ENcombi

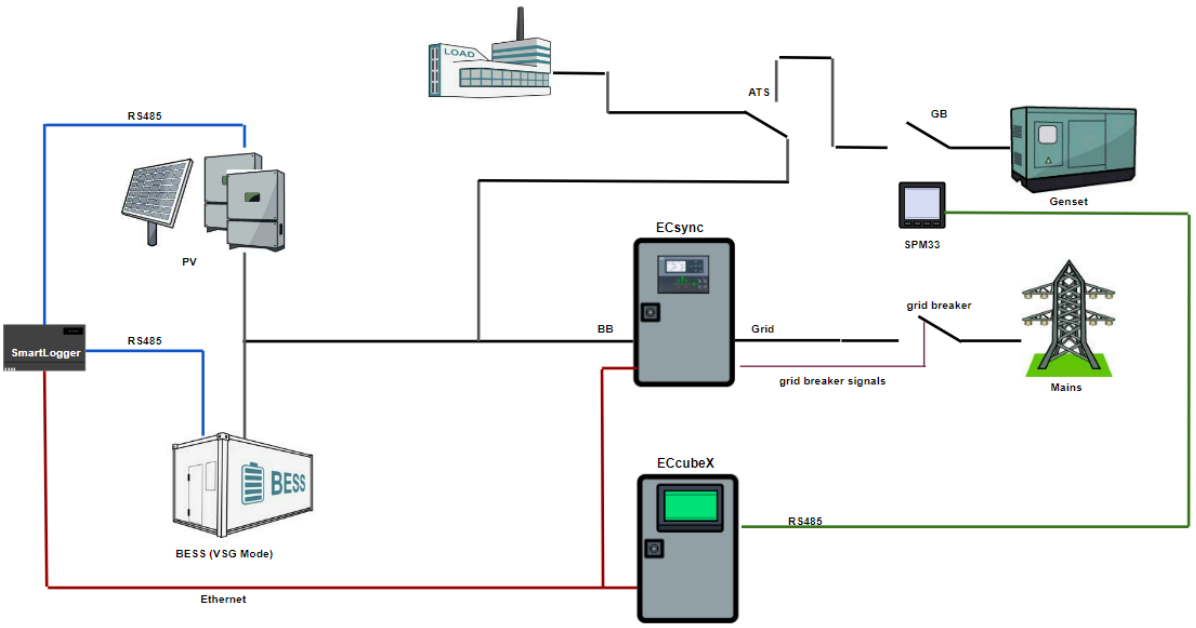


ECsync Control

Datasheet

Overview

ECsync Control is the **EN**combi plug and play cabinet for providing seamless transfer, by means of an external breaker, between on-grid and off-grid operation in BESS applications where the BESS itself does not feature seamless transfer by means of STS or otherwise.



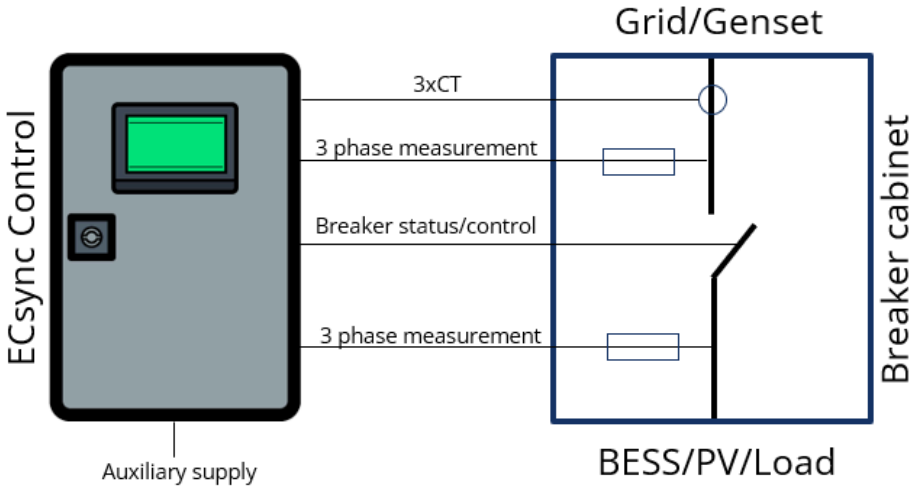
The ECsync Control cabinet's main component is a synchronization relay. The ECsync Control is to be used in conjunction with an external mechanical grid breaker that shall be under the control of the ECsync Control cabinet. The ENcombi EMS ,ECpvX/ECcubeX, will communicate with and control the synchronization relay.

The ECsync Control cabinet can be operated in Manual mode and in Automatic mode. In Manual mode the mechanical breaker can be operated directly on the synchronization relay's display. The ECpvX/ECcubeX will acknowledge the manual commands made and control the plant accordingly. In Auto mode, the ECsync Control cabinet is commanded to work in either on-grid mode or in off-grid mode by the user from the ECpvX/ECcubeX.

This is easily done both via the ECpvX built-in webserver, ECweb, or via the ECpanel HMI.

In on-grid mode, the ECsync Control cabinet will always reconnect the grid with the BESS when the grid is available. In off-grid mode, the ECsync Control cabinet will unload the external mechanical breaker by adjusting the BESS and PV output before opening it.

Schematic of how to connect to the external grid breaker



Note that the breaker operation commands issued by the ECsync Control cabinet are potential free contacts.

Note that if used on other voltage levels than the rated one, voltage transformers are to be used.

Note that the auxiliary supply is optional in the LV variant.

Note that the points of connections are illustrative only. All cables going to the ECsync Control cabinet connect via the bottom.

Data

AC

Voltage system	3P/3P-N
Grounding system	TN-S
Rated voltage phase-phase LV variant [VAC]	200-440
Rated voltage phase-phase HV variant [VAC]*	100-440
Current sensing input (common return) [A]	1 or 5
Rated frequency [Hz]	50 or 60
Auxiliary supply (optional) [VAC]**	85-264
Other protections: -ROCOF -Vectorjump -Low/high voltage protection (multiple levels) -High current protection (multiple levels) -Low/high power protection (multiple levels) -Positive, negative & zero sequence -Unbalanced voltage -Unbalanced current (multiple levels)	***

*Use voltage transformers. Cabinet is not supplied through these. Auxiliary supply is included.
**Relevant for the LV variant only. Without this option the cabinet is supplied from the grid or busbar side. Whichever is on.
*All protections are available but not all are enabled per default

General information

Dimensions [mm]	h:600 w: 600 d: 240
Weight [kg]	30
Installation place	indoor
panel type	Wall mounted
Color	RAL 7035 light gray
Protection degree	IP54
Max altitude [m]	2000
Minimum temperature [celsius]	5
Maximum temperature [celsius]	40
Maximum daily average temperature [celsius]	35
Maximum daily average humidity [%]	90
AC Inlet/outlet	bottom
Communication and control signals	bottom
standard IEC/EN 61439-1	●

Communication & Control

ECpvX/ECcubeX via Modbus TCP	●
ECpvX/ECcubeX via Modbus RTU	●
Display - synchronization relay	●
250VAC/30VDC 10A relays controllable from EClogic	8
Open/Close breaker contacts and UV coil. 250VAC/8A or 110VDC/5A	NO
Auxiliary contact indicating the breaker position	1
24VDC positive logic inputs readable in EClogic	8*

*2 reserved for closed position feedback of the external grid and genset breaker.

Extras

The ECsync Control can be equipped with the ECpvX built in and the same extras as are available in the ECcubeX.

For more information visit:

www.encombi.com