Dynell®

The power league.

Ground Support

dynell.at

DHC / DNC

Charging Systems

Charging Systems

Dynell is your competent partner for aviation ground support equipment. As a system integrator, efficiency, performance and reliability build the foundation of our products. A team of experts with a comprehensive industry knowledge and an innovative mindset is driven by market needs to generate ground-breaking ideas – we set the pace.

01 —— Charging at its best

The Dynell charging system can be fully customized to your needs. Whether you need AC- or DC-power – we deliver it! The highest efficiency cuts down lifecycle costs to a minimum. The modular design of all major power electrical components guarantees highest output quality and reduces the mean time to repair to a minimum.

02 —— Intelligent communication

The charging systems are equipped with various communication capabilities. Due to the importance, it is easy to incorporate our stations into our load management and backend systems – or even in already existing systems.

03 —— Maintenance

As with all our products, we try to use the best materials in view of quality, reliability and environmental compatibility. Based on this choice, we can guarantee long service-intervals and low maintenance costs for all our Dynell-charger-products.

The DC-Solutions Hypercharger 075–300

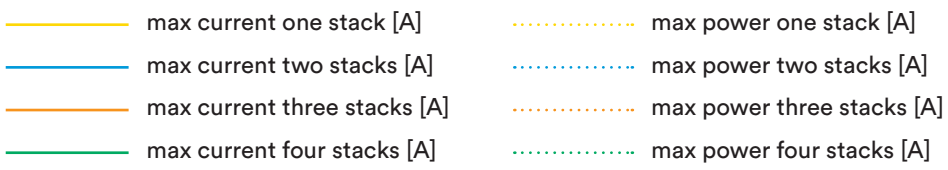
Based on 75 kW power-stacks, the modular Hypercharger system is the perfect solution to charge your battery-driven vehicles, such as busses, E-GPU, tractors or pushbacks.

The Hypercharger is available in two different housing sizes and can be extended up to 300 kW or beyond by installing the 75 kW power-stacks parallelly. With a wide voltage range from 150 to 1000 VDC, this station is the charger for every vehicle.

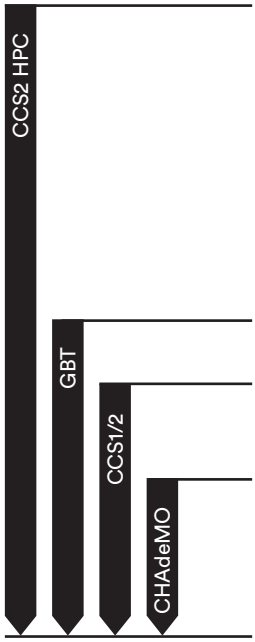
It's possible to configure all prevailing charging standards including GBT and the cooled CCS 2 charging cable. The station can be equipped with up to 4 DC-outputs (@300 kW). If necessary, a 32 A charging-socket can be mounted as additional output.

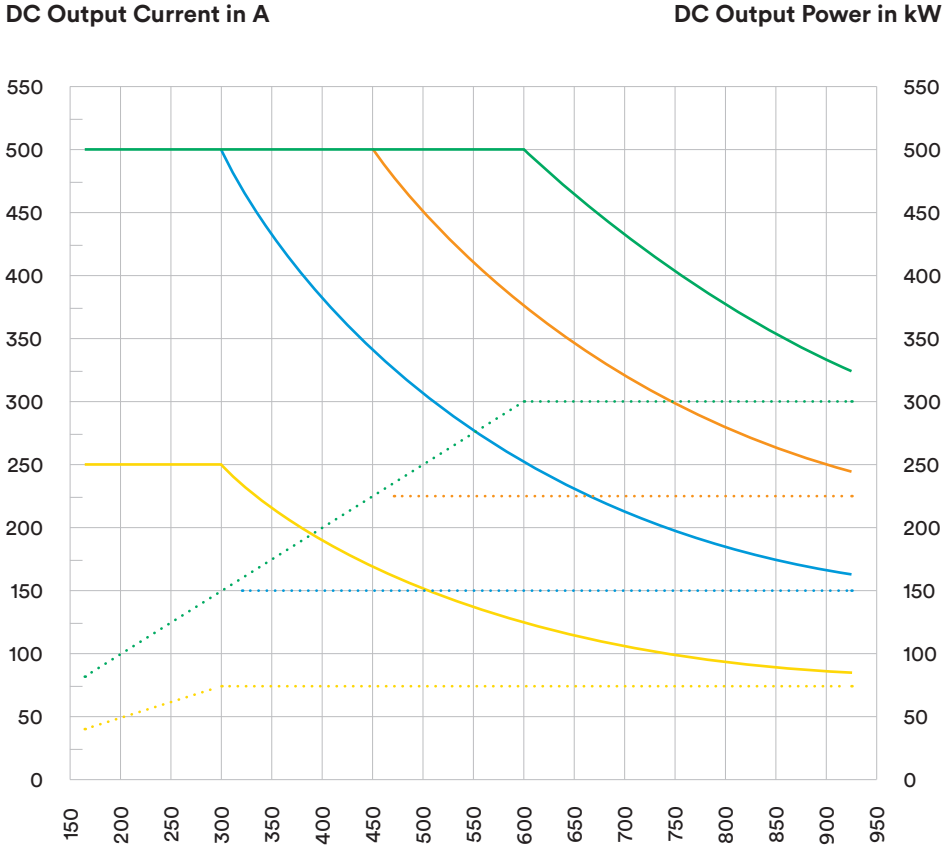
The DHC-series is available either with push-buttons and a 15" display or with a 15" touch display for easy control of the charging station. It has various networking functions including GSM-/ CDMA-Modem, Ethernet as well as the open charge point protocol (OCPP) 1.6, through which the station is connected to our supervision Backend System. The user is identified either with the integrated RFID system or other customized solutions.

Charging power with one, two, three or four power stacks



Current limits due to the used charging cable





Specifications

Dynell Charging Systems, DC-Solutions, Hypercharger 075–300

System	
DC-connection standard	CCS1 or CCS2 uncooled cable acc. IEC 62196
	CCS Combo2 active cooled cable acc. IEC 62196
	Optional: CHAdeMO, GBT, 22 kW AC plug
Ambient	In- and Outdoor installation
Working temperature	-30° C to +55° C
Humidity	10 % - 90 % relative humidity
Protection degree	IP 54
Efficiency	94 % @ full power
Operating noise level	< 65 dBA
Grid	
AC Input voltages	3 × 400 V (± 10 %) / 50 Hz (± 5 %) or
	3 × 480 V (± 10 %) / 60 Hz (± 5 %)
AC Input current and power	117 A, 80 kW @ 75 kW DC output power
	233 A, 160 kW @ 150 kW DC output power
	352 A, 240 kW @ 225 kW DC output power
	466 A, 320 kW @ 300 kW DC output power
THDI in all operating points	< 7 %
Power factor (active PFC correction)	> 0,99
DC-Output	
Maximum DC output power	75 kW (one stack), max. 250 A
	150 kW (two stacks), max 500 A
	225 kW (three stacks), max. 500 A
	300 kW (four stacks), max 500 A
Output DC voltage range	150 V - 1000 V
Maximum output current	Imax: 250 A (75 kW system / uncooled cable + plug)
	Imax: 500 A (> = 150 kW system with active cooled cable + plug)
General	
DC-protocol standard	EN 61851-23 / DIN 70121; ISO 15118 Combo 2, Optional CHAdeMO 1.0
RFID-System	ISO / IEC 14443A/B, ISO / IEC 15693
Network connection	GSM- / CDMA-Modem, 10 / 100Base T-Ethernet
Communication protocol	Open Charge Point Protocol (OCPP) 1.6
User Interface	15” screen, 15” touch screen display (optional)

The AC-Solutions DNC 004–044

The Dynell AC-Chargers are available in different power-classes from 4 kW up to 2 × 22 kW. The stations are designed even for hardest surrounding-conditions and can be delivered as wallbox or as pillar-version. They are available with several optional extensions, depending on your needs.

It is possible to configure the charger with type 1 or type 2 cables or even with type 2 sockets. The station can be equipped with up to 2 AC-outputs (2 × 22 kW).

The visualization of the operation states is based either on a small LED-Display or with different LED-lights. For easy control, the stations are delivered with push-buttons.

All AC-chargers are also connected to our supervision Backend System with OCPP 1.6 and to the Dynamic Load Management System in the power cabinet with modbus TCP / IP.

The stations have various networking connections and interfaces including GSM- / CDMA-Modem, WLAN / Wifi, USB or Ethernet. The user is identified with the integrated RFID system.

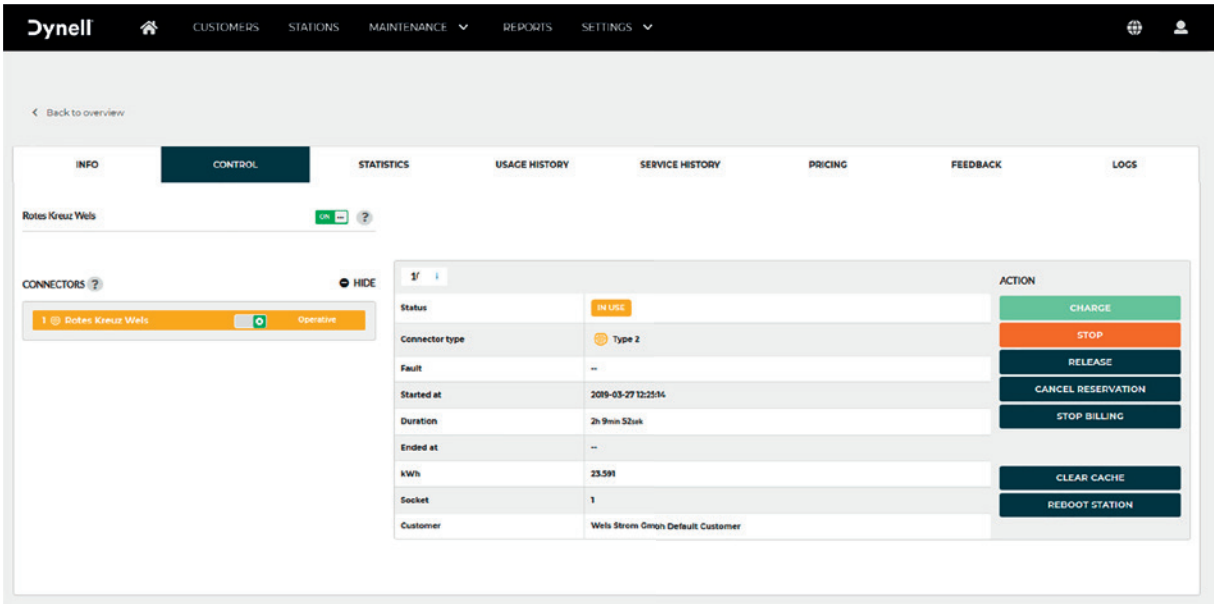
Specifications

Dynell Charging Systems, AC-Solutions, DNC 004 – 044

System	
AC-connection standard	Type 1 cable: up to 32A / 230VAC acc. to EN 62196-1 and SAE-J1772
	Type 2 cable: up to 32A / 400VAC acc. to EN 62196-1 and VDE-AR-E 2623-2-2
	Type 2 socket: up to 32A / 400VAC acc. to EN 62196-1 and VDE-AR-E 2623-2-2
Ambient	In- and Outdoor installation
Working temperature	-25° C to +55° C
Humidity	5 % - 95 % relative humidity
Protection degree	IP 54
Grid	
AC Input voltages	230 V / 3 × 400 V / 3 × 480 V
	50 Hz or 60 Hz
AC Input current and power	10 A – 64 A / 1-phase or 3-phase
Mains form	TT / TN / IT
AC-Output	
Maximum AC output power	4.6 kW / 7.4 kW / 11 kW / 22 kW / 2 × 22 kW
Output AC voltage range	230 V or 400 V / 1-phase or 3-phase
Maximum output current	Max. 2 × 32 A
General	
Local load management	Master / Slave
RFID-System	ISO / IEC 14443A/B, ISO / IEC 15693
Interfaces	Ethernet, USB
Network connection	GSM, SIM card, WLAN / Wifi
Communication protocol	Open Charge Point Protocol (OCPP) 1.6
User Interface	Control over Push-buttons or Key-switch
	Visualization with LED-lights or LED-display

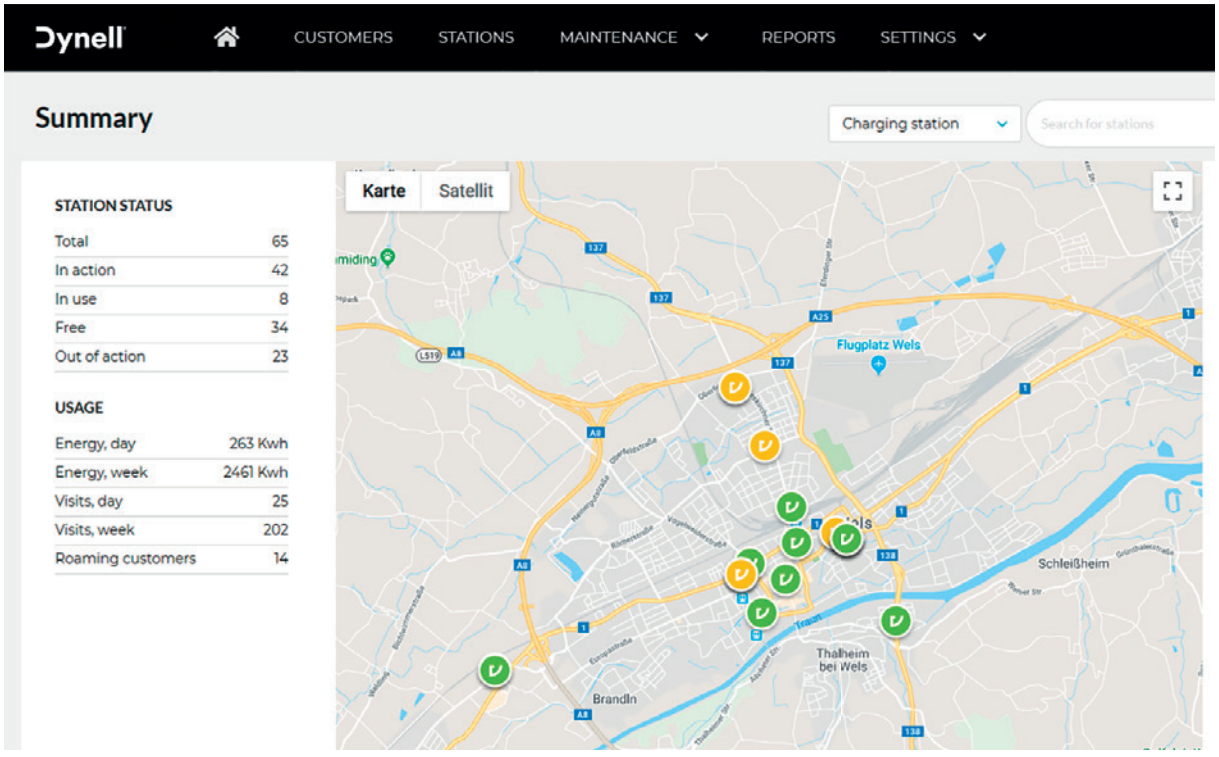
Backend System

The backend system is already compatible with all our devices and can be easily expanded to existing charging-stations. We work with the latest Open Charge Point Protocol (OCPP) standards and keep it up to date to the latest version.



As customer, you can manage and monitor your charging devices with our admin system, which can be accessed on any web browser. You can limit the usage just to selected users, view and download statistics, limit the charging power or start and stop charging remotely.

For users, we offer a world-class user experience through mobile, web and smartwatch applications with the smartest functionalities on the market. We control charging based on the energy systems needs. With the most advanced energy management features, the system is 100 % future-proof.



Dynamic load management

Installing a couple of charging points does not typically have a huge impact on the electrical grid of airports. However, larger installations often require a smart charging system. At this point, our load management steps in. With dynamic load management, we guarantee best performance yield for all charging stations.

Using the cloud based DLM has several benefits for the charging infrastructure owner:

—— Restricting the total charging load protects the local grid and eliminates the risk of overloading even when multiple chargers are being used simultaneously

—— Sharing the charging load cuts costs for the required electricity connection

—— No physical wiring between the devices — no extra infrastructure or installation costs

—— Dynells DLM solution works with almost any smart charging device. Devices need to be connected to Dynells smart EV charging platform through a GPRS connection using the Open Charge Point Protocol (OCPP).

Normal

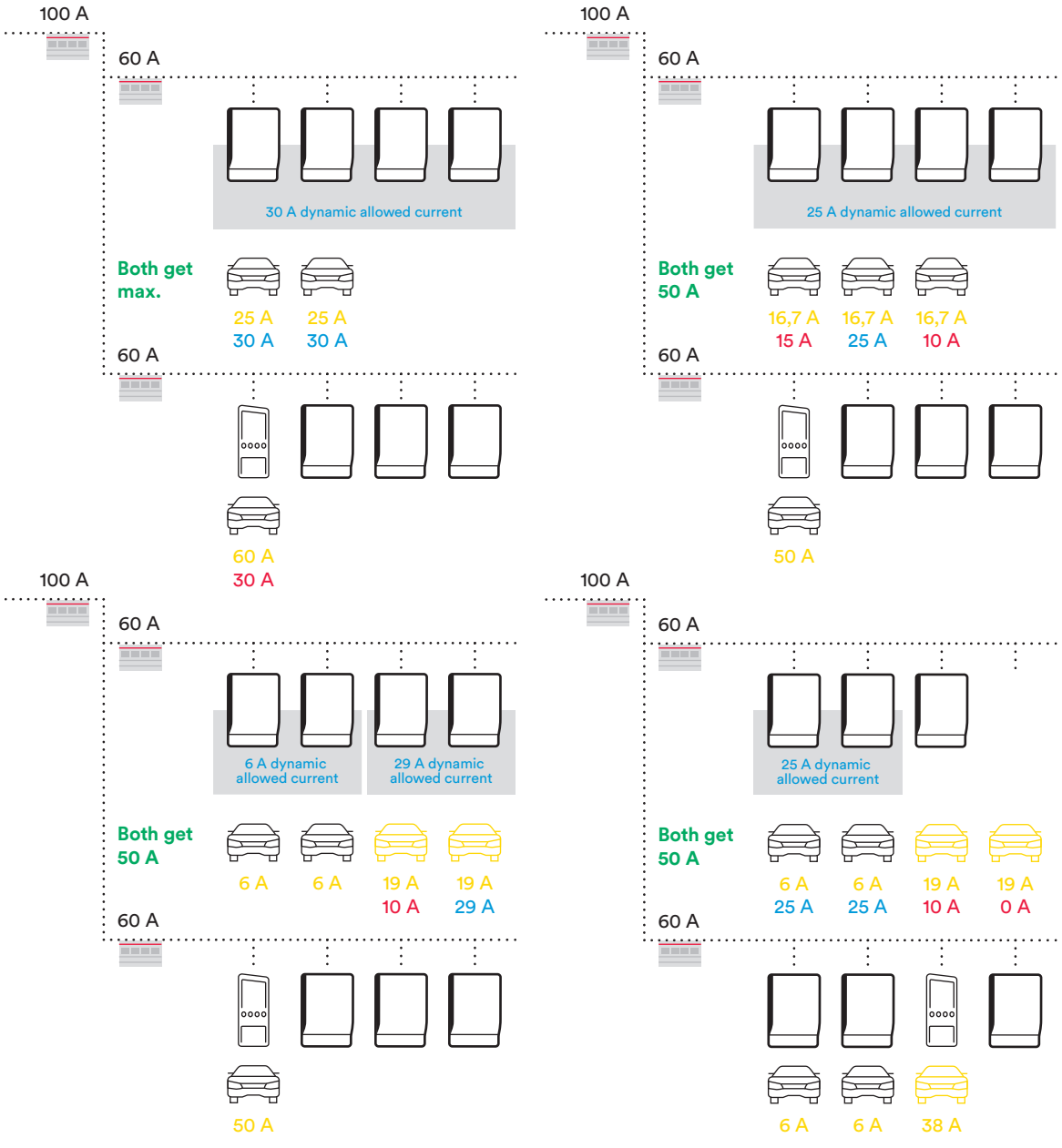
VIP

30 A Initially allowed current

20 A Actual current

50 A Dynamic allowed current

If there ist no actual current given, the car uses the fully allowed current.



Based on a balanced mix of knowledge, experience and innovation, we design, build, distribute and maintain aviation ground support and charging equipment. Our ground-breaking ideas generate the greatest possible customer value for future markets around the globe.

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