Our product highlights

DIM - The core element.

The Dynell Inverter Module (DIM) is the core element of the solid-state GPU family. Built with the latest semiconductor technology, the bidirectional 3-phase inverter module is used for rectifying the mains voltage and for inverting into 400 Hz – back-to-back operation. One DIM contains all the main electronic components and is exchangeable between all Dynell units. No configuration is required – just plug & play.

Modularity and scalability

A modular and clearly structured layout allows easy and safe access to all areas of the unit. The design concept allows flexible adaptations to changing requirements. The nominal output power of one DIM is 22.5 kVA. This allows scalable output power of one unit in steps of 22.5 kVA up to 180 kVA. If there are unexpected power requirement changes in the future, the output power can be easily up- or downgraded.

Efficiency

The efficiency of up to 99% of one DIM module leads to an overall system efficiency of almost 96%. This can be achieved with reduced total harmonic distortion approved by TÜV Austria (Input current distortion <2% / output voltage distortion <1%).

Central control and remote access

The modular Dynell PLC in combination with a touch display are built for the most demanding conditions. A modern and clearly designed user interface allows easy operation and the best overview of all information and messages. All messages are displayed in plain text and are provided with a detailed description and problem solution. All Dynell units can be equipped with a data GPS module for quick and easy support in case of an error via remote access. Software updates are possible via remote access, laptop, or USB flash drive.

Reliability and MTTR

For Dynell, mean time to repair (MTTR) is not just a number. The thoroughly designed modular GPU concept is based on multiply used components which can be easily exchanged. The spare parts inventory ca be reduced accordingly. In most cases, system faults lead just to a partial shut-down, and an operation with reduced power is possible.

Smart Services

Cloud solutions provide a fully customizable telematics system according to customer requirements including GPS tracking, fuel level status, running hours and many more. The system also contains a fleet management with status reports and predictive maintenance service.

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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The power league.

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Solid-State GPU

DSF 020-180 / DSM 020-180

Solid-State GPU

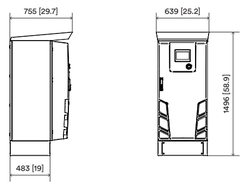
No matter if under the passenger boarding bridge, at the gate or on remote parking positions, the Dynell solid-state frequency converter works under all conditions. The latest inverter technology increases the efficiency and reduces lifecycle costs. The modular design fits flexibly to individual customer needs and can be easily combined with any connection system on the market.

Solid-State GPU, DSF 020 – 180 / DSM 020 – 180

Input	
Frequency	50 / 60 Hz ± 5%
Voltage	3 × 380 - 480 V ± 10%, other voltage levels on request
Power Factor	0,99 through PFC (power factor correction)
Current distortion	< 2% (depending on voltage quality)
Inrush current	None (< I nominal)
Output	
Power	22.5 – 180 kVA
Voltage	3 × 200 / 115 V
Frequency	400 Hz
Efficiency	> 95.5%
Load power factor	0.6 lagging / inductive to 0.95 leading / capacitive
Static voltage regulation	< 0,5%
Crest factor	1,414 ± 3%
Phase angle symmetry	120° ± 1° for balanced load
	120° ± 2° for 30% unbalanced load
Total harmonic content	< 1%
Protection	
Protection class	IP55 Standard
Input / Output	Short circuit protection
	Over and under voltage protection
	Overload protection
General	No break power transfer
	Over-temperature protection
Overload	125% for 10 min, 150% for 1 min, 200% for 30 sec., 300% for 10 sec., 400% for 1 sec.

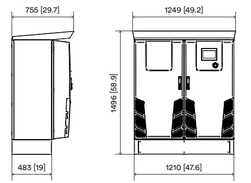
Ambient conditions		
Operating temperature	-30° C – +56° C (other temperatures on request)	
Relative humidity	Up to 95%	
Noise level	< 65 dB (A) at 1 m	
Products		
Mean-time to repair	< 5 min (easy access for maintenance and repair)	
Materials	Aluminium and PMMA for highest corrosion and UV resistance - fully recyclable	
Colours	RAL 7500 and RAL 9004 signal black	
Options	Remote control and monitoring	Fully integrated connection systems
	TCP / IP modbus connection	BMS integration
	Military interlock	Neutral voltage supervision
	Different user levels in the HMI	Broken neutral supervision
	Leakage current supervision	Protective isolation (DFS 400 - 4 kV)
Versions	Floor-mounted	
	Bridge-mounted	
	Mobile	
28 VDC output		
Available for	all DSF and DSM models	
Nominal output voltage	28 VDC	
Nominal output current	600 A (800 A) continuously	
Static regulation (no load to full load)	1%	
Overload capacity	2500 A for 5 sec. / 2000 A for 10 sec. / 1500 A for 90 sec.	
Versions	Simultaneous and non-simultaneous operation	
Current limitation		
Standards	ISO 6858:2017 / EN2282 / EN1915-1&2 / DFS 400 / MIL-STD-704F / SAE ARP 5015 / EN61000-6-4 / EN12312-20	

For more details visit dynell.at



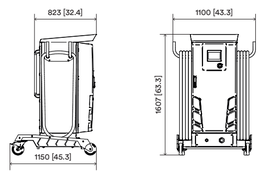
DSF 020-090

Type	Weight
DSF 020	~ 217 kg [~ 478 lb]
DSF 045	~ 235 kg [~ 518 lb]
DSF 065	~ 253 kg [~ 558 lb]
DSF 090	~ 271 kg [~ 598 lb]



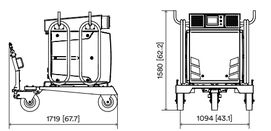
DSF 110-180

Type	Weight
DSF 110	~ 476 kg [~ 1049 lb]
DSF 135	~ 494 kg [~ 1089 lb]
DSF 160	~ 512 kg [~ 1129 lb]
DSF 180	~ 530 kg [~ 1169 lb]



DSM 020-090-M

Type	Weight
DSM 020-M	~ 268 kg [~ 591 lb]
DSM 045-M	~ 286 kg [~ 631 lb]
DSM 065-M	~ 304 kg [~ 671 lb]
DSM 090-M	~ 322 kg [~ 711 lb]



DSM 020-090-T

Type	Weight
DSM 020-T	~ 426 kg [~ 939 lb]
DSM 045-T	~ 444 kg [~ 979 lb]
DSM 065-T	~ 462 kg [~ 1019 lb]
DSM 090-T	~ 480 kg [~ 1059 lb]

All dimensions in mm and [inches]

Ground Support — Solid-State GPU

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