



Mobile Payment Device for Business

Instruction Manual

Be sure to read this manual before use.

Safety Precautions
Requests regarding Handling
Product Handling

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Introduction

Thank you very much for purchasing the EM10 (referred to below as “the device” or “the main unit”).

This handbook describes the basic handling of this device.

Prior to use, be sure to carefully read the “Safety Precautions”, “Requests regarding Handling”, and “Product Handling”, and handle the product safely and correctly.

After reading this manual, store it safely so that you can subsequently refer to it when necessary.

Note that the following components are described in this manual.

The device or main unit: EM10 main unit only

The product: EM10, AC adapter power cable, snap-on, cradle, and all other packed articles

Battery: EM10 battery

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Safety Precautions (follow strictly)

Be sure to read the "Safety Precautions" carefully before use, and to use the product safely and correctly.

- The cautionary points which appear here serve to prevent injury to users and other individuals, and damage to property. Be sure to follow these points strictly.
- The following indication classes represent different levels of injury/damage which can occur if the accompanying caution is not followed. Be sure to understand the cautions as you read this manual.

 Danger	Indicates content for which, if the indication is ignored and the product is misused, imminent dangers which may cause death or serious injury are expected.
 Warning	Indicates content for which, if the indication is ignored and the product is misused, the possibility of death or serious injury is expected.
 Caution	Indicates content for which, if the indication is ignored and the product is misused, the possibility of minor injury, or the possibility of physical damage, is expected.

Examples of pictorial indicators



Indicates that an action is prohibited.



Indicates content which mandates or commands an action (which absolutely must be executed).



Indicates "disassembly prohibited".



Indicates to "unplug the power plug from the outlet".

Cautionary points common to the device, battery, AC adapter, snap-on and cradle

Danger



Do not use, store, or leave the battery in locations which reach high temperatures (for example, in or near flames, near heating appliances, inside heated tables, in locations exposed to direct sunlight is strong, or in cars in extremely hot surroundings). (This includes placing the battery in a pocket on one's clothing or otherwise placing the battery close to one's body.) Doing so may cause burst, catch fire, etc., resulting in fire, injury, etc.



Do not disassemble, modify, or short-circuit the product. Doing so may cause burst, catch fire, etc., resulting in fire, injury, etc.



Be absolutely sure to observe the following points. Failure to do so may cause fire, electric shock, accidents, or product failure.

- ◆ Be sure to use only designated batteries.
- ◆ Be sure to charge the battery using the device.



Use with the device only AC adapters, power cables, and batteries that have been designated by our company. Using products other than those which have been designated may cause the battery to leak fluid, heat up, burst, or catch fire.

Warning



Be careful not to touch the high-temperature parts of this product. Touching these parts may cause burns.



Do not drop pieces of metal, or water or other liquids, into the device or into the crevices on the device. Doing so may cause fire, electric shock, or product failure.



Avoid using the device in locations with extremely high humidity, locations exposed to moisture, etc. Failure to do so may cause fire, electric shock, or product failure. For information regarding waterproofing, see "Waterproofing, Dust-proofing, and Antibacterial Capabilities".



Do not connect or disconnect the AC adapter etc. with wet hands. Doing so may cause electric shock.



In the following cases, turn off the power and unplug the AC adapter from the outlet. Continued use in this abnormal state may cause accidents or fire.

- ◆ When performing repair and maintenance, handling errors, etc.
- ◆ When the device gives off a peculiar odor, releases smoke, or emits an abnormal sound.
- ◆ When pieces of metal, or water or other liquids, have gotten into the device or into the crevices on the device.



Do not impart strong shocks on the device or throw the device. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire, or may cause device failure or fire.



Do not insert the product into a microwave oven, high-pressure vessel, etc. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire, or may cause the device to heat up, catch fire or be destroyed.



Turn off the device when in the vicinity of electronic devices which handle high-precision controls, weak signals, etc. It may exert effects in which for example the electronic equipment malfunctions. Examples of electronic equipment near which to exercise caution: hearing aids, pacemakers, other medical electrical equipment, fire alarms, automatic doors, other automatic control devices, etc. Individuals who use pacemakers and other medical electrical equipment should check with the manufacturers of the medical electrical equipment in question regarding the effects of electromagnetic waves on the equipment.



Do not use an AC adapter, power cable, etc. that has become damaged. Doing so may cause fire.



Turn off the device when in an area in which mobile phone use is prohibited, such as airplanes and hospitals.
It may exert an effect on electronic equipment, medical electrical equipment, etc. When using the device in medical institutions, follow the instructions of the respective institutions.



If water, pet urine, or other liquids get inside the product, this may cause heat generation, electric shock, product failure, etc. For information regarding waterproofing, see "Waterproofing, Dust-proofing, and Antibacterial Capabilities".



Remove any dust which has adhered to the power plug portion of the AC adapter, power cable, etc. Failure to do so may cause fire.



If water or some other liquid should get into the AC adapter, power cable, etc., unplug the power cord immediately. Failure to do so may cause electric shock, smoke, or fire.

Caution



Be absolutely sure not to do the following. Doing so may cause fire, electric shock, accidents, or product failure.

- ◆ Do not place other objects on top of the product.
- ◆ Do not strike or otherwise impart shocks to the product.
- ◆ Do not place the product in unstable locations.
- ◆ Do not place other objects on top of the AC adapter, power cable, etc., and do not twist or forcefully pull the cables.



Do not store in a location where there is moisture or large amounts of dust, or in locations where the temperature becomes very high or very low. Doing so may cause product failure.



Store the product beyond the reach of infants.



Be sure to use the designated power supply voltage with the AC adapter. Failure to do so may cause fire, electric shock, accidents, or product failure.

Handling the device's battery

Danger



Do not heat up the battery, throw it into flames, etc. Doing so may cause the battery to burst, catch fire, etc., resulting in fire, injury, etc.



Under no circumstances should the battery be disassembled, modified, or short-circuited. Doing so may cause the battery to burst, catch fire, etc., resulting in fire, injury, etc.



When connecting the battery to the device, if the connection cannot be made satisfactorily, do not try to remedy the situation using excessive force. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire.



Do not directly solder the battery terminals. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire.



If the fluid from inside the battery gets into the eyes, cleanse the eyes with pure water without rubbing, and immediately seek medical treatment. Failure to do so may cause a loss of vision.



Do not use or store the battery in a high-temperature area such as near a flame or near a heater. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire.



Be sure to use only batteries designated by our company. Failure to do so may cause fire, electric shock, accidents, or product failure.



Be sure to use this device to charge the battery used with this device. Using devices other than this one to charge the battery may cause the battery to leak fluid, heat up, burst, or catch fire.



Do not drive nails into the battery, strike the battery with a hammer, step on the battery, etc. Doing so may cause the battery to leak fluid, heat up, burst, or catch fire.

Warning



If during use, charging, or storage, the battery exhibits changes in odor, temperature, color, or shape, replace the battery. Continued use of the battery may cause the battery to leak fluid, heat up, burst, or catch fire.



If the fluid from inside the battery adheres to skin or clothing, immediately wash the fluid off with pure water, as there is a risk of injury to the skin.



If the battery leaks or emits a peculiar odor, immediately move it away from any source of fire. Failure to do so may cause the leaked solution becoming ignited and catching on fire or bursting.

Caution



Do not get the battery wet. Doing so may cause the battery to heat up, emit smoke, or rust.



Do not use or store the battery in locations where direct sunlight is strong, high-temperature locations such as cars in extremely hot surroundings, etc. Doing so may cause the battery to leak fluid or heat up, which can cause degradation in the performance or lifespan of the battery.

Handling the device's AC adapter

Warning



Be sure to use only AC adapters designated by our company. Failure to do so may cause electric shock, fire, or product failure.



Be absolutely sure not to short-circuit the charging terminals. Doing so may cause device failure or personal injury.



Do not use the power cord of an AC adapter if it becomes damaged. Doing so may cause fire or electric shock.



Wipe off any dust etc. which has adhered to the power plug portion of the AC adapter. Failure to do so may cause fire or electric shock.



Do not disassemble or modify the AC adapter. Doing so may cause electric shock, fire, or product failure.



Do not get the AC adapter wet. If water, pet urine, or other liquids get inside it, this may cause heat generation, electric shock, product failure, etc.



Do not under any circumstances use the AC adapter in high-humidity locations such as bathing areas. Doing so may cause electric shock, product failure, etc.



If water, pet urine, or other liquids get inside, unplug the power cord immediately. Failure to do so may cause electric shock, smoke, or fire.



Do not touch the AC adapter, power cord, or outlet with wet hands. Doing so may cause electric shock.

Caution



Do not place heavy objects on top of the AC adapter, twist or forcefully pull the cables, etc. Doing so may cause fire, electric shock, accidents, or product failure.



Be sure to use the designated power supply voltage with the AC adapter. Failure to do so may cause fire, electric shock, accidents, or product failure.



During cleaning, be sure to unplug the AC adapter from the outlet. Failure to do so may cause electric shock.



When unplugging the power cord, be sure to hold the plug. Pulling the cord may damage it and cause electric shock, fire, etc.

Handling the product near medical electrical equipment

Warning



If you have an implanted pacemaker, carry and use the product at a distance of at least 22 cm from the site at which the pacemaker is implanted. The electromagnetic waves may exert effects in which for example the pacemaker malfunctions.



Turn off the power when in congested areas such as crowded trains, as there is a chance that individuals using pacemakers may be in the vicinity. The electromagnetic waves may exert effects in which for example the pacemaker malfunctions.



If, during home convalescence or the like, medical electrical devices other than implanted pacemakers is used in a location other than a medical institution, check with the manufacturers of the individual medical electrical devices regarding the effects of electromagnetic waves.



Observe the following points when using the product in a medical institution.

- ◆ Do not take the product into an operating room, an intensive care unit (ICU), or a coronary care unit (CCU).
- ◆ Turn off the device when in a hospital ward.
- ◆ Turn off the device even when in a lobby etc. if there is medical electrical equipment in the vicinity.
- ◆ If a medical institution designates specific locations where using the product is prohibited, bringing the product in is prohibited, etc., follow the instructions of the institution.

In addition to these points, observe the warnings and cautions appearing in the respective sections.

Material List

Usage Location	Material	Surface Treatment
Main unit		
Front panel: Touch panel	Glass	-
Exterior case: Front case	PC resin	Hard coat (containing antibacterial agent)
Exterior case: Rear case	PC resin	Hard coat (containing antibacterial agent)
Exterior case: Batt cover	PC resin	Hard coat (containing antibacterial agent)
Exterior case: Batt deco	PC resin	Hard coat (containing antibacterial agent)
Exterior case: Rear deco	PC resin	Hard coat (containing antibacterial agent)
Exterior case: Rear cam case	PC resin (containing antibacterial agent)	-
Cap: GPS ANT cap	PC resin (containing antibacterial agent)	-
Battery: knob: Batt knob (left)	PC resin (containing antibacterial agent)	-
Battery: knob: Batt knob (right)	PC resin (containing antibacterial agent)	-
Side key: Power button	PC resin (containing antibacterial agent)	-
Side key: Volume button	PC resin (containing antibacterial agent)	-
Panel: Rear cam window	PMMA	-
Panel: Flash window	PMMA	-
Sheet: Screw covers (4)	PC sheet material	Antibacterial agent+ Hard coat
Contact terminal	Phosphor bronze	Gold plating
Contact terminal holder	PPA resin (containing glass)	-

Usage Location	Material	Surface Treatment
Cradle		
Exterior case: Movable upper case	ABS resin (containing antibacterial agent)	-
Exterior case: Movable lower case	ABS resin (containing antibacterial agent)	-
Exterior case: Fixed upper case	ABS resin (containing antibacterial agent)	-
Exterior case: Fixed lower case	ABS resin (containing antibacterial agent)	-
Exterior case: Arm cover (left)	ABS resin (containing antibacterial agent)	-
Exterior case: Arm cover (right)	ABS resin (containing antibacterial agent)	-
Knobs (left/right knobs)	PC resin+ Antibacterial agent	-
Metallic arms (left/right)	Stainless steel	-
Contact terminal	Phosphor bronze	Gold plating
Terminal holder	Silicon rubber	-
Rubber legs	Silicon rubber	-
Rubber pads	Silicon rubber	-
Labels		-
Snap-on		
Exterior case: Front case	PC resin (containing antibacterial agent)	-
Exterior case: Rear case	PC resin (containing antibacterial agent)	-
Knobs (left/right knobs)	PC resin (containing antibacterial agent)	-
Contact terminal	Phosphor bronze	Gold plating
Labels		-
Cable		-

Requests regarding Handling

◆Requests regarding all products

The device has waterproofing and dust-proofing capability, but do not allow water, dust, etc. to get into the main unit or to adhere to accessories and optional items. The AC adapter, power cable, snap-on, and cradle do not have waterproofing capability. Do not use in locations where humidity is high, such as in bathing areas, or in locations which are exposed to liquids such as rain.

Bear in mind that, if inspection reveals that the product has failed as a result of this sort of water damage, the warranty may not apply, and repair may not be possible.

- Do not rub or scratch the display with metallic objects etc. Doing so may scratch the display, causing damage or product failure.

- To clean, wipe with a soft, dry cloth (such as one for wiping spectacles).
Caution: If the display is wiped too forcefully with a dry cloth, it can become scratched.
Caution: If water droplets, dirt, and the like are left on the display, stains may develop.
Caution: Wiping with alcohol, thinner, benzene, detergent, etc., print-outs may be erased or become discolored.
- Do not place the product in locations where excessive force will be placed on it. Inserting it into tightly packed baggage, placing it into a pants pocket and sitting on it, and the like may damage the display, internal circuit boards, etc., resulting in product failure. In addition, if external connection devices are inserted into the respective connection terminals, this can also cause damage and product failure.
- Clean the terminals with a dry cotton swab or the like. If the terminals are dirty, power may be cut, the battery may not charge sufficiently, etc. Wipe the terminals with a dry cotton swab or the like. Also, be careful not to damage the terminals when cleaning them.
- Do not place the product near the exhaust vent of an air conditioner. Rapid temperature changes may cause condensation and cause internal corrosion.

◆Requests regarding this device

- Do not apply excessive pressure to the touch screen, or use the touch screen with a ballpoint pen, fingernail, or other pointed instrument. Doing so may damage the touch screen.
- Avoid using the device in extremely high or low temperatures. Use the product in a temperature range of 0°C to 50°C, and a humidity range of 5% to 95%.
- The product may exert adverse effects if used near ordinary telephones, radios, televisions, etc. Use in a location which is as far as possible from such items.
- Please keep a separate memo of or otherwise store away any information that you have registered in the device. Please understand that we will not bear responsibility if this registered information is somehow lost.
- Do not drop or impart shocks to the product. Doing so may cause product damage or other problems.
- Do not insert external connection devices into the connection terminals at a slant, nor forcefully pull on these devices when inserted. Doing so may cause product damage or other problems.
- During use and during charging, the device may become hot, but this is normal. Continue use as usual.
- Do not bring floppy disks and the like into the vicinity of the device. Magnetically stored data may be erased.
- The battery is a consumable item. When usage time becomes extremely short even after the battery is sufficiently charged, the battery has reached its replacement time.
- Charge the battery in a location with suitable ambient temperature (5°C to 35°C).
- The replacement time of batteries differs depending upon, for example, the usage environment and the degree of degradation of the battery.
- Avoid storing the device with the battery fully charged (i.e., soon after charging is completed) or with the battery completely empty (i.e., drained to the point where the device does not power up). Failure to do so may cause degradation in the performance or lifespan of the battery. We recommend that the product be stored with about 40 percent of the battery charge remaining.

◆Requests regarding the AC adapter

- During charging, the AC adapter may become hot, but this is normal.
- When using an outlet with special functions (such as an unplugging prevention function), do so in accordance with the instruction manual for that outlet.

- Charge the battery in a location with suitable ambient temperature (5°C to 35°C).
- Do not charge the battery in a location which has high humidity, large amounts of dust, or frequent vibrations, or near ordinary telephones, radios, televisions, etc.
- Do not impart with strong shocks. Also, do not apply force to the terminal or cause it to deform. Doing so may cause product failure.
- When attaching the device to the snap-on or cradle, be careful not to get your fingers, the power cord, etc. caught in between. Doing so may cause accidents or other problems.

◆Requests regarding Bluetooth

- This device provides security functionality which conforms to the Bluetooth standard specification, but security capabilities may be inadequate if for example settings are not properly specified. Be careful when performing Bluetooth communication.
- Please understand that we will not bear responsibility if leaks of data, information, etc. occur when communicating using Bluetooth.
- The channels which can be utilized differ by country. Before using the product on an airplane, check with the relevant airline company.
- Devices that operate on the frequency band used by Bluetooth on this device include: household appliances such as microwave ovens; industrial, scientific, and medical devices; on-premises radio stations for moving object identification which are used on factory production lines and the like and which require a license; and specified low power radio stations which do not require a license and amateur radio stations. (Hereafter, these are abbreviated to "radio stations".) We recommend that Bluetooth not be used in the vicinity of these. In the unlikely event that electromagnetic interference with this device occurs, take measures to remedy this such as promptly changing the location of use or turning off the device.

◆Requests regarding the wireless LAN (WLAN)

- If security configuration of the wireless LAN (WLAN) is not performed, there is a risk of eavesdropping, unauthorized intrusion, etc. by a third party. The customer is responsible for carrying out security configuration properly.
- Do not use the wireless LAN in the vicinity of items which are magnetized, such as electrical products, audiovisual devices, and office automation devices, or in areas in which electromagnetic waves are generated.
- If the product is subjected to the effects of magnetism, electromagnetic waves, etc., this may impede communication.
- If placed too close to a television, radio, etc., problems such as reception disturbance and television screen distortion may occur.
- Devices that operate on the frequency band used by 2.4 GHz WLAN equipment include: household appliances such as microwave ovens; industrial, scientific, and medical devices; on-premises radio stations for moving object identification which are used on factory production lines and the like (which require a license); specified low power radio stations (which do not require a license); and amateur radio stations (which require a license). (Hereafter, these are abbreviated to "radio stations".) Before using this device, verify that there are no on-premises radio stations for moving object identification, specified low power radio stations, or amateur radio stations operating in the vicinity. In the unlikely event that this device causes detrimental interference with respect to an on-premises radio station for moving object identification, promptly change the frequency being used.
- The channel numbers (Ch) and frequencies (MHz) for 5 GHz devices which can be used in Japan are as follows.

	Ch	MHz
5.2 GHz band	36	5,180
	40	5,200
	44	5,220
	48	5,240

	Ch	MHz
5.3 GHz band	52	5,260
	56	5,280
	60	5,300
	64	5,320

	Ch	MHz
5.6 GHz band	100	5,500
	104	5,520
	108	5,540
	112	5,560
	116	5,580
	120	5,600

	Ch	MHz
5.6 GHz band	124	5,620
	128	5,640
	132	5,660
	136	5,680
	140	5,700

As per the Radio Law, the product cannot be used outdoors when using the built-in wireless LAN in the 5.2/5.3 GHz band.

Waterproofing, Dust-proofing, and Antibacterial Capability

With the battery cover securely attached, this device has waterproofing capabilities which conform to IPX5* and dust-proofing capabilities which conform to IP6X.**

This device, the snap-on, and the cradle have JIS Z2801 and ISO 22196 antibacterial capabilities.

* IPX5 signifies that the product functions as a terminal even when subjected to direct water jets projected at all angles through a 6.3 mm nozzle from a distance of approximately 3 meters at a flow rate of approximately 12.5 liters/min for at least 3 minutes.

** IP6X signifies that the product has the ability to prevent the ingress of dust after placing the product (in an internally decompressed state) in a device containing dust particles with a diameter of 75 µm or less and agitating the dust particles for 8 hours.

◆Maintaining the product's waterproofing, dust-proofing, and antibacterial capability

In order to prevent the ingress of water dust, and maintaining the product's antibacterial capability, be sure to observe the following points.

- Do not drop the product. Scratches and the like may cause a degradation in the product's waterproofing, dust-proofing, and antibacterial capability.
- Do not wet the product with or soak the product in any liquid other than room temperature tap water.
- Attach the battery cover securely. If minute debris gets caught in between, this may allow water, dust, and the like to get into the device.
- Do not poke the speaker etc. with sharp objects.

◆Usage precautions

- The AC adapter, power cable, snap-on, and cradle do not have waterproofing and dust-proofing capability.
- Do not expose the device to streams of water which are stronger than specified (streams greater than 6 L/min; strong enough to cause pain if directed at the skin). This device has waterproofing capabilities which conform to IPX5, but product failure may still result.
- In the unlikely event that a soft drink, seawater, or the like is spilled on the product, or dirt, soil, or the like adhere to the product, wipe it off immediately. If it dries and hardens it will become more difficult to remove, and may cause scratching, product failure, etc.
- Do not place the product into water, slap it onto the surface of water, etc.
- Do not place the product into hot water, direct the hot air from a hair dryer at it, etc.

- When using the product at a pool etc., observe the rules of the facility.
- This device does not float in water.
- Do not store the product with water droplets adhered to it. Depending on the environment, condensation may result, causing damage or product failure.
- Do not leave water droplets on the connection terminals, microphone, speaker, etc. Doing so may cause product failure or malfunction.
- When charging, confirm that the product is not wet.
- Do not under any circumstances charge the device if it is wet.

The warranty does not cover operation in all conceivable circumstances that may arise in the course of actual use. If inspection reveals that the product has failed as a result of improper handling by the customer, the warranty may not apply.

◆ Caution ◆

- Do not under any circumstances use this device if it has been modified. Use of the device in a modified form is a contravention of the Radio Law and the Telecommunications Business Law.
This device has received certification of conformance to technical standards as specified radio equipment under the Radio Law, as well as technical standards conformity approval as terminal equipment under the Telecommunications Business Law. A "technical conformity mark" is displayed on the electronic nameplate of the device as proof of this. Disassembling the device and modifying its internals will void the technical standards conformity approval etc.
Use of the device with the technical standards conformity approval etc. voided is a contravention of the Radio Law and the Telecommunications Business Law, so under no circumstances should this be done.
- Be careful when using the product while driving. Using a mobile phone held by hand while driving is punishable by law. However, this does not apply in cases which are unavoidable, such as when aiding the sick and wounded, when maintaining public order, etc.
- Do not make unauthorized modifications to the basic software (OS). Repair work may be denied if software modification is deemed to have been performed.
- During communication, use this terminal at a distance of at least 15 mm from the body.

◆ Retention period ◆

- As a general rule, the minimum retention period for performance parts (parts necessary to maintain device capabilities) is five years from production discontinuation.
However, depending on the location of the product failure, repair may not be possible due to, for example, a shortage of replacement parts. Thank you for your understanding in this matter.

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF Exposure Information (SAR)

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the EUT transmitting at the specified power level in different channels.

The FCC has granted an Equipment Authorization for this device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this device is on file with the FCC and can be found under the Display Grant section of www.fcc.gov/eot/ea/fccid after searching on FCC ID: 2AEDY-EM10-00 & FCC ID: 2AEDY-EM10-N0

Product Handling

Product features

This product is a payment settlement tablet which performs card payment processing of all kinds and supports mobile devices. With this product, card payment settlement of all kinds* - for example, payment using credit cards and payment using electronic money - can be performed in a secure manner.

* Payment methods which can be handled differ depending upon the application being used.

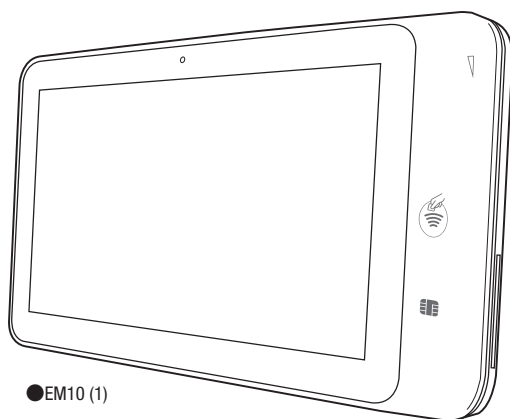
Also supports magnetic cards, IC cards, and contactless cards

The product supports not only ordinary magnetic cards, but also high-security IC cards, contactless cards, etc.

Compact, lightweight body and rich communication capabilities

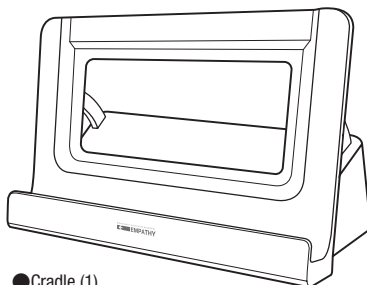
The communication capabilities include support for wireless WAN, wireless LAN, and Bluetooth, allowing both indoor and outdoor use.

Product checks



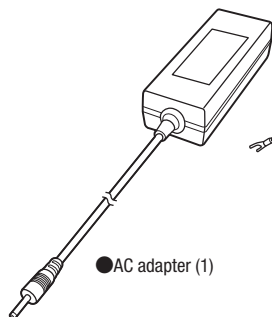
● Manuals

Note: Differs depending on the set.

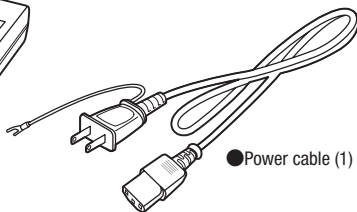


● Cradle (1)

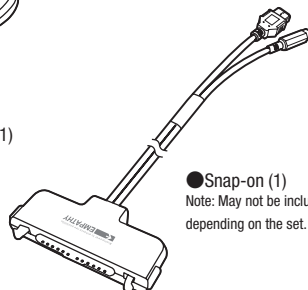
Note: May not be included, depending on the set.



● AC adapter (1)



● Power cable (1)

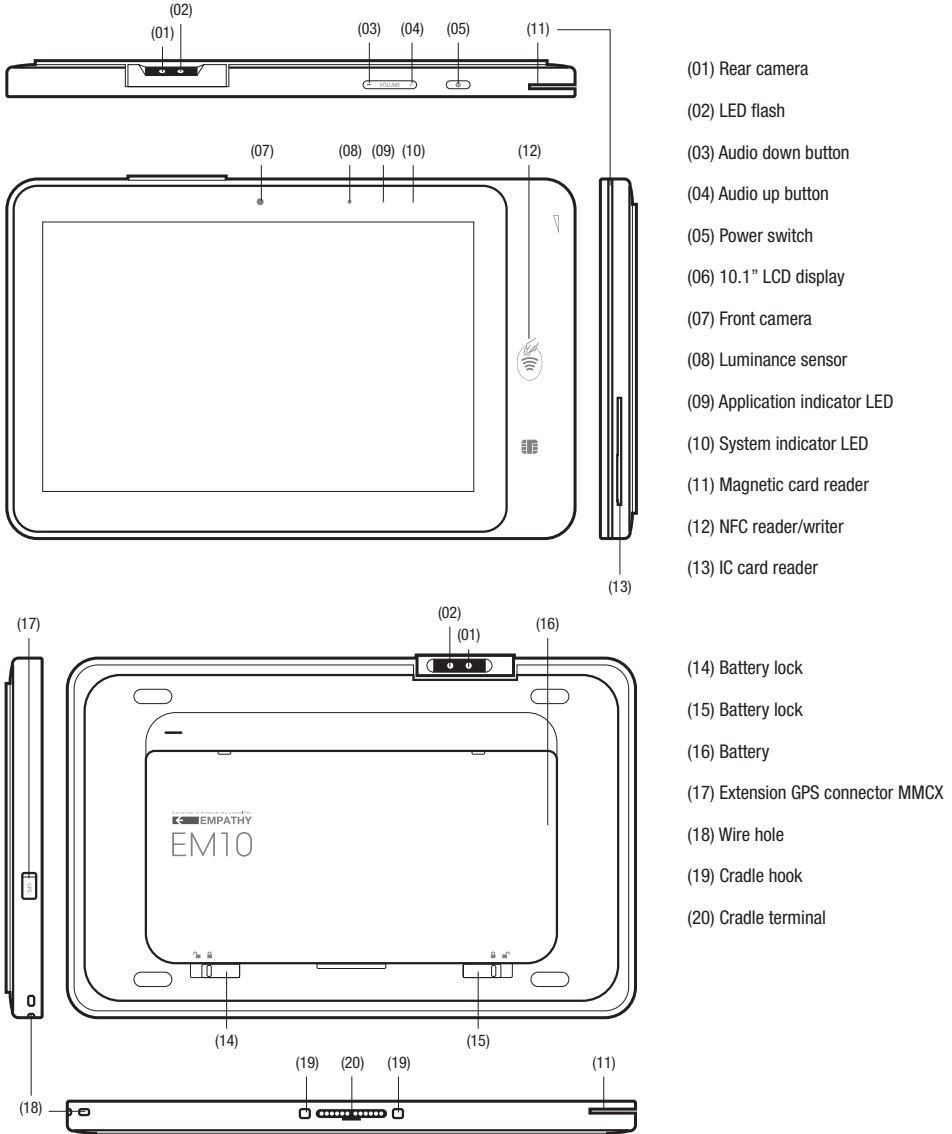


● Snap-on (1)

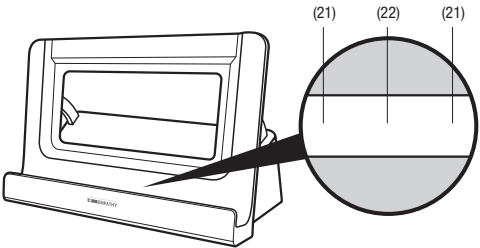
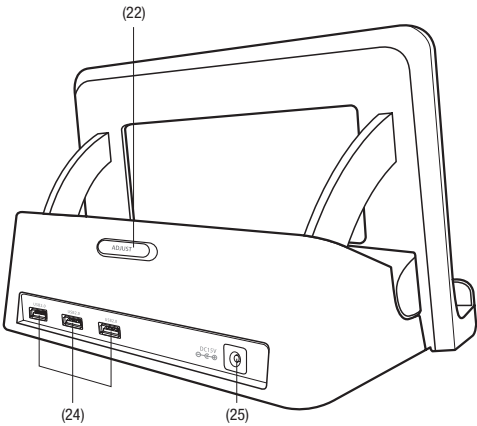
Note: May not be included, depending on the set.

Part names

[EM10 main unit]

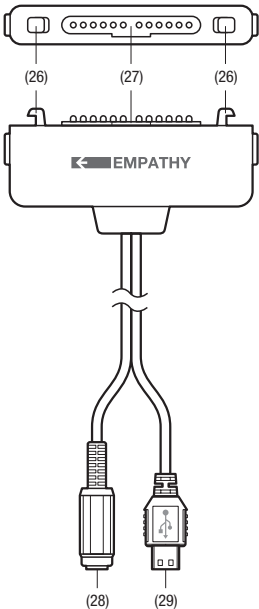


[Cradle].....



- (21) Clamp pin
- (22) Cradle terminal
- (23) Adjustment button
- (24) USB host
- (25) AC plug input

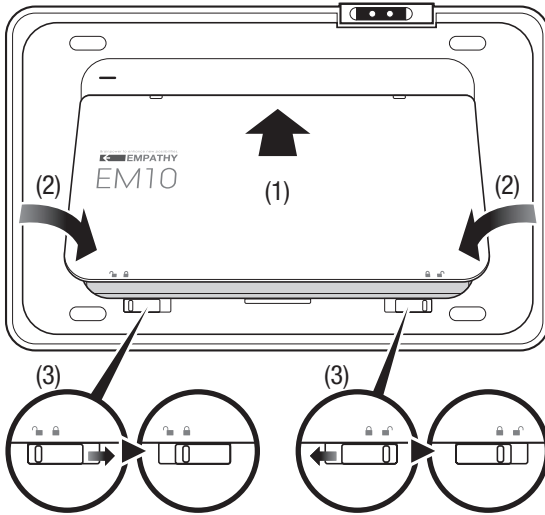
[Snap-on].....



- (26) Clamp pin
- (27) Cradle terminal
- (28) AC plug input
- (29) USB host

Attaching/detaching the battery

• Attaching the battery

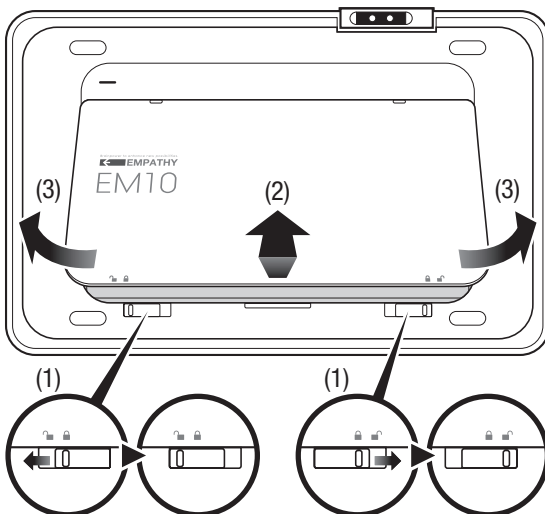


Follow the procedure below to attach the battery.

- (1) Line up the upper portion of the battery with the battery attachment site on the rear side of the main unit, and push it upward.
- (2) Press the lower portion of the battery to attach the battery to the main unit.
- (3) Move the two battery locks to lock the battery.

⚠ Make sure that the orientation of the battery is correct. Forcing the battery in with the incorrect orientation may cause damage. If attachment is not progressing smoothly, start over from the beginning.

• Detaching the battery



Follow the procedure below to detach the battery.

- (1) Move the two battery locks to unlock the battery.
- (2) Pull the lower portion of the battery toward you.
- (3) Detach the battery.

⚠ When you pull the lower portion of the battery toward you, be careful not to damage your nails.

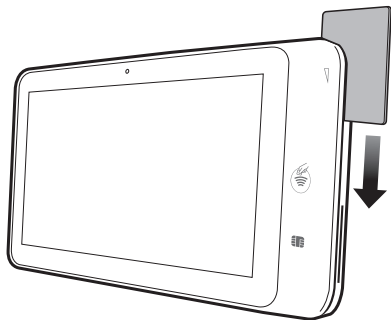
⚠ If implements with a sharp tip are used, the main unit may become scratched, which can result in product failure, electric shock, etc. Be absolutely sure to avoid doing this.

Reading cards

There are three types of cards that can be read.

Use the reading method which is appropriate to the application and the nature of the task, and which suits the card being used.

Reading a magnetic card

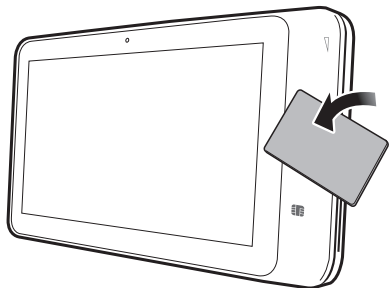


In the direction of the arrow, slide the magnetic card through the magnetic card reader on the right side of the main unit.

Slide the card slowly from the top downward, with the magnetic stripe facing toward the rear.

 Insert only magnetic cards into the magnetic card reader. Failure to do so may cause product failure.

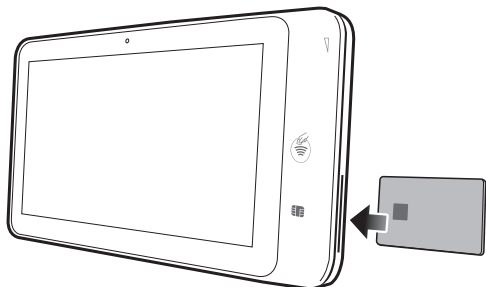
Reading a contactless IC card



Hold a contactless IC card (e.g., FeliCa) to the  mark (NFC reader/writer) on the right side of the main unit, and the card will be read.

The NFC reader/writer not only reads cards but, depending on the application, can write information to cards as well.

Reading a contact IC card



In the direction of the arrow, insert the contact IC card into the IC card reader in the lower right of the main unit.

Make sure that the contact pad of the IC card is facing forward.

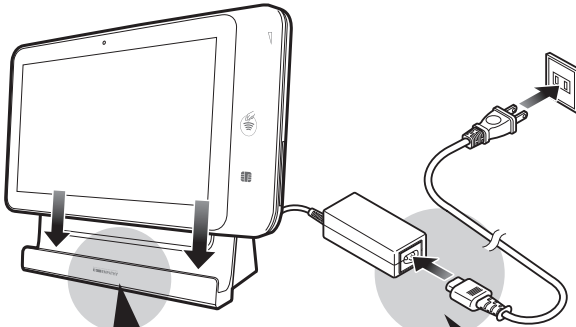
 Insert only IC cards into the IC card reader. Failure to do so may cause product failure.

Product Use

Connecting power and charging the device

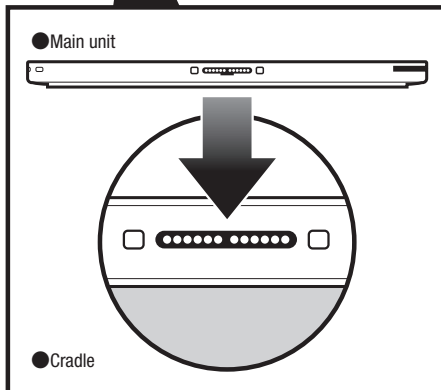
Connecting power and charging the device can be performed by connecting to the cradle or by connecting to the snap-on.

Connecting power and charging the device using the cradle

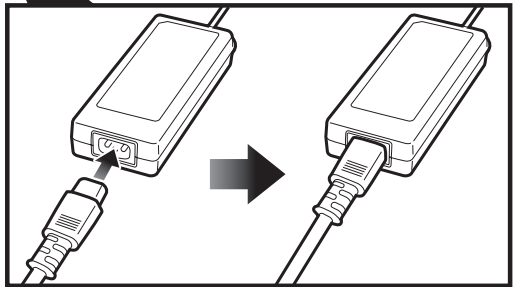


Connecting power and charging the device can be performed by connecting the power cable, the AC adapter, and the cradle, in that order. Plug the power cable into an outlet, and connect the main unit to the cradle as shown in the diagram.

When the color of the system indicator LED on the main unit changes from orange to green, the battery is fully charged.



Line up the cradle terminal on the bottom of the main unit and the cradle terminal on the cradle, and press the main unit downward until it is fixed securely in place by the clamping pins.



Connect the AC adapter and the power cord.

Line up the AC adapter and the power cable, and insert the power cable fully into the AC adapter.

⚠ The battery charging time differs depending on the external environment. After having purchased a new battery, charge the battery fully before use.

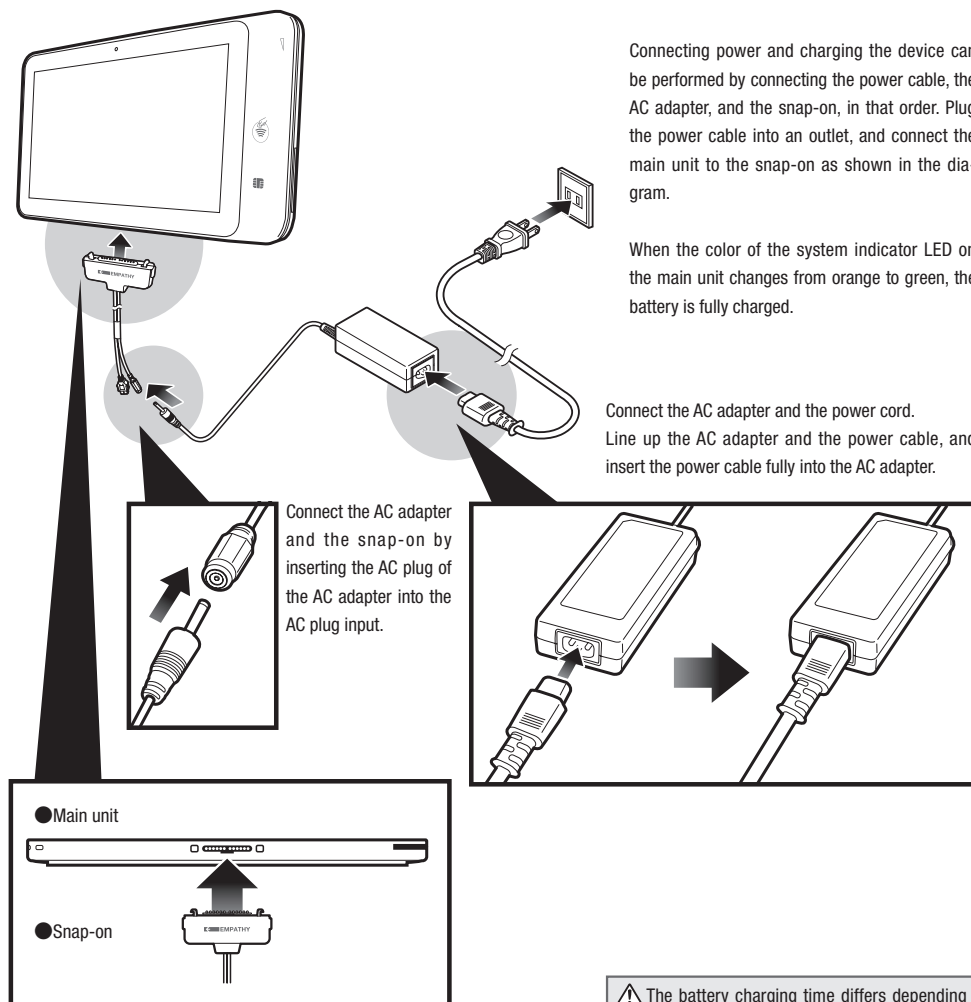
Connecting power and charging the device using the snap-on

Connecting power and charging the device can be performed by connecting the power cable, the AC adapter, and the snap-on, in that order. Plug the power cable into an outlet, and connect the main unit to the snap-on as shown in the diagram.

When the color of the system indicator LED on the main unit changes from orange to green, the battery is fully charged.

Connect the AC adapter and the power cord. Line up the AC adapter and the power cable, and insert the power cable fully into the AC adapter.

Connect the AC adapter and the snap-on by inserting the AC plug of the AC adapter into the AC plug input.

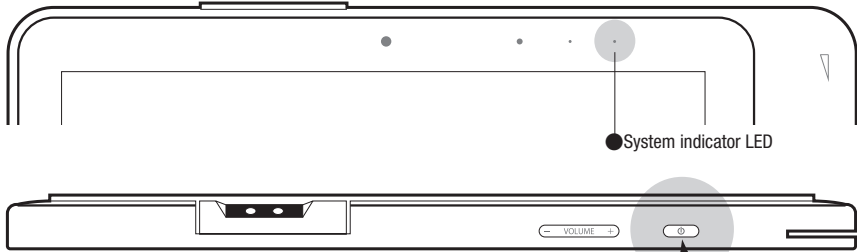


Line up the cradle terminal on the bottom of the main unit and the cradle terminal on the snap-on (with the EMPATHY logo in front), and insert the snap-on into the main unit until it is fixed securely in place by the clamping pins.

⚠ The battery charging time differs depending on the external environment. After having purchased a new battery, charge the battery fully before use.

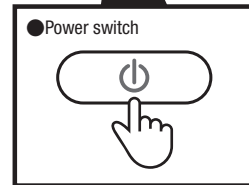
⚠ The snap-on has a front and a rear. Align the surface with the EMPATHY logo with the front surface of the main unit, and insert the snap-on into the main unit.

Turning on the power



Turn on the power by pressing the  power switch on main unit.
Hold down the  power switch for about three seconds, until the LED turns green.
If the device powers up normally, the Empathy logo will be displayed on the screen, and the Windows OS will start up.

 Pressing the power switch too forcefully may cause product damage or product failure.
Do not apply more force to the power switch than is necessary.



Turning off the power

To turn off the power, use the Windows OS "charm bar".
Display the "charm bar" by swiping from the right edge of the screen toward the center of the desktop.
The "charm bar" can be displayed using the same method on any screen, be it the desktop screen, the start screen, or an application screen.
Tap "Settings" > "Power" > "Shut down", in that order, and the power will turn off.

 After tapping "Shut down", during the shut-down process, the screen may become black with only the cursor remaining; this is normal.
 Holding down the power switch for at least four seconds will forcibly turn off the power to the main unit.
Do not do this except in emergency circumstances, such as when normal shutdown cannot be performed.



Troubleshooting

Before concluding that the product is broken

If during use the device cannot be operated normally, before concluding that the product is broken, check the items in the “Items to Check” column of the table below, and take the appropriate measures. If the device does not behave normally even after taking the measures described below, contact the sales representative appearing on the warranty.

Device does not power up after pressing power switch on main unit

Items to Check	Solution
[When using battery] Is a charged battery being used in the device?	Charge the battery before turning the power on. (See P00 to P00)
[When using AC adapter] Are the power cable, AC adapter connected securely and plugged into an outlet correctly?	Connect them correctly. (See P00 to P00)

A magnetic card or IC card is not read successfully

Items to Check	Solution
Is the card dirty?	Clean the card and try to read it again. Inquire with the card issuer regarding card handling issues such as card cleaning.
Is the card damaged?	In some cases, it may not be possible to successfully read a card which is scratched or otherwise damaged. Inquire with the card issuer regarding what to do if a card is damaged.
Are you inserting the card with the correct orientation?	Try to read the card again with the correct orientation. (See P00)

When a problem arises

If the product breaks or if you have questions regarding consumable goods, contact the sales representative appearing on the warranty.

EM10 Specifications*

PHYSICAL ATTRIBUTES	
External dimensions	W285 x H180 x D17.4 mm W11.22 x H7.08 x D0.69 in
Weight	700 g / 1.54 lb.
PERFORMANCE	
CPU	Intel® Atom™ E3825 processor
OS	Microsoft Windows® Embedded 8.1 Industry
Memory	DDR3 2 GB (standard) / 4 GB (optional)
Storage	eMMC 64 GB (standard) / 128 GB (optional)
Battery	LiPo 3-cell (operation 8 hrs / charging 1.5 hrs**)
USER ENVIRONMENT	
Temperature range	Operating: 0°C to 50°C Storage: -25°C to 70°C
Operating humidity range	5 to 95%
Durability	Dust-proofing/waterproofing (IP65) Antibacterial (JIS Z2801, ISO 22196)
PERIPHERALS	
Display	10.1" LCD 1280 x 800 pixels / WXGA
Bluetooth	Bluetooth V4.0 + HS
Audio	Built-in speaker, built-in microphone
Camera	Rear : 5 megapixel auto-focus, LED flash Front : 2 megapixels
GPS	GPS
Sensors	Gyroscope, motion sensor, electronic compass, luminance sensor
COMMUNICATION INTERFACE	
Wireless WAN (broadband wireless communication)	Not applicable
Wireless LAN (local wireless communication)	IEEE 802.11b/g, IEEE 802.11a, IEEE 802.11n, IEEE 802.11ac WEP(64/128), TKIP, AES, WPA, WPA2, WAPI, IEEE 802.1X
PAYMENT DEVICES	
MSR	ISO/IEC 7811, JIS X 6302 (JIS II), with DUKPT
IC reader	ISO/IEC 7816
Contactless Card Reader	ISO/IEC 21481(NFCIP-2), ISO/IEC 18092 ISO/IEC 14443(Type A, Type B), JIS X 6319-4(FeliCa), ISO/IEC 15693 (I-CODEX***)
SAM slots	2 slots
SECURITY	
Security	EMVCo Level 1 / Level 2 (IC card) EMVCo Level 1 / C-2 / C-3 / C-4 / C-5 (contactless card), C-1 / C-6 / C-7***
PIN pad	PCI-PTS
Theft countermeasures / illicit use prevention	OneBe UNO
Malware countermeasures / tamper prevention	McAfee Embedded Control
OPTIONS	
PIN pads / printers	EMPD01 - PIN pad, DUKPT-secure EMPP20 - Bluetooth DUKPT-secure PIN pad printer***
Snap-on	EA-SOE01 - AC adapter snap-on (1 USB port)
Cradle	EMTX-CC01 - EM10/EM08 USB cradle (3 USB ports)
OS	Android OS installation

* The descriptions and specifications in this document may be improved over time, and are subject to change without notice.

** The battery operating time differs depending on the usage conditions and the consumption level of the battery.

*** Applications for certification in progress

Brainpower to enhance new possibilities.



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