User Manual

Aurora AC Chargepoints

Star Charge

Legal Notices

The information presented in this guide is subject to change without prior notice.

The technical specifications indicated here do not constitute a contractual obligation.

In case of any doubt regarding a subject described or if you discover an error in this manual, please contact us at:

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Aurora

Charging Infrastructure

Contents

1 Copyright and Disclaimer

1.1 Disclaimer

- This document has been subject to rigorous technical review before being published. It will subsequently be revised at regular intervals. Any modifications or amendments will be included in the future. Content of this document is compiled for information purposes only.
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- StarCharge is not liable for any damage to or caused by the product Customization is the main cause.
- Contact your dealer for more information on Customization versus the default product.

1.2 Copyright

Attention

Extensive safety information is available in the relevant sections of this document. The safety instructions are intended to ensure proper practical usage. If the user does not comply with these safety regulations and instructions, the user may expose herself/himself to the risk of electric shock, fire and/or severe injuries.

2 Safety and Usage instructions

2.1 General safety

Starcharge equipment is intended exclusively for charging Electric Vehicles (EV). To ensure proper usage of the charging station (hereinafter can be referred to as Electric Vehicle Supply Equipment / EVSE or the Charger), the instructions in this manual must always be complied with. Installation, Commissioning, and Maintenance of this equipment shall only be performed by a qualified electrician (*Starcharge certified partner*).

Make sure the power cord connected to the charger is routed from the dedicated Type A RCBO or MCB+ Type A RCD in the distribution box.The Type A RCBO or MCB+ Type A RCD must match the capacity of the charging cable used.

Operation of this product is prohibited in the following situations:

- In the vicinity of explosives or Highly flammable substances.
- If the product is in or close to water sources.
- If the product as a whole or individual components of the product are visibly damaged.
- Risks on operation by children or individuals not properly assessed associated with using this product.

2.2 Disposal

In accordance with the European Directive 2002/96/EC, Waste Electrical and Electronic Equipment (WEEE) and its implementation in national law, the electrical devices including chargepoints which are used must be collected separately and recycled in an environmentally responsible manner. We recommend that you return your used device to your dealer or obtain information regarding a local, authorised collection and disposal system. Failure to comply with this EU Directive may result in a negative impact on the environment.

2.3 Summary of safety symbols on the equipment

Symbols	Meaning
	**“Electric hazard”, which indicates danger.** Failure to pay attention to the procedures, practices or improper implementation may cause injuries or death. Only after the conditions referred to are fully understood and fulfilled, can the operation accompanied by the "Electric hazard" symbol be performed.
	**“Caution”, which indicates a hazard.** Failure to pay attention to the procedures, practices or improper implementation may cause product damage. Only after the conditions referred to are fully understood and fulfilled, can the operation accompanied by the "Caution" symbol be performed.
	**"Tips", which indicates operation tips or useful information.** Operation tips and useful information shall be marked with "Tips". It does not contain information that warns of dangerous or harmful features.
	**"Garbage disposal”, which indicates electrical and electronic waste.** This symbol is located on the product, in the instruction manual or on the packaging, indicating that the electrical and electronic equipment and its Materials can be reused based on their markings. By reusing old equipment materials and other forms of reuse, you can make a significant contribution to the environment

3 Technical Parameters

- Suitable for all vehicles complying with IEC 62196-2.
- Configurable output power setting.
- The charging station has the following protection features:
  - Lightning protection
  - Overload protection
  - Short circuit protection
  - Leakage protection
  - Over-voltage protection
  - Under-voltage protection
  - Grounding protection
- The charging station features a configurable function, WebConfig, which enables OCPP to remotely control the start, stop, and restart of the station, set its maximum output power. This offers added flexibility and control.
- The charging station offers the option of equipping with a MID meter, based on the requirements of the customer.

3.1 Product Model

Power	Model No.	Connector	Remarks
7kW	DH-AC0070XG70-Q	CASE C	Emergency stop button(optional) French T2S socket (optional) MID meter(optional)
	DH-AC0070XG71-Q	CASE B	
	DH-AC0070XG70-R	CASE C	
	DH-AC0070XG71-R	CASE B	
	DH-AC0070XG71-S	CASE B	
	DH-AC0070XG71-T	CASE B	
	DH-AC0070XG70-S	CASE C	
	DH-AC0070XG71-U	CASE B	
	DH-AC0070XG70-T	CASE C	
	DH-AC0070XG71-V	CASE B	
	DH-AC0070XG71-W	CASE B	
	DH-AC0070XG71-X	CASE B	
11kW	DH-AC0110XG70-Q	CASE C	Emergency stop button(optional) French T2S socket (optional) MID meter(optional)
	DH-AC0110XG71-Q	CASE B	
	DH-AC0110XG70-R	CASE C	
	DH-AC0110XG71-R	CASE B	
	DH-AC0110XG71-S	CASE B	
	DH-AC0110XG71-T	CASE B	
	DH-AC0110XG70-T	CASE C	
	DH-AC0110XG71-U	CASE B	
	DH-AC0110XG70-U	CASE C	
	DH-AC0110XG71-V	CASE B	
	DH-AC0110XG71-W	CASE B	
	DH-AC0110XG71-X	CASE B	
22kW	DH-AC0220XG70-E	CASE C	Emergency stop button(optional) French T2S socket (optional) MID meter(optional)
	DH-AC0220XG71-C	CASE B	
	DH-AC0220XG70-F	CASE C	
	DH-AC0220XG71-D	CASE B	
	DH-AC0220XG71-E	CASE B	
	DH-AC0220XG71-F	CASE B	
	DH-AC0220XG70-H	CASE C	
	DH-AC0220XG71-G	CASE B	
	DH-AC0220XG70-J	CASE C	
	DH-AC0220XG71-H	CASE B	
	DH-AC0220XG71-J	CASE B	
	DH-AC0220XG71-K	CASE B	

3.2 Input Parameters

Input Power Rating	**7kW**	**11kW**	**22kW**
Cable Size	6mm²	2.5mm²	6mm²
Input Voltage	230Vac (±10%)	400Vac (±10%)	400Vac (±10%)
Frequency	50/60Hz		
Input Current Rating	1-phase (32 A max.)	3-phase (16 A max./ phase)	3-phase (32 A max./ phase)
Connection Terminals	Pin terminal: E6012-black, KST*3 Ring terminal: RV5-4, KST*3	Pin terminal: E2508-blue, KST*5 Ring terminal: RV3-4, KST*5	Pin terminal: E6012-black, KST*5 Ring terminal: RV5-4, KST*5
Grounding	TN system (PE wire); TT system (independently installed ground electrode); IT(230V)system (Optional)		
Upstream Type A RCBO	230 Vac, 40A, 50/60 Hz, Tripping characteristics C, AC 30mA	400 Vac, 20A, 50/60 Hz, Tripping characteristics C, AC 30mA	400 Vac, 40A, 50/60 Hz, Tripping characteristics C, AC 30mA
Stand-by consumption	Less than 7W		

3.3 Output Parameters

Output Power Rating	**7kW**	**11kW**	**22kW**
Vehicle connection	1 x type 2 socket, compliant with IEC62196-2 1 x type 2 socket with shutter compliant with IEC62196-2 (French T2S) 1 x type 2 plug, compliant with IEC62196-2		
Output voltage	230Vac (±10%)	400Vac (±10%)	400Vac (±10%)
Charging Current	1-phase (32A max.)	3-phase (16A max./ phase)	3-phase (32A max./ phase)

3.4 Protection Parameters

Residual current protection	AC 30mA + DC 6mA leakage current detection (compliance in accordance to IEC62955: 2018)
Power switching relay	Integrated in hardware circuit, simultaneous activation
Overcurrent protection	Integrated in firmware; Circuits shutdown at: 110% of output current rating after 5 seconds 125% of output current rating immediately
Overvoltage protection	**Non 15118 version:** 7kW: Integrated infirmware: Circuit immediately shutdown at 269Vac; 11/22kW: Integrated infirmware: Circuit immediately shutdown at 269Vac(Phase voltage). **15118 version:** 7kW: Integrated infirmware: Circuit immediately shutdown at 275Vac; 11/22kW: Integrated infirmware: Circuit immediately shutdown at 275Vac(Phase voltage).
Undervoltage protection	**Non 15118 version:** 7kW: Integrated infirmware: Circuit immediately shutdown at 165Vac; 11/22kW: Integrated infirmware: Circuit immediately shutdown at 165Vac(Phase voltage). **15118 version:** 7kW: Integrated infirmware: Circuit immediately shutdown at 150Vac; 11/22kW: Integrated infirmware: Circuit immediately shutdown at 150Vac(Phase voltage).

3.5 User Interface & Communication

Status Indicator	Multicolor LED Ring	
Communication protocol (EVSE & Backend)	OCPP 1.6 (JSON)	
Network Interface	4G / Ethernet / Wi-Fi / Bluetooth	
Bluetooth (Reserved)	Standard	Bluetooth 5.0
	Frequency range	2402~2480MHz
	Output power	+10dBm
Card reader	IEC14443A, IEC14443B, 15693, 18092 Card Type: Jewel, Mifare UL, NTAG203, Mifare UL C, Mifare 1K/4K&mini, Mifare Plus 2K/4K S/X Mifare DESFire D40 / EV1 2K/4K/8K, Tag-it, Felica Lite, Felica RC-880, RC885, RC860, ID card	
Wi-Fi Module	Standard	2.4G: IEEE802.11 b/g/n radio
	Frequency Band	2.400GHz~2.497Hz (2.4GHz ISM Band)
	Maximum Radio-Frequency Power	31dBm
4G Module	LTE FDD Band 1	24dBm
	LTE FDD Band 2	24dBm
	LTE FDD Band 3	24dBm
	LTE FDD Band 5	24dBm
	LTE FDD Band 7	24dBm
	LTE FDD Band 8	24dBm
	LTE FDD Band 20	24dBm
	LTE FDD Band 28	24dBm
	WCDMA Band 1	24dBm
	WCDMA Band 2	24dBm
	WCDMA Band 5	24dBm
	WCDMA Band 8	24dBm
	GSM 900	33dBm
	GSM 1800	31dBm

3.6 Operating environment and Mechanical aspects

Operating temperature	-30℃ to +50℃ (Natural Cooling)
Storage temperature	-40℃ to +85℃
Relative humidity	5% to 95% (no condensation)
Altitude	≤ 2000m
Electrical safety class	I
Ingress Protection	IP55 (Case C) / IP54 (Case B)
IK Rating	IK10

Attention

The installation of the Electric Vehicle Supply Equipment (EVSE) must comply with the standards and regulations of the respective region or country. These tables have been created based on the operating conditions of the charging site, under the assumption that all conditions are met, and the parameters provided are recommended.

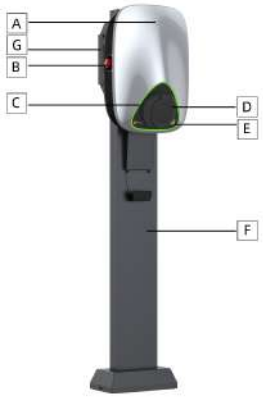
4 Product Overview

4.1 General Information

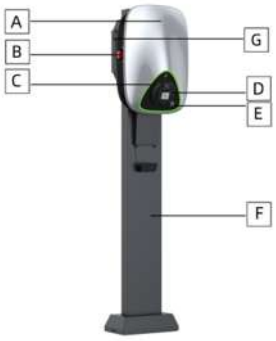
Pole	
Dimensions (H x W x D) (without packaging)	1220 x 245 x 145 mm
Packaging (with accessories)	1275 x 297 x 187 mm
Material	SUS304 stainless steel Electrostatic powder spraying Outdoor polyester
Color	Black
Weight (without packaging)	Approx. 6.5±0.5kg
Packaging (with accessories)	Approx. 8±0.5kg
Charger	
Dimensions (H x W x D) (without packaging)	409 x 282 x 165 mm
Packaging (with accessories)	500 x 390 x 330 mm
Material	PC-6600C
Color	Silver
Weight (without packaging)	Case B: Approx. 5±0.5kg; Case C: Approx. 6.5±0.5kg
Packaging (with accessories)	Case B: Approx. 7±0.5kg; Case C: Approx. 8.5±0.5kg
RFID card	Starcharge card x 2
Cable Length	Charging cables: 5m
Installation	Wall mounting / Pole mounting (Optional)

4.2 Appearance Overview

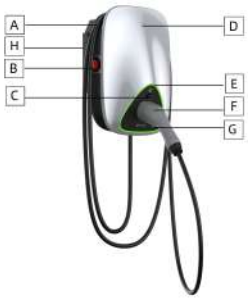
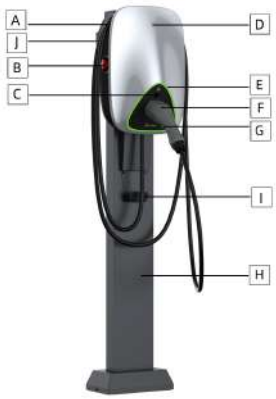
4.2.1 Case B type(T2S Version)

Wall mounting		A. RFID card reader B. Emergency stop button (Optional) C. LED status indicator D. Charging connector socket E. QR code for authentication F. Hinge(Optional)
Pole mounting		A. RFID card reader B. Emergency stop button (Optional) C. LED status indicator D. Charging connector socket E. QR code for authentication F. Pole G. Hinge(Optional)

4.2.2 Case B type(T2 Version)

Wall mounting		A. RFID card reader B. Emergency stop button(Optional) C. LED status indicator D. Charging connector socket E. QR code for authentication F. Hinge(Optional)
Pole mounting		A. RFID card reader B. Emergency stop button(Optional) C. LED status indicator D. Charging connector socket E. QR code for authentication F. Pole G. Hinge(Optional)

4.2.3 Case C type

Wall mounting		A. Cable winding trough B. Emergency stop button(Optional) C. Charging connector unlock button D. RFID card reader E. LED status indicator F. Charging connector G. QR code for authentication H. Hinge(Optional)
Pole mounting		A. Cable winding trough B. Emergency stop button(Optional) C. Charging connector unlock button D. RFID card reader E. LED status indicator F. Charging connector G. QR code for authentication H. Pole I. Cable winding bracket J. Hinge(Optional)

4.3 Storage of charging cable and connector

When the charging station is not used, the charging cable should be rolled up and put back into the cable winding trough in position [A] in Figure 1(a) or placed on the cable bracket [I] of the pole as indicated in Figure 1(b), and the charging connector should be inserted into the designated position [F] for safe storage.

((a)) Proper storage of cable for wall mounted chargepoints

((b)) Proper storage of cable for pole mounted chargepoints

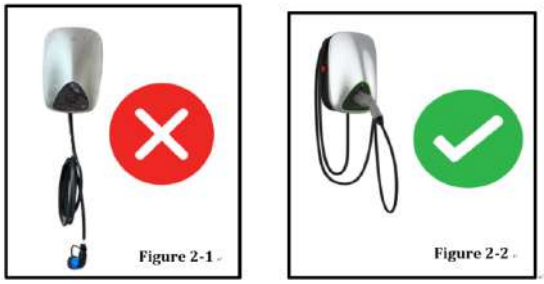


Figure 2: Example of Cable Connector this is not properly stowed(Figure 2-1), and one which is properly stowed

5 Instructions for Charging

Operation is divided into two parts:

- Charging connection from EVSE to EV.
- Starting and Ending the charging process.

The user shall first connect the charging equipment to the vehicle and then the LED light will turn from green in standby to blue after the connection is completed.

Summary of charging operation

- Plug the charging connector into the vehicle charging socket and confirm that it is connected properly. If the blue LED light is always on, the charging station is in connected.
- After the charging session is initiated properly, the blue LED light shall be in a steady breathing state, indicating that the charging process has started.

5.1 Charging with RFID Card

Start charging

(1) To ensure proper charging, connect the charging connector to the vehicle accurately and verify the connection. The blue LED indicator light turning on indicates that the charger is properly connected and ready for use.

(2) To initiate the charging process, simply place the card in front of the RFID reader. The status light will flash blue upon detection of the card, and the Electric Vehicle Supply Equipment (EVSE) will proceed with authentication. If the authentication is successful, the status light will pulse blue in a gradual "breathing" manner, indicating that charging has commenced. In the event of a failed card swipe due to network connection issues, kindly swipe the card again.

End charging

N.B. Do not pull a mechanically-locked connector out of the socket plugged into the vehicle with any force.

(1) To initiate or stop the charging process, simply place the RFID card in front of the reader. If the reader detects the card, the indicator light will flash blue, and the system will proceed with authentication. If the authentication is successful, the status light will turn green to indicate that the charging process has stopped or is in "free mode." The charger will automatically stop once the electric vehicle is fully charged, eliminating the need for additional card swiping.

(2) Press the Unlock button and unplug the charging connector.

(3) Take the charging cable away, wrap it in the cable winding trough, and make sure the connector is properly stowed.

5.2 LED Status Indicators

Aurora Series are equipped with a color LED to visualize the working status of the charging station.

Lighting effects		Meanings	Subsequent operation
	Orange indicator is always on.	Charger is starting up.	Charger will enter chargeable state automatically.
	Orange indicator is flashing.	Firmware is upgrading.	Charger will restart automatically.
	Green indicator is always on.	Charger is in standby.	Insert the charging connector into the vehicle.
	Blue indicator is always on.	Charging connector is inserted into the vehicle successfully.	Swipe RFID card or remotely start.
	Blue indicator is flashing five times.	Reading RFID card information.	Start charging session.
	Blue indicator is breathing.	In charging session.	/
	Blue indicator is always flashing.	Charging session is suspended.	Wait to recharge automatically or stop charging.
	Red indicator is always on.	Fault	See Charpter 6 troubleshooting.

Note

After the charging connector is plugged into the vehicle socket, the effect of the charging LED indicator remains unchanged.

6 Troubleshooting

The charging station's potential failures and solutions are detailed in the table below. If a problem persists, please contact your local service partner or refer to the Customer Service section of the product manufacturer for further assistance.

Failures	Possible causes and troubleshooting methods
Power LED is off.	**No power supply** Please check whether the upstream switch of the charging equipment is closed. If not, please close. If the problem still exists, please contact operation and maintenance personnel.
Power LED is red.	**Failure of charging station** Please ensure that the emergency stop button is in the pop-up position and that the operating door is closed correctly. If the problem persists, please contact operationm and maintenance personnel.
The charging connector is not connected.	**The charging connector is not properly plugged into the socket** Please re-plug the connector. In addition, there may be anything in the charging connector; please ensure to clean it up after power off and try again. If communication failure persists, please contact the operation and maintenance personnel.
For more questions, please contact your service partner or call the global service hotline 00601546000603.	

7 Routine Maintenance

The recommended maintenance cycle is outlined in the following table. It is important to ensure compliance with the standards and regulations of the country where the charging equipment is installed and operated, as this cycle may be subject to change.

Check Item	Cycle	Handling
Charging connector	monthly	Check
RCD in the switch box	monthly	Check
Emergency stop function check	monthly	Test

8 Warranty

8.1 Warranty Clause

(1) General information

- Welcome to Wanbang Digital Energy Co., Ltd., where you can purchase our products.
- If you require anything beyond our standard warranty, please contact us at 400-828-0768 to learn more about our available warranty upgrades and extension services.

(2) Product warranty policy

- If there is a performance failure within seven days of purchase, the customer may opt for a free exchange or repair, as per the terms of the warranty. To initiate the exchange process, the customer must provide the original purchase invoice, warranty card, product packaging, and all accompanying accessories.
- When requesting warranty service during the warranty period, the customer must present a valid purchase invoice and warranty card. The warranty period commences on the date indicated on the invoice. If the customer is unable to provide a valid purchase invoice and warranty card, or if the information has been altered or is no longer legible, the warranty period will be based on the date of product manufacture as recorded. If a valid delivery date cannot be determined, the company cannot provide free warranty service.
- Any repaired charging stations by Wanbang Digital Energy Co., Ltd. will continue to be covered under the company's original warranty terms. Any replacement parts or charging stations become the property of Wanbang Digital Energy Co., Ltd. after repair.
- The customer is responsible for properly maintaining the warranty card, as Wanbang Digital Energy Co., Ltd. does not issue replacement cards.

(3) After-sales warranty service terms

- Party B (Wanbang Digital Energy Co., Ltd.) shall provide free remote consulting services (including but not limited to the instructions by telephone, email or other network communication means); on-site repairs shall be charged according to the corresponding charging standards if required.
- During the warranty period, Party B shall provide free repair or replacement services for failures caused by non-human causes such as the quality problems of charging station (fee waivers include door-to-door fees, man-hour fee, and material costs that may be involved, etc.).

- The products repaired by Party B will continue to enjoy the warranty services provided by Party B during the original warranty period.
- For the charged repairs outside the warranty period or within the warranty period but included in exemption clauses, the warranty period of the repaired and replaced components is subject to the warranty period of the original charging station or one year from the date of repair and replacement, whichever comes later.
- Please refer to the user manual for the maintenance of charging station.

8.2 Warranty service exemption clause

Starcharge shall not be liable in any way for damage. All warranties on both the product and accessories shall become void under the following circumstances:

- The ambient temperatures during are below $-30\,^{\circ}C$ or above $50\,^{\circ}C$.
- The products have been installed wrong, subject to misuse or badly maintained.
- The instructions in manuals associated with operation and maintenance for the products (or parts provided at the time of purchase) of the device have not complied.
- The products are used in the vicinity of explosive, highly flammable substances or in or near water.
- There is a failure of the distribution network.
- The equipment has exceeded the warranty period and the warranty period has not been extended.
- The appearance is damaged, the QR code and barcode are damaged, a valid purchase invoice and warranty card cannot be presented, and the warranty period of charging station cannot be determined.
- Man-made damage or failure or damage caused due to improper storage and use (such as water immersion and collision).
- Failure or damage caused by use at a working environment or under load that is not specified for the product. The charging connector has been plugged and unplugged for more than 10,000 times.
- The product is disassembled or repaired by end user or non-authorized organizations.
- The equipment cannot be used normally not due to material and production quality (such as construction grounding problems, power supply abnormalities, carrier signal problems, etc.).

- The premature aging and failure of the operating components related to the maintenance actions caused by the maintenance of the charging station not in accordance with the maintenance requirements and cycles will be exempt from the warranty responsibility.

8.3 Information Registration

Product Name	
Product model	
Warranty period	
User name	
Tel	
Correspondence address	
Dealer's seal	

9 Appendix-RFID cards

Card Type	Description	Frequency of Operation	Byte Size Range
IEC14443 A/B	IEC 14443 is an international standard for proximity cards and readers used in access control and identification systems. It specifies the radio frequency, modulation, coding, and security features for communication between the card and reader. It is widely used in building access control, public transportation, and secure identification.	13.56 MHz	1K - 4K
IEC15693	It uses higher frequency than ISO 14443 for larger reading distance. Commonly used in inventory tracking, supply chain management, and secure identification.	13.56 MHz	Up to 2K
IEC18092	IEC 18092 is an international standard for Near Field Communication (NFC) technology developed by the International Electrotechnical Commission (IEC) and based on ISO 18092. It specifies the radio frequency, modulation, and coding for communication between two NFC-enabled devices within a 10 cm range at 13.56 MHz. This standard is widely used in mobile payment, ticketing, and access control applications.	13.56 MHz	Up to 32K

Table 1: RFID cards-1

Card Type	Description	Frequency of Operation	Byte Size Range
Mifare Ultralight C/V	MIFARE Ultralight C and MIFARE Ultralight EV1 (V) are contactless smart cards based on ISO/IEC 14443 A standard. Developed by NXP Semiconductors, they offer AES-128 bit encryption for better security. MIFARE Ultralight C has a 1Kbyte memory capacity with a 7-byte unique ID number, while MIFARE Ultralight EV1 (V) offers the same, plus additional features like memory locking and a counter. Both are used in applications requiring low cost and high security, including access control, ticketing, and micropayments, as well as government-issued identification.	13.56 MHz	192 bytes
Mifare 1K/4K mini	MIFARE 1K and 4K are contactless smart cards by NXP Semiconductors, using MIFARE Classic tech and ISO/IEC 14443 A standard. Both cards are compatible with the same infrastructure and offer 1Kbyte and 4Kbytes of memory, respectively. MIFARE Mini is a smaller version with 320 bytes of memory. These cards are used for secure access control, transportation, micropayments, and government-issued identification.	13.56 MHz	1K - 4K

Table 2: RFID cards-2

Card Type	Description	Frequency of Operation	Byte Size Range
Mifare Plus 2K/4K S/X	MIFARE Plus 2K/4K S/X are contactless smart cards developed by NXP Semiconductors based on ISO/IEC 14443 A standard. They provide enhanced security with AES-128 bit encryption and a proprietary security protocol called "Crypto-1". The 2K/4K versions offer 2K/4K bytes of memory and "S" and "X" denote security levels 1 and 2, respectively. These cards are commonly used in access control, transportation, and cashless payment systems, as well as government-issued identification and other secure identification applications.	13.56 MHz	2K - 4K
Mifare DESFire D40/EV1 2K/4K/8K	MIFARE DESFire D40/EV1 2K/4K/8K are contactless smart cards based on ISO/IEC 14443 A standard. Developed by NXP Semiconductors, they offer advanced security features such as AES encryption and mutual authentication with the reader. With 2K/4K/8K memory capacity, they are used for access control, transportation, micropayments, government-issued ID cards, and other secure identification applications.	13.56 MHz	2K - 8K

Table 3: RFID cards-3

Card Type	Description	Frequency of Operation	Byte Size Range
Jewel	Innovision Jewel is a contactless smart card technology developed by UK-based company Innovision Research and Technology Limited, specializing in RFID technologies. The Jewel is a small, low-cost, and low-power RFID transponder operating at 13.56 MHz and compliant with the ISO/IEC 14443A standard. It can be embedded in various form factors, including key fobs, wristbands, and cards, and used in applications such as access control, transportation, and micropayments. Innovision Jewel is suitable for use in multiple verticals, including Retail, Banking, Gaming, Transport, and Access Control, and portable devices such as smartphones and smartwatches.	13.56 MHz	80 bytes
Tag-it	A Tag-it RFID card uses the Tag-it protocol for wireless communication to identify and track objects. It is widely used in contactless smart cards and other RFID applications, such as access control, payment systems, and inventory tracking.	13.56 MHz	256 bytes

Table 4: RFID cards-4

Card Type	Description	Frequency of Operation	Byte Size Range
NTAG203	FeliCa is a contactless RFID smart card technology developed by Sony Corporation primarily used in Japan and other parts of Asia for various applications such as electronic money, transportation, and access control systems. It is based on the ISO/IEC 18092 standard for Near Field Communication (NFC), supporting both read and write capabilities. FeliCa cards are lightweight and can be used without physical contact by holding them close to a reader. Examples include Suica, Pasmo, and ICOCA, widely used as transportation cards and e-wallets in Japan.	13.56 MHz	168 bytes
Felica Lite	FeliCa Lite is a simplified and cost-effective version of FeliCa technology that uses a small integrated circuit chip, making it suitable for various applications including access control, transportation, and micropayments. Its low power consumption makes it ideal for small portable devices like smartphones and wearables. FeliCa Lite cards are commonly used in Japan for transportation, such as the ICOCA card for travel on trains and buses in the Kansai area, and as an e-wallet.	13.56 MHz	224 bytes

Table 5: RFID cards-5

Card Type	Description	Frequency of Operation	Byte Size Range
Felica RC880/RC 885/860	The FeliCa RC series is a contactless smart card line developed by Sony Corporation for various applications including electronic money, transportation, and access control systems. The cards feature high-security measures such as mutual authentication and a unique ID number, along with high storage capacity and fast data transfer rates. They are commonly used in finance, access control, and transportation systems, including the Pasmo and Suica cards in Japan."	13.56 MHz	2K

Table 6: RFID cards-6

For the newest version of the document, please feel free to check www.starcharge.com

Many thanks for your attention

Customer service

Preparation:
If you have any questions or problems, please contact the companyresponsible for performing the electrical installation.

Before contacting Customer Service:

Check the troubleshooting measures in the Troubleshooting sectionof this manual.

Contact

Company: Wanbang Digital Energy Co., Ltd.

Address: No.39 Longhui Road, Wujin High-tech Industrial Development Zone, Changzhou, China

Customer service: 400-800-2610

E-mail: service.global@starcharge.com
Website: www.starcharge.com

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