

# 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

## Multiclustertank 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 Multiclustertank 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 Multiclustertank-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 Multiclustertank-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.

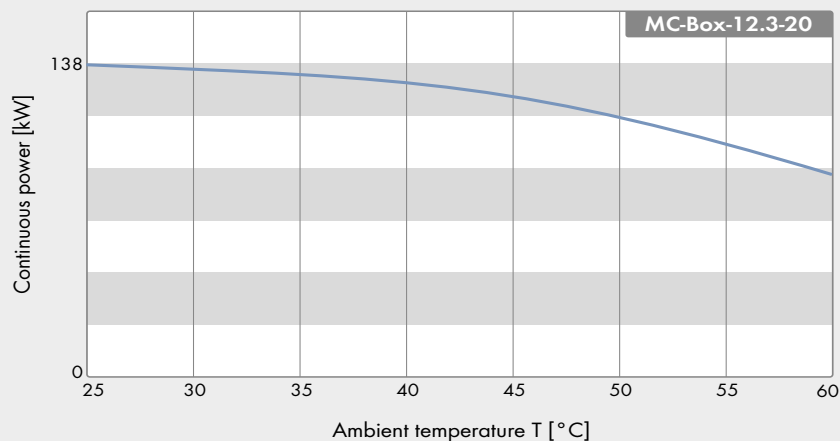
# MULTICLUSTER SYSTEM 12 FOR SUNNY ISLAND

Technical data	Multiclus-ter-Box 12
<b>Load connection</b>	
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
<b>Sunny Island connections</b>	
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
<b>Generator connection</b>	
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
<b>PV system connection</b>	
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
<b>NA-Box / Grid-Connect-Box connection</b>	
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
<b>General data</b>	
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)	1,200 / 1,600 / 435 mm (incl. 200 mm base)
Weight	200 kg
Maximum operating altitude above mean sea level	3,000 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

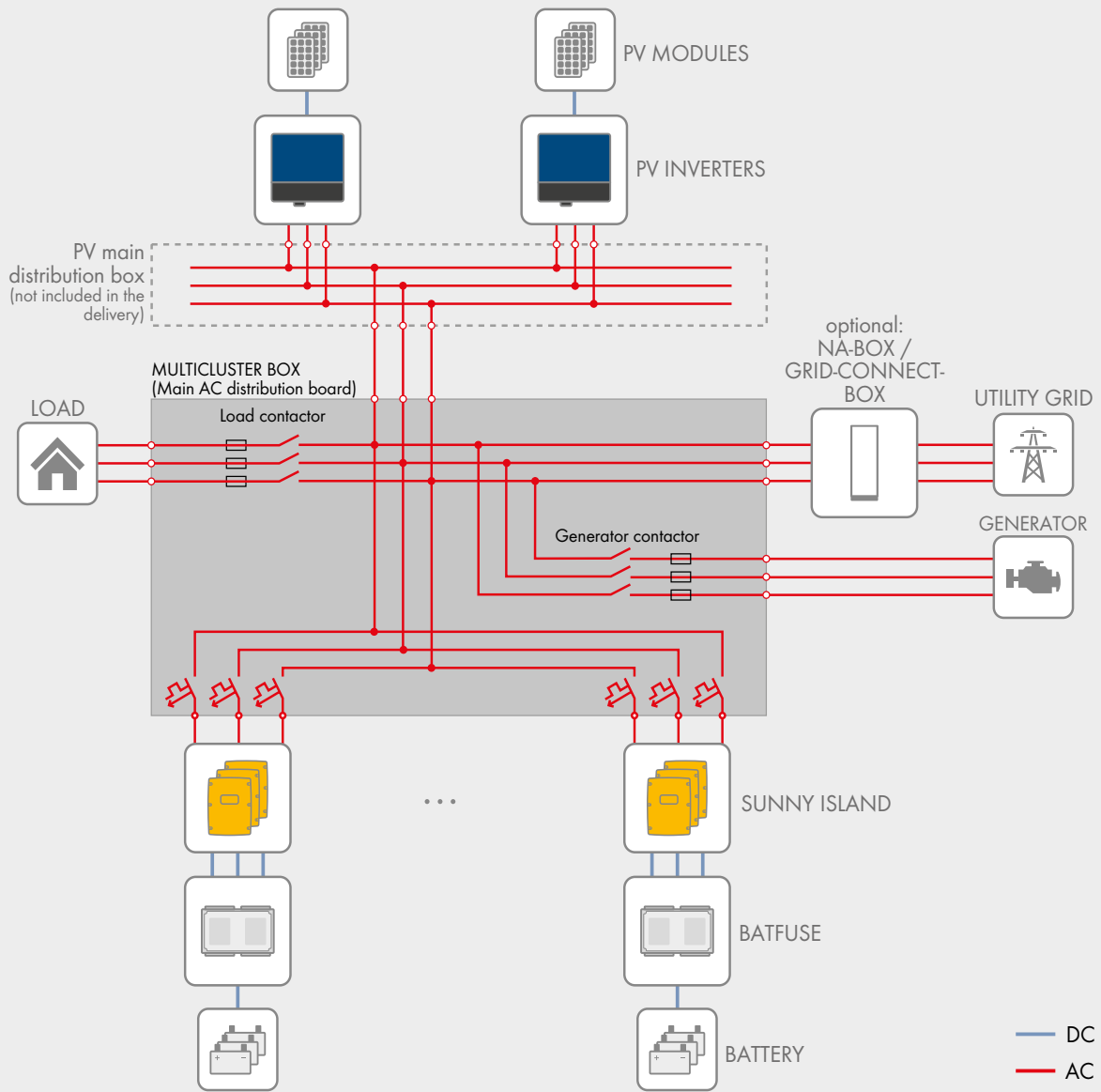
Setting up Multiclustler systems in stand-alone mode or on the utility grid	Necessary components
OFF-GRID	Multiclustler-Box 12
ON-GRID (VDE-AR-N 4105)	Multiclustler-Box 12 and NA-Box 12
ON-GRID (countries in which VDE-AR-N 4105 does not apply)	Multiclustler-Box 12 and Grid-Connect-Box 12

Technical data	NA-Box 12	Grid-Connect-Box 12
<b>Connection to utility grid</b>		
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
<b>Connection of Multiclustler-Box 12</b>		
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
<b>General data</b>		
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 / 1,400 / 435 mm (incl. 200 mm base)	600 / 1,400 / 435 mm (incl. 200 mm base)
Weight	103 kg	103 kg
Maximum operating altitude above mean sea level	2,000 m	3,000 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

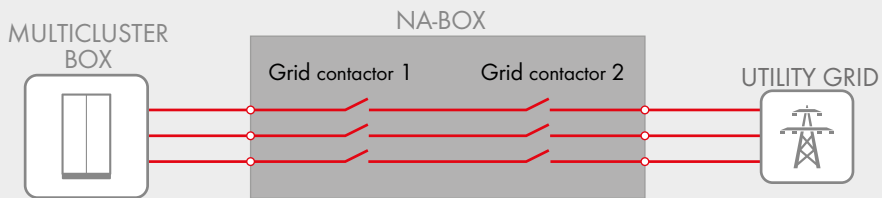
## DERATING BEHAVIOR



## CIRCUITRY PRINCIPLE OF WHOLE SYSTEM



## CONNECTION OF NA-BOX (OPTIONAL)



## CONNECTION OF GRID-CONNECT-BOX (OPTIONAL)

