

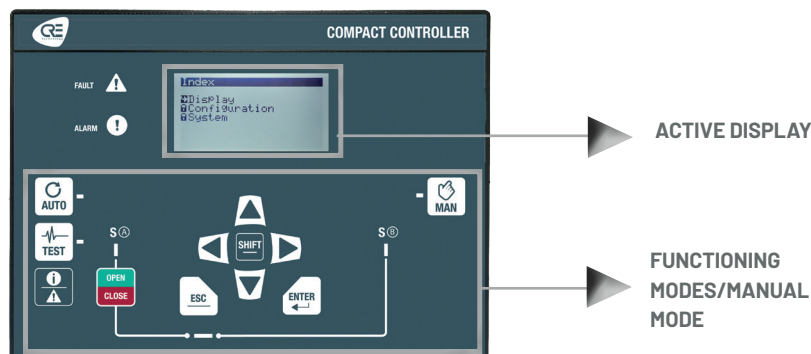


QUICK START BTB COMPACT

The purpose of this document is to allow a fast and easy handling of the product, nevertheless it is essential that you refer to the technical documentation (latest version always available on our website www.cretechnology.com) for the commissioning.

For any further information on this product, please contact your local distributor or agent or directly our support team.

- All our products have a 1 year warranty
- Help desk: +33 492 38 86 86
- E-mail: support@cretechnology.com
- SKYPE: support-cretechnology.com



OPERATIONNAL MODES

The **BTB COMPACT** can be configured and controlled with the front panel, which is separated into two parts:

1. The top end and middle part: dedicated to the navigation, monitoring and measure display.
2. The bottom end part: dedicated to the 3 functioning modes selection:

- **AUTO** - This mode makes the **BTB COMPACT** operate the installation in a fully automatic mode according to its settings and configuration, external action to start tie breaker operation: "remote start digital input" or TCP ModBus.
- **TEST** - This mode simulates the start of the Auto mode with the requested sequences, to exit from the TEST mode, simply press AUTO or press MANUAL mode.
- **MANU** - This mode allows you to manage your installation with the front panel buttons manually: you will be able to start/stop the tie-breaker automatic synchronization (open/close the breaker) and ramp while still benefiting from the active protections of the **BTB COMPACT**.

MENUS

Once the **BTB COMPACT** is switched on, you can access the menu on 3 different levels (to access the password page, press ESC or ENTER.):

- **Level 0** : No password required, just press «ENTER» to access the display.
- **Level 1** : Just press «ENTER» to go on Display menu. Press «↓» to select «configuration or «system» of the **BTB COMPACT**. Press «ENTER» to switch to password mode. Press «↑» to change the character; press «→» to move to the next character. Level 1 password is «1».

NOTE : The Level 1 password gives you access to the minimum settings recommended to start your commissioning on your power plant. This level "1" is equivalent to "standard mode" on the i4Gen Suite software.

- **Level 2** : Just press «ENTER» to go on Display menu. Press «↓» to select «configuration or «system» of the **BTB COMPACT**. Press «ENTER» to switch to password mode. Press «↑» to change the character; press «→» to move to the next character. Level 2 password is «1234».

NOTE : The level 2 password gives you access to all settings to commission your power plant. This level "2" is equivalent to "advanced mode" on the i4Gen suite software. For complex settings, which are not available through the front panel of the module, use i4Gen Suite (Analogue inputs, Easyflex, Scheduler, etc ..).

THE DIFFERENT MENUS WILL APPEAR AS FOLLOW

DISPLAY	
POWER PLANT	Electrical information on the power plant: kW/kVAR. Nominal values. Generators state.
SOURCE A	Electrical measures on Source A : frequency, voltage, powers and Cos Φ.
SOURCE B	Electrical measures on Source B : frequency, voltage, powers and Cos Φ.
SYNCHRO.	Electrical measures on synchronization: phase, frequency, voltage, phase sequence.
INPUTS/OUTPUTS	Real time displays for digital I/Os, analog inputs, relays outputs and CANopen digital I/Os.
ABOUT	Information on hardware product: serial number, firmware version.
SYSTEM (*LEVEL 2 ONLY)	
EVENTS*	Events to configure.
DATE/TIME	Regional settings, on date and time.
SCREEN SETUP	Screen settings about contrast, backlight, screen saver, time out password and language.
ETHERNET	Ethernet communication settings, IP, etc..

CONFIGURATION (*LEVEL 2 ONLY)	
APPLICATION	Installation description: my number, number of generator and number of MASTER/BTB. Level 2 : segment number, segment A, segment B, voltage system and power up mode.
TIMERS	Timer settings for ramps, breaker and horn.
SOURCE A	Definition of the electrical measure: PT ratio and nominal values (kW, kVAR, F, V).
SOURCE B	Definition of the electrical measure: PT ratio and nominal values (kW, kVAR, F, V)
SYNCHRO. CHECK RELAY *	Voltage, frequency, phase windows accept, and fail to synch timer.
INPUTS/OUTPUTS	Digital inputs and outputs settings. Relays outputs and analog inputs settings.
BREAKERS	Breaker control settings. Level 2 : Timers and attempts.
CONTROL LOOPS	Synchronization settings: Global Gain synchro and phase diff. Level 2 : proportional, integral and derivative synchronization settings.
SOURCE A PROTECTIONS*	Protections on frequency, voltage and unbalance.
SOURCE B PROTECTIONS*	Protections on frequency, voltage and unbalance.
OTHER PROTECTIONS*	Protections on analogue inputs, battery, battery boost.
MODIF BY VAR NUMBER*	Personnalized settings (for experienced users only).



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WIRING CONNECTION

Wiring & Dimensions/Panel cut out, [please check on the web site](http://www.cretechnology.com/en/paralleling/127/btb-compact), (www.cretechnology.com/en/paralleling/127/btb-compact) in the **technical documentations section**.

PC CONNECTION - WITH I4GEN SUITE SOFTWARE

Switch on the controller. Connect the Ethernet port (RJ45-LAN) of your computer to the Ethernet port of the controller. To be able to establish communication between the i4Gen Suite and the controller, the network addresses of both devices should be configured:

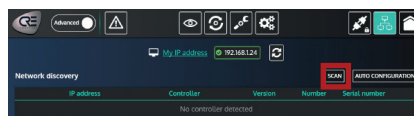
1. For PC network configuration, please refer to your Windows network settings.
2. The controller network configuration can be done from the controller front panel or via the i4Gen Suite software.
3. The network configuration of both devices has to be compatible: The IP address by default of CRE TECHNOLOGY controllers is: 192.168.11.1

Installation of the i4Gen Suite SOFTWARE

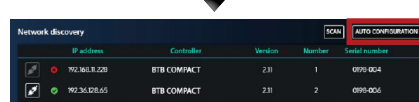
Download the latest version of the software on our website
www.cretechnology.com/en/c/33/products/software



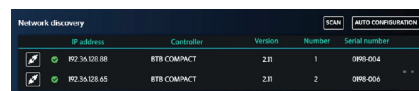
Open the i4Gen Suite software and go on Easy connect menu (on the top right)



Click on the icon "SCAN".
Your BTB COMPACT will appear



Click on the icon "AUTO CONFIGURATION" to adapt IP addresses



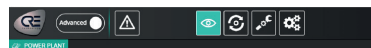
Your system is ready

You can click to connect on the product.

ONCE CONNECTED, YOU WILL BE ABLE TO NAVIGATE THROUGH THE FOLLOWING MENUS

CONTROLLER SUPERVISION

(Visualization of all parameters)



CONTROLLER DYNAMIC SETTINGS

(Parameters settings with engine running)



CONTROLLER STATIC SETTINGS

(Parameters setting with engine stopped)



APPLICATION SETTINGS

(PC software settings)



NOTE

Before the commissioning or the operation of your equipment, please read carefully the user's manual and other related documentations.

Engines, turbines or any other type of Generator must be equipped with protections (overspeed, temperature, pressure... depending on your installation). We also offer personalized and specific training on our product range and software, as well as additional services such as: onsite support, application engineering or specific support.



Carefully apply the safety instructions. Any misuse of your equipment can lead to human or machine damages.

COMMISSIONING

- In MANU mode: Test to open and close the tie-breaker (with voltage on source A or on source B only).
- Manage synchronization (on both sources sides, GENSYS COMPACT PRIME must be in AUTO mode) without connection with the tie-breaker, and check voltage difference <40V_{ac} on breaker. If OK, paralleling can be tested. Test both side synchronization:
 - From source A to source B (digital input V4637 AB or BA): input value at 0
 - From Source B to source A (digital input V4637 AB or BA): input value at 1
- After commissioning, the product can be switched to AUTO mode

CONTROL LOOPS ADJUSTMENT



To adjust the GPID parameters, we offer, on the same screen, the real time synchronization curve visualization for global phase synchronization stability.

- With level 1 of the controller (standard mode with i4Gen Suite), you have access and you can set the global gain G.
- With level 2 of the controller (advanced mode with i4Gen Suite), you have access and you can set Proportional P, Integral I and Derivative D.
 - Increase P value to have measure curve close to setpoint curve, without hunting.
 - Increase I to decrease the static error (difference between setpoint and measure), without slow hunting.
 - Only if necessary, increase D, for oscillation attenuation.



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