

SUN2000-12/15/17/20/25KTL-M5

Smart PV Controller



Active Safety

AI Powered Arcing Protection



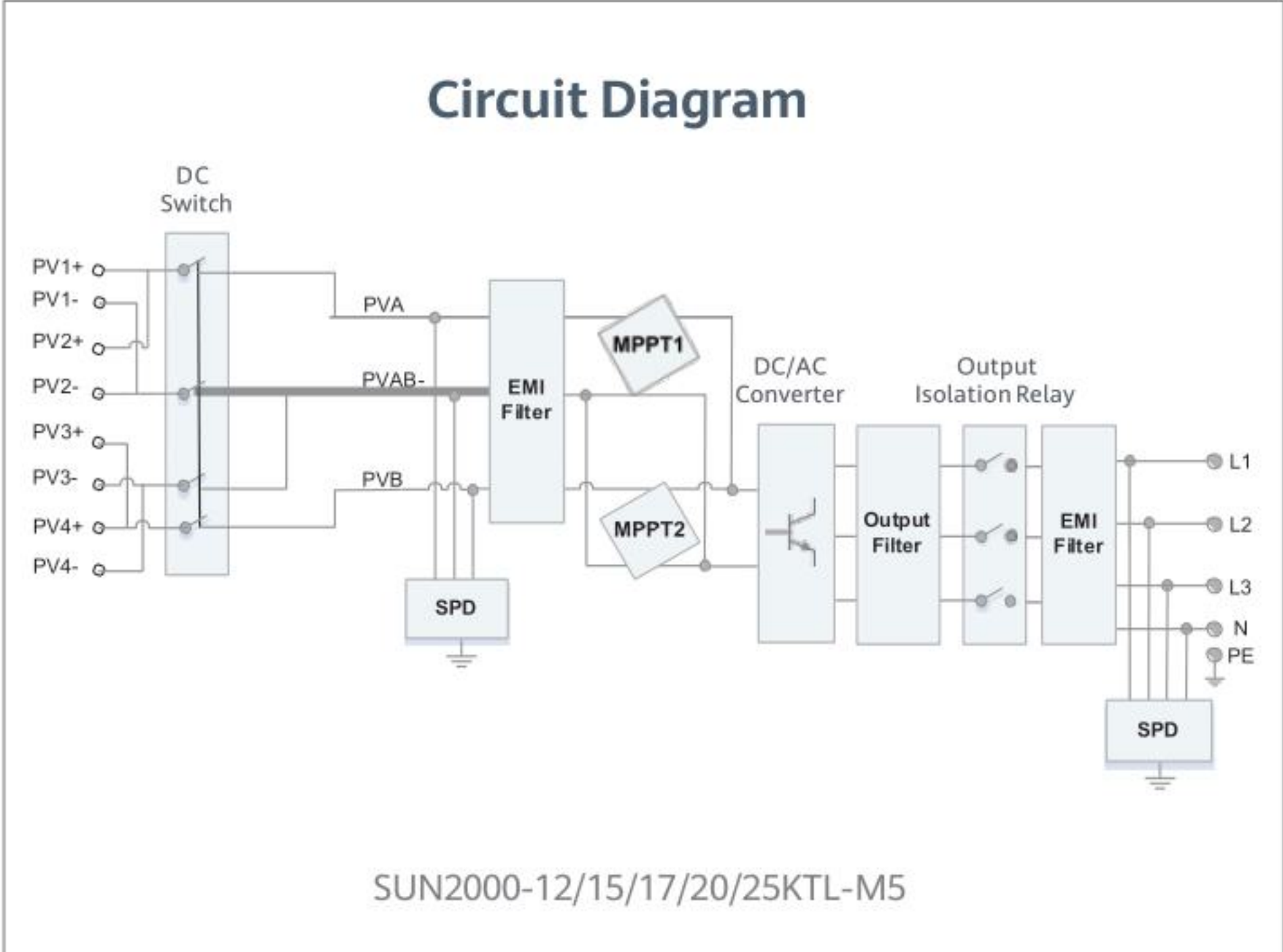
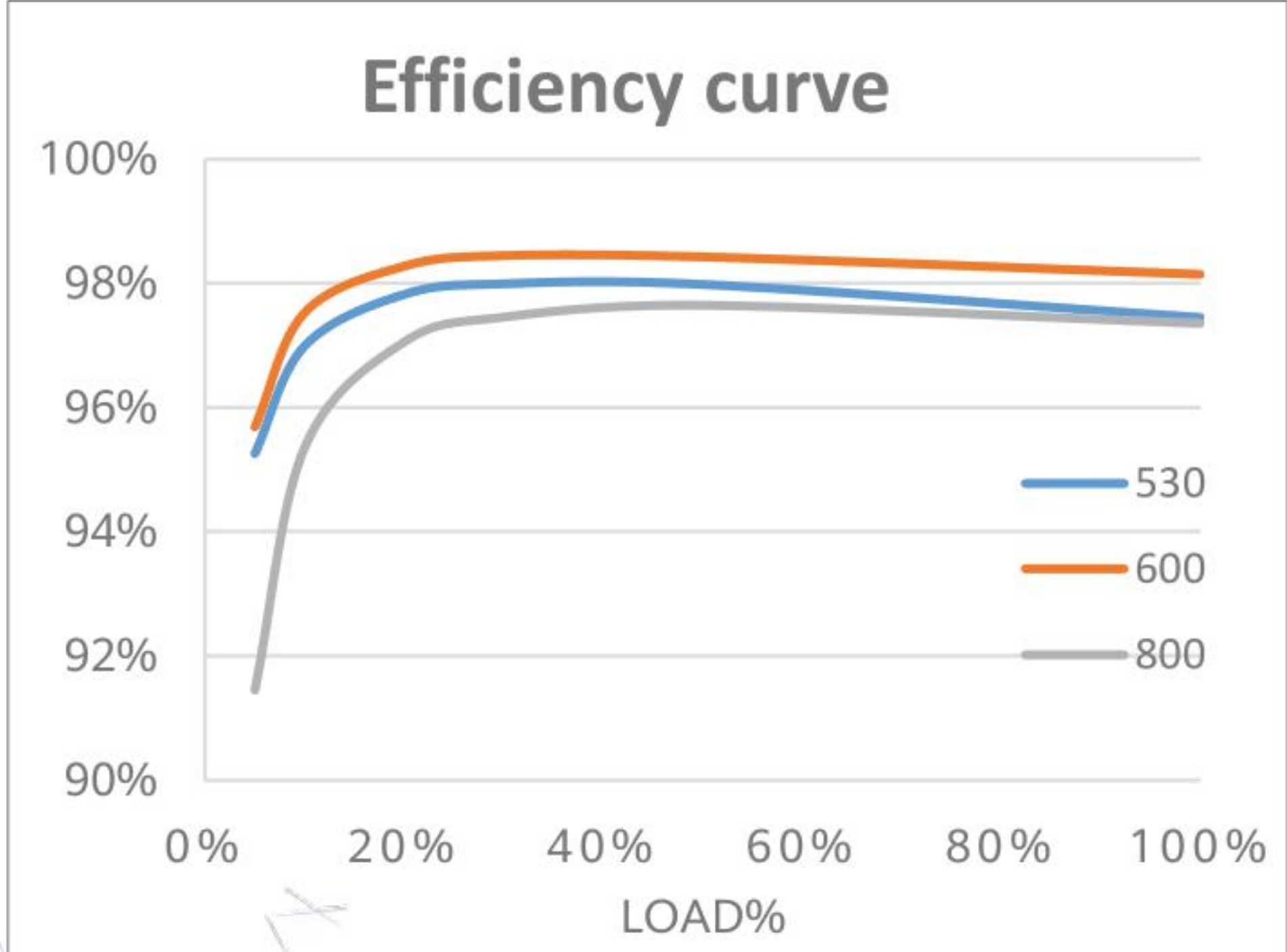
Higher Yields

Up to 30% More Energy with Optimizer



Flexible Communication

WLAN, Fast Ethernet, 4G  
Communication Supported



SUN2000-12/15/17/20/25KTL-M5

Technical Specification

| Technical Specification                           | SUN2000<br>-12KTL-M5                                                                                                                                | SUN2000<br>-15KTL-M5                         | SUN2000<br>-17KTL-M5                         | SUN2000<br>-20KTL-M5                         | SUN2000<br>-25KTL-M5                         |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| Efficiency                                        |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Max. efficiency                                   | 98.4%                                                                                                                                               | 98.4%                                        | 98.4%                                        | 98.4%                                        | 98.4%                                        |
| European weighted efficiency                      | 97.9%                                                                                                                                               | 98.0%                                        | 98.1%                                        | 98.1%                                        | 98.2%                                        |
| Input                                             |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Recommended max. PV power <sup>1</sup>            | 18,000 Wp                                                                                                                                           | 22,500 Wp                                    | 25,500 Wp                                    | 30,000 Wp                                    | 37,500 Wp                                    |
| Max. input voltage <sup>2</sup>                   | 1100 V                                                                                                                                              |                                              |                                              |                                              |                                              |
| Full-load MPPT voltage range                      | 370V~800V                                                                                                                                           | 410V~800V                                    | 440V~800V                                    | 480V~800V                                    | 530~800V                                     |
| MPPT Operating voltage range <sup>3</sup>         | 200 V ~ 1000 V                                                                                                                                      |                                              |                                              |                                              |                                              |
| Start-up voltage                                  | 200 V                                                                                                                                               |                                              |                                              |                                              |                                              |
| Rated input voltage                               | 600 V                                                                                                                                               |                                              |                                              |                                              |                                              |
| Max. input current per MPPT                       | 30 A (two string) / 20 A (single string)                                                                                                            |                                              |                                              |                                              |                                              |
| Max. short-circuit current                        | 40 A                                                                                                                                                |                                              |                                              |                                              |                                              |
| Number of MPP trackers                            | 2                                                                                                                                                   |                                              |                                              |                                              |                                              |
| Max. number of inputs                             | 4                                                                                                                                                   |                                              |                                              |                                              |                                              |
| Output                                            |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Grid connection                                   | Three phase                                                                                                                                         |                                              |                                              |                                              |                                              |
| Rated output power                                | 12,000 W                                                                                                                                            | 15,000 W                                     | 17,000 W                                     | 20,000 W                                     | 25,000 W                                     |
| Max. apparent power                               | 13,200 W                                                                                                                                            | 16,500 VA                                    | 18,700 VA                                    | 22,000 VA                                    | 27,500 VA                                    |
| Rated output voltage                              | 220 Vac / 380 Vac, 230 Vac / 400 Vac, 239.6 Vac / 415Vac, 3W + N + PE                                                                               |                                              |                                              |                                              |                                              |
| Rated AC grid frequency                           | 50 Hz / 60 Hz                                                                                                                                       |                                              |                                              |                                              |                                              |
| Max. output current                               | 18.2A/380Vac<br>17.3A/400Vac<br>16.7A/415Vac                                                                                                        | 25.2A/380Vac<br>23.9A/400Vac<br>23.1A/415Vac | 28.6A/380Vac<br>27.1A/400Vac<br>26.1A/415Vac | 33.6A/380Vac<br>31.9A/400Vac<br>30.8A/415Vac | 42.0A/380Vac<br>39.9A/400Vac<br>38.5A/415Vac |
| Adjustable power factor                           | 0.8 leading ... 0.8 lagging                                                                                                                         |                                              |                                              |                                              |                                              |
| Max. total harmonic distortion                    | ≤ 3 %                                                                                                                                               |                                              |                                              |                                              |                                              |
| Features & Protections                            |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Overvoltage Category                              | PV II/AC III                                                                                                                                        |                                              |                                              |                                              |                                              |
| Input-side disconnection device                   | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| Anti-islanding protection                         | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| AC over-current protection                        | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| DC reverse-polarity protection                    | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| String fault detection                            | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| DC surge protection                               | TYPE II                                                                                                                                             |                                              |                                              |                                              |                                              |
| AC surge protection                               | CLASS II                                                                                                                                            |                                              |                                              |                                              |                                              |
| Residual current monitoring unit                  | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| Arc fault protection                              | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| Ripple control ripple control                     | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| Integrated PID recovery <sup>4</sup>              | Yes                                                                                                                                                 |                                              |                                              |                                              |                                              |
| General Data                                      |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Operation temperature range                       | -25 ~ + 60 °C (-13 °F ~ 140 °F)                                                                                                                     |                                              |                                              |                                              |                                              |
| Relative humidity                                 | 0 % RH ~ 100% RH                                                                                                                                    |                                              |                                              |                                              |                                              |
| Max. operating altitude                           | 0 ~ 4,000 m (13,123 ft.) (Derating above 2000 m)                                                                                                    |                                              |                                              |                                              |                                              |
| Cooling                                           | Smart air cooling                                                                                                                                   |                                              |                                              |                                              |                                              |
| Display                                           | LED Indicators; Integrated WLAN + FusionSolar App                                                                                                   |                                              |                                              |                                              |                                              |
| Communication                                     | RS485; WLAN/Ethernet via Smart Dongle-WLAN-FE (Optional)<br>4G / 3G / 2G via Smart Dongle-4G (Optional)                                             |                                              |                                              |                                              |                                              |
| Weight (with mounting plate)                      | 21kg (46.4 lb)                                                                                                                                      |                                              |                                              |                                              |                                              |
| Dimensions (W x H x D)<br>(incl. mounting plate)  | 546 x 460 x 228mm (21.5 x 18.1 x 9.0 inch)                                                                                                          |                                              |                                              |                                              |                                              |
| Degree of protection                              | IP66                                                                                                                                                |                                              |                                              |                                              |                                              |
| Optimizer Compatibility                           |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| DC MBUS compatible optimizer                      | SUN2000-450W-P, SUN2000-450W-P2, SUN2000-600W-P, SUN2000-1300W-P, SUN2000-1100W-P                                                                   |                                              |                                              |                                              |                                              |
| Standard Compliance (more available upon request) |                                                                                                                                                     |                                              |                                              |                                              |                                              |
| Safety                                            | EN/IEC 62109-1, EN/IEC 62109-2                                                                                                                      |                                              |                                              |                                              |                                              |
| Grid connection standards                         | G99, EN 50549, CEI 0-21, CEI 0-16, VDE-AR-N-4105, VDE-AR-N-4110, C10/11, ABNT, VFR 2019, UNE 217001, UNE 217002, RD 244, TOR D4, IEC61727, IEC62116 |                                              |                                              |                                              |                                              |

<sup>\*1</sup> Inverter max input PV power is 40,000 Wp when long strings are designed and fully connected with SUN2000-450W-P power optimizers.  
<sup>\*2</sup> The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter.  
<sup>\*3</sup> Any DC input voltage beyond the operating voltage range may result in inverter improper operating.  
<sup>\*4</sup> SUN2000-12~20KTL-M2 raises potential between PV- and ground to above zero through integrated PID recovery function to recover module degradation from PID. Supported module types include: P-type (mono, poly)