Assistant control panel

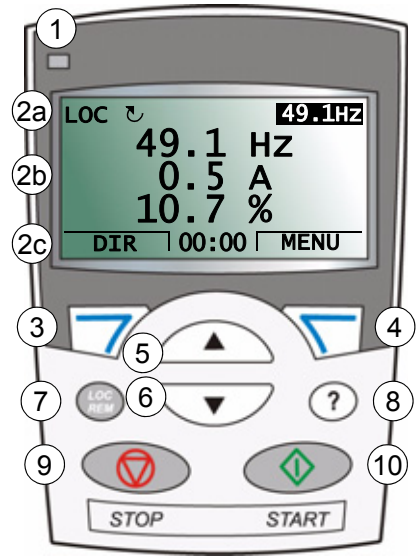
Features

The assistant control panel features:

- alphanumeric control panel with an LCD display
- language selection for the display
- Start-up assistant to ease drive commissioning
- copy function – parameters can be copied to the control panel memory for later transfer to other drives or for backup of a particular system.
- context sensitive help
- real time clock.

Overview

The following table summarizes the key functions and displays on the assistant control panel



No.	Use
1	Status LED – Green for normal operation. If LED is flashing, or red, see section *LEDs* on page *356*.
2	LCD display – Divided into three main areas: f. Status line – variable, depending on the mode of operation, see section *Status line* on page *89*. g. Center – variable; in general, shows signal and parameter values, menus or lists. Shows also faults and alarms. h. Bottom line – shows current functions of the two soft keys and, if enabled, the clock display.
3	Soft key 1 – Function depends on the context. The text in the lower left corner of the LCD display indicates the function.
4	Soft key 2 – Function depends on the context. The text in the lower right corner of the LCD display indicates the function.
5	Up – • Scrolls up through a menu or list displayed in the center of the LCD display. • Increments a value if a parameter is selected. • Increments the reference value if the upper right corner is highlighted. Holding the key down changes the value faster.
6	Down – • Scrolls down through a menu or list displayed in the center of the LCD display. • Decrements a value if a parameter is selected. • Decrements the reference value if the upper right corner is highlighted. Holding the key down changes the value faster.
7	LOC/REM – Changes between local and remote control of the drive.
8	Help – Displays context sensitive information when the key is pressed. The information displayed describes the item currently highlighted in the center of the display.
9	STOP – Stops the drive in local control.

Status line

The top line of the LCD display shows the basic status information of the drive.

No.	Field	Alternatives	Significance
1	Control location	LOC	Drive control is local, that is, from the control panel.
		REM	Drive control is remote, such as the drive I/O or fieldbus.
2	State	↻	Forward shaft direction
		↺	Reverse shaft direction
		Rotating arrow	Drive is running at setpoint.
		Dotted rotating arrow	Drive is running but not at setpoint.
		Stationary arrow	Drive is stopped.
		Dotted stationary arrow	Start command is present, but the motor is not running, eg because start enable is missing.
3	Panel operation mode		• Name of the current mode • Name of the list or menu shown • Name of the operation state, eg PAR EDIT.
4	Reference value or number of the selected item		• Reference value in the Output mode • Number of the highlighted item, eg mode, parameter group or fault.

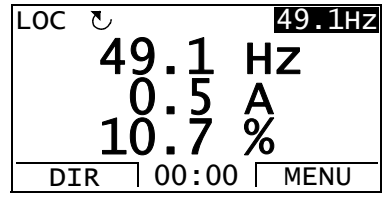
Operation

You operate the control panel with menus and keys. The keys include two context-sensitive soft keys, whose current function is indicated by the text shown in the display above each key.

You select an option, eg operation mode or parameter, by scrolling the ▲ and ▼ arrow keys until the option is highlighted (in reverse video) and then pressing the relevant soft key. With the right soft key you usually enter a mode, accept an option or save the changes. The left soft key is used to cancel the made changes and return to the previous operation level.

The assistant control panel has nine panel modes: *Output mode*, *Parameter mode*, *Assistants mode*, *Changed parameters mode*, *Fault logger mode*, *Time and date mode*, *Parameter backup mode*, *I/O settings mode* and Fault mode. The operation in the first eight modes is described in this chapter. When a fault or alarm occurs, the panel goes automatically to the Fault mode showing the fault or alarm. You can reset it in the Output or Fault mode (see chapter *Fault tracing* on page *335*).

Initially, the panel is in the Output mode, where you can start, stop, change the direction, switch between local and remote control, modify the reference value and monitor up to three actual values.



To do other tasks, go first to the Main menu and select the appropriate mode on the menu. The status line (see section *Status line* on page *89*) shows the name of the current menu, mode, item or state.

How to do common tasks

The table below lists common tasks, the mode in which you can perform them and the page number where the steps to do the task are described in detail.

Task	Mode	Page
How to get help	Any	*91*
How to find out the panel version	At power up	*91*
How to adjust the display contrast	Output	*94*
How to switch between local and remote control	Any	*92*
How to start and stop the drive	Any	*93*
How to change the direction of the motor rotation	Output	*93*
How to set the speed, frequency or torque reference	Output	*94*
How to change the value of a parameter	Parameters	*95*
How to select the monitored signals	Parameters	*96*
How to do guided tasks (specification of related parameter sets) with assistants	Assistants	*98*
How to view and edit changed parameters	Changed parameters	*100*
How to view faults	Fault logger	*101*
How to reset faults and alarms	Output, Fault	*335*
How to show/hide the clock, change date and time formats, set the clock and enable/disable automatic clock transitions according to the daylight saving changes	Time and date	*102*
How to copy parameters from the drive to the control panel	Parameter backup	*105*
How to restore parameters from the control panel to the drive	Parameter backup	*105*
How to view backup information	Parameter backup	*106*
How to edit and change parameter settings related to I/O terminals	I/O settings	*107*

How to get help

Step	Action	Display
1.	Press (?) to read the context-sensitive help text for the item that is highlighted. If help text exists for the item, it is shown on the display.	LOC ↻PAR GROUPS——10 01 OPERATING DATA 03 FB ACTUAL SIGNALS 04 FAULT HISTORY 10 START/STOP/DIR 11 REFERENCE SELECT EXIT | 00:00 | SEL LOC ↻HELP—————— This group defines external sources (EXT1 and EXT2) for commands that enable start, stop and EXIT | 00:00 |
2.	If the whole text is not visible, scroll the lines with keys ▲ and ▼.	LOC ↻HELP—————— external sources (EXT1 and EXT2) for commands that enable start, stop and direction changes. EXIT | 00:00 |
3.	After reading the text, return to the previous display by pressing EXIT.	LOC ↻PAR GROUPS——10 01 OPERATING DATA 03 FB ACTUAL SIGNALS 04 FAULT HISTORY 10 START/STOP/DIR 11 REFERENCE SELECT EXIT | 00:00 | SEL

How to find out the panel version

Step	Action	Display
1.	If the power is switched on, switch it off.	
2.	Keep key (?) pressed down while you switch on the power and read the information. The display shows the following panel information: Panel SW: panel firmware version ROM CRC: panel ROM check sum Flash Rev: flash content version Flash content comment. When you release the (?) key, the panel goes to the Output mode.	PANEL VERSION INFO Panel SW: x.xx Rom CRC: xxxxxxxxxx Flash Rev: x.xx xxxxxxxxxxxxxxxxxxxx

How to start, stop and switch between local and remote control

You can start, stop and switch between local and remote control in any mode. To be able to start or stop the drive, the drive must be in local control.

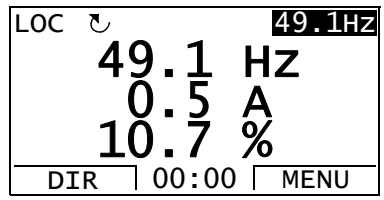
Step	Action	Display
1.	• To switch between remote control (REM shown on the status line) and local control (LOC shown on the status line), press (LOC REM). **Note:** Switching to local control can be disabled with parameter *1606 LOCAL LOCK*. The very first time the drive is powered up, it is in remote control (REM) and controlled through the drive I/O terminals. To switch to local control (LOC) and control the drive using the control panel, press (LOC REM). The result depends on how long you press the key: • If you release the key immediately (the display flashes “Switching to the local control mode”), the drive stops. Set the local control reference as instructed on page *94*. • If you press the key for about two seconds, the drive continues as before. The drive copies the current remote values for the run/stop status and the reference, and uses them as the initial local control settings.	LOC ↻ MESSAGE Switching to the local control mode. 00:00
	• To stop the drive in local control, press (STOP).	The arrow (↻ or ↺) on the status line stops rotating.
	• To start the drive in local control, press (START).	The arrow (↻ or ↺) on the status line starts rotating. It is dotted until the drive reaches the setpoint.

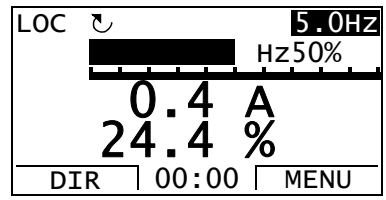
Output mode

In the Output mode, you can:

- monitor actual values of up to three signals in group *01 OPERATING DATA*
- change the direction of the motor rotation
- set the speed, frequency or torque reference
- adjust the display contrast
- start, stop, change the direction and switch between local and remote control.

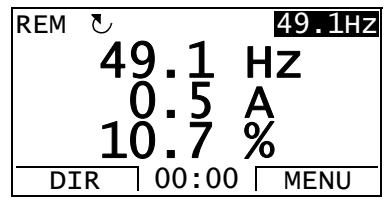
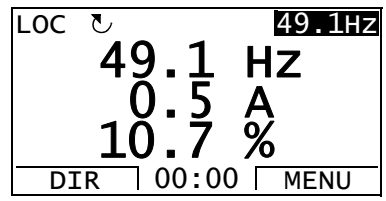
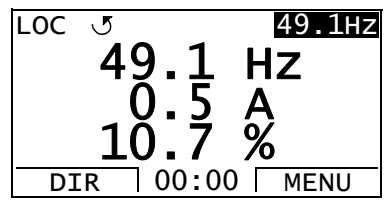
You get to the Output mode by pressing EXIT repeatedly.



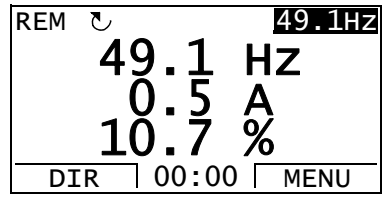
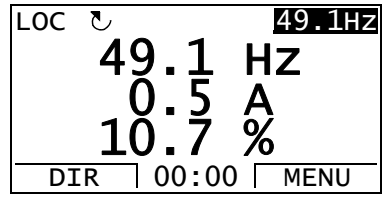
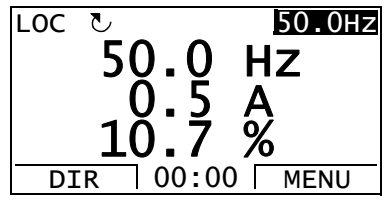


The top right corner of the display shows the reference value. The center can be configured to show up to three signal values or bar graphs. If just one or two signals are selected for display, the number and name of each displayed signal are shown in addition to the value or bar graph. See page *96* for instructions on selecting and modifying the monitored signals.

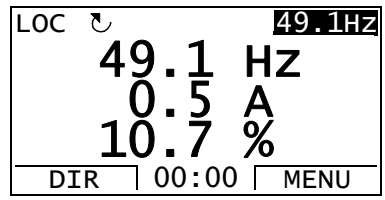
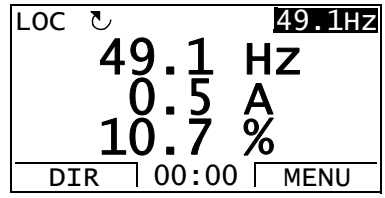
How to change the direction of the motor rotation

Step	Action	Display
1.	If you are not in the Output mode, press EXIT repeatedly until you get there.	
2.	If the drive is in remote control (REM shown on the status line), switch to local control by pressing LOC/REM. The display briefly shows a message about changing the mode and then returns to the Output mode.	
3.	To change the direction from forward (↻ shown on the status line) to reverse (↺ shown on the status line), or vice versa, press DIR. **Note**: Parameter *1003 DIRECTION* must be set to 3 (*REQUEST*).	

How to set the speed, frequency or torque reference

Step	Action	Display
1.	If you are not in the Output mode, press EXIT repeatedly until you get there.	
2.	If the drive is in remote control (REM shown on the status line), switch to local control by pressing LOC/REM. The display briefly shows a message about changing the mode and then returns to the Output mode. **Note**: With group *11 REFERENCE SELECT*, you can allow the reference modification in remote control.	
3.	• To increase the highlighted reference value shown in the top right corner of the display, press ▲. The value changes immediately. It is stored in the drive permanent memory and restored automatically after power switch-off. • To decrease the value, press ▼.	

How to adjust the display contrast

Step	Action	Display
1.	If you are not in the Output mode, press EXIT repeatedly until you get there.	
2.	• To increase the contrast, press keys MENU and ▲ simultaneously. • To decrease the contrast, press keys MENU and ▼ simultaneously.	

Parameters mode

In the Parameters mode, you can:

- view and change parameter values
- start, stop, change the direction and switch between local and remote control.

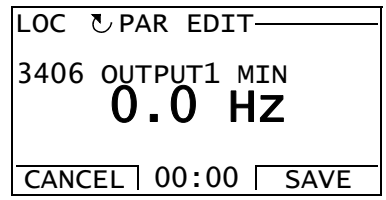
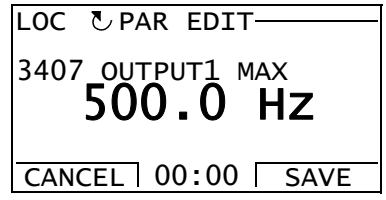
How to select a parameter and change its value

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻MAIN MENU———1 **PARAMETERS** ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Parameters mode by selecting PARAMETERS on the menu with keys ▲ and ▼, and pressing ENTER.	LOC ↻PAR GROUPS——01 **01 OPERATING DATA** 03 FB ACTUAL SIGNALS 04 FAULT HISTORY 10 START/STOP/DIR 11 REFERENCE SELECT EXIT | 00:00 | SEL
3.	Select the appropriate parameter group with keys ▲ and ▼. Press SEL.	LOC ↻PAR GROUPS——99 **99 START-UP DATA** 01 OPERATING DATA 03 FB ACTUAL SIGNALS 04 FAULT HISTORY 10 START/STOP/DIR EXIT | 00:00 | SEL LOC ↻PARAMETERS——— **9901 LANGUAGE** **ENGLISH** 9902 APPLIC MACRO 9903 MOTOR TYPE 9904 MOTOR CTRL MODE EXIT | 00:00 | EDIT
4.	Select the appropriate parameter with keys ▲ and ▼. The current value of the parameter is shown below the selected parameter. Press EDIT.	LOC ↻PARAMETERS——— 9901 LANGUAGE **9902 APPLIC MACRO** **ABB STANDARD** 9903 MOTOR TYPE 9904 MOTOR CTRL MODE EXIT | 00:00 | EDIT LOC ↻PAR EDIT——— 9902 APPLIC MACRO **ABB STANDARD** [1] CANCEL | 00:00 | SAVE
5.	Specify a new value for the parameter with keys ▲ and ▼. Pressing the key once increments or decrements the value. Holding the key down changes the value faster. Pressing the keys simultaneously replaces the displayed value with the default value.	LOC ↻PAR EDIT——— 9902 APPLIC MACRO **3-WIRE** [2] CANCEL | 00:00 | SAVE

Step	Action	Display
6.	• To save the new value, press SAVE. • To cancel the new value and keep the original, press CANCEL.	LOC ↻PARAMETERS 9901 LANGUAGE 9902 APPLIC MACRO 3-WIRE 9903 MOTOR TYPE 9904 MOTOR CTRL MODE EXIT | 00:00 | EDIT

How to select the monitored signals

Step	Action	Display
1.	You can select which signals are monitored in the Output mode and how they are displayed with group *34 PANEL DISPLAY* parameters. See page *95* for detailed instructions on changing parameter values. By default, the display shows three signals. Signal 1: *0102 SPEED* for macros 3-wire, Alternate, Motor potentiometer, Hand/Auto and PID control; *0103 OUTPUT FREQ* for macros ABB standard and Torque control Signal 2: *0104 CURRENT* Signal 3: *0105 TORQUE*. To change the default signals, select up to three signals from group *01 OPERATING DATA* to be shown. Signal 1: Change the value of parameter *3401 SIGNAL1 PARAM* to the index of the signal parameter in group *01 OPERATING DATA* (= number of the parameter without the leading zero), eg 105 means parameter *0105 TORQUE*. Value 0 means that no signal is displayed. Repeat for signals 2 (*3408 SIGNAL2 PARAM*) and 3 (*3415 SIGNAL3 PARAM*).	LOC ↻PAR EDIT 3401 SIGNAL1 PARAM OUTPUT FREQ [103] CANCEL | 00:00 | SAVE LOC ↻PAR EDIT 3408 SIGNAL2 PARAM CURRENT [104] CANCEL | 00:00 | SAVE LOC ↻PAR EDIT 3415 SIGNAL3 PARAM TORQUE [105] CANCEL | 00:00 | SAVE
2.	Select how you want the signals to be displayed: as a decimal number or a bar graph. For decimal numbers, you can specify the decimal point location, or use the decimal point location and unit of the source signal (setting 9 [*DIRECT*]). For details, see parameter *3404*. Signal 1: parameter *3404 OUTPUT1 DSP FORM* Signal 2: parameter *3411 OUTPUT2 DSP FORM* Signal 3: parameter *3418 OUTPUT3 DSP FORM*.	LOC ↻PAR EDIT 3404 OUTPUT1 DSP FORM DIRECT [9] CANCEL | 00:00 | SAVE
3.	Select the units to be displayed for the signals. This has no effect if parameter *3404*/*3411*/*3418* is set to 9 (*DIRECT*). For details, see parameter *3405*. Signal 1: parameter *3405 OUTPUT1 UNIT* Signal 2: parameter *3412 OUTPUT2 UNIT* Signal 3: parameter *3419 OUTPUT3 UNIT*.	LOC ↻PAR EDIT 3405 OUTPUT1 UNIT Hz [3] CANCEL | 00:00 | SAVE

Step	Action	Display
4.	Select the scalings for the signals by specifying the minimum and maximum display values. This has no effect if parameter *3404*/*3411*/*3418* is set to 9 (*DIRECT*). For details, see parameters *3406* and *3407*. Signal 1: parameters *3406 OUTPUT1 MIN* and *3407 OUTPUT1 MAX* Signal 2: parameters *3413 OUTPUT2 MIN* and *3414 OUTPUT2 MAX* Signal 3: parameters *3420 OUTPUT3 MIN* and *3421 OUTPUT3 MAX*.	 

Assistants mode

When the drive is first powered up, the Start-up assistant guides you through the setup of the basic parameters. The Start-up assistant is divided into assistants, each of which is responsible for the specification of a related parameter set, for example Motor set-up or PID control. The Start-up assistant activates the assistants one after the other. You may also use the assistants independently. For more information on the tasks of the assistants, see section *Start-up assistant* on page *121*.

In the Assistants mode, you can:

- use assistants to guide you through the specification of a set of basic parameters
- start, stop, change the direction and switch between local and remote control.

How to use an assistant

The table below shows the basic operation sequence which leads you through assistants. The Motor set-up assistant is used as an example.

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻MAIN MENU———1 **PARAMETERS** ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Assistants mode by selecting ASSISTANTS on the menu keys ▲ and ▼, and pressing ENTER.	LOC ↻ASSISTANTS———1 **Start-up assistant** Motor Set-up Application Speed control EXT1 Speed control EXT2 EXIT | 00:00 | SEL
3.	Select the assistant with keys ▲ and ▼, and press SEL. If you select any other assistant than the Start-up assistant, it guides you through the task of specification of its parameter set as shown in steps *4.* and *5.* below. After that you can select another assistant on the Assistants menu or exit the Assistants mode. The Motor set-up assistant is used here as an example. If you select the Start-up assistant, it activates the first assistant, which guides you through the task of specification of its parameter set as shown in steps *4.* and *5.* below. The Start-up assistant then asks if you want to continue with the next assistant or skip it – select the appropriate answer with keys ▲ and ▼, and press SEL. If you choose to skip, the Start-up assistant asks the same question about the next assistant, and so on.	LOC ↻PAR EDIT——— 9905 MOTOR NOM VOLT 200 V EXIT | 00:00 | SAVE LOC ↻CHOICE——— Do you want to continue with application setup? **Continue** Skip EXIT | 00:00 | OK

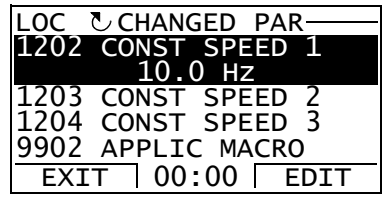
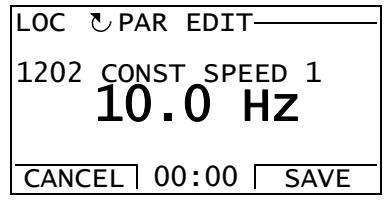
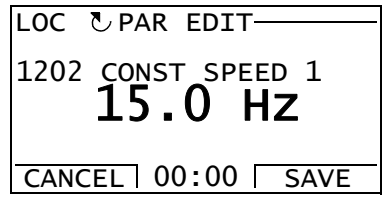
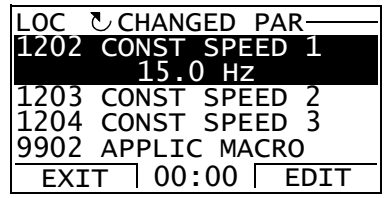
Step	Action	Display
4.	• To specify a new value, press keys ▲ and ▼.	LOC ↻PAR EDIT 9905 MOTOR NOM VOLT 240 V EXIT | 00:00 | SAVE
	• To ask for information on the requested parameter, press key ?. Scroll the help text with keys ▲ and ▼. Close the help by pressing EXIT.	LOC ↻HELP Set as given on the motor nameplate. Voltage value must correspond to motor D/Y connection. EXIT | 00:00
5.	• To accept the new value and continue to the setting of the next parameter, press SAVE. • To stop the assistant, press EXIT.	LOC ↻PAR EDIT 9906 MOTOR NOM CURR 1.2 A EXIT | 00:00 | SAVE

Changed parameters mode

In the Changed parameters mode, you can:

- view a list of all parameters that have been changed from the macro default values
- change these parameters
- start, stop, change the direction and switch between local and remote control.

How to view and edit changed parameters

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	
2.	Go to the Changed parameters mode by selecting CHANGED PAR on the menu with keys ▲ and ▼, and pressing ENTER.	
3.	Select the changed parameter on the list with keys ▲ and ▼. The value of the selected parameter is shown below it. Press EDIT to modify the value.	
4.	Specify a new value for the parameter with keys ▲ and ▼. Pressing the key once increments or decrements the value. Holding the key down changes the value faster. Pressing the keys simultaneously replaces the displayed value with the default value.	
5.	• To accept the new value, press SAVE. If the new value is the default value, the parameter is removed from the list of changed parameters. • To cancel the new value and keep the original, press CANCEL.	

Fault logger mode

In the Fault logger mode, you can:

- view the drive fault history of maximum ten faults (after a power off, only the three latest faults are kept in the memory)
- see the details of the three latest faults (after a power off, the details of only the most recent fault is kept in the memory)
- read the help text for the fault
- start, stop, change the direction and switch between local and remote control.

How to view faults

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻ MAIN MENU 1 PARAMETERS ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Fault logger mode by selecting FAULT LOGGER on the menu with keys ▲ and ▼, and pressing ENTER. The display shows the fault log starting with the latest fault. The number on the row is the fault code according to which the causes and corrective actions are listed in chapter *Fault tracing* on page *335*.	LOC ↻ FAULT LOGGER 1 10: PANEL LOSS 19.03.05 13:04:57 6: DC UNDERVOLT 7: AI1 LOSS EXIT | 00:00 | DETAIL
3.	To see the details of a fault, select it with keys ▲ and ▼, and press DETAIL.	LOC ↻ PANEL LOSS DI STATUS AT FLT 00000 bin FAULT TIME 1 13:04:57 FAULT TIME 2 EXIT | 00:00 | DIAG
4.	To show the help text, press DIAG. Scroll the help text with keys ▲ and ▼. After reading the help, press OK to return to the previous display.	LOC ↻ DIAGNOSTICS Check: comm lines and connections, parameter 3002, parameters in groups 10 and 11. EXIT | 00:00 | OK

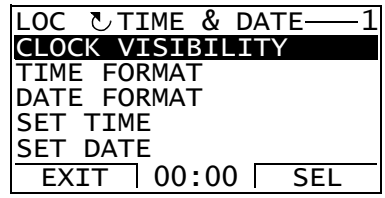
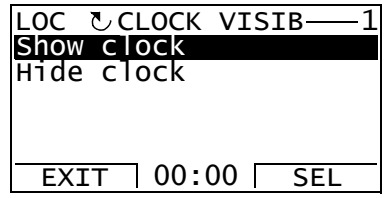
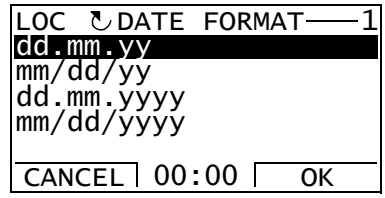
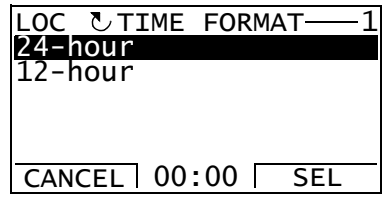
Time and date mode

In the Time and date mode, you can:

- show or hide the clock
- change date and time display formats
- set the date and time
- enable or disable automatic clock transitions according to the daylight saving changes
- start, stop, change the direction and switch between local and remote control.

The assistant control panel contains a battery to ensure the function of the clock when the panel is not powered by the drive.

How to show or hide the clock, change display formats, set the date and time and enable or disable clock transitions due to daylight saving changes

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	
2.	Go to the Time and date mode by selecting TIME & DATE on the menu with keys ▲ and ▼, and pressing ENTER.	
3.	• To show (hide) the clock, select CLOCK VISIBLILITY on the menu, press SEL, select Show clock (Hide clock) and press SEL, or, if you want to return to the previous display without making changes, press EXIT.	
	• To specify the date format, select DATE FORMAT on the menu, press SEL and select a suitable format. Press OK to save or CANCEL to cancel your changes.	
	• To specify the time format, select TIME FORMAT on the menu, press SEL and select a suitable format. Press OK to save or CANCEL to cancel your changes.	

Step	Action	Display
	• To set the time, select SET TIME on the menu and press SEL. Specify the hours with keys ▲ and ▼, and press OK. Then specify the minutes. Press OK to save or CANCEL to cancel your changes.	LOC ↻SET TIME 15:41 CANCEL | 00:00 | OK
	• To set the date, select SET DATE on the menu and press SEL. Specify the first part of the date (day or month depending on the selected date format) with keys ▲ and ▼, and press OK. Repeat for the second part. After specifying the year, press OK. To cancel your changes, press CANCEL.	LOC ↻SET DATE 19.03.05 CANCEL | 00:00 | OK
	• To enable or disable the automatic clock transitions according to the daylight saving changes, select DAYLIGHT SAVING on the menu and press SEL. Pressing ? opens the help that shows the beginning and end dates of the period during which daylight saving time is used in each country or area whose daylight saving changes you can select to be followed. Scroll the help text with keys ▲ and ▼. • To disable automatic clock transitions according to the daylight saving changes, select Off and press SEL. • To enable automatic clock transitions, select the country or area whose daylight saving changes are followed and press SEL. • To return to the previous display without making changes, press EXIT.	LOC ↻DAYLIGHT SAV—1 Off EU US Australia1:NSW,Vict.. Australia2:Tasmania.. EXIT | 00:00 | SEL LOC ↻HELP EU: On: Mar last Sunday Off: Oct last Sunday US: EXIT | 00:00 |

Parameter backup mode

The Parameter backup mode is used to export parameters from one drive to another or to make a backup of the drive parameters. Uploading to the panel stores all drive parameters, including up to three user sets, to the assistant control panel. The full set, partial parameter set (application) and user sets can then be downloaded from the control panel to another drive or the same drive. Uploading and downloading can be performed in local control.

The control panel memory is non-volatile and does not depend on the panel battery.

In the Parameter backup mode, you can:

- Copy all parameters from the drive to the control panel (UPLOAD TO PANEL). This includes all defined user sets of parameters and internal (not adjustable by the user) parameters such as those created by the ID run.
- View the information about the backup stored to the control panel with UPLOAD TO PANEL (BACKUP INFO). This includes eg the type and rating of the drive where the backup was made. It is useful to check this information when you are going to copy the parameters to another drive with DOWNLOAD FULL SET to ensure that the drives match.
- Restore the full parameter set from the control panel to the drive (DOWNLOAD FULL SET). This writes all parameters, including the internal non-user-adjustable motor parameters, to the drive. It does not include the user sets of parameters.

  Note: Only use this function to restore a drive from a backup or to transfer parameters to systems that are identical to the original system.
- Copy a partial parameter set (part of the full set) from the control panel to a drive (DOWNLOAD APPLICATION). The partial set does not include user sets, internal motor parameters, parameters *9905*…*9909*, *1605*, *1607*, *5201*, nor any group *51 EXT COMM MODULE* and *53 EFB PROTOCOL* parameters.

  The source and target drives and their motor sizes do not need to be the same.
- Copy user set 1 parameters from the control panel to the drive (DOWNLOAD USER SET1). A user set includes group *99 START-UP DATA* parameters and the internal motor parameters.

  The function is only shown on the menu when user set 1 has been first saved using parameter *9902 APPLIC MACRO* (see section *User macros* on page *119*) and then uploaded to the control panel with UPLOAD TO PANEL.
- Copy user set 2 parameters from the control panel to the drive (DOWNLOAD USER SET2). As DOWNLOAD USER SET1 above.
- Copy user set 3 parameters from the control panel to the drive (DOWNLOAD USER SET3). As DOWNLOAD USER SET1 above.
- Start, stop, change the direction and switch between local and remote control.

How to upload and download parameters

For the upload and download functions available, see above. Note that the drive has to be in local control for uploading and downloading.

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu. – If REM is shown on the status line, press first LOC/REM to switch to local control.	LOC ↻MAIN MENU 1 PARAMETERS ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Par backup mode by selecting PAR BACKUP on the menu with keys ▲ and ▼, and pressing ENTER.	LOC ↻PAR BACKUP 1 UPLOAD TO PANEL BACKUP INFO DOWNLOAD FULL SET DOWNLOAD APPLICATION DOWNLOAD USER SET1 EXIT | 00:00 | SEL
3.	• To copy all parameters (including user sets and internal parameters) from the drive to the control panel, select UPLOAD TO PANEL on the Par backup menu with keys ▲ and ▼, and press SEL. During the transfer, the display shows the transfer status as a percentage of completion. Press ABORT if you want to stop the operation.	LOC ↻PAR BACKUP Copying parameters 50% ABORT | 00:00
	After the upload is completed, the display shows a message about the completion. Press OK to return to the Par backup menu.	LOC ↻MESSAGE Parameter upload successful OK | 00:00
	• To perform downloads, select the appropriate operation (here DOWNLOAD FULL SET is used as an example) on the Par backup menu with keys ▲ and ▼, and press SEL. The display shows the transfer status as a percentage of completion. Press ABORT if you want to stop the operation.	LOC ↻PAR BACKUP Downloading parameters (full set) 50% ABORT | 00:00
	After the download is completed, the display shows a message about the completion. Press OK to return to the Par backup menu.	LOC ↻MESSAGE Parameter download successfully completed. OK | 00:00

How to view information about the backup

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻MAIN MENU———1 PARAMETERS ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the Par backup mode by selecting PAR BACKUP on the menu with keys ▲ and ▼, and pressing ENTER.	LOC ↻PAR BACKUP———1 UPLOAD TO PANEL BACKUP INFO DOWNLOAD FULL SET DOWNLOAD APPLICATION DOWNLOAD USER SET1 EXIT | 00:00 | SEL
3.	Select BACKUP INFO on the Par backup menu with keys ▲ and ▼, and press SEL. The display shows the following information about the drive where the backup was made: DRIVE TYPE: type of the drive *DRIVE RATING*: rating of the drive in format XXXYZ, where XXX: Nominal current rating. If present, an “A” indicates a decimal point, eg 9A7 means 9.7 A. Y: 2 = 200 V 4 = 400 V Z: i = European loading package n = US loading package *FIRMWARE*: firmware version of the drive. You can scroll the information with keys ▲ and ▼.	LOC ↻BACKUP INFO——— DRIVE TYPE ACS355 3304 DRIVE RATING 9A74i 3301 FIRMWARE EXIT | 00:00 | LOC ↻BACKUP INFO——— ACS355 3304 DRIVE RATING 9A74i 3301 FIRMWARE 241A hex EXIT | 00:00 |
4.	Press EXIT to return to the Par backup menu.	LOC ↻PAR BACKUP———1 UPLOAD TO PANEL BACKUP INFO DOWNLOAD FULL SET DOWNLOAD APPLICATION DOWNLOAD USER SET1 EXIT | 00:00 | SEL

I/O settings mode

In the I/O settings mode, you can:

- check the parameter settings related to any I/O terminal
- edit the parameter setting. For example, if “1103: REF1” is listed under Ain1 (Analog input 1), that is, parameter *1103 REF1 SELECT* has value *AI1*, you can change its value to eg *AI2*. You cannot, however, set the value of parameter *1106 REF2 SELECT* to *AI1*.
- start, stop, change the direction and switch between local and remote control.

How to edit and change parameter settings related to I/O terminals

Step	Action	Display
1.	Go to the Main menu by pressing MENU if you are in the Output mode, otherwise by pressing repeatedly EXIT until you get to the Main menu.	LOC ↻MAIN MENU 1 PARAMETERS ASSISTANTS CHANGED PAR EXIT | 00:00 | ENTER
2.	Go to the I/O settings mode by selecting I/O SETTINGS on the menu with keys ▲ and ▼, and pressing ENTER.	LOC ↻I/O SETTINGS 1 DIGITAL INPUTS (DI) ANALOG INPUTS (AI) RELAY OUTPUTS (ROUT) ANALOG OUTPUTS (AOUT) PANEL EXIT | 00:00 | SEL
3.	Select the I/O group, eg DIGITAL INPUTS, with keys ▲ and ▼, and press SEL. After a brief pause, the display shows the current settings for the selection.	LOC ↻I/O SETTINGS -DI1- 1001:START/STOP (E1) -DI2- 1001:DIR (E1) -DI3- EXIT | 00:00 |
4.	Select the setting (line with a parameter number) with keys ▲ and ▼, and press EDIT.	LOC ↻PAR EDIT 1001 EXT1 COMMANDS DI1,2 [2] CANCEL | 00:00 | SAVE
5.	Specify a new value for the setting with keys ▲ and ▼. Pressing the key once increments or decrements the value. Holding the key down changes the value faster. Pressing the keys simultaneously replaces the displayed value with the default value.	LOC ↻PAR EDIT 1001 EXT1 COMMANDS DI1P,2P [3] CANCEL | 00:00 | SAVE
6.	• To save the new value, press SAVE. • To cancel the new value and keep the original, press CANCEL.	LOC ↻I/O SETTINGS -DI1- 1001:START PLS(E1) -DI2- 1001:STOP PLS (E1) -DI3- EXIT | 00:00 |