DENSO

HAND-HELD TERMINAL
BHT-M80

Equipped with Android™ 10

Outstanding multifunctionality and
unprecedented robustness

Model			2D Code Model	
			Wireless LAN connection	Wireless LAN+Wireless WAN
			BHT-M80-QW	BHT-M80-QWG
Operating System			Android™ 10	
CPU			Qualcomm® SDM660 64 bit 2.20 GHz (Octa-Core)	
Memory	RAM		4 GB	
	Flash memory		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 code	QR code®, Micro QR code, SQRC®, 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 code	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 and Taiwan(1 to 11 channels))	
		Security	Encryption : WEP (40/128), TKIP and AES WPA authentication : WPA, 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		—	nanoSIM×2 DSDV (4G x 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.

Dimensions	unit : mm(All reference values)
BHT-M80-QW 84	BHT-M80-QWG 40
167	
25	

Package includes :
●Terminal ●Hand strap (HSBHT-300/800) ●Operation manual ●User's Manual(Can be downloaded from the DENSO WAVE website.)

Options

■ Battery
・2900mAh battery : BT1S
・4020mAh battery : BT1
・5800mAh battery : BT1L
・Wireless 2900mAh battery :
 BT1S-W

■ Others
・Waist case : WHBHT-M80
・Hand belt : HBBHT-M80

■ Charger
・Wireless charger : CH-M80W[1]
・4-slot main unit charger : CH-M80-4[1]
・4-slot battery charger : CH-BT1-4[1]
・USB power adaptor
 (Quick Charge™ 3.0 supported) : AD8

・Stylus pen: PNBHT-1700
・USB Type-C - Type-A conversion cable
 (1.5m): CB00-US1500/4A-4C
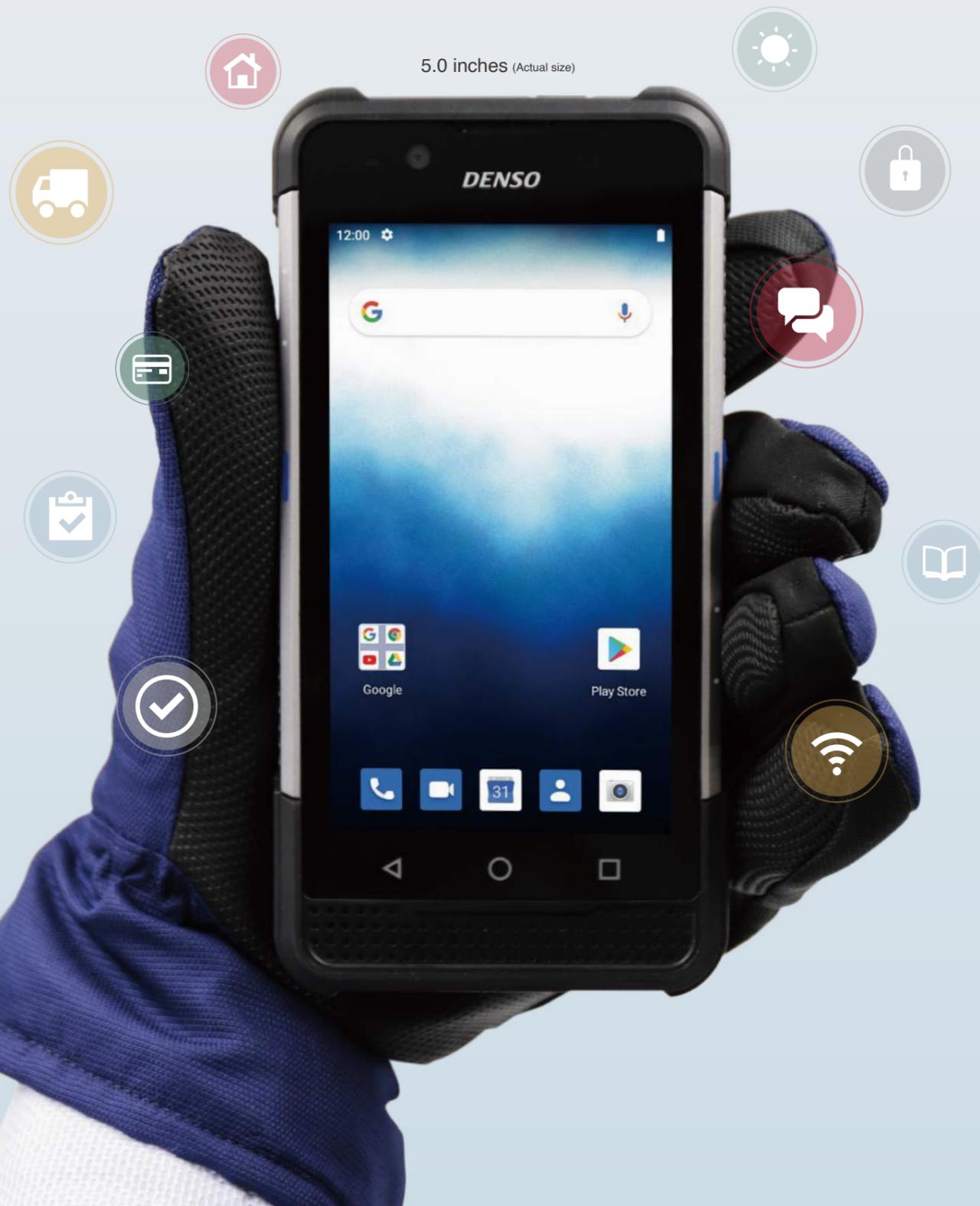・USB Type-C - Audio Jack conversion cable
 (3.5mm): CB00-US100/3-4C[2]

■ Communication unit
・USB type :
 With a spare battery charger :
 CU-M80U[1]
 Without a spare battery charger :
 CU-M80UQ (Quick Charge™3.0 supported)[1]
・LAN type
 With a spare battery charger : CU-M80L[1]

*1 AC adaptor sold separately
*2 You also need the conversion cable to equip the BHT terminal with earphones and other devices.

1260R-3 November 2021.

CREATE YOUR NEW WORKSTYLE
NEW BHT®

A larger screen makes for easy use in any environment, improving your new way of working.

5.0 inches (Actual size)
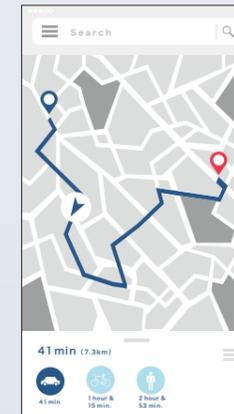
DENSO

CREATE YOUR NEW WORKSTYLE
NEW BHT®

STYLE 01 Logistics

Navigation map displayed on the screen for direct and speedy delivery

The navigation function provided by the BHT-M80 helps the driver quickly reach the destination to meet an urgent request for cargo pickup.
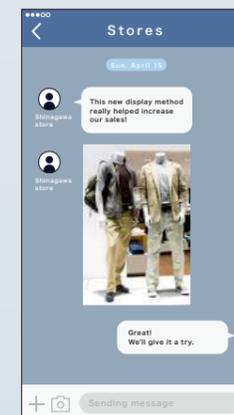
STYLE 02 Retailing

Real-time sharing of sales information

Stores can quickly share sales know-how, such as information about a product display strategy that helped boost sales, by making use of the chat app and camera.

STYLE 03 Manufacturing & logistics

Prompt troubleshooting by video call

On-site workers can promptly make an inquiry to service staff if they face a device problem, mitigating their stress and increase their productivity.

Outstanding robustness.

Greatest robustness in its product class*

* For smartphone-type barcode terminals for business use, as of October 2020, surveyed by the company

Highest-level resistance against 3.0-meter drops in in its product class.
Has passed the drop durability test of 1meter x 2,000,
making it robust enough for daily use.

Designed to provide high resistance against shocks

Uniquely designed to provide high resistance against drops on concrete floors with a light and rigid magnesium frame and an elastomer bumper to absorb shocks.

Lasting clear visibility with a tempered glass screen

For the display, AGC's Dragontrail® Pro is adopted for resistance against scratching and to provide high visibility on a long-term basis.

Able to withstand harsh environments

With IP67-compliant resistance against water and dust, the terminal can be used outdoors in rainy weather and in dust-filled factories alike with peace of mind.

User-friendly screen for greater work efficiency

Operable with gloves on

The capacitive touch panel can be operated comfortably even while wearing gloves. Moreover, the sensitivity is automatically adjusted according to the thickness of the gloves, thereby substantially reducing the time required for setting.

Reducing eye stress imposed on the user due to the performance of screen-based tasks, thereby increasing productivity

Equipped with a new function to automatically adjust the screen brightness according to the environment, thereby reducing the user's stress and helping increase their operational efficiency.

Reliable quality developed by a leading automotive component supplier for its own manufacturing facilities

DENSO supplies automotive components to automakers across the world. In the 1970s, the company developed unique automatic recognition technology to increase efficiency at its own manufacturing facilities. DENSO's commitment to providing high-quality and high-reliability automotive components has been passed down to DENSO WAVE for the provision of the BHT series.

World's first mobile barcode terminal, the "BHT-1"

Scan faster, works harder.

Equipped with a new decode engine and high-density sensor, BHT-M80 provides outstanding scanning performance. The Qualcomm® SDM660, which is an industry top-level CPU (2.2GHz, Octa-Core CPU), enables high-speed processing. Comfort in scanning helps increase the efficiency of your daily operations.

Just "trace" for serial scanning

By adopting the industry's top-level CPU, we have tripled the scanning speed compared with that of conventional products to about 30 labels per second. With the terminal, you do not need to scan the labels one by one. Instead, just trace the labels of items on the shelves and those of stacked items for serial scanning. Perform a full day's worth of inventory work in half the time, maximizing efficiency.

Conventional product — About 30 labels per second

BHT-M80

Note: When labels specified by the company are used and are scanned sequentially at a fixed distance
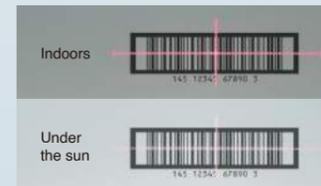
For details of scanning, please refer to the page.

Just "aim" for easy scanning

Can easily scan the label (code) from a distance of 1meter.

We have adopted a high-density sensor so that codes can be scanned without fail even from a distance. Scan codes easily while holding the terminal in a comfortable position without the need to stand up or crouch down repeatedly. Codes can be scan easily even through glass.

Indoors

Under the sun

Needs no skills for scanning

The laser marker, which provides high visibility even under the sun, eliminates the need to acquire skills to read labels covered with wrapping film and enables reading labels outdoors.

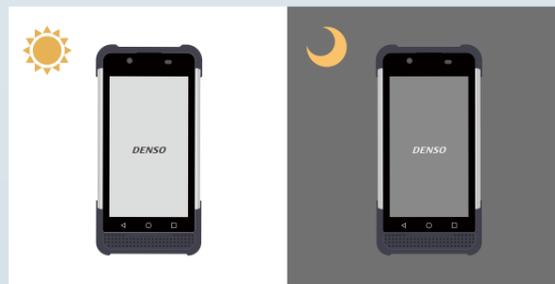### Can scan even difficult-to-read labels

We have adopted a new decode engine and high-density sensor and designed the optimal angle for operability in a comfortable position with no specular reflection effect. As a result, even labels covered by wrapping film, blurred/stained/deformed labels, and DPM codes can be scanned by the terminal.

Covered by wrapping film   DPM

Advanced OCR

With the newly adopted OCR engine, even blurred and stained labels and labels with different character heights can be scanned correctly.

ABCD12345

NFC supported

The scanner is equipped with an NFC antenna to read ID data.

Can scan data on driver's licenses and employee ID cards

Stress-free and comfortable operation

Type-C cable

Qualcomm®
Quick Charge™ 3.0
adaptor

*This picture is
a representation

Wireless charger

2900mAh battery
/ Operating time Approx. 14 hours*

4020mAh battery
/ Operating time Approx. 20 hours*

Wireless 2900mAh battery
/ Operating time Approx. 14 hours*

5800mAh battery
/ Operating time Approx. 29hours*

Providing more work method options by offering an alternative charging method

Direct charging supported

Widely used Type-C cable supported, allowing recharging with mobile batteries. You can recharge and forward files from PC at once.Qualcomm® Quick Charge™ 3.0 adaptor is also supported for quick charging.

Wireless charging supported.

With the custom wireless charger, you can prevent charging issues due to misaligned contacts. It can be used safely in rough and dusty environments such as a warehouse.

Easy-to-replace battery

You can easily replace the battery, even if it runs out while you are using the terminal. We offer four types of batteries that can be used according to the usage.

*The operating time is a reference value at a room temperature and may differ depending on the operating conditions. *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.

Detection of battery deterioration to prevent related incidents

The terminal detects battery deterioration and warns you when to replace.

Substancial communication features

High-speed 4G

4G LTE-compatible BHT allowing voice calls and high-speed data communication while working outdoors.

Precise communication with Dual SIM

BHT-M80 supports use of two SIM cards depending on the situation.
It enables you to use networks that are available for specific area like mountain regions.
You can also separate networks between voice calls and high-speed data communication.

Acquirable the highly precise location

GPS + satellite navigation system supported, allowing getting the highly precise location.
Status of works can be managed precisely in real time.
(Supported: A-GPS/GLONASS/QZSS/BeiDou/Galileo)

Quasi-Zenith Satellite System(QZSS) "Michibiki"

Higher communication speed for higher operational efficiency

As the terminal is usable in an IEEE802.11 ac high-speed communication environment, you can comfortably conduct operations even with a heavy data load, including using a browser, uploading data to the server, and downloading software applications.

Full support from introduction to operation

DENSO WAVE provides opportunities for new work methods through its products, support for introduction and after-sale service.

DENSO WAVE specialists support introduction and transition

Our special BHT team helps customers introduce the products by capitalizing on its long-accumulated experience, know-how and expertise in BHT products. DENSO WAVE team will make proposals, including options for software, to meet the customers' requests, such as "But we don't want to make any changes to our current operations," and "We want to increase our operational efficiency."

【Examples of support provided by the BHT team】

■ Support for selection of devices   ■ Support for change of OS
■ Developing apps and making proposals to help customers solve their respective problems
■ Communication environment optimization service (addition cost)
　We can conduct a survey to select the most appropriate locations for access points and optimize channel design to propose the optimal wireless environment for customers.

Extensive lineup of software products

We provide our own software products developed in-house to help customers increase their operational efficiency throughout the development, kitting, operation and maintenance processes.
We can also develop new software products to help customers solve their respective problems.
In addition, we introduce our partner companies' apps that can be used with BHT products.

【Examples of software products that support work method reforms】

■ Central management software that will change the work style of system managers [BHT DMS/BHT Remote]
■ Security software suitable for your busines terminals
■ Software that helps you easily create and customize operational apps [BHT Booster]

For software details:
BHT- M80 product page

After the start of operation

■ Speedy support for the solution of problems

For questions and problems related to daily operations, our engineers will provide prompt responses in each area across the world and our local customer service staff will deal with issues with speed and integrity.

■ 3-year warranty for hardware   *Prior reservation needed

We provide a 3-year free-of-charge post-purchase repair service. We offer a quick response both in Japan and across our bases in the world.

■ Ongoing OS support   *Prior reservation needed

For Android™, even after Google support for the version indicated on the BHT is ended, we will continue to provide security patches that we have developed ourselves as part of our OS support service to customers.