

Energy Storage Inverter

MF-RHO-20K3P-LV



Equipped with GEN port, compatible with diesel generators, smart loads, and AC coupling.



IP66 rated enclosure, designed for both indoor and outdoor deployment in harsh environments.



Color touch screen (4.3/7" optional).



Supports battery charge/discharge currents up to 400A.



Supports 100% 3-phase unbalanced output on both ports (BACKUP & GRID).



110% continuous overload rating at sustained operation.

Input DC (PV side)

| | |
|---|-----------|
| Max. PV access power | 40kW |
| Max. PV input power | 32kW |
| Max. PV input voltage | 1000V |
| Nominal input voltage | 600V |
| MPPT working voltage range | 180V-850V |
| Number of independent MPPT/strings per MPPT | 2/2 |
| MPPT max. current | 2*36A |
| Start-up voltage | 200V |

Output/Input AC (Grid side)

| | |
|-----------------------------------|------------------------|
| Nominal apparent power | 20kW |
| Max. apparent power | 22kVA |
| Nominal voltage | 380V/400V |
| Nominal frequency | 50Hz/60Hz |
| Rated current | 30.3A/29A |
| Max. current | 33A |
| Power factor | -0.8-+0.8 (adjustable) |
| THDi | <3%(Nominal Output) |
| Grid system pattern | 3L+N+PE |
| Max. AC current from utility grid | 60A |

Output AC (Back-up)

| | |
|----------------------------|-----------|
| Nominal output power | 20kW |
| Max. output apparent power | 22kVA |
| Nominal output voltage | 380V/400V |
| Nominal output frequency | 50Hz/60Hz |
| Output THDV | <3% |
| Automatic switch time | <10ms |

Battery

| | |
|---|----------------------|
| Battery type | Li-ion/Lead-acid |
| Battery voltage range | 40V-60V |
| Max. charging/discharging current | 400A |
| Charging strategy for Li-ion battery | Self-adaption to BMS |
| Charging strategy for Lead-acid battery | Three-stage |

Efficiency

| | |
|---------------------------------|-------|
| Max. MPPT efficiency | 99.9% |
| Europe efficiency | 97.5% |
| Max. battery to load efficiency | 94.5% |

Protection

| | |
|---------------------------------|-----|
| Anti islanding protection | Yes |
| Insulation impedance protection | Yes |
| RCD detection | Yes |
| PV reverse polarity protection | Yes |
| Output over voltage protection | Yes |
| Output over current protection | Yes |

General Data

| | |
|-----------------------------|-----------------|
| Dimensions(L/W/H)in mm | 425/290/710 |
| Weight | 45kg |
| Operation temperature range | -25°C~60°C |
| Heat dissipation mode | Smart cooling |
| IP Class | IP 66 |
| Maximum altitude | 4000m |
| Self-Consumption night | <3W |
| Topology | Transformerless |

Features

| | |
|-------------------------|-----------------------|
| LCD display | Yes |
| Communication interface | WiFi/4G/USB/CAN/RS485 |

Standards IEC 62109-1/IEC 62109-2/EN IEC 61000-6-1/EN IEC 61000-6-3/CEI 0-21
VDE AR4105/VDE V 0124-100/NC RfG/PSE/PTPREE/EN50549/NRS 097