# BEG75050

15kW/750Vdc Bidirectional AC/DC Conversion Module


## Product Introduction

The BEG75050 is a bidirectional AC/DC conversion module specifically designed to meet the bidirectional conversion applications in V2G (Vehicle-to-Grid), energy storage charging, secondary utilization of retired batteries and microgrids with multiple energy inputs. It features a wide constant-power voltage range, high efficiency, high power factor, high power density, low electromagnetic radiation and interference, as well as high reliability, reaching the international leading level.

## Product Features

### High Efficiency & Energy Saving

- Wide constant-power voltage range: 300Vdc~750Vdc, constant-power output.
- High efficiency: It is designed with all-SiC (Silicon Carbide), boasting an efficiency of 96% and being more energy-efficient.

### Safety and Reliability

- Three-phase AC input without a neutral line: Eliminate the risk of excessive neutral current and simultaneously reduce the system cost.
- Bidirectional energy flow: Bidirectional conversion between AC/DC and DC/AC, with a smooth transition when the power flow direction changes.
- Isolation by high-frequency transformer: Ensure the high reliability of the bidirectional conversion module.

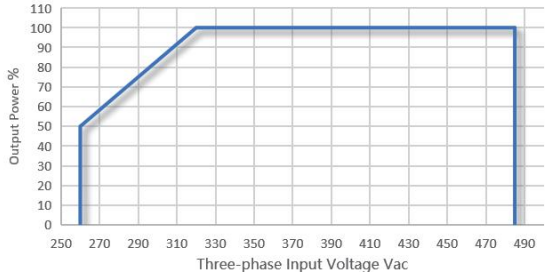
### Intelligent and Convenient

- Fully digital control: Dual DSP design, with high-reliability control.
- Support grid-connected and off-grid applications: Adapt to various application scenarios.

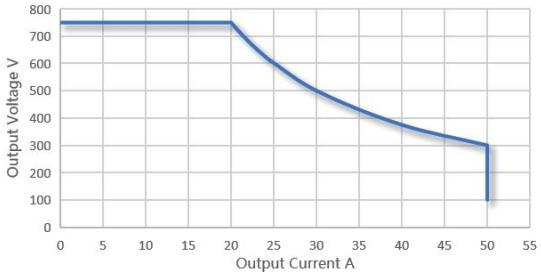
### Widely Compatible

- Wide AC voltage range: 260Vac ~ 485Vac, compatible with various power grids.
- Wide DC voltage range : 100Vdc~750Vdc, compatible with various power batteries and energy storage batteries.

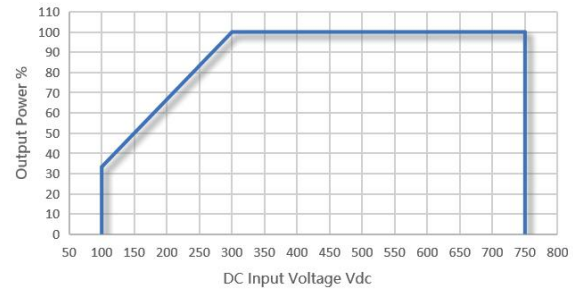
**Rectification mode: Curve of the relationship between output power and input voltage**



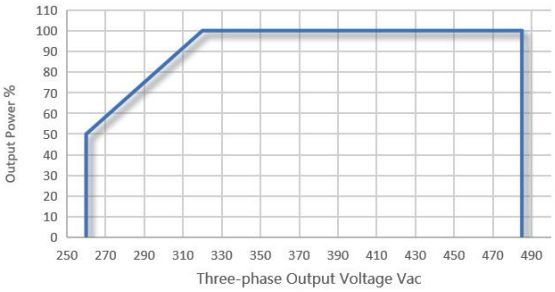

**Rectification mode: Curve of the relationship between output current and output voltage**




**Inversion mode: Curve of the relationship between output power and input voltage**




**Inversion mode: Curve of the relationship between output power and output voltage**




| Model | | | BEG75050 |
|---|---|---|---|
| Working Conditions | | Operating Temperature | -40℃～+75℃，derating shall be applied when the temperature is above +55℃. |
| | | Relative Humidity | ≤95%RH，condensation-free |
| | | Cooling Method | Force air cooled |
| | | Altitude | 2000m，derating should be considered when the altitude is above 2000 meters. |
| Rectification Mode | AC Input | Rated Voltage & Input Current Range | 380Vac，3L+PE；0～28A |
| | | Input Voltage/Frequency Range | 260Vac～485Vac；45Hz～65Hz |
| | | Power Factor | ≥ 0.99（full load output） |
| | | THD | <5%（50%～100% full load output power） |
| | DC Output | Rated Power | 15kW |
| | | Output Voltage/Current Range | 100Vdc~750Vdc，0~50A |
| | | Accuracy of Voltage Stabilization | < ±0.5% |
| | | Accuracy of Current Stabilization | ≤ ±1%（output load 20%～100% range） |
| | | Efficiency | Full Load Efficiency>96%，Peak Efficiency>97% |
| Switching time between rectification and inversion modes | | | <100ms |
| Inversion Mode | DC Input | DC Input Voltage & Output Power | 300Vdc~750Vdc；15kW constant-power output |
| | | Max Current | 50A |
| | AC Output | Output AC Voltage & Output Power | 260Vac～485Vac；320Vac～485Vac，15kW constant-power output |
| | | Rated Power/Current | 15kW /20A |
| | | Output AC Frequency | 50Hz/60Hz |
| | | THD | < 5% |
| | | Power Factor | Settable，setting range 0.8～1，-0.8～-1 |
| | | Efficiency | Full Load Efficiency>96%，Peak Efficiency>97% |
| Appearance | | Dimension | 85mm（H）×226mm（W）×395mm（D） |
| | | Weight | ≤12kg |
| Others | | Connect Method | CAN |
| | | MTBF | >500,000h |
| | | Satisfied Standards | GB/T18487、NB/T33001、NB/T33008 |