



GENSYS COMPACT

PRIME Paralleling unit



Application Note – Demonstration mode

1. Introduction

In demonstration mode, GENSYS Compact considers 3 modules in parallel and allows to simulate:

- Start sequence
- Synchronization
- Load/unload according to the load
- kW and kVAR load sharing
- Navigate through menus and visualize voltages, currents, frequency, kW, kVAR, load sharing, synchronization



WARNING

RISK OF EQUIPMENT DAMAGE

Never connect a GENSYS in demonstration mode on a real application.

In order to secure the demonstration mode, it's not possible to enter in demonstration mode while frames are received on inter-GENSYS CAN bus. A hard shut down will occur if one frame is received on inter-GENSYS CAN bus during demonstration mode.

2. Configuration

1 Selection of demonstration mode

First of all, update your module with the last version of GENSYS Compact available on CRE Technology web site.

Then in order to have right labels, parameters and put your GENSYS Compact into demonstration mode, you have to load into GENSYS Compact PRIME the following configuration file in level 2:

Configuration-Demo-v1.01.txt

Note: You can also enter in demonstration mode by setting parameter E2011 to 1. This parameter can be updated in level 2 by modification by variable number.

Demonstration mode will be active 10s after modification the E2011 parameter modification.

2 Default values and power plant overview

Generators #1 and #2 will be still in load sharing. Bus voltages are set to 405V (i.e. +1% of the nominal voltage), bus frequency is 49.5Hz (i.e. -1% of the nominal), cosphi is set to 0.8l.

Generators #1 and #2 are set with a kW nominal of 2000kW and a kVAR nominal of 1500kVAR.

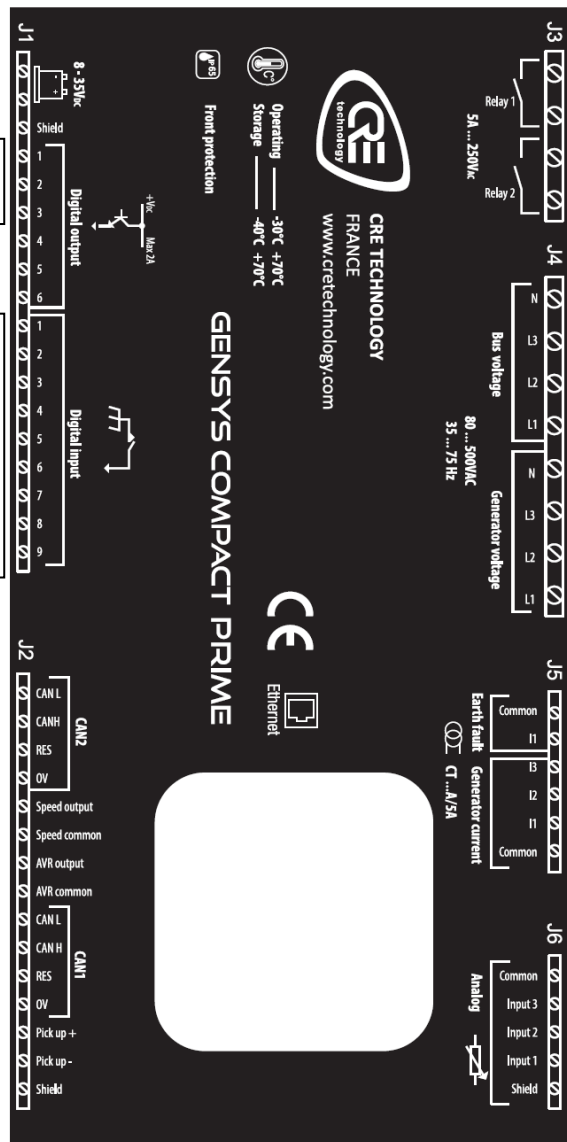
Generator #3 correspond to generator manage by the GENSYS Compact of the suitcase.

Generator number	kW nominal	kVAR nominal	Voltage	frequency	Comments
1	2000 fixed	1500 fixed	+ 1% bus nominal voltage (default value 400V) => 405V	- 1% bus nominal frequency (default value 50.00Hz) => 49.5Hz	Generator still on the load
2					
3	2000 configurable	1500 configurable	Configurable : Nominal voltage	Configurable : Nominal frequency	

A minimum oil pressure of 1000mBar and a minimum water temperature of 40.0°C are configured. As a consequence, the potentiometers on analog #1 and analog #2 must be properly set to allow starting engine.

Starter #1
Fuel

Breaker feedback
Remote start
Emergency stop (reverse polarity)
Oil pressure fault



Open breaker

Close breaker

Load simulation (0 à 5000kW)
Water temperature
Oil pressure

Analog inputs are set as follows by default:

- Analog #1 : oil pressure
- Analog #2 : water temperature
- Analog #3 : load simulation in kW (usefull to check the load/unload start according to the load)

Digital outputs are set follows by default:

- Output #1 : Starter #1
- Output #2 : Fuel

Relay outputs are set follows by default:

- Relay #1 : open breaker
- Relay #2 : close breaker

Digital inputs are set follows by default:

- Input #1 : breaker feedback (not used because breaker feedback is internally)
- Input #2 : remote start
- Input #3 : Emergency stop
- Input #4 : Oil pressure fault

All parameters can be modified except:

- Load/unload by group number
- Number and count of generator set to 3
- Speed measurement by alternator and number of couple of polar set to 2

3. Features

Most features of the GENSYS Compact are available :

- Engine start sequence (prelubrication, preheat, stabilisation,...)
- Manual mode : Start-stop, manage speed and voltage analog output before closing breaker, open/close breaker, load and unload ramp according to GENSYS Compact parameters
- Mode AUTO/TEST : Start-stop according to the load (load simulated by analog input #3) to GENSYS Compact parameters
- Modbus TCP
- Connexion to CRE Config (display/configuration/system)
- Alarms/Faults/logger archiving
- Synchronization PIDs (P frequency and P phase) influence the synchronization time
- Delay (start sequence, protections, inputs,...)
- Inputs/outputs function
- CANopen
- Protections
- Maintenance
- Energy meters