ATTESTATION ◆ ATTESTATO ◆ ATTESTACIÓN ◆ BESCHEINIGUNG ◆ ATTESTATION

Product Service

Compliance Document

No. D 090762 0142 Rev. 00

Holder of Certificate: **Pylon Technologies Co., Ltd.**
No.300, Miaoqiao Road, Kangqiao Town
Pudong New Area
201315 Shanghai
PEOPLE'S REPUBLIC OF CHINA

Product: **Energy Storage System**
Force H3X Energy storage system

Model(s): **FH3X-8K-HY-3P-10, FH3X-8K-HY-3P-15, FH3X-8K-HY-3P-20, FH3X-8K-HY-3P-25, FH3X-8K-HY-3P-30, FH3X-8K-HY-3P-35, FH3X-10K-HY-3P-10, FH3X-10K-HY-3P-15, FH3X-10K-HY-3P-20, FH3X-10K-HY-3P-25, FH3X-10K-HY-3P-30, FH3X-10K-HY-3P-35, FH3X-12K-HY-3P-10, FH3X-12K-HY-3P-15, FH3X-12K-HY-3P-20, FH3X-12K-HY-3P-25, FH3X-12K-HY-3P-30, FH3X-12K-HY-3P-35, FH3X-15K-HY-3P-10, FH3X-15K-HY-3P-15, FH3X-15K-HY-3P-20, FH3X-15K-HY-3P-25, FH3X-15K-HY-3P-30, FH3X-15K-HY-3P-35**

Parameters: See next pages.

Tested according to: TOR Stromerzeugungsanlagen Typ A Version 1.3:2024
OVE-Richtlinie R 25:2020

This Compliance document confirms the compliance with the listed standards on a voluntary basis. It refers only to the sample submitted for testing and certification and does not certify the quality or safety of the serial products. For details see: www.tuvsud.com/ps-cert

Test report no.: 704092459626-00

Date, 2025-07-28

(Zhengdong Ma)

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Parameters:

Model	FH3X-8K-HY-3P-10, FH3X-8K-HY-3P-15, FH3X-8K-HY-3P-20, FH3X-8K-HY-3P-25, FH3X-8K-HY-3P-30, FH3X-8K-HY-3P-35	FH3X-10K-HY-3P-10, FH3X-10K-HY-3P-15, FH3X-10K-HY-3P-20, FH3X-10K-HY-3P-25, FH3X-10K-HY-3P-30, FH3X-10K-HY-3P-35
PV input parameters		
Max. input voltage	DC 1000 V	
Mppt voltage range	DC 200, ..., 850 V	
Max. input current	DC 20 A/20 A/20 A	
Isc PV (absolute maximum)	DC 30 A/30 A/30 A	
Grid output parameters		
Nominal grid voltage	3/N/PE~, 230/400 V	
Nominal grid frequency	50 Hz	
Max. (rated) continuous current to grid	AC 11.6 A	AC 14.5 A
Nominal active power to grid	8000 W	10000 W
Max. (rated) apparent power to grid	8000 VA	10000 VA
Power factor range	-0.8, …, +0.8	

Model	FH3X-12K-HY-3P-10, FH3X-12K-HY-3P-15, FH3X-12K-HY-3P-20, FH3X-12K-HY-3P-25, FH3X-12K-HY-3P-30, FH3X-12K-HY-3P-35	FH3X-15K-HY-3P-10, FH3X-15K-HY-3P-15, FH3X-15K-HY-3P-20, FH3X-15K-HY-3P-25, FH3X-15K-HY-3P-30, FH3X-15K-HY-3P-35
PV input parameters		
Max. input voltage	DC 1000 V	
Mppt voltage range	DC 200, ..., 850 V	
Max. input current	DC 20 A/20 A/20 A	
Isc PV (absolute maximum)	DC 30 A/30 A/30 A	
Grid output parameters		
Nominal grid voltage	3/N/PE~, 230/400 V	
Nominal grid frequency	50 Hz	
Max. (rated) continuous current to grid	AC 17.4 A	AC 21.7 A
Nominal active power to grid	12000 W	15000 W
Max. (rated) apparent power to grid	12000 VA	15000 VA
Power factor range	-0.8, …, +0.8	

Model	FH3X-8K-HY-3P-10, FH3X-10K-HY-3P-10, FH3X-12K-HY-3P-10, FH3X-15K-HY-3P-10	FH3X-8K-HY-3P-15, FH3X-10K-HY-3P-15, FH3X-12K-HY-3P-15, FH3X-15K-HY-3P-15	FH3X-8K-HY-3P-20, FH3X-10K-HY-3P-20, FH3X-12K-HY-3P-20, FH3X-15K-HY-3P-20
Battery parameters			
Battery module	FH10050		
Number of packs	2	3	4
Energy	10.24 kWh	15.36 kWh	20.48 kWh
Nominal voltage	DC 204.8 V	DC 307.2 V	DC 409.6 V

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Model	FH3X-8K-HY-3P-25, FH3X-10K-HY-3P-25, FH3X-12K-HY-3P-25, FH3X-15K-HY-3P-25	FH3X-8K-HY-3P-30, FH3X-10K-HY-3P-30, FH3X-12K-HY-3P-30, FH3X-15K-HY-3P-30	FH3X-8K-HY-3P-35, FH3X-10K-HY-3P-35, FH3X-12K-HY-3P-35, FH3X-15K-HY-3P-35
Battery parameters			
Battery module	FH10050		
Number of packs	5	6	7
Energy	25.60 kWh	30.72 kWh	35.84 kWh
Nominal voltage	DC 512 V	DC 614.4 V	DC 716.8 V

Country settings – Austria				
Requirements for power generator	Value default			
1. Reactive power of inverter				
1a. Fixed displacement factor cos φ_{fixed}	1			
1b. Displacement factor/active power characteristic cos φ (P)	setpoint	cos φ	P/P_{Emax}	
	a	1	0	
	b	1	0.5	
	c	$0.9_{underexcited}$	1	
1c. Reactive power voltage/voltage characteristic Q (U)	setpoint	U/Un	Q/P_{max}	
	a	0.92 Un	0.436	cos φ = 0.9 overexcited
	b	0.96 Un	0	cos φ = 1
	c	1.05 Un	0	cos φ = 1
	d	1.08 Un	-0.436	cos φ = 0.9 underexcited
	Time constant of a first-order filter (PT1 behaviour)	5s		
	Intentional delay time	0 s		
Remark: settling time = 15s (3Tau)				
1d. Fixed reactive power Q_{fixed}	Q = 0			
1e. Fixed Power factor cos φfixed	cos φ=0.4			
2. Standard settings for active power control				
2a. Active power reduction at overfrequency LFSM-O	Start of power reduction from	Droop S_2		
	50.2 Hz	5 % (40%P_M/Hz)		
	Intentional delay time	0 s		
2b. Voltage related active power control P(U)	standard values apply for setting the interpolation points of the characteristic curve:	U/Un	P/Pn	
	Setpoint a	110% Un	100%	
	Setpoint b	112% Un	0%	
	Time constant of a first-order filter (PT1 behaviour)	5 s		
	Intentional delay time	0 s		
3. Default settings for FRT capability				

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FRT capability for undervoltage setpoint		0.8 Un	
4. Default settings for the connection conditions			
Setting values for connection conditions		Voltage	0.85 p.u. ≤ U ≤ 1.09 p.u.
		Frequency	47.5 Hz < f < 50.10 Hz
Settings for the minimum waiting time for connection to the grid		For automatic or operation-related connection	60 s
		In case of reconnection after interface protection	300 s
Maximum gradient of the increase in active power after interface protection		10 % P_n/min	
5. Default settings for interface protection			
Default settings for the grid decoupling protection	Function	Setting values for protection relays	
	Overvoltage protection U_{eff}>>	1.15 Un	0.1s
	Overvoltage protection U_{eff}> 10-min average value	1.11 Un	0.1s
	Undervoltage protection U_{eff}<	0.80 Un	1.5 s
	Undervoltage protection U_{eff}<<	0.25 Un	0.5 s
	Overfrequency f>	51.5 Hz	0.1 s
	Underfrequency f<	47.5 Hz	0.1 s
	Power failure	--	≤5.0 s
Password protection for settings: Password protection used for unauthorized change by user and not disclosed to the user			

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