

# Mercury Series MPPT Module

Mercury-40K-PV / Mercury-50K-PV / Mercury-60K-PV

## Features

-  Four-channel independent input, boosting photovoltaic utilization
-  Reducing the number of combiner boxes and lowering costs
-  Designed with a standard 3U module for ease of maintenance and scalability
-  SiC-MOS for higher efficiency — up to 99% peak conversion rate



| Mercury-40K-PV                           |                                                                 | Mercury-50K-PV |             | Mercury-60K-PV |  |
|------------------------------------------|-----------------------------------------------------------------|----------------|-------------|----------------|--|
| PV Side                                  |                                                                 |                |             |                |  |
| Rated power                              | 4-way *10kW                                                     | 4-way *12.5kW  | 4-way *15kW |                |  |
| Rated current                            | 4-way *30A                                                      | 4-way *37.5A   | 4-way *45A  |                |  |
| Rated voltage                            | 350V                                                            | 350V           | 350V        |                |  |
| Maximum voltage                          | 1,000 V                                                         | 1,000 V        | 1,000 V     |                |  |
| Voltage range                            | 150-1000 V                                                      | 150-1000 V     | 150-1000 V  |                |  |
| Minimum voltage at full power            | 340V                                                            | 340V           | 340V        |                |  |
| PV side start-up voltage                 | 150V                                                            | 150V           | 150V        |                |  |
|                                          |                                                                 |                |             |                |  |
| Bat Side                                 |                                                                 |                |             |                |  |
| Rated power                              | 40kW                                                            | 50kW           | 60kW        |                |  |
| Rated current                            | 67A                                                             | 83A            | 100A        |                |  |
| Rated voltage                            | 600V                                                            | 600V           | 600V        |                |  |
| Maximum voltage                          | 1,000 V                                                         | 1,000 V        | 1,000 V     |                |  |
| Voltage range                            | 350-1000 V                                                      | 350-1000 V     | 350-1000 V  |                |  |
| Full power voltage range                 | 600-950 V                                                       | 600-950 V      | 600-950 V   |                |  |
| Bat side start-up voltage                | 350V                                                            | 350V           | 350V        |                |  |
|                                          |                                                                 |                |             |                |  |
| Protection Features                      |                                                                 |                |             |                |  |
| Reverse connection detection             | Yes                                                             |                |             |                |  |
| Fuse protection                          | Yes                                                             |                |             |                |  |
| Overcurrent protection                   | Yes                                                             |                |             |                |  |
| Overvoltage/undervoltage protection      | Yes                                                             |                |             |                |  |
| Overheat protection                      | Yes                                                             |                |             |                |  |
| Low-voltage side short circuit detection | Yes                                                             |                |             |                |  |
| Insulation resistance testing            | Yes                                                             |                |             |                |  |
| Over-voltage level                       | Type II                                                         |                |             |                |  |
| Surge protection level                   | Type II                                                         |                |             |                |  |
| Basic operating modes                    | MPPT, power limit operation                                     |                |             |                |  |
| Circuit operation mode                   | 4-way independent MPPT, any 2-way parallel MPPT                 |                |             |                |  |
|                                          |                                                                 |                |             |                |  |
| System Parameters                        |                                                                 |                |             |                |  |
| Topology structure                       | Non-isolated                                                    |                |             |                |  |
| Protection level                         | IP20                                                            |                |             |                |  |
| Operating temperature                    | -30°C to +60°C (> 45°C derated)                                 |                |             |                |  |
| Humidity                                 | < 95% (non-condensing)                                          |                |             |                |  |
| Maximum operating altitude               | 4,000m (derating when > 3,000m)                                 |                |             |                |  |
| Maximum efficiency                       | 99%                                                             |                |             |                |  |
| Cooling method                           | Intelligent air cooling                                         |                |             |                |  |
| Communication mode                       | RS485/CAN/Ethernet                                              |                |             |                |  |
| Display                                  | LED                                                             |                |             |                |  |
|                                          |                                                                 |                |             |                |  |
| Mechanical Parameters                    |                                                                 |                |             |                |  |
| Weight                                   | 25kg                                                            |                |             |                |  |
| Dimensions (H*W*D)                       | 444mm*130mm*550mm (excluding terminals)                         |                |             |                |  |
| Installation method                      | Cabinet-style fixed installation (left and right mounting ears) |                |             |                |  |
|                                          |                                                                 |                |             |                |  |
| Standards                                |                                                                 |                |             |                |  |
| IEC62109-1, IEC 61000-6-2, IEC 61000-6-4 |                                                                 |                |             |                |  |