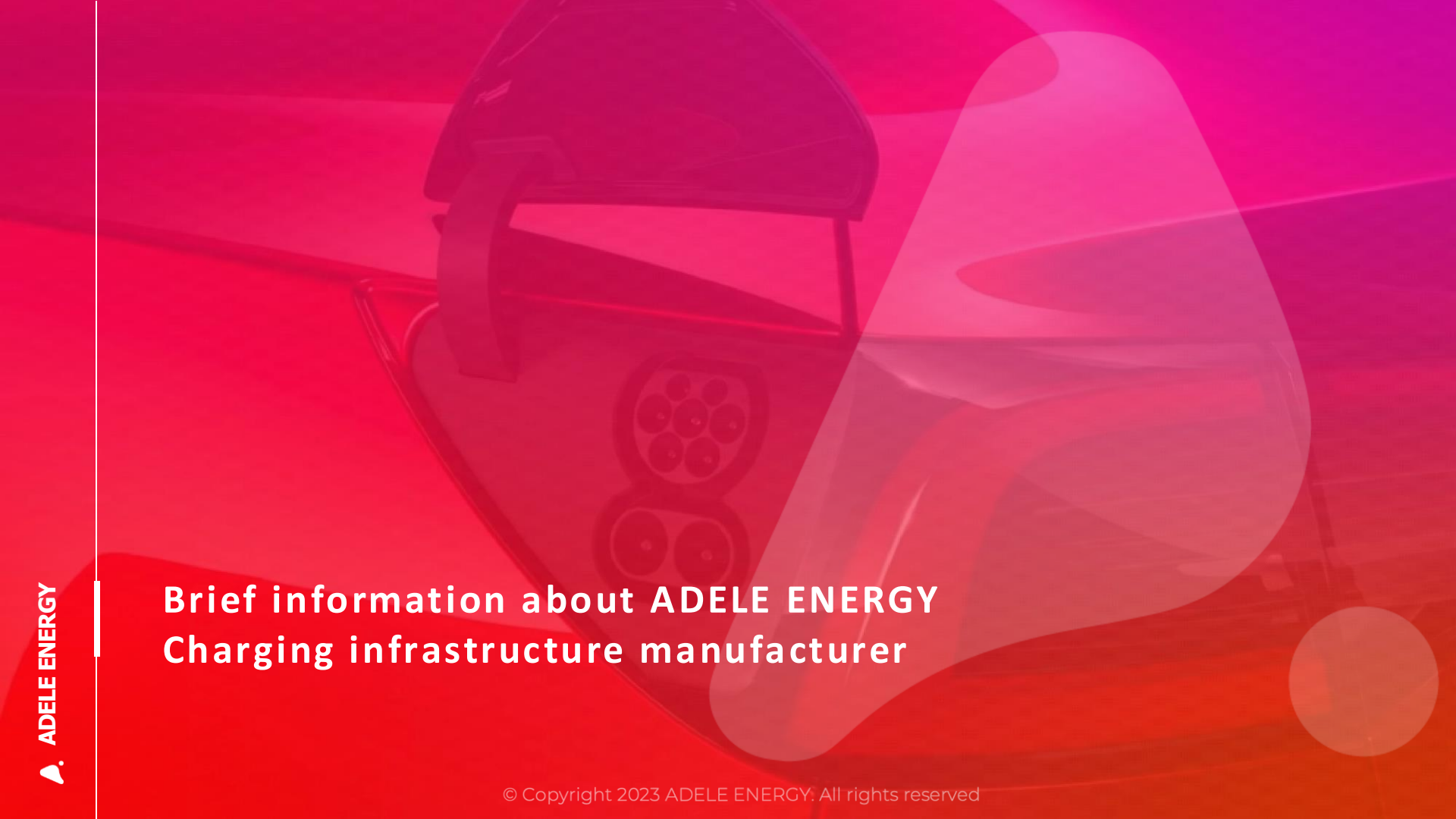


ADELE ENERGY

Brief information about ADELE ENERGY
Charging infrastructure manufacturer

About as

To view, point your camera towards the QR

- We are creating a universal and comfortable charging infrastructure for electric car owners, helping in the transition to sustainable energy and improving ecology around the world.

Kazakhstani company producing charging stations for electric vehicles (the only one in Central Asia). The company was founded in 2013 by a team of engineers.

The company has a certificate as a subject of scientific and technical activity, intellectual property for the charging station control controller, engineering and design, for the charging station network management system and payment system - billing.

Main criteria of the company:

RELIABILITY - Adele Energy develops, tests and produces the control board (controller) charging station using the best and most advanced technology.

SECURITY – The controllers have the only security documents in Kazakhstan for integrated circuits and permits from the National Security Committee of the Republic of Kazakhstan for cryptographic information protection.

EFFICIENCY - Fully comply with all existing, modern charging standards to quickly integrate with current EV vehicle market.

All engineering is protected by relevant documents by the Institute of Intellectual Property of the Republic of Kazakhstan, in accordance with international standards.

History (Main Events)

ADELE ENERGY

2017	2019	2020	2021	2022 - 2023
✓ Participation in the program for the development of a national network of electric charging stations in the Republic of Kazakhstan **2018** ✓ Installation of more than 100 charging stations in Kazakhstan at the largest urban sites in Almaty and Astana	✓ Organization of the "transfer" of 100 electric buses from the Kostanay plant "Saryarkaavtoprom" to the city of Astana ✓ Organization of the first electric marathon in Kazakhstan together with IGTIC ✓ Inclusion in the initiated Project of the President of the Republic of Uzbekistan "Program for the Development of the Automotive Industry of the Republic of Uzbekistan". ✓ **Top 4 of 134 Best Infrastructure Solutions for Electric Vehicle Charging by StartUp Insing (Germany)**	✓Rebranding ADELE ENERGY ✓**Development of an AC and DC charging station with the involvement of designers from the automotive and shipbuilding industries.** ✓**Launch of production of charging stations in Kazakhstan.** ✓Signing of a contract for the modernization of the network of charging stations with the installation of an AC board from Adele Energy ✓A cooperation agreement was signed with CATL.	✓Obtaining EAC certificates for all ADELE products ✓Participation in EXPO DUBAI 2020, in the Kazakhstan pavilion (to date) ✓**Obtaining a certificate from Porsche** ✓**Connecting and setting up a 350 kW Porsche high-speed charging station in Almaty** ✓**Development of a new generation EPS control board for charging from an alternating current network.**	✓**Received patents, certificates from the National Institute of Intellectual Property of the Republic of Kazakhstan (NIIP)** ✓Launch of our own EPS network in the Republic of Kazakhstan ✓**Launch of a billing system accepting payments from network users** ✓**Confirmed its status as a subject of scientific and technical activities**

INFRASTRUCTURE DEVELOPMENT

The development of modern technologies and government support for projects in the field of electric vehicle transport contributes to the creation of a modern and efficient network of electric charging stations.

Private sector. Condominiums, residential complexes, smart neighborhoods, public parking.

Mainly for AC charging stations with power from 7 kW and above.

Public places. Shopping and entertainment centers, complex networks with cafes, restaurants.

Installation of AC chargers from 22 kW and above.

Commercial buildings. Parking lots of business centers, company fleets, car dealerships, service centers.

Government agencies. Police, ambulance, emergency services and others.

Installation of DC and AC chargers from 22 kW and above.

Company transport. Vehicle fleets, logistics and supplies, taxi services, car sharing, bus fleets.

Highways and motorways. Roadside establishments, operating gas stations.

Installation of DC and current fast chargers from 120 kW and above.

ADELE ENERGY

Company products

ҚАЗАҚСТАНДА ЖАСАЛҒАН СДЕЛАНО В КАЗАХСТАНЕ

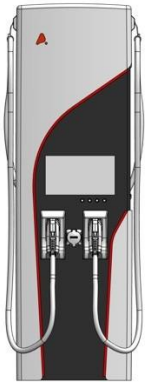
ELEGANT INFRASTRUCTURE SOLUTIONS

Nova - AC Station

AC charging 7-22 kW

Foton - DC Station

DC charging 60 - 180 kW



Quant - DC Station

DC charging 30 kW

Adele Energy's flexible charging system provides the smartest, fastest and safest solution for charging electric vehicles. By establishing a complete component supply chain system, the company has established strong partnerships with world-class component suppliers, providing additional reliability, enhanced safety and security.
A modular system with support for all charging protocols will allow you to charge any electric vehicle in the world.

ADELE ENERGY

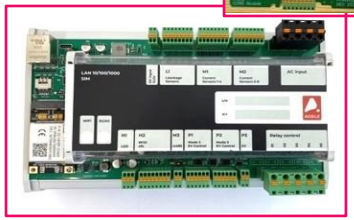
ADELE ENERGY

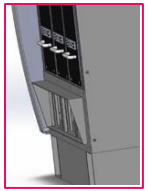
CUSTOM DESIGN AND PRODUCTION

CONTROLLER

INTERNAL ENGINEERING

SOFTWARE





Development and production of control boards

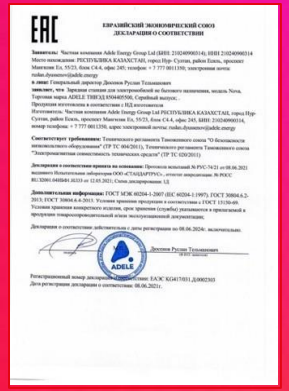
Modeling

Prototyping and production

Adele Energy designs, tests and produces the charging station control board (controller) using the best and most advanced technology.

Developments are carried out by industrial designers and engineers in the Fusion 360 program, where mechanical, thermal and other loads are modeled.

CERTIFICATES AND PATENTS



ADELE ENERGY

ADELE ENERGY

CUSTOM DEVELOPMENT AND PRODUCTION

ҚАЗАҚСТАНДА ЖАСАЛҒАН СДЕЛАНО В КАЗАХСТАНЕ

CONTROLLER

- **RELIABILITY**
- Adele Energy designs, tests and produces the charging station control board (controller) using the best and most advanced technology.
- **SAFETY**
- Only our controllers have security permit documents for integrated circuits and cryptographic information protection from the National Security Committee (NSC)of the Republic of Kazakhstan.
- **EFFICIENCY**
- Fully compliant with all existing, modern charging standards.

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ РЕСПУБЛИКА КАЗАХСТАН

REPUBLIC OF KAZAKHSTAN

ИНТЕГРАЛДЫҚ МИКРОСХЕМА ТОПОЛОГИЯСЫН А ТІРКЕУ ТУРАЛЫ КУӘЛІК
СВИДЕТЕЛЬСТВО О РЕГИСТРАЦИИ ТОПОЛОГИИ ИНТЕГРАЛЬНОЙ МИКРОСХЕМЫ
CERTIFICATE OF REGISTRATION FOR INTEGRATED CIRCUIT LAYOUT DESIGN

(11) 2

(15) 19.04.2023

(54) EVC AC моделі "Adele Energy" компаниясының айнымалы ток зарядтау станциясын Басқару контроллері
Контроллер управления зарядной станции переменным током компании «Adele Energy» модель EVC AC
«Adele Energy» company Model EVC AC Charging Station Variable Current Control Controller

(73) ADELE ENERGY GROUP Ltd. жеке компаниясы (KZ)
Частная компания ADELE ENERGY GROUP Ltd. (KZ)
PRIVATE COMPANY ADELE ENERGY GROUP Ltd. (KZ)

(72) Родин Артем Денисович (UA) Rodin Artem Denisovich (UA)
Дюсенов Руслан Тельманович (KZ) Dyusenov Ruslan Telmanovich (KZ)

ҰҚК қолтаңбасы
Подписано ЭЦП
Signed with EDS

Е. Осканов
Е. Осканов
Y. Oskanov

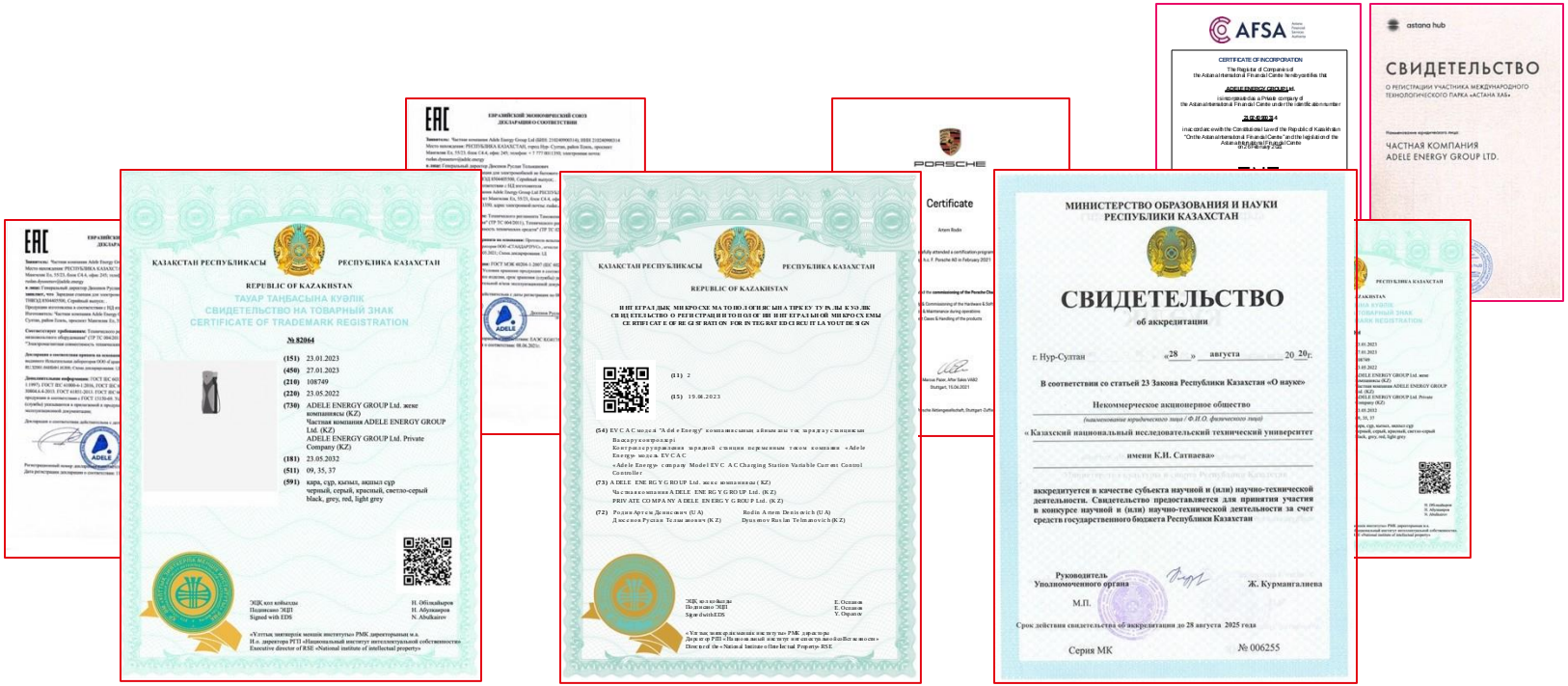
«Ұлттық интеллектуалдық меншік институты» РМК директоры
Директор РГП «Национальный институт интеллектуальной собственности»
Director of the «National Institute of Intellectual Property» RSE

ADELE ENERGY

Our own developments

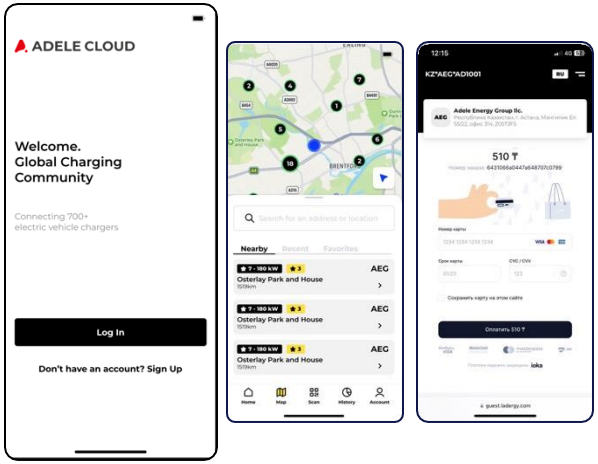
ҚАЗАҚСТАНДА ЖАСАЛҒАН СДЕЛАНО В КАЗАХСТАНЕ

The company has a certificate as a subject of scientific and technical activity, intellectual property for the charging station control controller, engineering and design, for the charging station network management system and payment acceptance - billing.



ADELE ENERGY

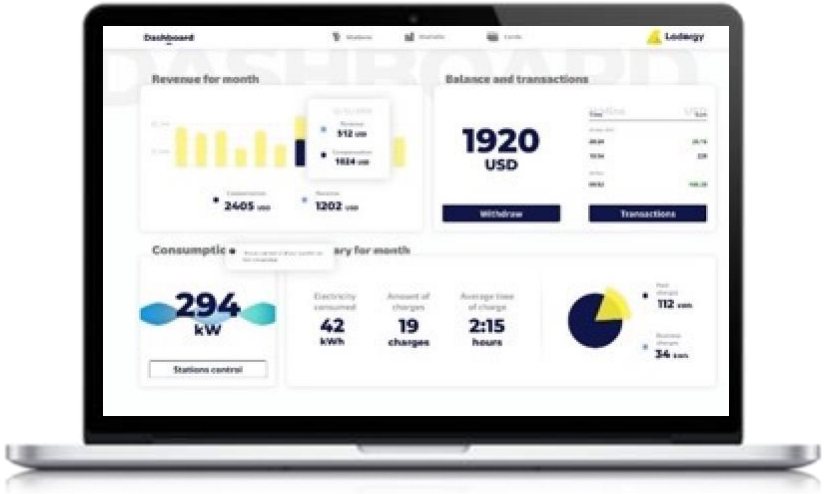
Our own custom software



- Provides a hybrid CPMS system (payment point management system), which allows you to organize your own networks of charging stations;
- Technical monitoring of the entire network in real time;
- SmartGrid - intelligent network load balancing that efficiently distributes available power to all charged electric vehicles;
- A unique system of direct QR payments (payment and accrual without registration);
- Flexible tariff settings for each station and the entire network;
- The software allows you to manage all existing charging stations using the OCPP (Open Charge Point Protocol) protocol.

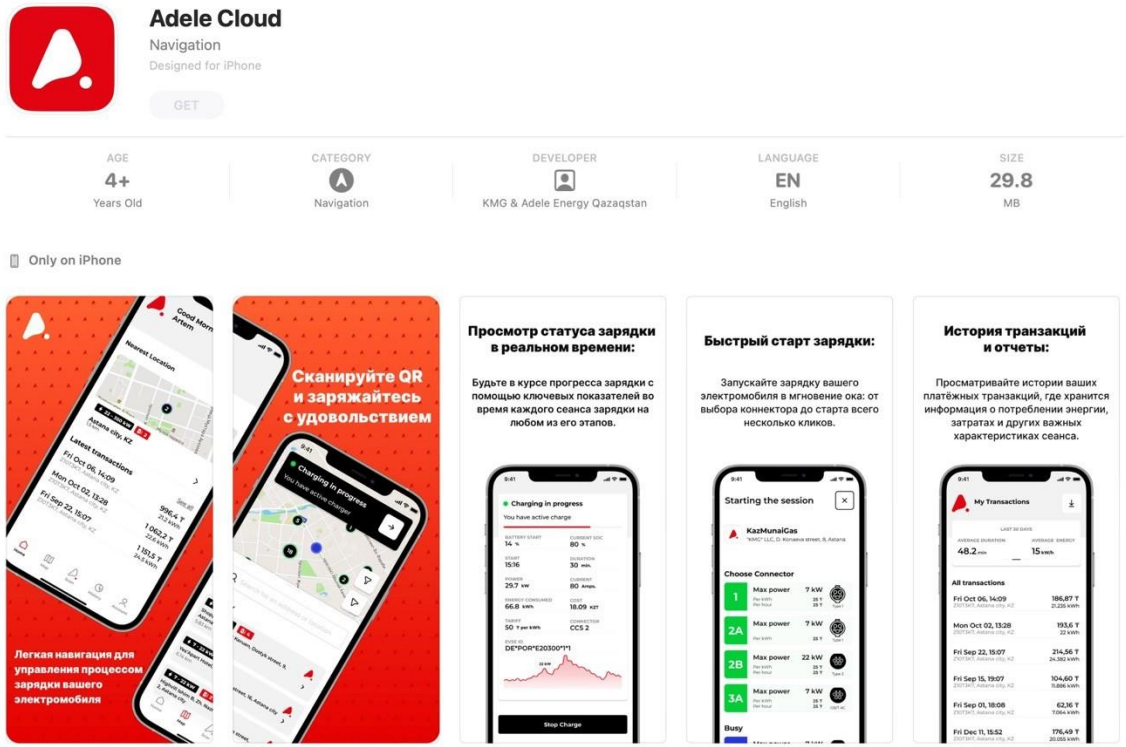
ADELE CLOUD
Management of charging stations, payment system

LADERGY
Technical monitoring and software updates in real time



ADELE ENERGY

Fast and convenient mobile application



Download the ADELE CLOUD mobile app

Play Market

App Store

ADELE ENERGY

Nova AC station

TECHNICAL CERTIFICATE

Use Cases

Company transport. Offices, vehicle fleets, logistics and supplies, car dealerships, government agencies, repair shops.

Commercial buildings. Entertainment venues, parking and recreation areas in public or private areas, supermarkets and shopping centers.

Private sector. Condominiums, residential complexes, smart neighborhoods, public parking.

The charging station is equipped with any existing standard

Type 2 Mode 3
32A (3ph) - 22kW

Type 1
32A (1ph) - 7kW
43A (1ph) - 11kW
80A (1ph) - 18kW

Type 2
32A (3ph) - 22kW

GBT
32A (1ph) - 7kW
32A (3ph) - 22kW

ADDITIONAL INFORMATION

Product information	
Charger type	Level 2 (Mode 3)
Voltage	3-phase AC, 400V±20%, 50/60Hz
AC output power and current	Type1, GBt AC- 7kW (1x32A 230VAC) Type2, GBt AC - 22kW (3x32A)
AC connectors	2 x Type 2 or Type1, or GBt AC, Mode 3 Socket or cable (Optional)
Protection	Overvoltage, Undervoltage, Overheating, Overcurrent.
General Specifications	
Case protection class	IP54 / IK10
Operating temperature range	-30C / +60C (speed may decrease)
Storage temperature range	-40C / +60C
Dimensions H × W × D	1445 x 620* x 255* mm
User interface	
HMI	Address LED Strip
User authentication	RFID, NFC Reader, Application or web resource
CPMS	OCPP 1.6j
Connection	Ethernet, Wi-Fi, 4G LTE, RS485, TCP/IP (connection to local controller)
Standards	IEC 62196-2, IEC 61851-1

ADELE ENERGY

Foton DC station

TECHNICAL CERTIFICATE

Use Cases

Highways and motorways. Roadside establishments, operating gas stations.

Company transport. Offices, vehicle fleets, logistics and supplies, car dealerships, government agencies, repair shops.

Commercial buildings. Entertainment venues, parking and recreation areas in public or private areas, supermarkets and shopping centers.

Private sector. Condominiums, residential complexes, smart neighborhoods, public parking.

The charging station is equipped with any existing standard

CCS Type 2
60 – 180 kW

GBT
60 – 180 kW

CHAdeMO
50 – 100 kW

Type 2 Mode 3
32A (3ph) – 22kW

ADDITIONAL INFORMATION

Product information	
DC connectors	3 high-speed ports to choose from DC: CHAdeMO; CCS Type1/2 GB/t
Voltage	3-phase AC, 400V±20%, 50/60Hz
Output power	DC 60 / 90 / 120 / 150/ 180 (Depends on configuration)
AC connectors	Type2 socket (optional)
Protection	Overvoltage, Undervoltage, Overheating, Overcurrent.
DC output voltage	150-1000 VDC
Operating humidity	30 % - 95 % (Non condensing)
General Specifications	
Case protection class	IP54 / IK10
Operating temperature range	-30C / +60C (speed may decrease)
Storage temperature range	-40C / +60C
Dimensions H × W × D	2245 x 620* x 455* mm
User interface	
HMI	LED Display
User authentication	RFID, NFC Reader, Application or web resource
CPMS	OCPP 1.6j
Connection	Ethernet, Wi-Fi, 4G LTE, RS485, TCP/IP (connection to local controller)
Standards	IEC61851, IEC62196, IEC62763, SAEJ1772, ISO15118 / DIN70121

ADELE ENERGY

Quant DC station

TECHNICAL CERTIFICATE

Use Cases

Company transport. Offices, vehicle fleets, logistics and supplies, car dealerships, government agencies, repair shops.

Commercial buildings. Entertainment venues, parking and recreation areas in public or private areas, supermarkets and shopping centers.

Government agencies. Emergency services (police, ambulance, fire), public utilities, bus depots.

Private sector. Condominiums, residential complexes, smart neighborhoods, public parking.

The charging station is equipped with any existing standard

CCS Type 2
60 – 180 kW

GBT
60 – 180 kW

CHAdeMO
50 – 100 kW

Type 2 Mode 3
32A (3ph) – 22kW

ADDITIONAL INFORMATION

Product information	
DC connectors	3 high-speed ports to choose from DC: CHAdeMO; CCS Type1/2 GB/t
Voltage	3-phase AC, 400V±20%, 50/60Hz
Output power	DC 30 (Depends on configuration)
AC connectors	Type2 socket/cable (optional)
Protection	Overvoltage, Undervoltage, Overheating, Overcurrent.
DC output voltage	150-1000 VDC
Operating humidity	30 % - 95 % (Non condensing)
General Specifications	
Case protection class	IP54 / IK10
Operating temperature range	-30C / +60C (может снижаться скорость)
Storage temperature range	-40C / +60C
Dimensions H × W × D	2245 x 620* x 455* mm
User interface	
HMI	LED Strip
User authentication	RFID, NFC Reader, Приложение или веВ-ресурс
CPMS	OCPP 1.6j
Connection	Ethernet, Wi-Fi, 4G LTE, RS485, TCP/IP (подключение к локальному контроллеру)
Standards	IEC61851, IEC62196, IEC62763, SAEJ1772, ISO15118 / DIN70121

ADELE ENERGY

Comparative technical analysis

Charging stations

Model	Socket	Cable	
NOVA	AC44	AC30	AC44

Trademark	Country	Cable producer	Anti-vandal case	Station type *	Socket included	Cable included	Support of GB/t cable	Remote service
ADELE ENERGY	Kazakhstan	Germany	Yes	A	Yes	Yes	Yes	Yes
Mennekes	Germany	Germany	Yes	A	Yes	No	No	
Schneider Electric	Франция	Germany	Yes	A	Yes	No	No	
Enel X	Italy	Germany	Yes	A	Yes	No	No	
SETEC Power	China	China	Yes	A	Yes	No	Yes	No
Circontrol	Spain	Germany	Yes	A	Yes	Yes	No	No
Efacec	Portugal	Germany	Yes	A	Yes	Yes	No	No
KEBA	Austria	Germany	No	B	Yes	Yes	No	
ABB	Switzerland	Germany	No	B	Yes	Yes	Yes	Yes
Wallbox	Spain	Germany	No	B	Yes	Yes	No	
ABL	Germany	Germany	No	B	Yes	Yes	No	

Model	Nominal power		
FOTON	DC 60	DC 120	DC 180

Trademark	Country	Cable producer	Production configuration				
ADELE ENERGY	Kazakhstan	Germany	Yes	Yes*	Yes	Yes*	Yes
Enel X	Italy	Germany	Yes	No	No	Yes	No
SETEC Power	China	China	Yes	No	Yes	No	Yes
Efacec	Portugal	Germany	Yes	Yes	Yes	No	Yes
Tritium	Австралия	Germany	Yes	No	Yes	No	Yes
Circontrol	Spain	Germany	Yes	Yes	No	Yes	No
ABB	Швейцария	Germany	Yes	Yes	No	No	Yes

Trademark	Minimum voltage, V	Maximum voltage, V	Maximum current, A	Anti-vandal case	CCS support	j1772 support	CHAdeMO support	GB/t support	Remote service
ADELE ENERGY	**150**	920	**350**	Yes	Yes	Yes	Yes	Yes	Yes
Enel X	200	920	200	Yes	Yes	Yes	Yes	No	
SETEC Power	200	920	200	Yes	Yes	Yes	Yes	Yes	
Efacec	200	920	200	Yes	Yes	Yes	Yes	No	
Tritium	200	920	200	Yes	Yes	No	Yes	No	
Circontrol	**150**	920	200	Yes	Yes	Yes	Yes	No	No
ABB	200	920	**300**	No	Yes	Yes	Yes	No	Yes

ADELE ENERGY

ADELE ENERGY

RK, Astana city, Yesil district, Mangilik El Avenue, 55/22, Block C4.5

***Adele Energy Group Ltd.**
- Management and production company
- R&D center in Kazakhstan

***AEG FastHub Ltd.**
- Network of charging stations in Kazakhstan

***Adele Engineering Ltd.**
- R&D center in Ukraine.

***Adele Energy Dubai**
-Representative office in the UAE

adele.energy

Play Market

App Store

ADELE ENERGY

The future has arrived

As the adoption of electric vehicles continues to grow, now is the time for future-focused companies to put in place the infrastructure and business models to harness this growth.

ADELE ENERGY

Ivan Trofimov
Director of Business Development

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