

EnergyHub XL

21 – 28 kVA

Modular bidirectional inverter with DC nanogrid technology

- One single inverter for PV, storage and EV charging
- ACE technology for three phase load balancing
- High resolution energy measurement and analytics
- Future proof design enables easy expansion
- Use DC loads in your building



The new DC infrastructure for PV, storage and more

The EnergyHub system brings a new future proof way of integrating PV, storage, small scale wind and DC loads. With one single inverter, new DC devices can be added when required. The bidirectional inverter acts as a bridge between the utility AC grid and a local DC nanogrid within the building where solar cells, batteries and loads are connected. Multiple EnergyHub XL modules can be connected in a 19" rack up to 168 kVA per cabinet. One second resolution measurements of energy production and consumption coupled with internet connectivity enables a new level of energy services and energy efficiency measures. The patented ACE technology provides three phase load balancing for reduced grid fees or faster EV charging. The DC nanogrid architecture enables energy to be stored or used directly on the DC side for optimum flexibility and minimal losses.

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EnergyHub XL module		
AC side		
Rated AC power	21 kVA	28 kVA
Reactive power capability	Full 4-quadrant capability within current limit	
Rated AC voltage	230/400 VAC	
Rated mains frequency	50 Hz	
AC connection	5-wire (L1, L2, L3, N, PE)	
Fusing	MCB type B, 32 A	MCB type B, 40 A
DC side		
DC bus voltage, V_{DC}	760 V (nominal)	
DC bus voltage range, V_{DC}	720 - 800	
Maximum DC bus current, $I_{DC(max)}$	29 A	38 A
DC bus connection	4-wire (DC+, M, DC-, PE)	
Max efficiency DC to AC	98.5 %	
Max efficiency AC to DC	98.0 %	
DC bus communication	Narrow band power line communication (PLC)	
Physical		
Dimensions H x W x D	220 x 520 x 650 mm	
Weight	36 kg	
Color	Black	
Installation		
Ambient temperature ¹⁾	-10°C – 45°C	
Humidity	0 – 95% RH non condensing	
Degree of protection	IP 21	
AC connector	Phoenix VC-AMC-5, screw terminal max 10 mm ²	
DC bus connector	Phoenix VC-AMC-4, screw terminal max 10 mm ²	
System design		
Number of EHUBs in parallel	Up to 1000 kVA	
Maximum DC bus cable length ²⁾	200 m	
Measurement data	AC x 3: Voltages, currents, phase angles, DC: voltage, current	
Connectivity	Ethernet, USB, CAN	
Compliance		
LVD	EN 62109-1, EN 62109-2	
EMC	EN 61000-6-2, EN 61000-6-3	
Grid interaction	EN 50438:2013	
RoHS	Yes	
Protection functions	AC overvoltage protection, DC overvoltage protection, DC bus short circuit, Overtemperature	
19" Cabinet		
Size	24U	42U
Dimensions	1265 x 600 x 800 mm	2065 x 600 x 800 mm
Weight	82 kg	130 kg
AC connection	Terminal, max 70 mm ²	Terminal, max 120 mm ²
DC bus connection	Terminal, max 70 mm ²	Terminal, max 120 mm ²

- 1) Output power may be derated if ambient temperature exceeds 35 °C
- 2) Consult Ferroamp for design guidelines for projects with cable lengths exceeding 200 meters

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