



# Next Level Residential Energy Solution Force H3X

Hybrid Solution



**On-Demand  
Versatility**



**One-Stop Solution &  
Effortless Installation**



**Trustworthy Safety  
Design**



**Extraordinary  
Performance**



**Intelligent  
Solutions**

# From Heart to Your Home

## On-Demand Versatility

Single Phase/ Three Phase

Wide power range    Single group

**3.6** kW to **15** kW    **5-35** kWh

Suitable for both residential and small-scale C&I



## One-Step Solution & Effortless Installation

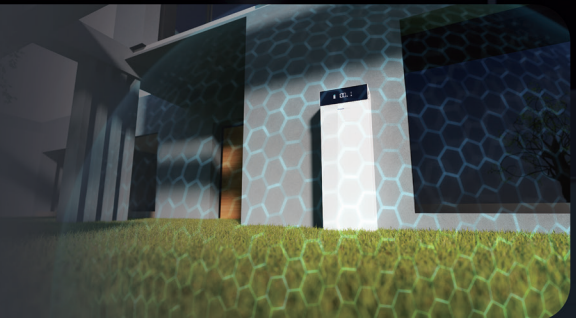
**BMS+Inverter+EMS** Highly integrated

**15** min Installation & commissioning  
Automatic paralleling, easy set-up



## Trustworthy Safety Design

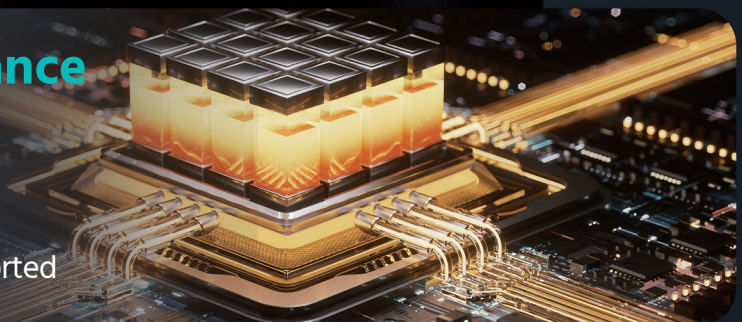
- ◆ Vertical integrated manufacturing
- ◆ Reliable product safety design
- ◆ AI-driven smart protection
- ◆ Various safety certifications, unit level **UL9540A**



## Extraordinary Performance

**1C**    **97%**    **8000+**  
Rate    Efficiency    Life cycles

**100%** Three phase load unbalance supported



## Smart Tariff Integration & Load Scheduling

- ◆ Dynamic Price integrated from energy company
- ◆ Manual Input Time of Use price
- ◆ Schedule with Smart Load Control



# Force H3X Hybrid

## Single Phase

Model	FH3X3.6K-HY-1P 5/10/15/20	FH3X5K-HY-1P 5/10/15/20	FH3X6K-HY-1P 5/10/15/20	FH3X8K-HY-1P 5/10/15/20
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### Main System Data

Battery Module	FH10050			
Number of Battery Modules	1/2/3/4			
System Nominal Capacity (kWh)	5.12/10.24/15.36/20.48			
System Nominal Power (kW)	3.6	5	6	8

### DC Parameter (PV Side)

Maximum Power (kW)	5.7	8	9.6	12.8
Maximum Input Voltage (Vdc)	600			
Start Up Voltage (Vdc)	80			
MPPT Voltage Range (Vdc)	80~550			
MPPT Full Load Voltage Range (Vdc)	190~520			
Number of MPPT	2	2	2	3
Number of PV Strings Per MPPT	1			
Maximum Current (A)	16			
Short Circuit Current Per MPPT (A)	25			
Surge Protection	Type II			

### DC Parameter (Battery Side)

Maximum Continuous Charge/Discharge Current (A)	40			
Maximum Charging Power with 1 Battery(kW)	2.5			
Maximum Discharging Power with 1 Battery (kW)	2.5			
Maximum Charging Power with 2-4 Batteries (kW)	8			
Maximum Discharging Power with 2-4 Batteries(kW)	3.6	5	6	8

### AC Parameter (Grid Side)

Nominal Grid Voltage	1/N/PE a.c. 230 V			
Nominal Grid Frequency (Hz)	50/60			
Maximum Nominal Continuous Current to Grid (A)	15.7	21.7	26.1	34.8
Nominal Active Power to Grid (W)	3600	5000	6000	8000
Maximum Nominal Apparent Power to Grid (VA)	3600	5000	6000	8000
Maximum Nominal Continuous Current from Grid	23.5	32.6	39.1	52.2
Nominal Active Power from Grid (W)	5400	7500	9000	12000
Maximum Nominal Apparent Power from Grid (VA)	5400	7500	9000	12000
Power Factor Range	-0.8~+0.8			
THDi	< 3%			

### AC Parameter (Back-up Side)

Nominal Voltage	1/N/PE a.c. 230 V			
Nominal Output Frequency (Hz)	50/60			
Maximum Nominal Continuous Current (A)	15.7	21.7	26.1	34.8
Maximum Nominal Apparent Power (VA)	3600	5000	6000	8000
Peak Off-Grid Power (60s)/Estimate (VA)	4320	6000	6200	9600
Power Factor Range	-0.8~+0.8			
ON/Off-Grid Switching Time (ms)	≤10			
THDv	< 3%			

## Efficiency

Maximum Efficiency	98%
European Efficiency	97.5%

## Protection

Anti-Islanding protection	Yes
AFCI	2.0@IEC63027
Insulation Resistor Detection	Yes
Residual Current Monitoring Unit	Yes
Output Over Current Protection	Yes
Output Short Protection	Yes
Output Overvoltage Protection	Yes
DC Switch	Yes
DC Reverse Polarity Protection	Yes
DC/AC Surge Protection	Type II
PV Overvoltage Protection	Yes

## General Data

Dimensions (W/H/D, mm)	540*665/835/1005/1175*350
Weight (kg)	77/116/155/194
Topology	Transformerless
Operating Temperature Range (°C)*	-10~55
System Working Humidity Range	0~100%
System Working Altitude (m)*	<4000
Common Noise Level (1 meter) (dB)	<29
Maximum Parallel	3
Protective Class	I
Overvoltage Category	DC II /AC III
Ingress Protection	IP65
System Salt Spray Level	C5-M
Cooling	Natural Cooling
Standby Consumption (Night)	<15W
Communication Portal	WIFI/WLAN/Bluetooth
Display	LED
EPO	Installed

## Standard Compliance

UN38.3/IEC61000-6/VDE-AR-E-2510-50 2017-05/IEC62619: 2022/IEC60730-1/ISO13849/IEC62477-1: 2022  
EN 62477-1: 2012+A12: 2021/IEC62109-1: 2010/IEC62109-2: 2011

VDE-AR-N-4105: 2018/DIN VDE V 0124-100: 2020/EN50549-10/EN50549-1/PPDS Annex: 2022+EN50549-10/C10/11+EN50549-10/EIFS+EN50549-10/  
CEI0-21/RD1699 RD661 RD413/UNE 217002: 2020/NTS Version 2.1: 2021/UNE 217001: 2021/AS 4777. 2/AS60947. 3/G98/G99/TOR

\* When the ambient temperature exceeds 45°C, the PCS will reduce the power

\* When the altitude exceeds 2000m, the PCS will degrade the power

# Force H3X Hybrid

## Three Phase

Model	FH3X-8K-HY-3P 10/15/20/25/30/35	FH3X-10K-HY-3P 10/15/20/25/30/35	FH3X-12K-HY-3P 10/15/20/25/30/35	FH3X-15K-HY-3P 10/15/20/25/30/35
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### Main System Data

Battery Module	FH10050			
Number of Battery Modules	2/3/4/5/6/7			
System Nominal Capacity (kWh)	10.24/15.36/20.48/25.6/30.72/35.84			
System Nominal Power (kW)	8	10	12	15

### DC Parameter (PV Side)

Maximum Power (kW)	12.8	16	19.2	24
Maximum Input Voltage (Vdc)	1000			
Start Up Voltage (Vdc)	200			
MPPT Voltage Range (Vdc)	200~850			
MPPT Full Load Voltage Range (Vdc)	280~850			
Number of MPPT	3			
Number of PV Strings Per MPPT	1			
Maximum Current (A)	20			
Short Circuit Current Per MPPT (A)	30			
Surge Protection	Type II			

### DC Parameter (Battery Side)

Maximum Continuous Charge/Discharge Current (A)	50			
Maximum Charging Power with 2 Batteries (kW)	10			
Maximum Discharging Power with 2 Batteries (kW)	8	10	10	10
Maximum Charging Power with 3-7 Batteries (kW)	15			
Maximum Discharging Power With 3-7 Batteries (kW)	8	10	12	15

### AC Parameter (Grid Side)

Nominal Grid Voltage	3/N/PE a.c. 400 V			
Nominal Grid Frequency (Hz)	50/60			
Maximum Nominal Continuous Current to Grid (A)	11.6	14.5	17.4	21.7
Nominal Active Power to Grid (W)	8000	10000	12000	15000
Maximum Nominal Apparent Power to Grid (VA)	8000	10000	12000	15000
Maximum Nominal Continuous Current from Grid	17.4	21.7	26.1	32.6
Nominal Active Power from Grid (W)	12000	15000	18000	22500
Maximum Nominal Apparent Power from Grid (VA)	12000	15000	18000	22500
Power Factor Range	-0.8~+0.8			
THDi	< 3%			

### AC Parameter (Back-up Side)

Nominal Voltage	3/N/PE a.c. 400 V			
Nominal Output Frequency (Hz)	50/60			
Maximum Nominal Continuous Current (A)	11.6	14.5	17.4	21.7
Maximum Nominal Apparent Power (VA)	8000	10000	12000	15000
Peak Off-Grid Power (60s)/Estimate (VA)	12000	15000	18000	22500
Power Factor Range	-0.8~+0.8			
ON/Off-Grid Switching Time (ms)	≤10			
THDv	< 3%			

## Efficiency

Maximum Efficiency	98%
European Efficiency	97.5%

## Protection

Anti-Islanding protection	Yes
AFCI	2.0@IEC63027
Insulation Resistor Detection	Yes
Residual Current Monitoring Unit	Yes
Output Over Current Protection	Yes
Output Short Protection	Yes
Output Overvoltage Protection	Yes
DC Switch	Yes
DC Reverse Polarity Protection	Yes
DC/AC Surge Protection	Type II
PV Overvoltage Protection	Yes

## General Data

Dimensions (W/H/D, mm)	540*705/875/1045/1215/1385/1555*350
Weight (kg)	86/125/164/203/242/281
Topology	Transformerless
Operating Temperature Range (°C)*	-10~55
System Working Humidity Range	0~100%
System Working Altitude (m)*	< 4000
Common Noise Level (1 meter) (dB)	< 29
Maximum Parallel	2
Protective Class	I
Overvoltage Category	DC II /AC III
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System Salt Spray Level	C5-M
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