

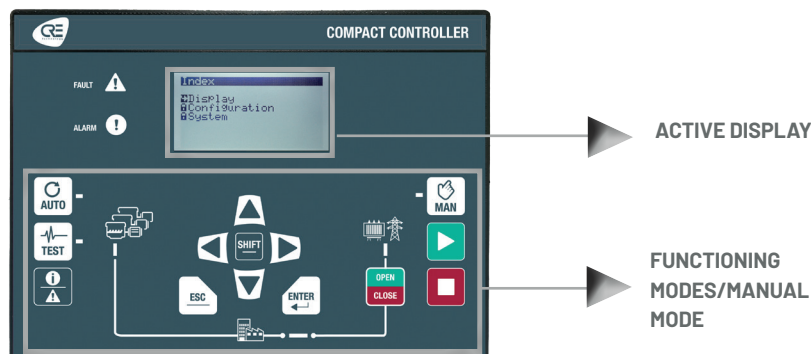


QUICK START MASTER COMPACT 1B

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 **MASTER COMPACT 1B** 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 **MASTER COMPACT 1B** 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 **MASTER COMPACT 1B**.

MENUS

Once the **MASTER COMPACT 1B** 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 to Display menu. Press «↓» to select «configuration or «system» of the **MASTER COMPACT 1B**. 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. Level "1" is equivalent of "standard mode" on the i4Gen Suite software.

- **Level 2** : Just press «ENTER» to go to Display menu. Press «↓» to select «configuration or «system» of the **MASTER COMPACT 1B**. 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. Power plant state.
BUS	Electrical measures on bus: general, voltage and powers.
MAINS	Electrical measures on mains : general, voltage, powers, currents, powers per phase and power factors.
SYNCHRO.	Electrical measures on synchronization : phase, frequency, voltage, phase sequence.
INPUTS/OUTPUTS	Real time displays for digital I/Os, and CANopen digital I/Os.
ABOUT	Information on hardware product : serial number, firm-ware version.

SYSTEM (*LEVEL 2 ONLY)	
EVENTS*	Events personalized list to configure.
DATE/TIME	Regional settings, on date and time.
SCREEN SETUP	Screen settings about contrast, backlight, screen saver.
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, voltage system, inhibition of the remote start Master, power up mode.
TIMERS	Timer settings for ramps, breaker, start sequence, stop sequence, Mains and gas engine sequences.
BUS	Definition of the electrical measure ratios (PT, CT), power plant nominal values (kW, kVAR, V, F) and minimum values (number of GE). Level 2 : High/Low limit, electrical fault.
MAINS	Definition of the Mains electrical measure : ratios (PT, CT), nominal values (V, Hz) and Mains kW measure. Level 2 : Mains electrical fault and authorization to start.
SYNCH CHECK RELAY*	Voltage, frequency, phase windows acceptance, and fail to synch timer.
POWER MNGT*	Power and timer settings for unload breakers.
INPUTS/OUTPUTS	Digital inputs and outputs settings. Relays outputs settings.
BUS PROTECTIONS*	Protections on frequency, voltage and unbalance.
MAINS PROTECTIONS*	Protections on frequency, voltage, reverse power, kW, kVAR, vector jump, Df/Dt and unbalance.
OTHER PROTECTIONS*	Protections on analogue inputs, battery and battery boost.
CONTROL LOOPS	Synchronization settings: Gain PID synchro, proportionnal, integral and derivative. Set-point: base load, peak shaving kW and power factor.
MODIF BY VAR NUMBER*	Personalized settings (for experienced users only).



QUICK START MASTER COMPACT 1B

WIRING CONNECTION

Wiring & Dimensions/Panel cut out, [please check on the website](http://www.cretechnology.com/en/paralleling/125/master-compact-1b), (www.cretechnology.com/en/paralleling/125/master-compact-1b) 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:

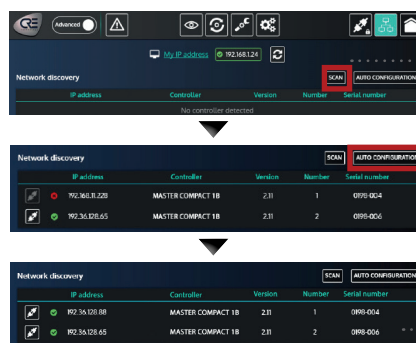
1. For PC network configuration, please refer to your Windows network settings.
2. The controller network configuration can be done from the controller front panel or via the i4Gen Suite software.
3. The network configuration of both devices has to be compatible: The IP address by default of CRE TECHNOLOGY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

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

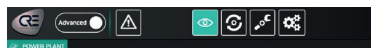
..... Your system is ready

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: Open and Close the Bus breaker and the Mains breaker.
- Disconnect the breaker relay output of the controller. Apply synchronization (on Bus sides, GENSYS COMPACT PRIME must be in AUTO mode), and check if frequency, phase and voltage difference are within the expected limits. Apply the same procedure to control manage on the Mains breaker.
- Mains paralleling can be tested, and stability can be adjusted.
- After commissioning, the product can be switched to AUTO mode.

CONTROL LOOPS ADJUSTMENT



To adjust these parameters, we offer, on the same screen, the real time curves visualization of parameter setpoint and measurement. These 2 curves help you to adjust PID for global stability. Available for synchronization (phase).

- 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 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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