	●Suitable for high density printing ●Used for logistics as standard code	●Easy to print by printer	●Printable in Alphabets ●Employed by US Ministry of Defence in MIL standard	●Use various characters ●Enable to express 2 digit charactoer(00-99) by the 2 times density comparing to the density of 1 character	●Enable to express GTIN is new commodity code ●Print in small space
Example	●Common commodity code (Be attached on all the commodities)	●Standard code in logistics ●Used for miniature labels on small stuff ●Used for logistics (packaging boxes)	●Used for expense sheet for delivery service ●Used for envelopefir DPE photo print ●Used for blood management	●Used worldwide in FA field such as AIAG tugs,ODETTE tugs and EIAJ tugs.	●Used for payment of utilities ●Manage of medical materials ●Manage of electronic component	●Used for prevention of medical malpractice ●Used as drug medicine code

What is a "2D Code" ?

2D Code is progressing from the stacked bar code method (that stacks bar codes), to the increased information density matrix method.



2D Codes

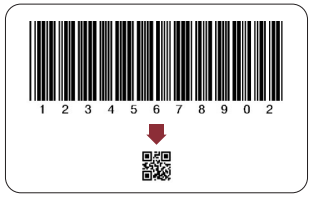
Here is typical 2D Codes and its feature.

		QR Code	DataMatrix	MaxiCode	PDF417	Aztec
						
Developer(country)		DENSO WAVE (Japan)	RVSI Acuity CiMatrix (USA)	UPS (USA)	Symbol Technologies (USA)	Welch Allyn (USA)
Data capacity	Numeric	7,089	3,116	138	2,710	3,832
	Alphanumeric	4,296	2,355	93	1,850	3,067
	Binary	2,953	1,556	—	1,018	1,914
	Kanji	1,817	778	—	554	957
Main features		Large capacity, small printout size, High speed scan	small printout size	High speed scan	Large capacity	High speed scan
Main usages		All categories	FA	Logistics	OA	transportation
Standardization		ISO JIS AIM International	ISO AIM International	ISO AIM International	ISO AIM International	ISO AIM International

What is a "QR Code®" ?

QR Code is registered trademark of DENSO WAVE Inc.

QR Code® is developed by DENSO WAVE (a division of DENSO Corporation at the time) and released in 1994. QR Code® is the most popular 2D Code in Japan.



High Capacity Encoding of Data

QR Code is capable of handling all types of data, such as numeric and alphabetic characters, Kanji, Kana, Hiragana, symbols, binary, and control codes. Up to 7,089 characters can be encoded in one symbol.

Small Printout Size

Since QR Code carries information both horizontally and vertically, QR Code is capable of encoding the same amount of data in approximately one-tenth the space of a traditional bar code.

Reading from any direction in 360°

QR Code is capable of 360 degree (omni-directional), high speed reading.

Kanji and Kana Capability

As a symbology developed in Japan, QR Code is capable of encoding JIS Level 1 and Level 2 kanji character set.
In case of Japanese, one full-width Kana or Kanji character is efficiently encoded in 13 bits.

Dirt and Damage Resistant

QR Code has error correction capability. Data can be restored even if the symbol is partially dirty or damaged.
*Data restoration may not be fully performed depending on the amount of dirt or damage.

The maximum data capacity of QR Code®

Version (Number of cell) \ Amount of data, ECC Level	Numeric				Alphanumeric				Binary				Kanji			
	L	M	Q	H	L	M	Q	H	L	M	Q	H	L	M	Q	H
1(21)	41	34	27	17	25	20	16	10	17	14	11	7	10	8	7	4
2(25)	77	63	48	34	47	38	29	20	32	26	20	14	20	16	12	8
3(29)	127	101	77	58	77	61	47	35	53	42	32	24	32	26	20	15
4(33)	187	149	111	82	114	90	67	50	78	62	46	34	48	38	28	21
5(37)	255	202	144	106	154	122	87	64	106	84	60	44	65	52	37	27
6(41)	322	255	178	139	195	154	108	84	134	106	74	58	82	65	45	36
7(45)	370	293	207	154	224	178	125	93	154	122	86	64	95	75	53	39
8(49)	461	365	259	202	279	221	157	122	192	152	108	84	118	93	66	52
9(53)	552	432	312	235	335	262	189	143	230	180	130	98	141	111	80	60
10(57)	652	513	364	288	395	311	221	174	271	213	151	119	167	131	93	74
11(61)	772	604	427	331	468	366	259	200	321	251	177	137	198	155	109	85
12(65)	883	691	489	374	535	419	296	227	367	287	203	155	226	177	125	96
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

●Error correction level L can restore .Approx. 7% of codewords, and level M can restore .Approx. 15%, and level Q can restore .Approx. 25%, and level H can restore .Approx. 30%

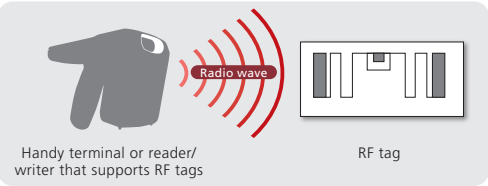
QR Code® Size (Including the margin)

Version (Number of cell) \ Cell size	0.19 mm	0.25 mm	0.33 mm	0.42 mm	0.5 mm
1(21)	5.5	7.3	9.6	12.2	14.5
2(25)	6.3	8.3	10.9	13.9	16.5
3(29)	7.0	9.3	12.2	15.5	18.5
4(33)	7.8	10.3	13.5	17.2	20.5
5(37)	8.6	11.3	14.9	18.9	22.5
6(41)	9.3	12.3	16.2	20.6	24.5
7(45)	10.1	13.3	17.5	22.3	26.5
8(49)	10.8	14.3	18.8	23.9	28.5
9(53)	11.6	15.3	20.1	25.6	30.5
10(57)	12.4	16.3	21.5	27.3	32.5
11(61)	13.1	17.3	22.8	29.0	34.5
12(65)	13.9	18.3	24.1	30.7	36.5
⋮	⋮	⋮	⋮	⋮	⋮

●Require margin of 4 cell around QR Code

What is RFID? Features of UHF RFID are introduced here.

RFID is a system that allows reading and writing of RF tag data in a noncontact manner by radio waves. In a barcode system, tags are scanned one by one by laser or by another method, while in a RFID system, more than one RF tag can be scanned simultaneously by radio waves. As long as they are within reach of the relevant radio waves, RF tags can be scanned, even if they are some distance away.



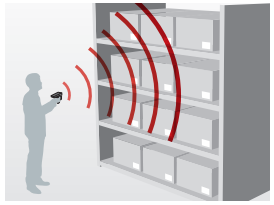
Feature 1: More than one RF tag can be scanned simultaneously by just holding the scanner over the tags.

Users do not have to look for the tags and scan them one by one; more than one RF tag can be scanned simultaneously by just holding the scanner over the tags. Inventory check time can be reduced to one-tenth that for operations using a barcode system.



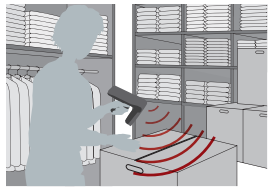
Feature 2: Distant tags can be scanned.

Since distant RF tags can be scanned, even hard-to-reach RF tags in high positions can be scanned quickly without using a stepladder. This feature not only reduces hours of work but also secures the safety of workers.



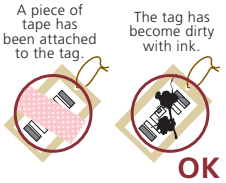
Feature 3: RF tags in a box can be scanned.

RF tags in a box can be scanned simultaneously without opening the box, improving work efficiency significantly.



Feature 4: RF tags with a stained surface can be scanned.

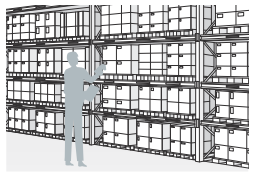
Even stained RF tags can be scanned, and accordingly, users do not have to worry even under poor use conditions.



Examples of RFID application

Inventory check at apparel shop backyard

Labor costs can be reduced by shortening work hours significantly. Furthermore, using a RFID system can make an inventory check less frequent, allowing the inventory situation to be confirmed in a more timely manner.



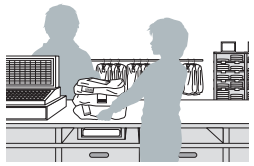
Inventory check at apparel shop

Using an RFID system can reduce the burden of inventory check work by employees, and accordingly, they can concentrate on providing service to customers, offering good prospects for an increase in sales.



Checkout operation at apparel shop

By placing a scanner on the checkout counter, tags can be scanned simultaneously by just putting products on the counter. This makes the checkout operation smooth, significantly shortens waiting times for customers, and reduces the loss of sales opportunities due to checkout queues.



Overseas bases



Americas	**DENSO Products and Services Americas, Inc.** 3900 Via Oro Avenue, Long Beach, California, 90810, U.S.A. Phone: +1-310-834-6352 Fax:+1-310-513-7319
Asia	**DENSO INTERNATIONAL ASIA PTE.LTD.** 51 Science Park Road, #01-19/26 The Aries, Singapore Phone: +65-67768268 Fax: +65-67768698
Australia and New Zealand	**CFI GLOBAL PTY LTD** 39 Venture Drive, Sunshine West, Victoria Australia 3020 Phone: +61 3 9267 8700
China	**DENSO (CHINA) INVESTMENT CO., LTD.** Room No.518, The Beijing Fortune Building, No.5 Dong San Huan Bei Lu, Chaoyung District, Beijing,100004, China Phone: +86-10-6590-8337 Fax: +86-10-6590-9044
Europe	**DENSO WAVE EUROPE GmbH** Parsevalstr. 9A D-40468 Dusseldorf, Germany Phone: +49-211-540-138-40 Email: info@denso-wave.eu
Korea	**DENSO INTERNATIONAL KOREA CORPORATION** 131,Seonggogae-ro,Uiwang-si,Gyeonggi-do, Korea 437-120 Phone: +82-31-340-1784 Fax: +82-31-8033-7210
Taiwan	**DENSO TAIWAN CORP.** No.525 Sec.2, Mei Su Road, Yang-Mei Town, Taoyuan Hsien, Taiwan Phone: +886 3-482-8001 Fax: +886 3-482-8003
Thailand	**DENSO SALES(THAILAND) CO.,LTD.** 888 Moo 1, Bangna-Trad Rd. Km 27.5, T.Bangbor, A.Bangbor, Samutprakarn, 10560, Thailand Phone: +66 2-315-9500 Fax: +66 2-315-9559
Headquarter	**DENSO WAVE INCORPORATED Automatic Data Capture Group** 1, Yoshiike, Kusagi, Agui-cho, Chita-gun, Aichi 470-2297 Japan Phone: +81-569-49-5011 Fax: +81-569-49-5484

Note regarding the use of the wireless function

[Caution]

The frequency range used by this product may also be used by in-plant wireless stations for moving object identification in factory production lines and amateur radio stations (license required), and by specified low power radio stations (license not required) (stations mentioned above will be referred to as "other stations" below), as well as in commercial, industrial and medical devices such as microwave ovens.

1. Before using this product, ensure that "other stations" are not being used near by.
2. If this product interferes with the communications of "other stations", promptly stop radio wave emissions from the product and contact us as to how to avoid the interference.
3. If any other problems concerning wireless communications of this product and/or "other stations" should occur, please contact us.interference.

●IEEE802.11a/b/g/n/ac: BHT-M80-QW/BHT-M80-QWG/BHT-M70-QW/BHT-M70-QWG/BHT-M60-QW/BHT-M60-QWG/BHT-S40-QW/BHT-S40-BW/BHT-S30-QW/BHT-S30-BW

IEEE802.11a/b/g/n
IEEE802.11a/n
W52 W53 W56
① ② ③ 2.4 DS/OF 4 ④

① 「2.4」 : Intend the wireless function using 2.4GHz Band.
② 「DS/OF」 : Pulse-code mode intends DS-SS mode or OFDM mode.
③ 「4」 : Supposed interference distance is Approx. 40m.
④ 「———」 : Intend using all bands and the band of the moveing identification device is preventable.

●IEEE802.11a/b/g/n: BHT-1800QWB-1-A7/BHT-1800QWB-2-A7/BHT-1800QWB-3-A7/BHT-1800QWBG-1-A7/BHT-1800QWBG-2-A7/BHT-1800QWBG-3-A7/BHT-1700BWB-1-A7/BHT-1700QWB-1-A7/BHT-1700QWB-2-A7/BHT-1700QWBG-1-A7/BHT-1700QWBG-2-A7/BHT-1700QLWB-P-A7/BHT-1600QWB-A6N-S/1600QWB-A6N-RS/1600QWBG-A6N-S/1600QWBG-A6N-RS/1461BWB-CE/1461QWB-CE/1461QWB-CE-0/1361BWB-CE/1361QWB-CE/1306BWB/1306QWB/1306QWB-H

IEEE802.11a/b/g/n
IEEE802.11a/n
W52 W53 W56
① ② ③ 2.4 DS/OF 4 ④

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③ 「4」 : Supposed interference distance is Approx. 40m.
④ 「———」 : Intend using all bands and the band of the moveing identification device is preventable.

●IEEE802.11b/g/n: BHT-1406QIWBG / 1406QIWB / 1406QIWB-N / 1406QIWBG-C

① ② ③ 2.4 DS/OF 4 ④

① 「2.4」 : Intend the wireless function using 2.4GHz Band.
② 「DS/OF」 : Pulse-code mode intends DS-SS mode or OFDM mode.
③ 「4」 : Supposed interference distance is Approx. 40m.
④ 「———」 : Intend using all bands and the band of the moveing identification device is preventable.

●IEEE802.11b/g: 615QUMWB

① ② ③ 2.4 DS/OF 4 ④

① 「2.4」 : Intend the wireless function using 2.4GHz Band.
② 「DS/OF」 : Pulse-code mode intends DS-SS mode or OFDM mode.
③ 「4」 : Supposed interference distance is Approx. 40m.
④ 「———」 : Intend using all bands and the band of the moveing identification device is preventable.

●Bluetooth: BHT-1800QWB-1-A7 / BHT-1800QWB-2-A7 / BHT-1800QWB-3-A7 / BHT-1800QWBG-1-A7 / BHT-1800QWBG-2-A7 / BHT-1800QWBG-3-A7 / BHT-1700BWB-1-A7 / BHT-1700QWB-1-A7 / BHT-1700QWB-2-A7 / BHT-1700QWBG-1-A7 / BHT-1700QWBG-2-A7 / BHT-1700QLWB-P-A7 / BHT-1600QWB-A6-S / 1600QWB-A6-RS / 1600QWBG-A6-S / 1600QWBG-A6-RS / 1505BB / 1505QB / 1461BWB-CE / 1461QWB-CE / 1461QWB-CE-0 / 1406QIWBG / 1406QIWB / 1406QIWBG-C / 1406QIWB-N / 1306BWB / 1306BB / 1306QWB / 1306QB / 1306QWB-H / 1361BWB-CE / 1361QWB-CE / 615QUMWB / GT20B-SB / AT22B-SB / 27Q-SB / GT20Q-SB / SE1 / WS1 / UR30 / SE1-BUB-C

① ② ③ 2.4 FH 2 ④

① 「2.4」 : Intend the wireless function using 2.4GHz Band.
② 「FH」 : Pulse-code mode intends FH-SS mode.
③ 「2」 : Supposed interference distance is Approx. 20m.
④ 「———」 : Intend using all bands and the band of the moveing identification device is preventable.

JBRC association promotes the recycling of small rechargeable batteries. Please cooperate with the recycling of small used batteries. For more information visit http://www.jbrc.com.

Wireless models utilize the BSAFE Software by RSA Security Inc.

Effort to the envirroment

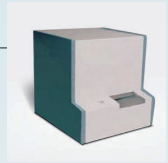
DENSO WAVE Inc. manufacturing and design processes use the EMS production process, thereby having a low impact on the environment. For more information about how DENSO WAVE Inc. is an eco friendly company, please visit http://www.denso-wave.com/en/about/eco/

History of DENSO WAVE AUTO-ID Products

DENSO WAVE will continue to endeavor to create value in new fields and applications by leveraging the core technologies we have accumulated over 50 years.

1970s

Developed barcode readers, etc. for manufacturing industry



1982

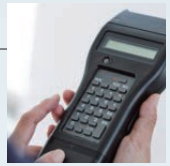
Launched barcode scanner (equipped with world's first CCD image sensor)



BHS-200

1987

Launched handy terminal (world's first)



BHT-1

1994

Announced QR Code®

2014

Launched High-output RFID handy scanner (Japan's first)



BHT-1281QULWB-CE

2017

Launched handy terminal equipped with Android™



BHT-1600

2020

Lineup of four BHT-M Series (Android) and BHT-S Series (BHT-OS) handy terminal models to realize a new work style.



BHT-M80, M70, M60, S40, S30

2024

QR Code 30 years anniversary

QR Code 30th Anniversary
Invented since 1994

QR Code® is a registered trademark of DENSO WAVE INCORPORATED.

I D S A M P L E

EAN-13



CODABAR (NW-7) with C/D



EAN-8



CODE39 with C/D



Interleaved 2 of 5 with C/D



CODE128



GS1 DataBar Omnidirectional (RSS Standard)



GS1 DataBar Stacked (RSS Stacked)



※C/D:check digit

2 D S A M P L E

[Micro QR code]



Number : 30 digit

[QR code]



Alphabet : 100 digit



Kana・Kanji : 50 digit

[rMQR code]



Number : 50 digit



Number : 12 digit

[2D code]

DataMatrix (ECC200)



Alphabet : 259 digit

MaxiCode



Alphabet : 93 digit

PDF417



Alphabet : 15 digit

GS1 DataBar Stacked Composite (RSS Stacked Composite)

