aupins

PRODUCT CATALOGUE / 2026

ON-BOARD CHARGER SERIES

Modular, standardized and universal. A fully digital, high-efficiency charging platform from 2.0 kW to 20 kW — engineered for low-speed EVs, e-motorcycles, passenger cars, logistics vans, coaches, motorhomes and construction machinery.



2.0 kW
LOW-SPEED EV · E-MOTO

3.3 kW
SWAP · GARDEN · FORKLIFT

6.6 kW
PASSENGER · COMMERCIAL

20 kW
COACH · MOTORHOME

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Four power platforms, one technology base

Every platform shares the same fully digital control architecture, ZVZCS soft-switching stage and high-performance SiC devices — so one engineering decision carries across an entire vehicle programme.

4	2.0–20kW	90–265VAC	94%	CAN
POWER PLATFORMS	OUTPUT POWER	WIDE INPUT	PEAK EFFICIENCY	COMMUNICATION

SERIES	INPUT	POWER	RATED VOUT	PEAK EFF.	FORM FACTOR	TYPICAL APPLICATIONS
2.0 kW	90–265 VAC	2000 W	24–360 VDC	≥ 94%	Air-cooled assembly, IP67	Low-speed EV, mini truck, e-motorcycle
3.3 kW	90–265 VAC	3300 W	24–360 VDC	≥ 94%	Air-cooled assembly, IP67	A0/A00 car, logistics, specialty vehicle
6.6 kW	90–265 VAC	6600 W	80–720 VDC	≥ 94%	Air-cooled assembly, IP67	A+ passenger car, commercial EV, industrial
20 kW	1-ph / 3-ph AC	19.8 kW	80–700 VDC	≥ 94%	Liquid / forced-air cooled	Logistics van, coach, motorhome, machinery

Typical specifications shown; available voltage tiers are listed on each product page. Final parameters are subject to the technical agreement.

PLATFORM ARCHITECTURE

AC INPUT
90–265 VAC wide range
Single- or three-phase

›

POWER FACTOR CORRECTION
High power factor
Low input harmonics

›

ZVZCS SOFT SWITCHING
Zero-voltage zero-current
High-performance SiC

›

RECTIFIER & FILTER
Low output ripple
Fully adjustable

›

DC OUTPUT
24–850 VDC
Constant current / voltage

Digital control & monitoring bus — Fully digital control · CAN interface · Input UV/OV, output OC/OV, short-circuit and over-temperature protection

HOW TO SELECT

Select by pack voltage

Voltage tiers at 24 / 48 / 72 / 108 / 144 / 360 VDC and above, covering a fully adjustable 0–850 V output window.

Select by form factor

Standalone module, rack-mount module, on-board assembly, or liquid/forced-air cooled unit — integrable with DCDC as a multi-in-1 unit.

Select by cooling

Forced-air cooling for conventional cabin layouts; liquid cooling for high IP ratings, high ambient temperatures and continuous heavy duty.

Efficiency and reliability, on one board

01

Fully Digital Control

A fully digital control platform runs across the entire range, delivering flexible, intelligent control, well-behaved protection characteristics and strong system robustness. Control parameters stay configurable and upgradable in the field.

02

Zero-Voltage Zero-Current Soft Switching

Next-generation phase-shift plus pulse-width-modulation ZVZCS soft switching sharply reduces switching loss and voltage/current stress on the devices, improving unit stability and conversion efficiency at the same time.

03

High-Performance SiC Devices

SiC power devices combined with a soft-switching topology reconcile high power density with high efficiency — 94% peak on the 2.0 kW and 3.3 kW platforms, 92–94% on the 6.6 kW unit.

04

Wide-Range Adjustable Output

The DC output voltage is fully adjustable, letting a single platform cover a 24 VDC to 850 V output window and simplifying vehicle platform selection.

05

Multiple Protection Layers

Input under- and over-voltage, output over-current, output over-voltage, output short-circuit and over-temperature protection are all provided as standard.

06

CAN Communication

An on-board microprocessor communicates with the supervisory unit; internal parameters can be set or adjusted by the upper-level controller over a CAN interface.

07

Modular · Standardized · Universal

Unified electrical and mechanical interfaces allow standalone use, or integration with DCDC modules as a 2-in-1 or multi-in-1 on-board unit.

08

Air & Liquid Cooling

Forced-air cooling suits conventional cabin installation; liquid-cooled versions target high IP ratings, high ambient temperatures and continuous heavy-duty duty cycles.

94% Peak efficiency. The margin earned by soft switching and SiC devices converts directly into lower temperature rise, a smaller cooling envelope and longer vehicle range.

2.0 kW

LOW-SPEED EV · MINI TRUCK · E-MOTORCYCLE
SMALL NEW-ENERGY VEHICLES

INTRODUCTION

The AP1020 is a compact, high-efficiency air-cooled on-board charger purpose-developed for new-generation low-speed lithium-battery EVs, mini trucks, electric motorcycles and other small new-energy vehicles.

Fully digital control and high-performance SiC devices deliver intelligent operation, comprehensive protection and strong system stability. Advanced phase-shifted PWM zero-voltage zero-current soft switching keeps peak efficiency above 94%.

The unit communicates with the vehicle monitoring system over a CAN interface for real-time parameter adjustment. A die-cast aluminium housing rated IP67, together with automotive-grade components, gives high power density in a package of 4 kg or less.

SPECIFICATIONS

RATED OUTPUT VOLTAGE	24 VDC	60 VDC	80 VDC	108 VDC	144 VDC	360 VDC
MODEL NUMBER	AP1634	AP1638	AP1632	AP1635	AP1636	AP1637
OUTPUT VOLTAGE RANGE	0–36 V	0–76 V	0–102 V	0–130 V	0–180 V	0–440 V
OUTPUT CURRENT RANGE	0–50 A	0–35 A	0–25 A	0–18 A	0–14 A	0–6 A
TYPICAL EFFICIENCY	≥ 94%					

Rated output power 2000 W · 90–265 VAC input, 46–65 Hz · starting impulse current ≤ 10 A.

GENERAL SPECIFICATIONS

Input voltage	90–265 VAC	Input frequency	46–65 Hz	Starting impulse current	≤ 10 A
Power factor	≥ 0.99	Voltage / current regulation	±1% / ±5%	Output response time	≤ 5 s
Operating ambient	–20 ~ +65 °C	Relative humidity	5 ~ 95 %	Ingress protection	IP67
Cooling	Forced-air	Communication	CAN network	Operating noise	≤ 60 dB
Dimensions (mm)	149 × 291 × 113	Weight	≤ 4 kg	Charging control	CAN command

Protections: input and output over/under-voltage, output short circuit and reverse connection — all self-recovering. Over-temperature: output derated above 75 °C heatsink, shutdown above 95 °C, automatic restore below 85 °C.

FORM FACTOR & APPLICATIONS



Air-Cooled Module



Battery Swap Cabinet



Electric Motorcycle



Mini Truck

≥94%	IP67	24–360VDC	≤4 kg
PEAK EFFICIENCY	INGRESS PROTECTION	OUTPUT RANGE	WEIGHT

3.3 kW

A0/A00 CAR · LOGISTICS · SPECIALTY VEHICLE
CONVERTED EVS SUPPORTED

INTRODUCTION

The AP1033 is a high-performance, intelligent air-cooled on-board charger assembly developed for pure electric vehicles — A0/A00-class passenger cars, logistics vehicles, specialty vehicles and converted EVs.

The system adopts fully digital control for flexible operation, enhanced protection and strong system robustness. Advanced phase-shifted PWM zero-voltage zero-current soft switching with high-performance SiC devices ensures excellent stability, with peak efficiency above 94%.

An IP67 die-cast aluminium housing and automotive-grade components give high power density and a lightweight package of 6 kg or less, suitable for both factory-fit and retrofit programmes.

SPECIFICATIONS

RATED OUTPUT VOLTAGE	24 VDC	48 VDC	72 VDC	108 VDC	144 VDC	360 VDC
MODEL NUMBER	AP1607	AP1606	AP1605	AP1604	AP1603	AP1602
OUTPUT VOLTAGE RANGE	0–36 V	0–70 V	0–95 V	0–136 V	0–180 V	0–440 V
OUTPUT CURRENT RANGE	0–100 A	0–60 A	0–45 A	0–30 A	0–22 A	0–9 A
TYPICAL EFFICIENCY	≥ 94%					

Rated output power 3300 W · 90–265 VAC input, 46–65 Hz · starting impulse current ≤ 16 A.

GENERAL SPECIFICATIONS

Input voltage	90–265 VAC	Input frequency	46–65 Hz	Starting impulse current	≤ 16 A
Power factor	≥ 0.99	Voltage / current regulation	±1% / ±5%	Output response time	≤ 5 s
Operating ambient	−20 ~ +65 °C	Relative humidity	5 ~ 95 %	Ingress protection	IP67
Cooling	Forced-air	Communication	CAN network	Operating noise	≤ 60 dB
Dimensions (mm)	184 × 322 × 126	Weight	≤ 6 kg	Charging control	CAN command

Protections: input and output over/under-voltage, output short circuit and reverse connection — all self-recovering. Over-temperature: output derated above 75 °C heatsink, shutdown above 95 °C, automatic restore below 85 °C.

FORM FACTOR & APPLICATIONS



Air-Cooled Assembly



Sightseeing Vehicle



Forklift



Garden Vehicle

≥94%	IP67	24–360VDC	≤6 kg
PEAK EFFICIENCY	INGRESS PROTECTION	OUTPUT RANGE	WEIGHT

6.6 kW

A+ PASSENGER CAR · COMMERCIAL EV · INDUSTRIAL
UNIVERSAL ASSEMBLY

INTRODUCTION

The AP1066 is a high-performance, intelligent and universal air-cooled on-board charger assembly specifically developed for A+ class pure electric passenger vehicles and commercial EVs.

The system adopts fully digital control for flexible operation, enhanced protection and strong system robustness. Advanced phase-shifted PWM zero-voltage zero-current soft switching with high-performance SiC devices ensures excellent stability and 92–94% typical efficiency across the voltage range.

An IP67 die-cast aluminium housing and automotive-grade components keep the unit at 8 kg or less while maintaining high power density — covering 80 V to 720 V battery platforms with a single mechanical package.

SPECIFICATIONS

RATED OUTPUT VOLTAGE	80 VDC	108 VDC	144 VDC	360 VDC	540 VDC	720 VDC
MODEL NUMBER	AP1016	AP1015	AP1014	AP1013	AP1012	AP1011
OUTPUT VOLTAGE RANGE	0–105 V	0–140 V	0–190 V	0–500 V	0–720 V	0–850 V
OUTPUT CURRENT RANGE	0–80 A	0–60 A	0–44 A	0–18 A	0–12 A	0–9 A
TYPICAL EFFICIENCY	92%	92%	92%	94%	94%	94%

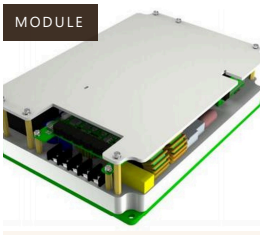
Rated output power 6600 W · 90–265 VAC input, 46–65 Hz · starting impulse current ≤ 32 A.

GENERAL SPECIFICATIONS

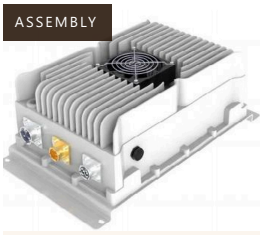
Input voltage	90–265 VAC	Input frequency	46–65 Hz	Starting impulse current	≤ 32 A
Power factor	≥ 0.99	Voltage / current regulation	±1% / ±5%	Output response time	≤ 200 ms
Operating ambient	−20 ~ +85 °C	Relative humidity	5 ~ 95 %	Ingress protection	IP67
Cooling	Forced-air	Communication	CAN network	Operating noise	≤ 60 dB
Dimensions (mm)	204 × 352 × 126	Weight	≤ 8 kg	Charging control	CAN command

Protections: input and output over/under-voltage, output short circuit and reverse connection — all self-recovering. Over-temperature: output derated above 75 °C heatsink, shutdown above 95 °C, automatic restore below 85 °C.

FORM FACTOR & APPLICATIONS



Air-Cooled Module



Air-Cooled Assembly



Passenger Car



Autonomous Logistics



Special-Purpose Vehicle

92–94%	IP67	80–850VDC	≤8 kg
TYPICAL EFFICIENCY	INGRESS PROTECTION	OUTPUT RANGE	WEIGHT

20 kW

LOGISTICS · COACH · MACHINERY · MOTORHOME
HIGH POWER DENSITY

INTRODUCTION

The AP1200A is a high-power-density, high-efficiency liquid-cooled on-board charger assembly developed for new-generation battery-electric logistics vehicles, coaches, construction machinery and other new-energy vehicles, built on a modular, standardized and universal platform.

Fully digital control delivers flexible, intelligent operation, enhanced protection and strong system robustness. The charger supports single- and three-phase AC input, and the DC output voltage is fully adjustable across 80–700 VDC battery platforms.

An IP67 die-cast aluminium housing with automotive-grade components keeps the assembly at 25 kg or less. A forced-air-cooled variant is available on request for conventional cabin layouts.

SPECIFICATIONS

RATED OUTPUT VOLTAGE	80 VDC	108 VDC	144 VDC	360 VDC	540 VDC	700 VDC
MODEL NUMBER	AP1916	AP1915	AP1914	AP1913	AP1912	AP1911
OUTPUT VOLTAGE RANGE	0–105 V	0–135 V	0–180 V	0–500 V	0–720 V	0–950 V
OUTPUT CURRENT RANGE	0–240 A	0–180 A	0–132 A	0–54 A	0–36 A	0–27 A
TYPICAL EFFICIENCY	90%	90%	92%	94%	94%	94%

Rated output power 19.8 kW, peak efficiency ≥ 94%. Input 90–265 VAC (single-phase) / 152–456 VAC (three-phase), 46–65 Hz; starting impulse current 80 A single-phase / 32 A three-phase.

GENERAL SPECIFICATIONS

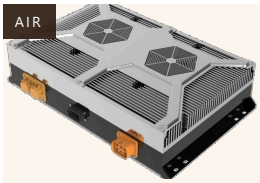
Input voltage	90–265 / 152–456 VAC	Input frequency	46–65 Hz	Rated AC frequency	50 / 60 Hz
Starting impulse current	80 A / 32 A	Power factor	≥ 0.99	Voltage / current regulation	±1% / ±5%
Output response time	≤ 200 ms	Operating ambient	−20 ~ +65 °C	Relative humidity	5 ~ 95 %
Ingress protection	IP67	Cooling	Liquid-cooled	Communication	CAN network
Dimensions (mm)	550 × 250 × 100	Weight	≤ 25 kg	Charging control	CAN command

Protections: input and output over/under-voltage, output short circuit and reverse connection — all self-recovering. Over-temperature: derated above 75 °C heatsink, shutdown above 95 °C, auto-restore below 85 °C.

FORM FACTOR & APPLICATIONS



Liquid-Cooled



Forced-Air Cooled



Logistics Van



Motorhome



Construction Vehicle

Specifications shown for the liquid-cooled AP1200A; a forced-air-cooled variant is available on request.

20kW	80–700VDC	≥94%	IP67
OUTPUT POWER	OUTPUT RANGE	PEAK EFFICIENCY	INGRESS PROTECTION

From micro mobility to heavy duty

One digital charging platform, configured by power class, voltage tier and cooling method, covers twelve typical application scenarios.



Electric Motorcycle



Mini Truck



Battery Swap Cabinet



Sightseeing Vehicle



Forklift



Garden Vehicle



Passenger Car



Autonomous Logistics



Special-Purpose Vehicle



Logistics Van



Motorhome



Construction Vehicle

Contact & Support

AUPINS POWER ELECTRONICS

Samples, technical agreements or custom development — our engineering and sales teams support selection, interface definition and full vehicle integration.

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