

# SG4400UD-MV-US

MV Grid-connected PV Inverter for 1500Vdc System



## HIGH YIELD

- Advanced three-level technology
- Full power operation at 40 °C (104 °F)
- Effective cooling, wide operation temperature



## EASY O&M

- Integrated current, voltage and MV parameters monitoring function for online analysis and trouble shooting
- Modular design, easy for maintenance



## SAVED INVESTMENT

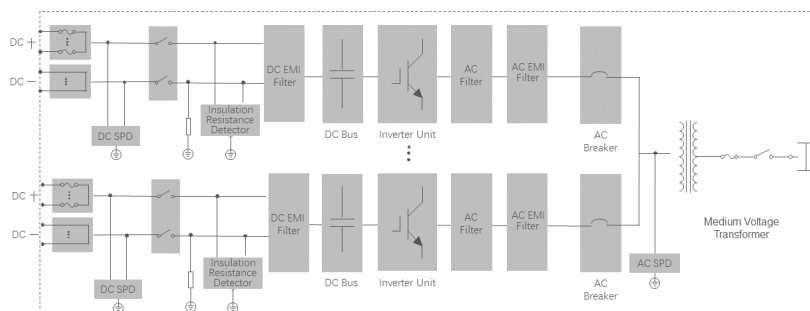
- Low transportation and installation cost due to 20-foot container size design
- DC 1500V system, low system cost
- Q at night



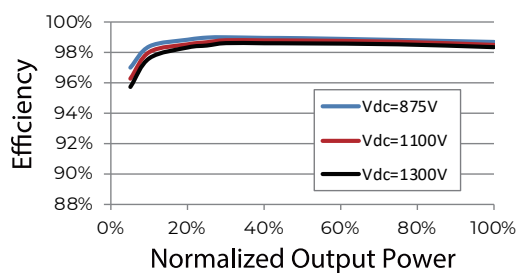
## GRID SUPPORT

- Compliance with standards: UL 1741, UL 1741 SA/SB, IEEE 1547, Rule 21 and NEC code
- Low / High voltage ride through (L/HVRT), L/HFRT, soft start / stop
- Active & reactive power control and power ramp rate control

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE



| Type designation                                        | SG4400UD-MV-US                                                                                                                              |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input (DC)</b>                                       |                                                                                                                                             |
| Max. PV input voltage                                   | 1500 V                                                                                                                                      |
| Min. PV input voltage / Start-up input voltage          | 915 V / 955 V                                                                                                                               |
| Available DC fuse sizes                                 | 250 A – 630 A                                                                                                                               |
| MPP voltage range                                       | 915 V – 1500 V                                                                                                                              |
| Full power MPP voltage range @ 40 °C <sup>1)</sup>      | 915 V – 1337 V                                                                                                                              |
| No. of independent MPP inputs                           | 4                                                                                                                                           |
| No. of DC inputs                                        | 28 inputs negative grounding<br>( optional: 24 inputs floating )                                                                            |
| Max. PV input current                                   | 4 * 1226 A                                                                                                                                  |
| Max. DC short-circuit current                           | 4 * 3528 A                                                                                                                                  |
| PV array configuration                                  | Negative grounding or floating                                                                                                              |
| <b>Output (AC)</b>                                      |                                                                                                                                             |
| AC output power                                         | 4400 kVA @ 40 °C ( 104 °F ) ( Optional: 4400 kVA @ 45 °C ( 113 °F ) )                                                                       |
| Max. AC output current                                  | 73 A                                                                                                                                        |
| Nominal grid frequency / Grid frequency range           | 60 Hz / 57 Hz – 63 Hz                                                                                                                       |
| THD                                                     | < 3 % ( at nominal power )                                                                                                                  |
| Power factor at nominal power / Adjustable power factor | > 0.99 / 0.8 leading – 0.8 lagging                                                                                                          |
| Nominal AC voltage                                      | 34.5 kV                                                                                                                                     |
| <b>Efficiency</b>                                       |                                                                                                                                             |
| Max. inverter unit efficiency                           | 98.9 %                                                                                                                                      |
| CEC inverter unit efficiency                            | 98.5 %                                                                                                                                      |
| Max. efficiency ( including transformer )               | 98.2 %                                                                                                                                      |
| CEC efficiency ( including transformer )                | 97.5 %                                                                                                                                      |
| <b>Protection</b>                                       |                                                                                                                                             |
| DC protection                                           | DC load switch + fuse                                                                                                                       |
| AC protection                                           | MV load switch + fuse                                                                                                                       |
| Surge protection                                        | DC Type II / AC Type II                                                                                                                     |
| Grid monitoring / Ground fault monitoring               | Yes / Yes                                                                                                                                   |
| Insulation monitoring                                   | Yes                                                                                                                                         |
| Overheat protection                                     | Yes                                                                                                                                         |
| <b>General data</b>                                     |                                                                                                                                             |
| Dimensions ( W * H * D )                                | 6058 mm * 2896 mm * 2438 mm<br>238.5" * 114.0" * 96.0"                                                                                      |
| Weight                                                  | ≤ 36376 lbs                                                                                                                                 |
| Transformer vector                                      | Dy1 ( Optional: Dy11, Yny0, YNd1)                                                                                                           |
| Degree of protection                                    | NEMA 4X ( Electronic enclosure ) / NEMA 3R ( Others )                                                                                       |
| Auxiliary power supply                                  | 5 kVA, 120 Vac ; Optional : 35 kVA 480 Vac + 5 kVA 120 Vac                                                                                  |
| Operating ambient temperature range <sup>2)</sup>       | -35 °C – 60 °C / optional: -40 °C – 60 °C<br>-31 °F – 140 °F / optional: -40 °F – 140 °F                                                    |
| Allowable relative humidity range                       | 0 % - 100 %                                                                                                                                 |
| Cooling method                                          | Forced air cooling + KNAN ( Optional: ONAN )                                                                                                |
| Max. Operating altitude                                 | 1000 m ( Standard ) / > 1000 m ( Customized )<br>( 3280.8 ft ( Standard ) / > 3280.8 ft ( Customized ) )                                    |
| Display                                                 | LED Indicators , Ethernet + WebHMI                                                                                                          |
| Night reactive power function                           | Yes                                                                                                                                         |
| DC-Coupled storage interface                            | Optional                                                                                                                                    |
| Charging power from the grid                            | Optional                                                                                                                                    |
| Communication                                           | Standard: RS485, Ethernet                                                                                                                   |
| Compliance                                              | UL1741, UL62109-1, CSA C22.2 No.107.1-16, IEEE1547-2018, IEEE1547.1-2020, UL1741 SA/SB, California Rule21, HECO SRD V2.0, NEC 2023, PRC-024 |

1) Full power MPP range is temperature dependent, check the characteristic curve of the inverter for more information.

2) The ambient temperature is determined as the average temperature obtained from at least four evenly distributed temperature monitoring points located at a distance of 1 meter from the equipment, at a height halfway up the machine. The temperature sensors must be shielded from airflow, thermal radiation, and rapid temperature fluctuations to prevent display inaccuracies.