



-power in control



QUICK START GUIDE



Automatic Genset Controller, AGC-3

- What's in the delivery
- Getting started
- The first steps
- Using the AGC



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1. General information

1.1 Warnings, legal information and safety

1.1.1 Warnings and notes

Throughout this document, a number of warnings and notes with helpful user information will be presented. To ensure that these are noticed, they will be highlighted as follows in order to separate them from the general text.

Warnings



Warnings indicate a potentially dangerous situation, which could result in death, personal injury or damaged equipment, if certain guidelines are not followed.

Notes



Notes provide general information, which will be helpful for the reader to bear in mind.

1.1.2 Legal information and disclaimer

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the engine/generator controlled by the Multi-line 2 unit, the company responsible for the installation or the operation of the set must be contacted.



The Multi-line 2 unit is not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.

1.1.3 Safety issues

Installing and operating the Multi-line 2 unit may imply work with dangerous currents and voltages. Therefore, the installation should only be carried out by authorised personnel who understand the risks involved in working with live electrical equipment.



Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

1.1.4 Electrostatic discharge awareness

Sufficient care must be taken to protect the terminal against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

1.1.5 Factory settings

The Multi-line 2 unit is delivered from factory with certain factory settings. These are based on average values and are not necessarily the correct settings for matching the engine/generator set in question. Precautions must be taken to check the settings before running the engine/generator set.

1.2 About the Quick Start Guide

1.2.1 General purpose

This Quick Start Guide mainly includes general product information, mounting instructions and wiring descriptions.

The general purpose of this document is to help the user with the first steps of installing and using the Multi-line 2 system.



Please make sure that you also read the Installation Instructions before starting to work with the Multi-line 2 unit and the genset to be controlled. Failure to do this could result in human injury or damage to the equipment.

1.2.2 Intended users

This Quick Start Guide is mainly intended for the panel builder in charge. On the basis of this document, the panel builder designer will give the electrician the information he needs in order to get started with the installation. For detailed electrical drawings, please see the Installation Instructions.

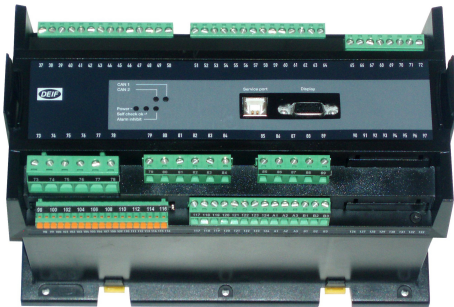
1.2.3 Contents and overall structure

This document is divided into chapters, and in order to make the structure simple and easy to use, each chapter will begin from the top of a new page.

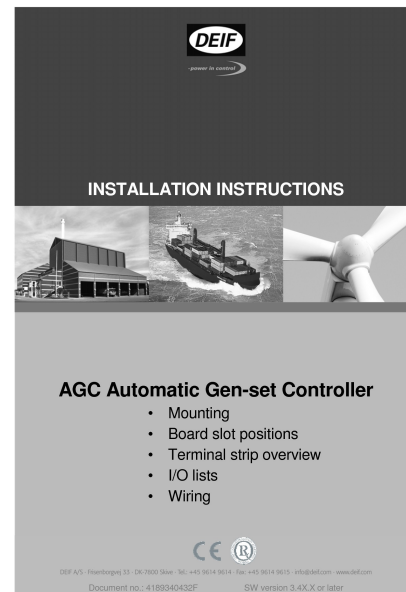
2. What's in the delivery?

2.1 Standard delivery

The main unit



Installation Instructions



Standard display, DU-2



2.2 Optional delivery

Display cable (option J1/J2/J6)



PC cable for utility software (option J3 or J7)



Additional standard display, DU-2 (option X2)Additional Operator's Panel, AOP-1 (option X3)Additional Operator's Panel, AOP-2 (option X4)

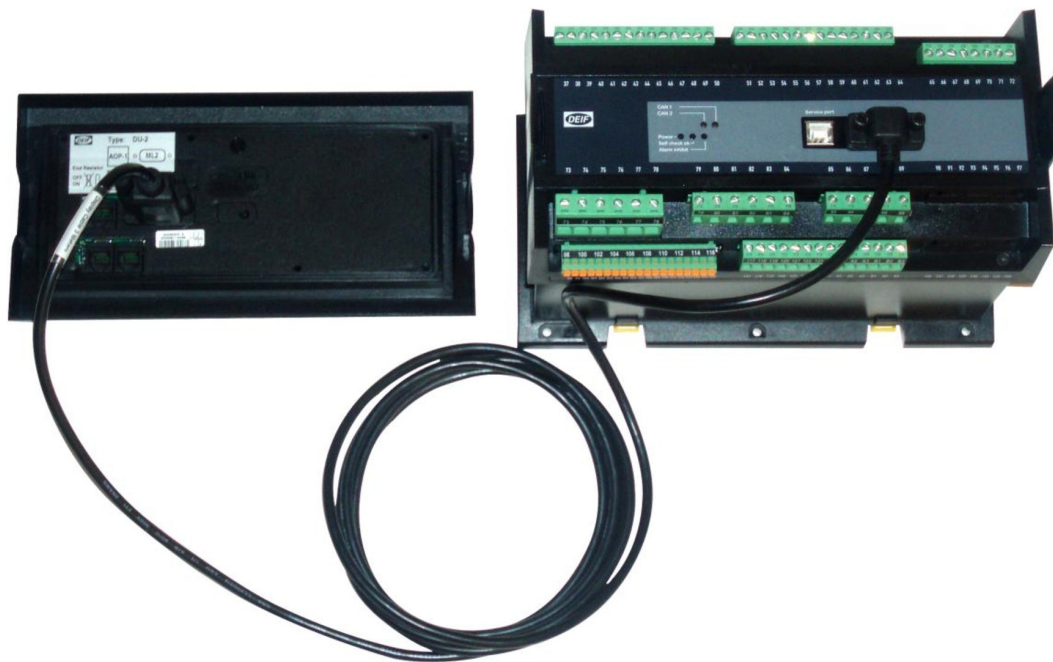
For connection description of the optional deliveries, please refer to the option X manual.

3. Getting started

3.1 Connecting the devices

3.1.1 Connecting the display with the main unit

Connect the SUB-D display cable to the main unit and the display unit as shown in the picture below.



No use of tools or brute force when tightening the finger-screws on display cable.

4. The first steps

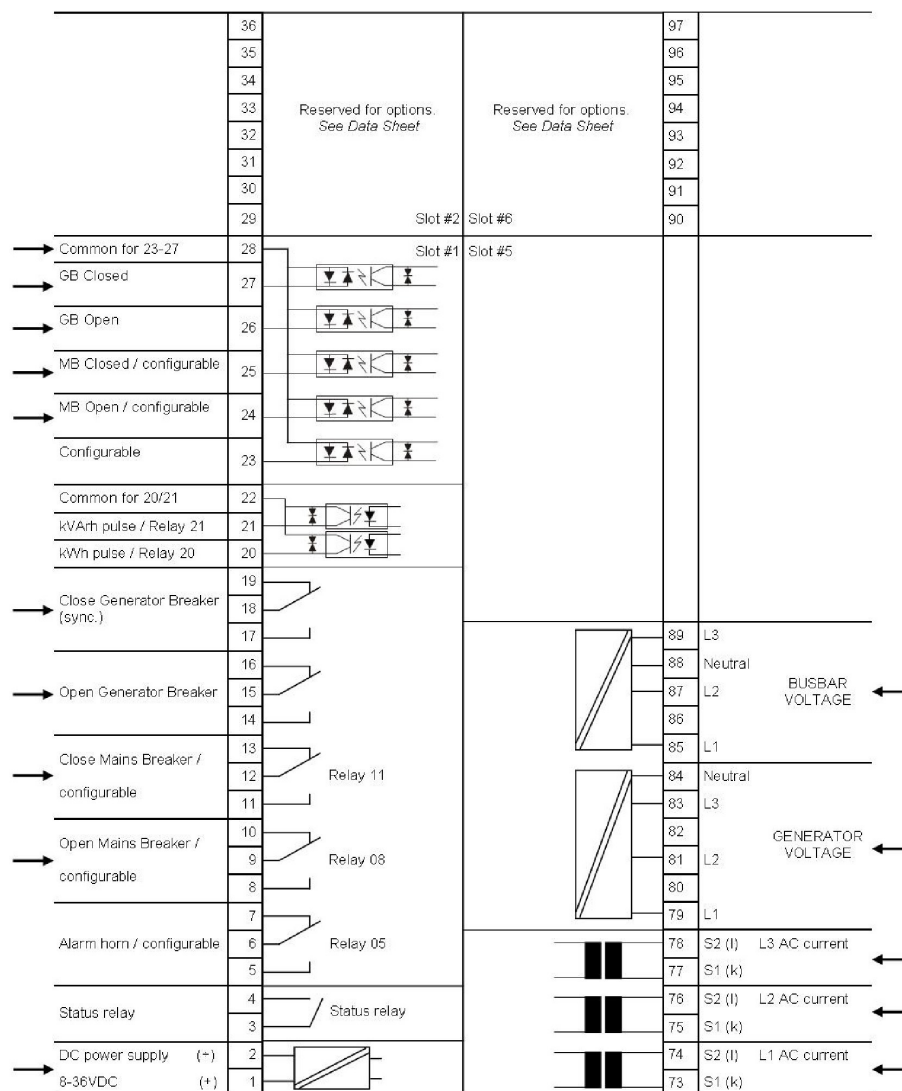
4.1 Switching on the first time

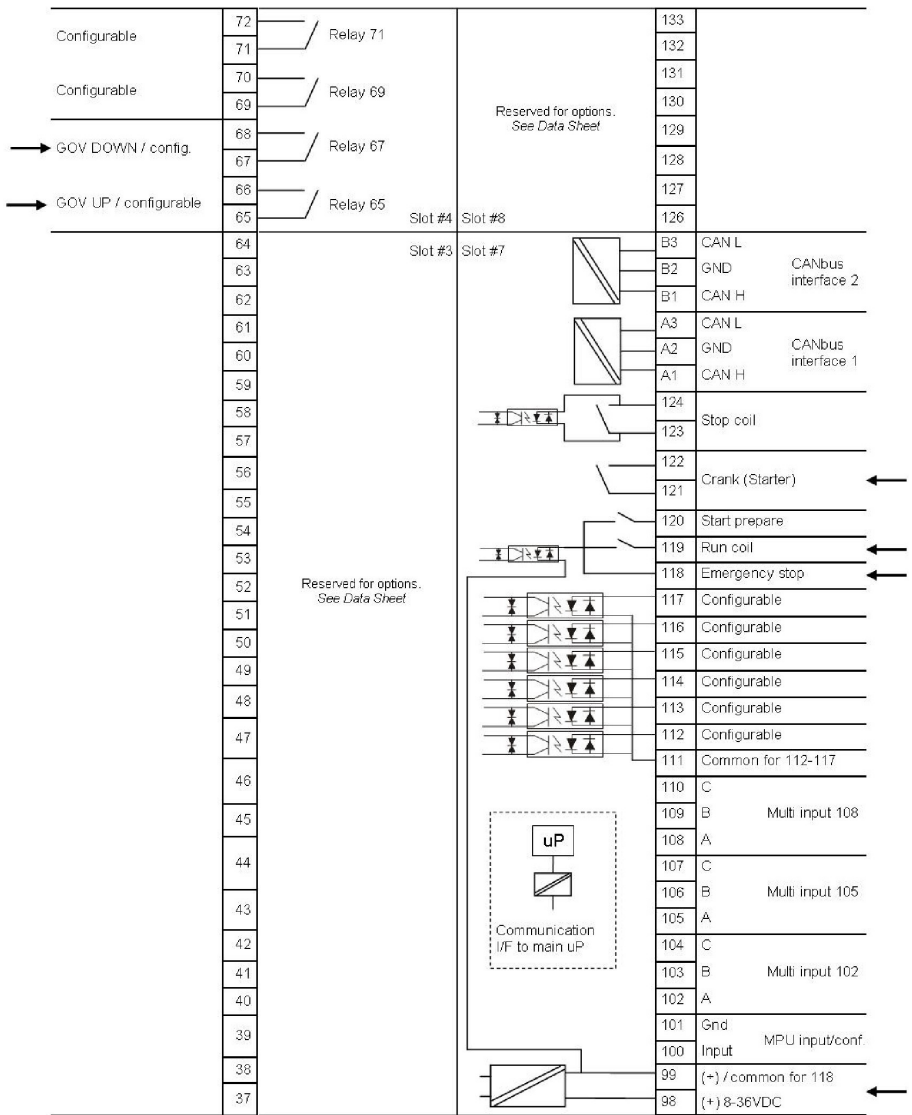
The drawings below show the wiring of the most important signals. Once all connections to the main units are done, the units are ready to be switched on.

4.1.1 AGC single application

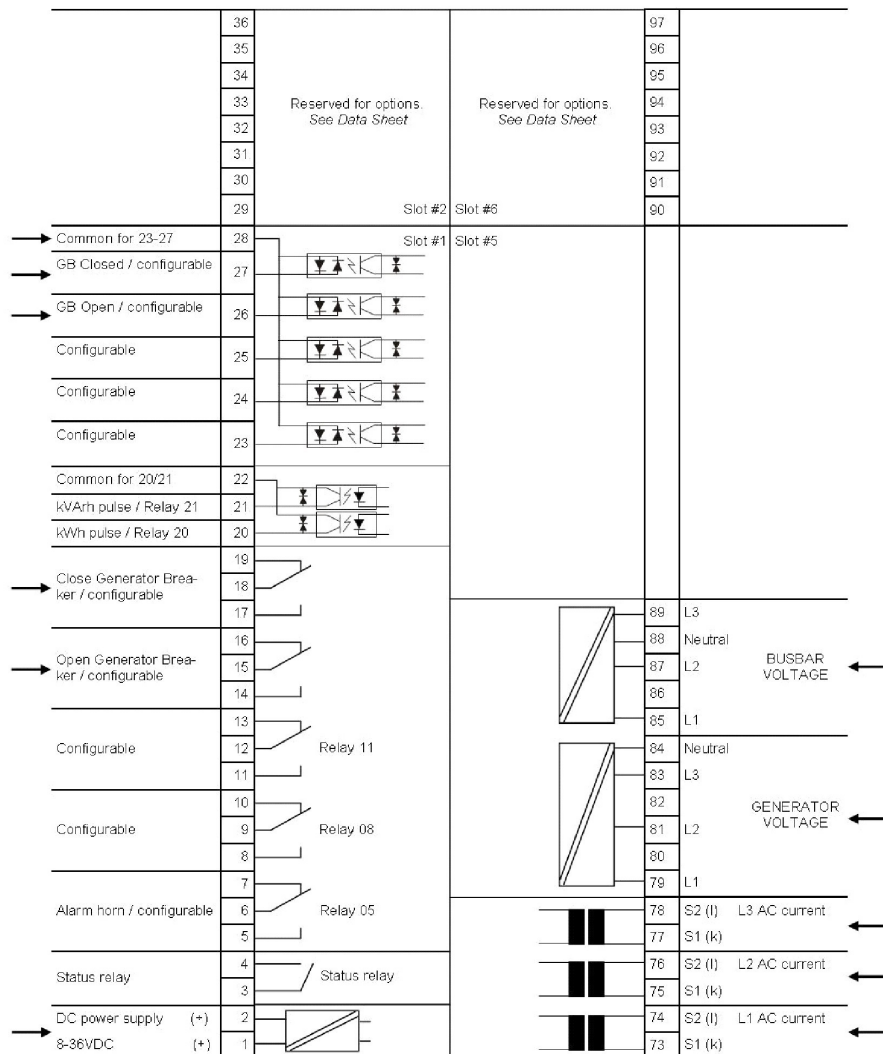


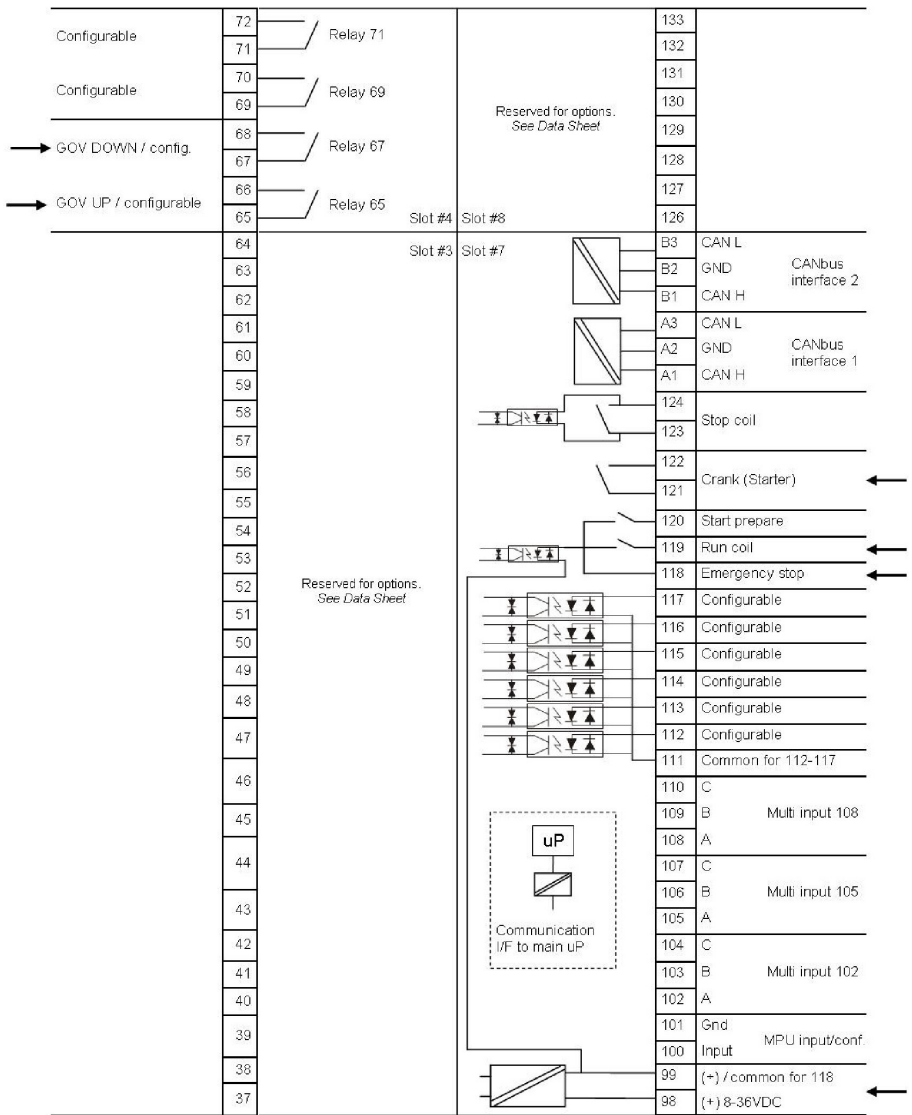
The most important connections are marked with an arrow.



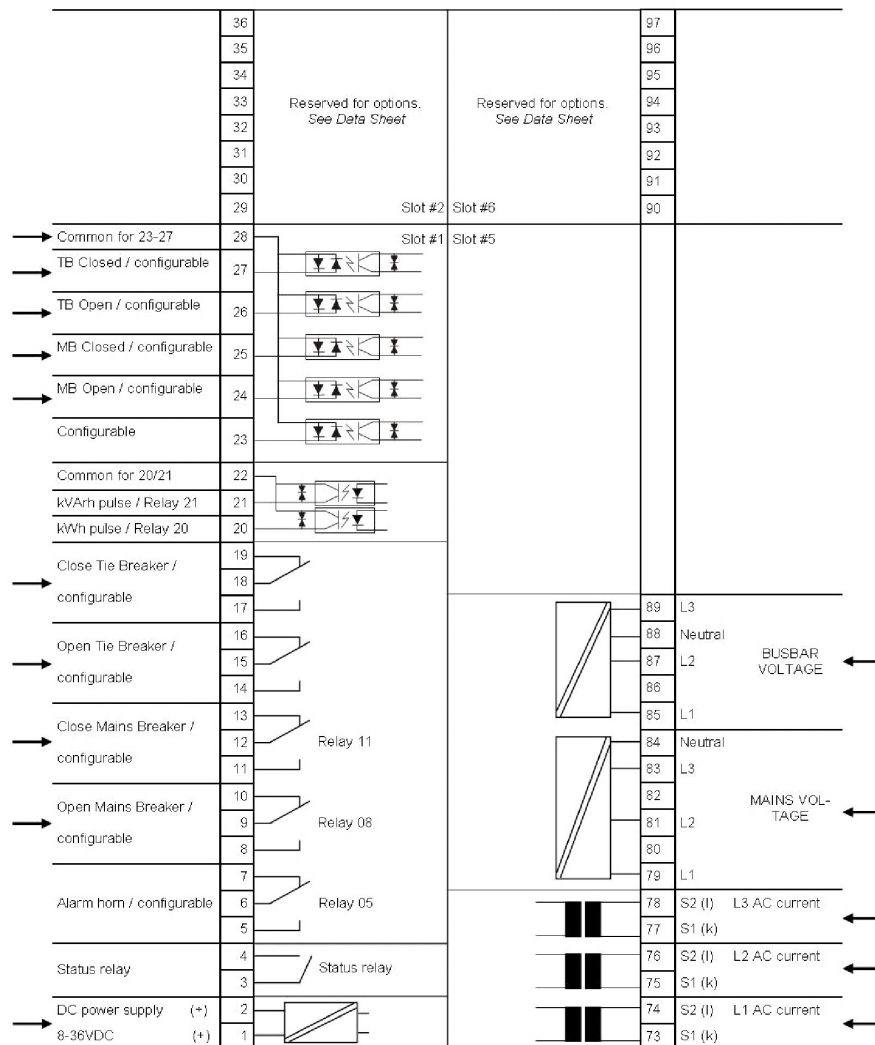


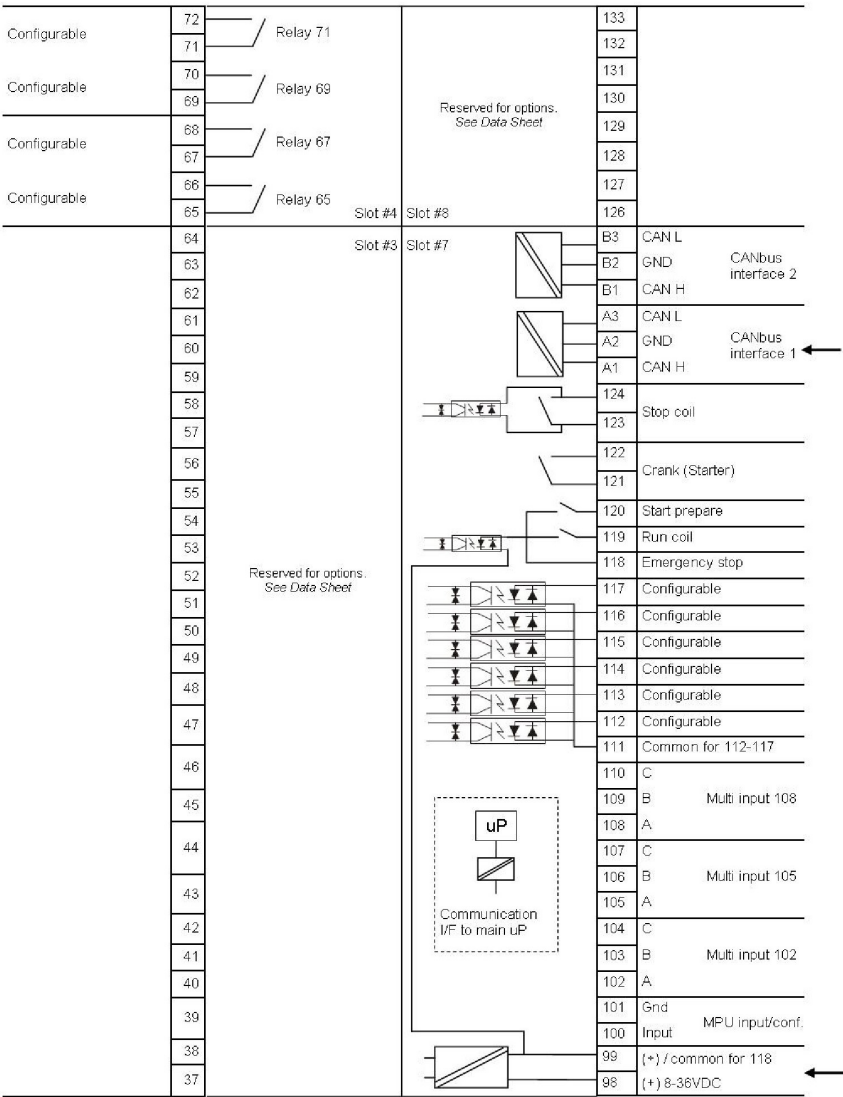
4.1.2 AGC island



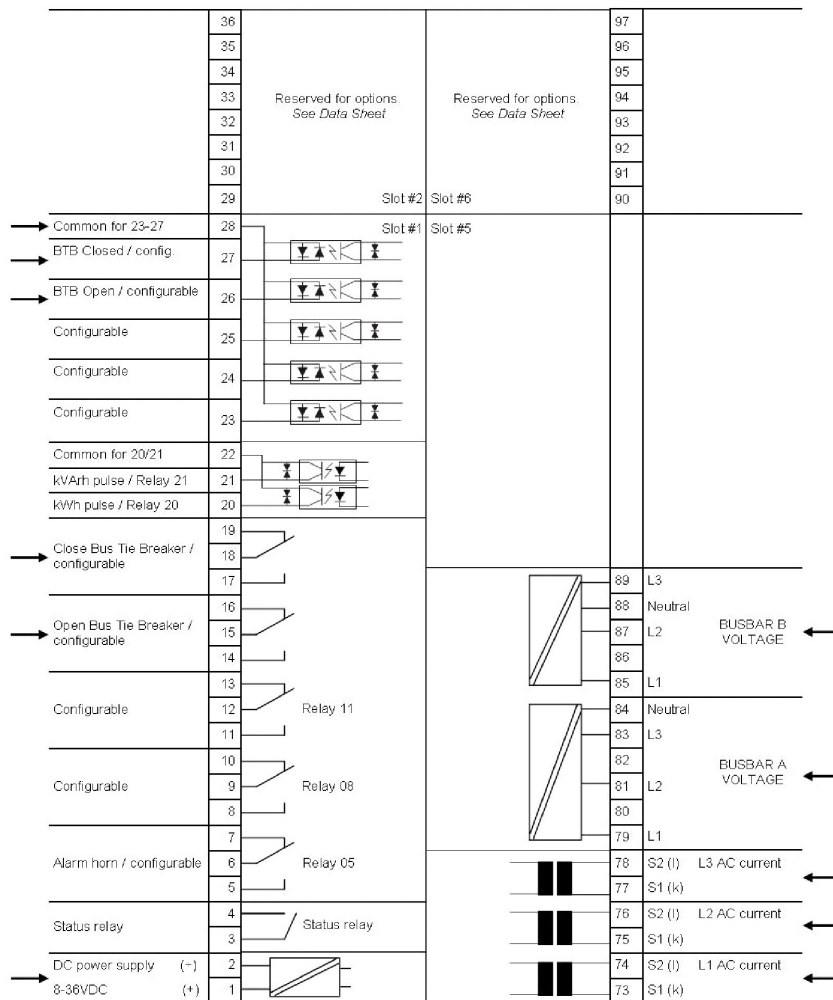


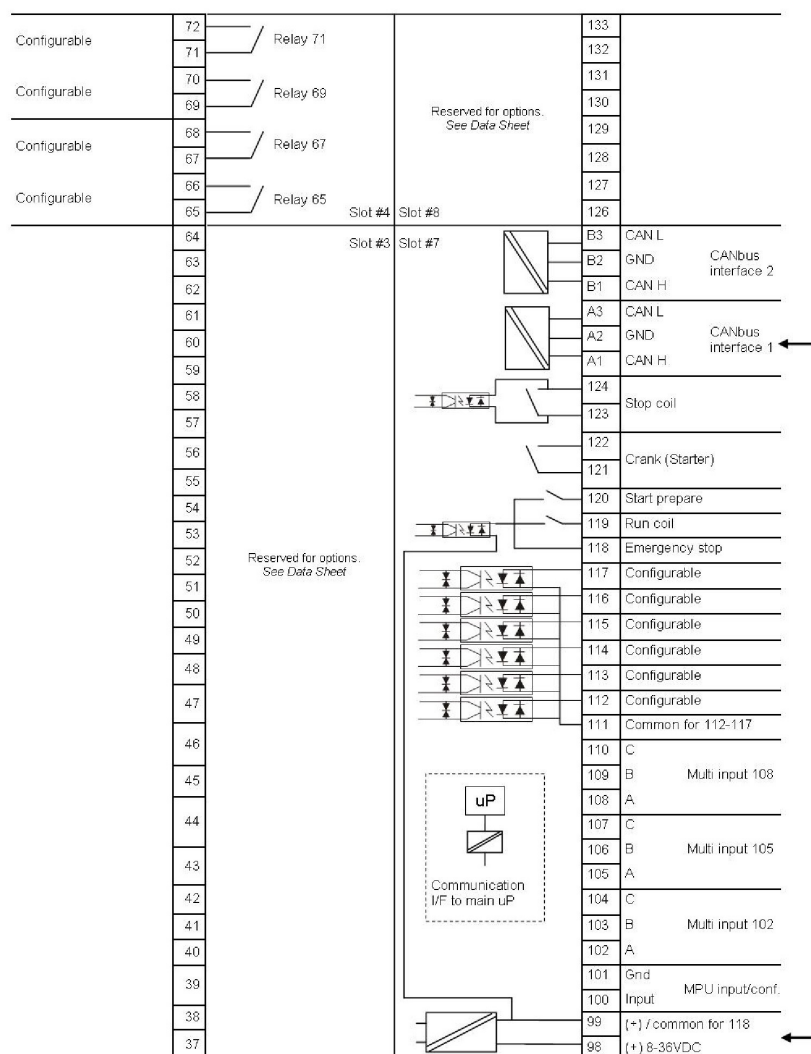
4.1.3 AGC mains





4.1.4 AGC BTB





For further information regarding the installation, please follow the Installation Instructions.

4.2 Getting started with DEIF utility software (USW)

4.2.1 Downloading the software

1. Go to www.deif.com
2. Select Documentation & Software
3. Select Software download
4. In the dropdown menu, select Multi-line 2 utility software v.3.x
5. Fill in your e-mail address and click "Submit"

You will now receive an e-mail containing a link. Click the link and follow the instructions.

The USW is now installed on your computer.

4.2.2 Installation of USB drivers

On Windows Vista machines the USB drivers are installed automatically.

This is the procedure on Windows XP machines:

When you connect the DEIF product, Windows XP will launch two "Hardware Wizards". Two drivers are installed, so please let Windows execute both "Found new Hardware Wizard".

We recommend letting the Hardware Wizard install the software automatically by choosing the "Recommended" option. If the "Advanced" option is chosen, the needed files are available from the USW3 installation folder (default: C:\Program Files\DEIF\USW3\) in the "USB driver files/source PreInstaller" folder.

Please select "Continue Anyway" if a "Hardware Installation" warning (see screenshot below) appears during the installation.



4.2.3 Getting connected with the AGC

Connect the AGC service port to the USB on the computer (option J7 or option J3).

Click the Utility Software 3 icon on the desktop or in the Windows Start menu.



Desktop icon: Utility Software 3.lnk

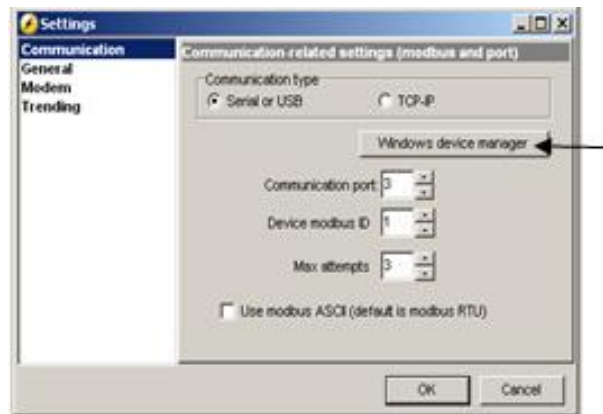


Start menu icon:

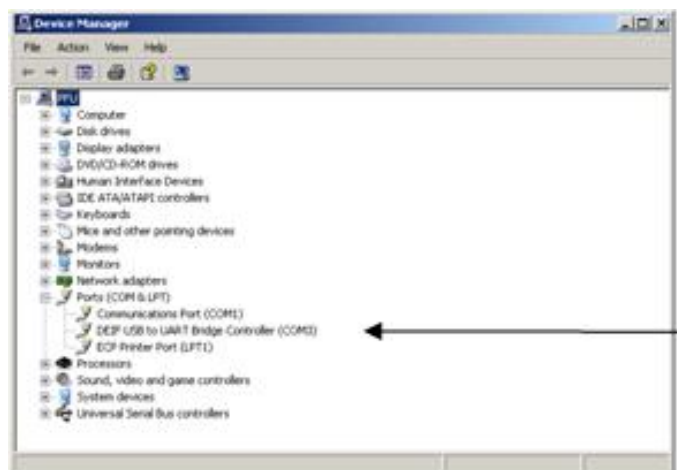
The window below appears.



Open the application settings by clicking this icon.



Open "Windows device manager".



Check the COM port used for communication, and make sure the settings correspond to the application settings.



Click the "Connect" icon.



You are now online with the AGC.

4.2.4 Uploading parameters from the device



Open the "Parameters" list.



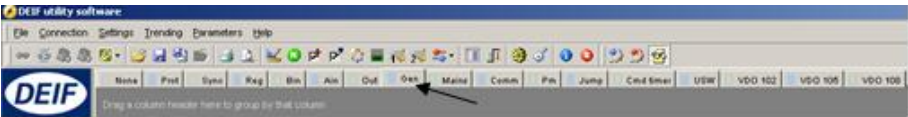
Click the "Upload parameters" icon.



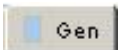
The device is now ready to be configured.

4.2.5 Basic configuration of a device using the utility software

When the parameters have been uploaded, the options below will be available.



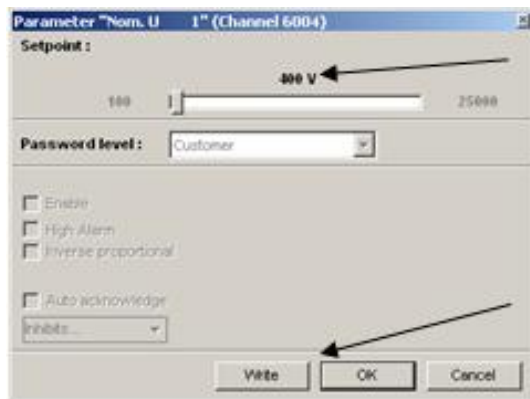
Click the "Gen" tab.



None	Prot	Sync	Reg	Bin	Ain	Out	Gen	Main	Comm	Pm	Jump	Cmd timer	USW	VDD 102	VDD 105	VDD 108
Drag a column header here to group by that column																
Category	Channel	Text		Address	Value	Unit	Timer	OutputA	OutputB	Enabled	High alarm	Level	Customer			
Gen	6001	Nom. f.	1	407	50	Hz		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6002	Nom. P.	1	408	480	W		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6003	Nom. I.	1	409	887	A		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6004	Nom. U.	1	410	480	V		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6005	Nom. rpm	1	411	1500	RPM		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6006	Enable nom. set		412	0			N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6011	Nom. f.	2	413	50	Hz		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6012	Nom. P.	2	414	230	W		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6013	Nom. I.	2	415	345	A		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6014	Nom. U.	2	416	480	V		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6015	Nom. rpm	2	417	1500	RPM		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6021	Nom. f.	3	418	60	Hz		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6022	Nom. P.	3	419	230	W		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6023	Nom. I.	3	420	345	A		N/A	N/A	<input type="checkbox"/>			Customer			
Gen	6024	Nom. U.	3	421	480	V		N/A	N/A	<input type="checkbox"/>			Customer			

The parameters can be configured as follows:

Click a parameter and the dialogue box below will appear.



Click this or use the bar to adjust the setpoint, then click "Write" and "OK".

The parameter setpoint has now been changed and downloaded to the device.

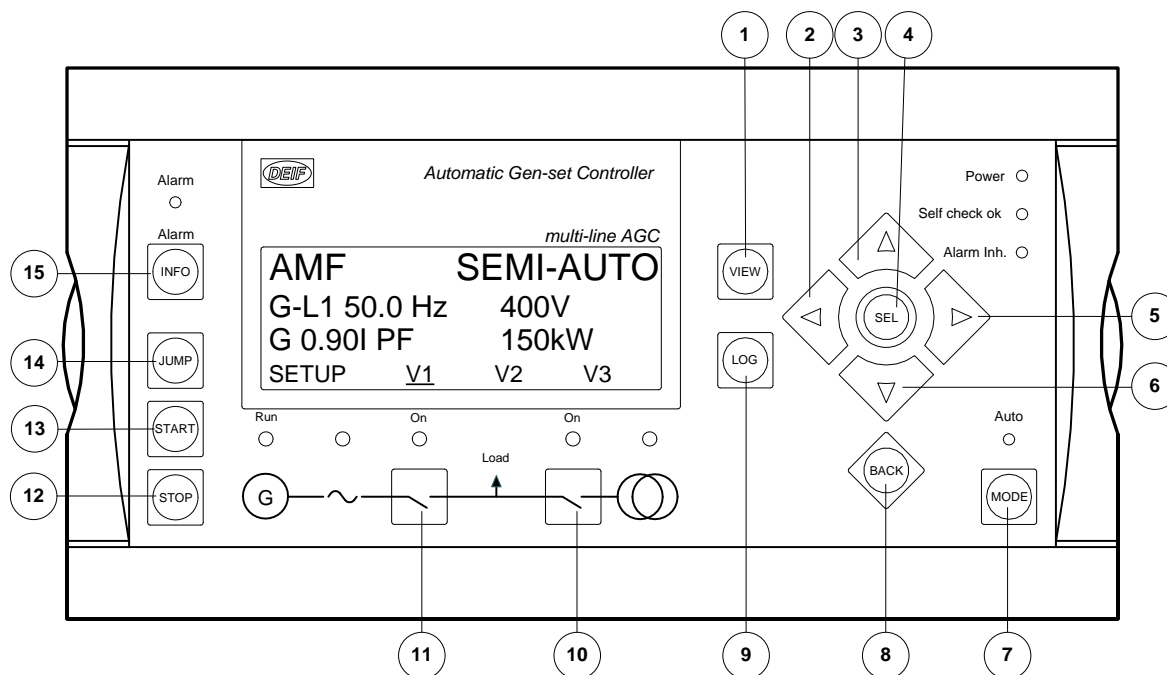


For further information, please refer to the **General Guidelines for Commissioning**.

5. Display push-buttons and LEDs

5.1 Push-button functions

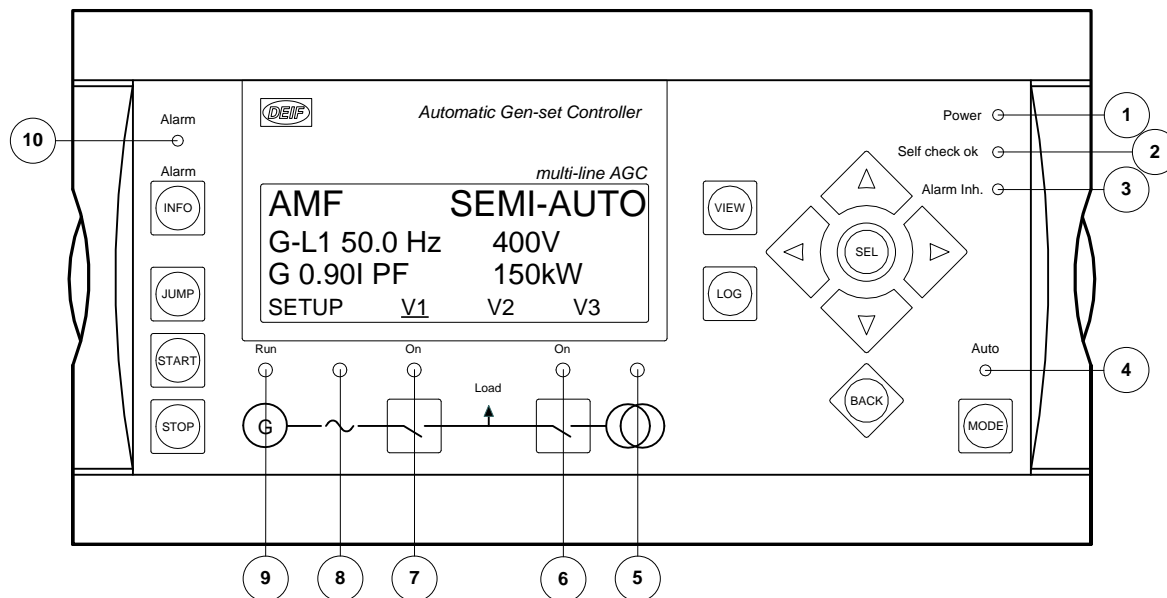
The display unit holds a number of push-button functions which are described below:



1. Shifts the first line displaying in the setup menus. Push two seconds to switch to master display in case more than one display is connected.
2. Moves the cursor left for manoeuvring in the menus.
3. Increases the value of the selected setpoint (in the setup menu). In the daily use display, this button function is used for scrolling the second line displaying of generator values.
4. Selects the underscored entry in the fourth line of the display.
5. Moves the cursor right for manoeuvring in the menus.
6. Decreases the value of the selected setpoint (in the setup menu). In the daily use display, this button function is used for scrolling the second line displaying of generator values.
7. Changes the menu line (line 4) in the display to mode selection.
8. Jumps one step backwards in the menu (to previous display or to the entry window).
9. Shifts the display three lower lines to show the event and alarm list. The list holds 150 events. These events are deleted when the AGC is switched off.
10. Manual activation of close breaker and open breaker sequence if "SEMI-AUTO" is selected.
11. Manual activation of close breaker and open breaker sequence if "SEMI-AUTO" is selected.
12. Stop of the genset if "SEMI-AUTO" or "MANUAL" is selected.
13. Start of the genset if "SEMI-AUTO" or "MANUAL" is selected.
14. Enters a specific menu number selection. All settings have a specific number attached to them. The JUMP button enables the user to select and display any setting without having to navigate through the menus (see later).
15. Shifts the display three lower lines to show the alarm list.

5.2 LED functions

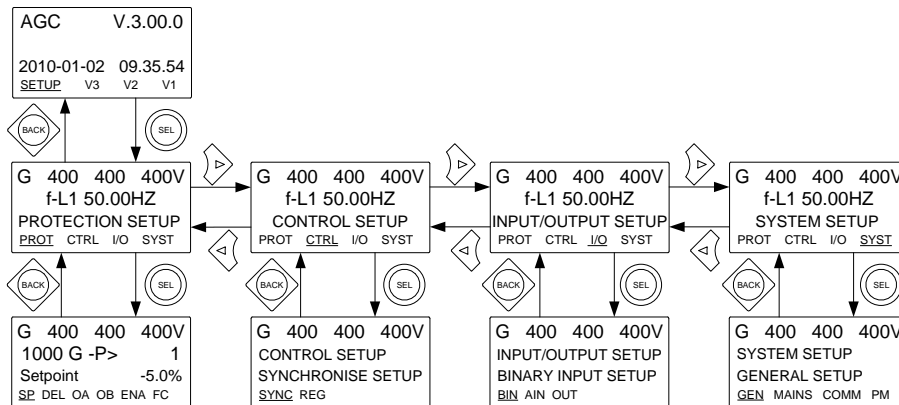
The display unit holds 10 LED functions. The colour is green or red or a combination in different situations. The display LEDs are indicating as follows:



1. LED indicates that the auxiliary supply is switched on.
2. LED indicates that the unit is OK.
3. LED fixed light indicates that an alarm is enabled but inhibited. Please refer to Help in the PC utility software for description of inhibit settings.
4. LED indicates that auto mode is selected.
5. LED is green if the mains is present and OK. LED is red at a mains failure. LED is flashing green when the mains returns during the "mains OK delay" time.
6. LED indicates that the mains breaker is closed.
7. LED indicates that the generator breaker is closed.
8. LED green light indicates that the voltage/frequency is present and OK.
9. LED indicates that the generator is running.
10. LED flashing indicates that unacknowledged alarms are present. LED fixed light indicates that ALL alarms are acknowledged, but some are still present.

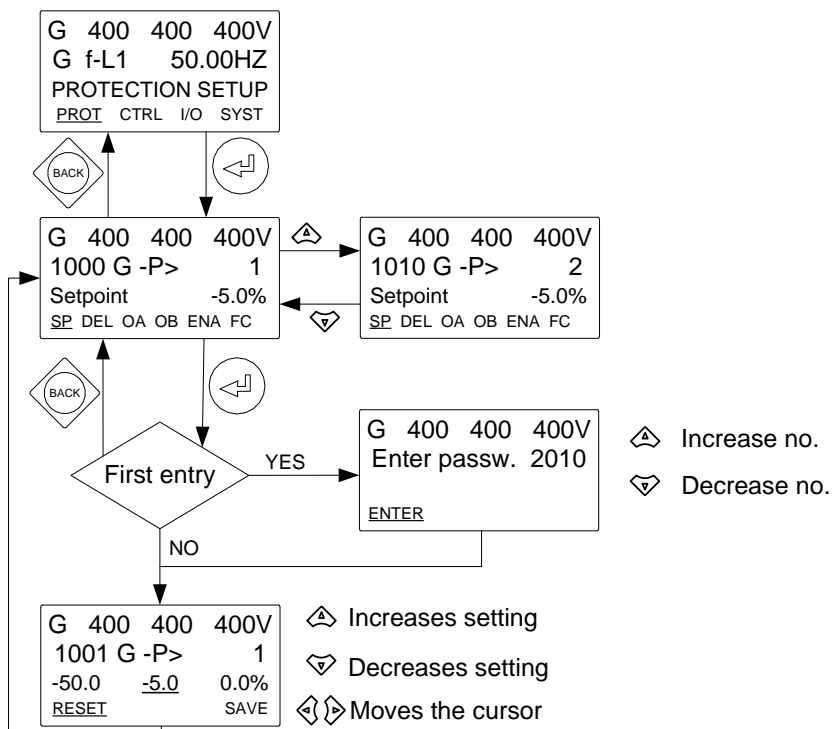
5.2.1 Display navigation

Setup structure



Setup example

The following example illustrates how a specific setting is changed in the setup menu. In this case, nominal voltage "**Nom. U 1**" is the selected parameter.



For further information, please refer to the Designer's Reference Handbook.

5.3 Controller setup

5.3.1 Controllers available

Governor (std.)

1. Synchronisation (static and dynamic sync.)
2. Phase angle (static sync.)
3. Frequency
4. Power
5. Load sharing

AVR (option D1)

1. Voltage
2. Reactive power
3. Reactive load sharing

5.3.2 Controller output types

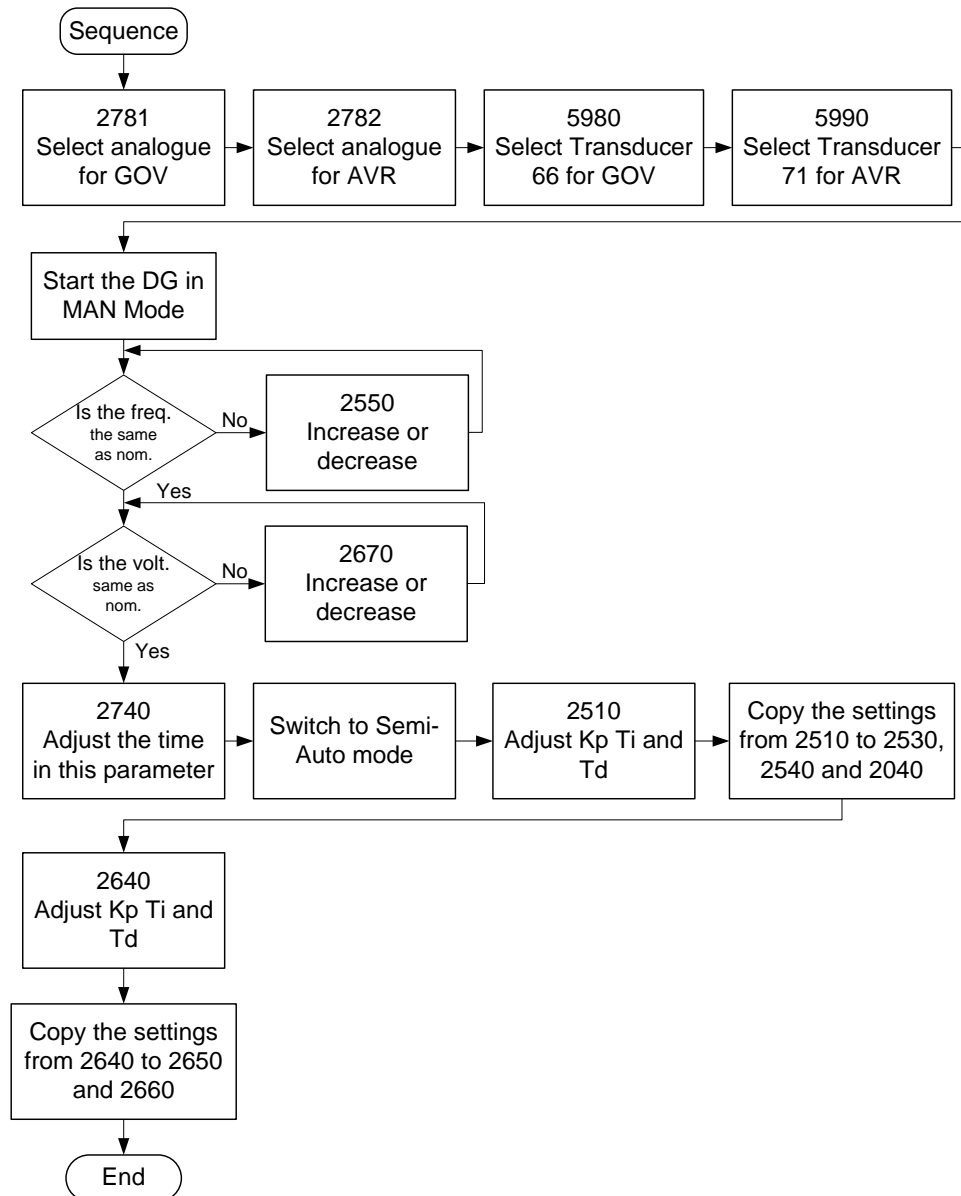
Analogue (option E1, E2, EF2 or EF4)

Transducer output 66 or 71

Relays (std.)

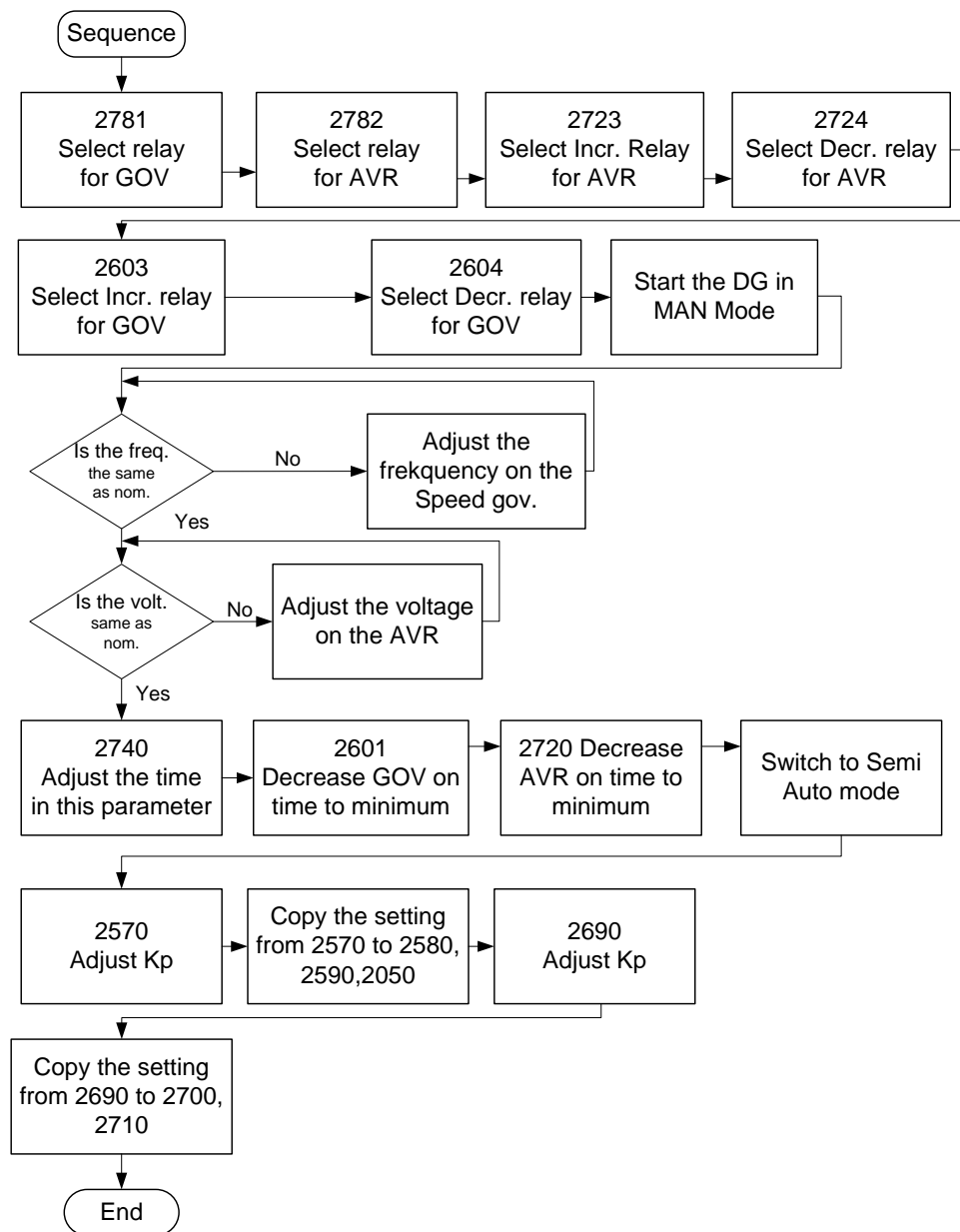
Normally relays 65, 67, 69 and 71, but any configurable relay can be used

Setup of a controller with analogue option and AVR option



For further information, please refer to the General Guidelines for Commissioning.

Setup of a controller with relay and AVR option



For further information, please refer to the General Guidelines for Commissioning.

For further information, please check the following literature:

AGC Designer's Reference Handbook
 AGC Installation Instructions
 AGC Operator's Manual