

Bidirectional Power Module Specification

TPS-BM157200UHIT/TPS-BM157200UHIRT





Features

- AC three-phase without neutral line, no neutral line current
- Three-phase AC-DC bidirectional isolation and energy flow, reliable inverter in grid-connected system
- Mature and excellent soft switching technology, more reliable and efficient
- High efficiency in both directions, saving energy consumption expenses for customers
- Bidirectional high PF >0.99, low THDi <5%
- Bidirectional switch with seamless voltage, meeting the fast response requirements of test equipment
- Excellent EMC, meeting EN55032 and other international standards
- Strong adaptability, adapts to unstable grids and harsh environments, no derating at 45°C
- Modular design, intelligent expansion, automatic parallel operation
- Perfect fault protection function
- Can pass UL, CE, TUV certification

Applications

- Cell formation and test equipment
- Power bidirectional test equipment
- Energy recyclable power aging equipment

Profile

TPS-BM Three-phase LV AC-DC BPM

TPS-BM three-phase AC-DC BPM adopts advanced three-phase none neutral line technology to realize AC-DC bidirectional energy conversion in three-phase system, completely solves the problem of neutral line current in the power system. The mature soft switching technology is also adopted. The module provides high performances such as high reliability, strong adaptability of grids and environments, bidirectional seamless switching without voltage difference, high efficiency, low THDi, high PF, high power density.

Specification

| Product Model | | TPS-BM157200UHIT/TPS-BM157200UHIRT | | |
|--------------------|-----------------------|------------------------------------|---|--|
| AC To DC Direction | Rated Output Capacity | 7200W | | |
| | AC Input | Wiring Mode | 3Ph+PE | |
| | | Rated Voltage | 480VAC | |
| | | Voltage Range | 384~528VAC, full load | |
| | | Frequency Range | 50/60 ± 5Hz adaptive control | |
| | | Input Current | ≤ 12A | |
| | | THDi | <5% @480VAC, full load, power grid THDu ≤ 2% | |
| | | PF | 0.99 @480VAC, full load, power grid THDu ≤ 2% | |
| | DC Output | Rated Voltage | 15VDC | |
| | | Rated Current | 480A | |
| | | Voltage Accuracy | ± 1% | |
| Ripple Voltage | | 500mV | | |
| Peak Efficiency | | 91.5%@480VAC | | |

| | | | | |
|--------------------|----------------------|------------------------------------|--|--|
| DC To AC Direction | Rated Input Capacity | | 5760W | |
| | DC Input | Rated Voltage ^① | 15VDC | |
| | | Rated Current | 384A | |
| | AC Output | Voltage Range | 384~528VAC, full load | |
| | | Frequency Range | 50/60 ± 5Hz adaptive control | |
| | | THDi | <5% @480VAC, full load, power grid THDu ≤2% | |
| | | PF | 0.99 @480VAC, full load, power grid THDu ≤2% | |
| | | Peak Efficiency | 90.5%@480VAC | |
| Complete Machine | System | Power Direction | Bidirectional | |
| | | Isolation Method | High frequency isolation | |
| | | Cooling System | Forced air cooling, intelligent control | |
| | | Air Flow | Default: Front inlet and rear outlet, R type: Rear inlet and front outlet(front: fan; rear: terminal) | |
| | | Expandability | Up to 4 units connected in parallel | |
| | | Non-balance of Current Sharing | ≤5% | |
| | Environment | Operation Temperature ^② | -10°C~45°C full load, 45°C~60°C power derating to 90% | |
| | | Storage Temperature | -40°C~70°C | |
| | | Relative Humidity | 5~95%(no condensing) | |
| | | Operation Altitude | < 2000m; derating use above 2000m, temperature derating 1% per 100m rising | |
| | Interface | Indicator Lamp | Operation: Blue Fault: Red | |
| | | Communication | CAN | |
| | Mechanical | Size(W*H*D) | 176mm*86mm*285mm | |
| | | Weight | ≤8kg | |

Note:

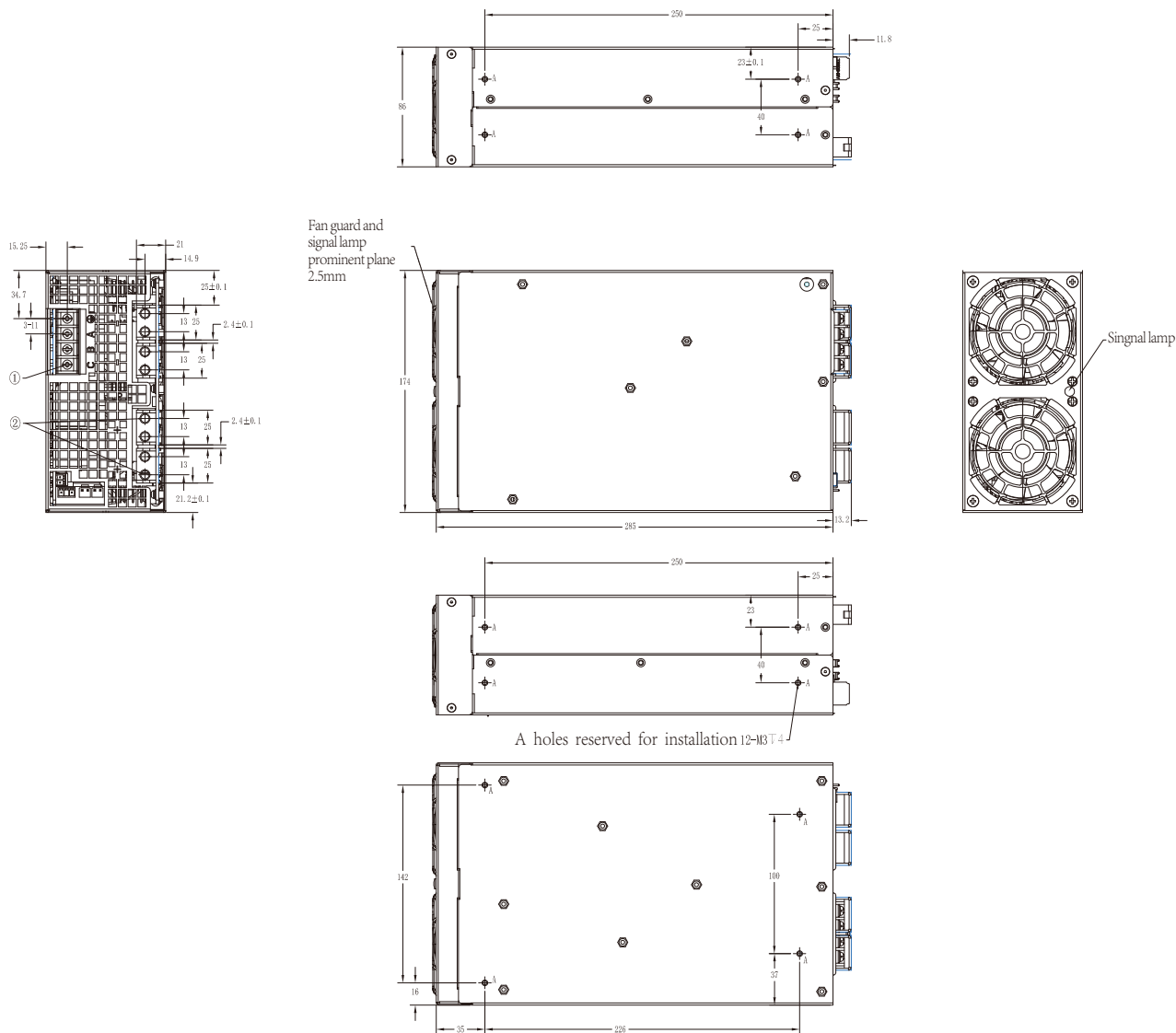
- ① DC side voltage exceeding 20VDC will cause power failure
- ② Shut down due to over temperature after overload



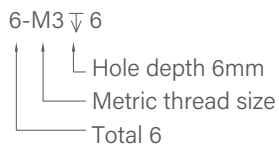
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Dimension

• TPS-BM157200UHIT/TPS-BM157200UHIRT Installation Structure



• Identification explanation



• Warning

1.The length of the screw shall not exceed the depth of the hole in the drawing when the screw is installed at the reserved hole position (∇). Otherwise it will cause damage to the equipment.

| Serial number | Type | Name | Specification | Quantity | Tightening torque |
|---------------|----------------------------------|--|---------------|----------|-------------------|
| ② | Output terminal fastening screws | GB907413-88 series cross slot hexagon head spring flat washer combination screws | M6X12 | 8pcs | 2N·M |
| ① | Input terminal fastening screw | Cross recessed pan head flat washer combination screw | M4X8.5 | 4pcs | 1.5N·M |

| Dimensional tolerance (GB1804-M level) | 0.5-6 | ±0.1 | Unit | Proportion | Projection identification |
|--|--------|------|------|------------|---------------------------|
| | 6-30 | ±0.2 | | | |
| | 30-120 | ±0.3 | | | |
| | >120 | ±0.5 | | | |