PR-DY-INO_FGH3K-12K-1_2M1P
Single phase On/off grid Hybrid Inverter 3-12KW

Photo for Reference

Part number

PR-DY-INO_FGH3K-12K-1_2M1P	Single phase On/off grid Solar Hybrid Inverter with Max. Continuous Output Power of 3000W-12000W, 1/2MPPT

Features

3-in-1 Port: generator & smart loads & on-grid inverter
Micro-grid operation with PV inverter
Supports on- and off-grid parallel operation of up to 6 units
Max. 20A DC input current per string
200% PV input oversizing
AI-driven AFCI
IP66 ingress protection
Smart load control
Seamless switching to backup <4ms

PR-DY-INO/FGH	3K-1M1P	3.6K- 2M1P	5K-2M1P	6K-2M1P	8K-2M1P	10K-2M1P	12K-2M1P

Battery Input Data

Battery Type	Li-Ion / Lead-acid						
Nominal Battery Voltage (V)	48						
Battery Voltage Range (V)	40-60						
Start-up Voltage (V)	44.2						
Number of Battery Input	1						
Max. Continuous Charging Current (A)	70	90	120	140	160	200	240
Max. Continuous Discharging Current (A)	70	90	120	140	160	200	240
Max. Charging Power (kW)	3.0	3.6	5.0	6.0	8.0	10.0	12.0
Max. Discharging Power (kW)	3.3	3.96	5.5	6.6	8.8	11.0	13.2

PV String Input Data

Max. Input Power (kW)	6.0	7.2	10.0	12.0	16.0	20.0	24.0
Max. Input Voltage (V)	600						
MPPT Operating Voltage Range (V)	60 ~ 550						
Start-up Voltage (V)	58						
Nominal Input Voltage (V)	360						
Max. Input Current per MPPT (A)	20	20	20	20	32/16	32/32	32/32
Max. Short Circuit Current per MPPT (A)	26	26	26	26	48/24	48/48	48/48

Number of MPPT Trackers	1	2	2	2	2	2	2
Number of Strings per MPPT	1	1	1	1	2/1	2/2	2/2

AC Input Data (Generator)

Nominal Apparent Power from AC generator (kVA)	3.0	3.6	5.0	6.0	8.0	10.0	12.0
Max. Apparent Power from AC generator (kVA)	3.3	3.96	5.5	6.6	8.8	11.0	13.2
Nominal Intput Voltage (V)	220 / 230 / 240						
Input Voltage Range (V)	170 ~ 280						
Nominal AC generator Frequency (Hz)	50 / 60						
AC generator Frequency Range (Hz)	45 ~ 55 / 55 ~ 65						
Max. AC Current From AC generator (A)	32.0	32.0	40.0	40.0	50.0	54.5	54.5
Nominal AC Current From AC generator (A)	13.7 at 220V 13.1 at 230V 12.5 at 240V	16.4 at 220V 15.7 at 230V 15.0 at 240V	22.8 at 220V 21.8 at 230V 20.9 at 240V	27.3 at 220V 26.1 at 230V 25.0 at 240V	36.4 at 220V 34.8 at 230V 33.3 at 240V	45.5 at 220V 43.5 at 230V 41.7 at 240V	54.5 at 220V 52.2 at 230V 50.0 at 240V
Nominal Input Current (A)	13.7 at 220V 13.1 at 230V 12.5 at 240V	16.4 at 220V 15.7 at 230V 15.0 at 240V	22.8 at 220V 21.8 at 230V 20.9 at 240V	27.3 at 220V 26.1 at 230V 25.0 at 240V	36.4 at 220V 34.8 at 230V 33.3 at 240V	45.5 at 220V 43.5 at 230V 41.7 at 240V	54.5 at 220V 52.2 at 230V 50.0 at 240V

AC Output Data (On-grid)

Nominal Output Power (kW)	3.0	3.6	5.0	6.0	8.0	10.0	12.0
Nominal Apparent Power Output to Utility Grid (kVA)	3.0	3.6	5.0	6.0	8.0	10.0	12.0
Max. AC Active Power (kW)	3.3	3.96	5.5	6.6	8.8	11.0	13.2
Max. Apparent Power Output to Utility Grid (kVA)	3.3	3.96*3	5.5	6.6	8.8	11.0	13.2
Max. Apparent Power from Utility Grid (kVA)	7.04	7.04	8.8	8.8	16.5	16.5	16.5
Nominal Output Voltage (V)	220 / 230 / 240						
Output Voltage Range (V)	170 ~ 280						
Nominal AC Grid Frequency (Hz)	50 / 60						
AC Grid Frequency Range (Hz)	45 ~ 55 / 55 ~ 65						
Max. AC Current Output to Utility Grid (A)	15	18	25	30	40	50	60
Max. AC Current From Utility Grid (A)	32	32	40	40	75	75	75
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)						
Max. Total Harmonic Distortion	<3%						

AC Output Data (Back-up)

Back-up Nominal Apparent Power (kVA)	3.0	3.6	5.0	6.0	8.0	10.0	12.0
Max. Output Apparent Power without Grid (kVA)	3.3 (6.0, 10s)	3.96 (7.2, 10s)	5.5 (10.0, 10s)	6.6 (12.0, 10s)	8.8 (16.0, 10s)	11.0 (20.0, 10s)	13.2 (24.0, 10s)
Max. Output Apparent Power with Grid (kVA)	7.04	7.04	8.8	8.8	16.5	16.5	16.5
Max. Output Current without Grid (A)	15	18	25	30	40	50	60
Max. Output Current with Grid (A)	32	32	40	40	75	75	75
Nominal Output Voltage (V)	220 / 230 / 240						

Nominal Output Frequency (Hz)	50 / 60
Output THDv (@Linear Load)	<3%

Efficiency

Max. Efficiency	97.6%
European Efficiency	96.2%
Max. Battery to AC Efficiency	95.5%
MPPT Efficiency	99.9%

Protection

PV String Current Monitoring	Integrated
PV Insulation Resistance Detection	Integrated
Residual Current Monitoring	Integrated
PV Reverse Polarity Protection	Integrated
Anti-islanding Protection	Integrated
AC Overcurrent Protection	Integrated
AC Short Circuit Protection	Integrated
AC Overvoltage Protection	Integrated
DC Switch	Integrated
DC Surge Protection	Type III
AC Surge Protection	Type III
Remote Shutdown	Integrated

General Data

Operating Temperature Range (ºC)	-35 ~ +60						
Relative Humidity	0 ~ 95%						
Max. Operating Altitude (m)	3000						
Cooling Method	Natural Convection				Smart Fan Cooling		
Weight(kg)	14.5	15.5	15.5	15.5	27.0	29.0	29.0
Dimension (W × H × D mm)	560 × 415 × 204				560 × 444.5 × 226		
Ingress Protection Rating	IP66						
Mounting Method	Wall Mounted						

User Interface	LCD, WLAN + APP
Communication with BMS	CAN
Communication	RS485, WiFI + LAN + Bluetooth
Communication Protocols	Modbus-RTU, Modbus-TCP
Topology	Non-isolated