

MULTICLUSTER SYSTEM 12 FOR SUNNY ISLAND

MC-BOX-12.3-20 / NA-BOX-12.3-20 / GRID-BOX-12.3-20



NEW – for on-grid applications as well.
 Optionally available with NA- or GRID-CONNECT-BOX

Flexible

- For off-grid, on-grid and back-up applications
- For power range of 30 to 138 kW
- For TN- and TT-grids

Easy to use

- Integrated AC distribution for Sunny Island, generator, PV and loads (MC-Box 12)

- Retrofittable grid connection (NA-Box 12, Grid-Connect-Box 12)
- Better serviceability

Safe and reliable

- Fulfills German VDE-AR-N 4105
- Integrated residual-current device
- Active anti-islanding

Multicluster System 12 for SUNNY ISLAND

Easy creation of powerful on- and off-grid applications

Proven technology with new application areas for PV systems – the SMA Multicluster System 12 is now suitable for operation on the utility grid as well. In Germany, it complies with the applicable conditions for connection to the low-voltage grid of VDE-AR-N 4105: With the battery inverters Sunny Island 6.0H or 8.0H and the NA-Box 12, commercial self-consumption and battery-backup systems of up to 100 kWp can be set up. On an international scale, the Grid-Connect-Box 12 can be used to form self-consumption and battery-backup systems with an output of up to 138 kWp. The new Multicluster-Box 12 is suitable for TN- and TT-grids thanks to the integrated grounding contactor. In areas with very unstable utility grids, a diesel generator can also be connected. For off-grid regions, the Multicluster-Box 12 allows powerful solar off-grid systems with up to 138 kWp to be set up – ideal for commercial enterprises and village power supplies in rural regions.

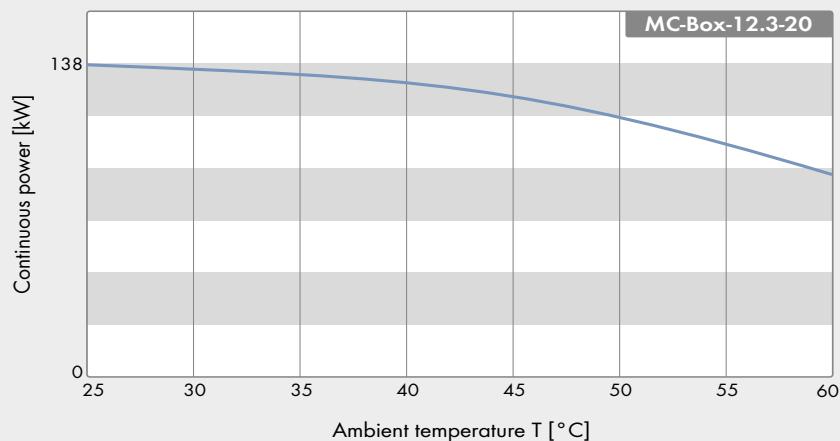
MULTICLUSTER SYSTEM 12 FOR SUNNY ISLAND

| Technical data | Multiclus-ter-Box 12 |
|-------------------------------------------------------|---------------------------------------------|
| Load connection | |
| Number of connections | 1 x three-phase |
| Rated power | 138 kW |
| Rated grid voltage | 230 V / 400 V |
| AC voltage range | 172.5 V-265 V 300 V-433 V |
| Current at rated values | 3 x 200 A |
| Terminals for connection N, L1, L2, L3 | Spring-cage terminals |
| Fuse / maximum permissible fuse sizes | NH1 / 200 A |
| Sunny Island connections | |
| Maximum number of devices | 12 |
| AC rated power / AC current at rated values | 72 kW / 12 x 26 A |
| Rated operating voltage | 230 V / 400 V |
| Terminals for connection N, PE, L | Spring-cage terminals |
| Fuse | 12 x circuit breaker C40 A |
| Generator connection | |
| Number of connections | 1 x three-phase |
| Rated grid input power | 138 kW |
| Nominal voltage | 230 V / 400 V |
| AC input current | 3 x 200 A |
| Terminals for connection N, PE, L1, L2, L3 | Spring-cage terminals |
| Fuse / maximum permissible fuse sizes | NH1 / 200 A |
| PV system connection | |
| Number of connections | 1 x three-phase |
| Rated power | 138 kW |
| Rated operating voltage | 230 V / 400 V |
| AC current at rated values | 3 x 200 A |
| Terminals for connection N, PE, L1, L2, L3 | Spring-cage terminals |
| Maximum permissible back-up fuse | 200 A |
| NA-Box / Grid-Connect-Box connection | |
| Number of connections | 1 x three-phase |
| Rated input power | 138 kW |
| Rated operating voltage | 230 V / 400 V |
| Rated current / AC input current | 3 x 200 A |
| Terminals for connection N, PE, L1, L2, L3 | Spring-cage terminals |
| Maximum permissible back-up fuse | 200 A |
| General data | |
| Number of phases | 3 |
| Permitted grid configuration | TN-S, TN-C-S and TT |
| Rated frequency / frequency range | 50 Hz / 45 Hz to 65 Hz |
| Dimensions (W/H/D) | 1200 / 1600 / 435 mm (incl. 200 mm base) |
| Weight | 200 kg |
| Maximum operating altitude above mean sea level | 2300 m |
| Degree of protection (according to IEC 60529) | IP55 |
| EMC environment, interference / interference immunity | B / A |
| Humidity | 0% to 100% |
| Operating temperature range | -25 °C to +60 °C |
| Output power / rated power at 25 °C | 138 kW |
| Output power / rated power between 25 °C and 60 °C | See "Derating Behavior" diagram |
| Data cables | ● |
| Warranty (5 years) | ● |
| EC Declaration of Conformity | Yes |
| ● Standard feature ○ Optional feature – Not available | |
| Type designation | MC-BOX-12.3-20 |

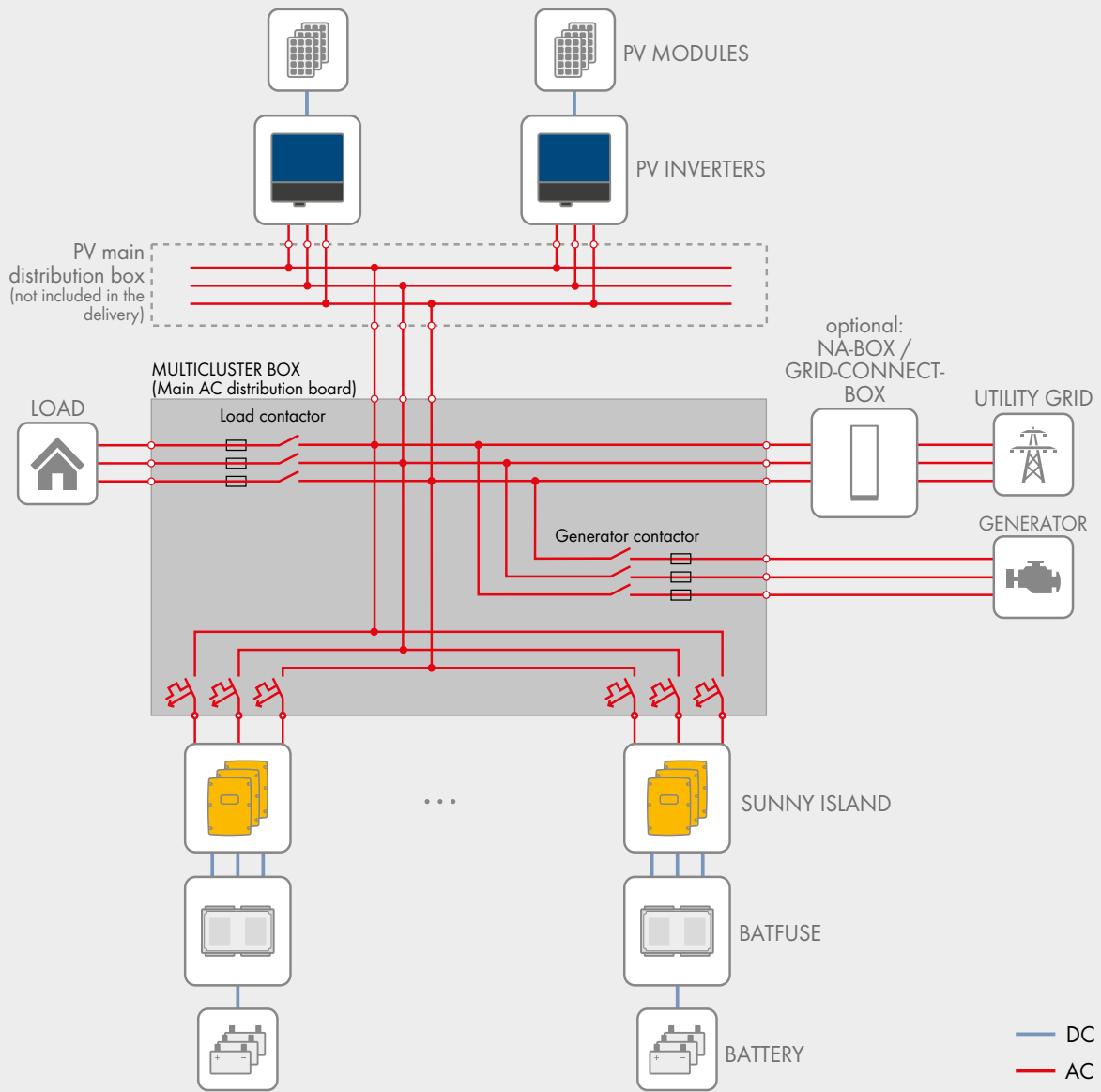
| Setting up Multicuster systems in stand-alone mode or on the utility grid | Necessary components |
|---------------------------------------------------------------------------|--------------------------------------------|
| OFF-GRID | Multicuster-Box 12 |
| ON-GRID (VDE-AR-N 4105) | Multicuster-Box 12 and NA-Box 12 |
| ON-GRID (countries in which VDE-AR-N 4105 does not apply) | Multicuster-Box 12 and Grid-Connect-Box 12 |

| Technical data | NA-Box 12 | Grid-Connect-Box 12 |
|-------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------|
| Connection to utility grid | | |
| Number of connections | 1 x three-phase | 1 x three-phase |
| Rated input power | 138 kW* | 138 kW |
| Rated operating voltage | 230 V / 400 V | 230 V / 400 V |
| Rated current / AC input current | 3 x 200 A | 3 x 200 A |
| Number of AC contactors | 2 | 1 |
| Terminals for connection N, PE, L1, L2, L3 | Spring-cage terminals | Spring-cage terminals |
| Maximum permissible back-up fuse | 200 A | Integrated fuse |
| Fuse / maximum permissible fuse sizes | - | NH1 / 200 A |
| Connection of Multicuster-Box 12 | | |
| Number of connections | 1 x three-phase | 1 x three-phase |
| Rated input power | 138 kW | 138 kW |
| Rated operating voltage | 230 V / 400 V | 230 V / 400 V |
| Rated current / AC input current | 3 x 200 A | 3 x 200 A |
| Terminals for connection N, PE, L1, L2, L3 | Spring-cage terminals | Spring-cage terminals |
| Maximum permissible back-up fuse | 200 A | 200 A |
| General data | | |
| Number of phases | 3 | 3 |
| Permitted grid configuration | TN-S, TN-C-S and TT | TN-S, TN-C-S and TT |
| Rated frequency / frequency range | 50 Hz / 45 Hz to 52 Hz | 50 Hz / 45 Hz to 65 Hz |
| Disconnection | All poles | All poles+ not all poles |
| Dimensions (W/H/D) | 600 / 1400 / 435 mm (incl. 200 mm base) | 600 / 1400 / 435 mm (incl. 200 mm base) |
| Weight | 103 kg | 103 kg |
| Maximum operating altitude above mean sea level | 2000 m | 3000 m |
| Degree of protection (according to IEC 60529) | IP55 | IP55 |
| EMC environment, interference / interference immunity | B / A | B / A |
| Operating temperature range | -20 °C to +50 °C | -25 °C to +60 °C |
| Humidity | 10% to 90% | 0% to 100% |
| Warranty (5 years) | ● | ● |
| EC Declaration of Conformity | Yes | Yes |
| Grid connection standard | VDE-AR-N 4105 | - |
| ● Standard feature ○ Optional feature – Not available | | |
| * for Germany: 100 kW power fed into the grid / 138 kW power drawn from the grid and 100 kWp PV | | |
| Type designation | NA-BOX-12.3-20 | GRID-BOX-12.3-20 |

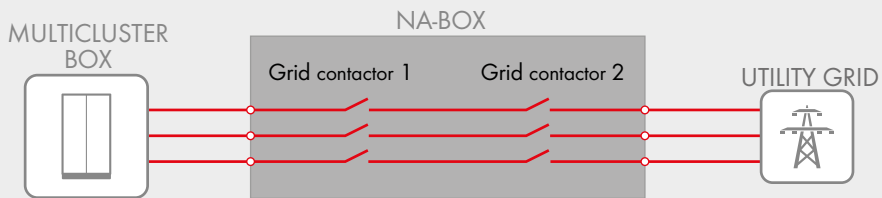
DERATING BEHAVIOR



CIRCUITRY PRINCIPLE OF WHOLE SYSTEM



CONNECTION OF NA-BOX (OPTIONAL)



CONNECTION OF GRID-CONNECT-BOX (OPTIONAL)

