

POWERDRIVE

Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

1 - INTRODUCTION

! The drives use an algorithm which is adjusted by parameters. The performance levels obtained depend on the parameter setting. Inappropriate settings may have serious consequences for personnel and machinery.

The drive parameters should only be set by appropriately qualified and experienced personnel.

• Before powering up the drive, check that the power connections (mains supply and motor) are correct, and that any moving parts are mechanically protected.

• Before setting the drive parameters, all instructions relating to installation and connection contained in the installation document or the manual supplied with the drive must have been strictly observed.

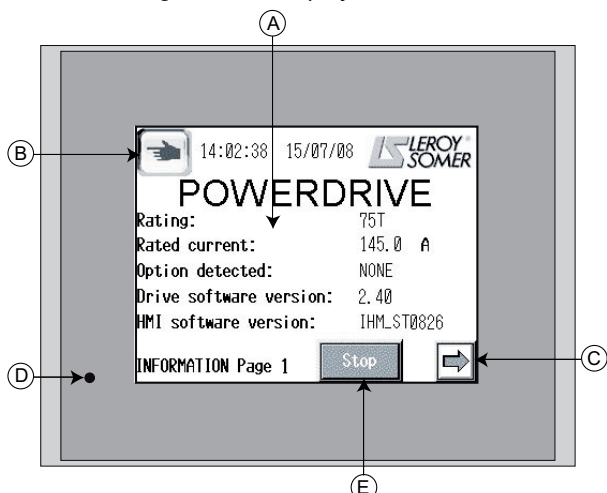
• Users of the drive should take particular care to avoid starting it accidentally.

2 - PARAMETER SETTING INTERFACE

2.1 - Presentation

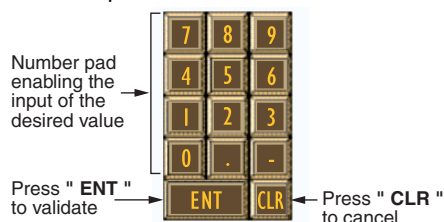
The parameter setting interface comprises a touch screen giving access to different menus.

After a loading phase following powering-up of the drive, the parameter setting interface displays this screen.



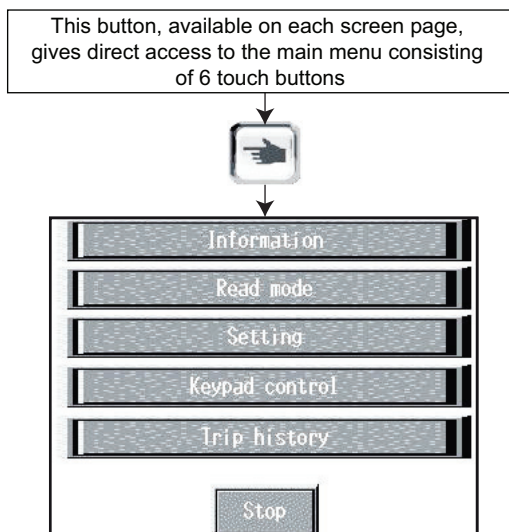
Ref.	Function
A	Touch screen
B	Touch button allowing simple access to the main menu. It can also be used to exit sub-menus of the parameter setting interface at any time.
C	Touch button for scrolling to the following pages.
D	Display status LED.
E	Touch button for stopping the drive at any time.

Certain screens include a **M** button, allowing the display of a number pad. It appears on the side of the screen enabling a numerical value or parameter number to be entered.



- A lithium battery allows back-up of parameters for 10 years, without any power-up.
 - After 10 minutes without activity on the interface, it returns to page 1 of "Read mode".

2.2 - Interface architecture



- **Informations:** gives the user information quickly on the drive characteristics (rating, version, options, current, etc.) and also allows a choice of language.
- **Read mode:** used to display the drive status when stopped or running, and its main measurement points.
- **Setting:** used for reading and modifying all parameters, and configuring the drive control mode.
- **Keypad control:** gives direct access to the "Keypad control" page, allowing the drive to be controlled via the HMI (Human-Machine Interface).
- **Trip history:** Gives a quick overview of the last 10 drive trips.
- **Stop:** this button is accessible on all screens and is used to give a stop command (see Section 2.2.6).

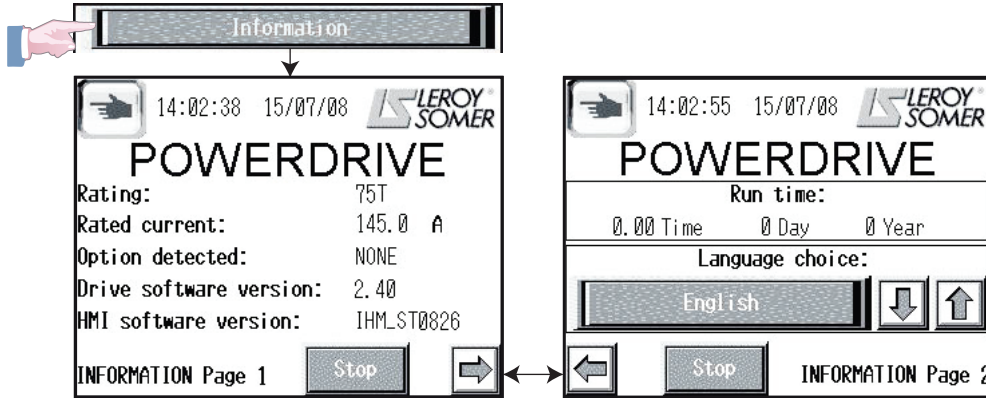
POWERDRIVE

Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

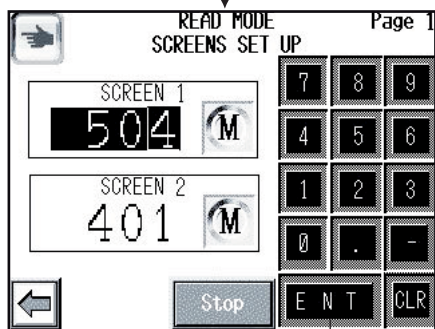
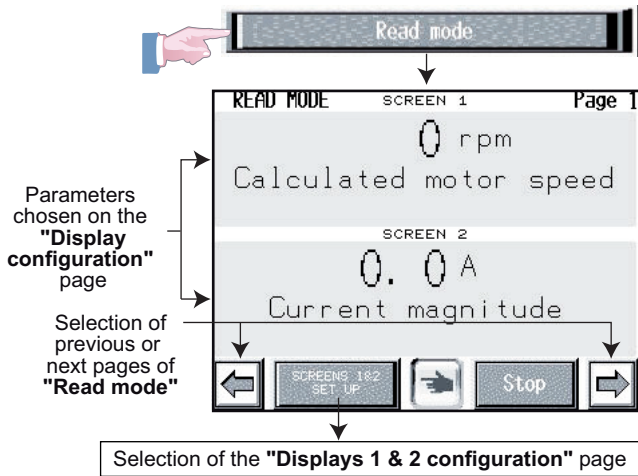
2.2.1 - "Information" function

This mode has two pages, one for giving the user information on the main characteristics of the drive without going into the detailed menus, and the other enables language choice (French or English) and display of the run time (for other languages, please ask your usual LEROY-SOMER contact).



2.2.2 - "Read mode" function

This mode uses 14 screen pages to display a number of parameters representing the status of the drive, when stopped or running. On page 1 of this function, the user can configure two parameters useful for his application (pages 2 to 14 are read-only).



Pressing **M** displays the number pad used for selecting the parameter number.
Press "ENT" to confirm.

CAUTION: Only "read-only" parameters can be configured here. Parameters 5.04 and 4.01 are the two parameters defined in the factory settings.

List of parameters displayed in read mode

Page	Wording	Address	Units
Page 1	Displays 1 and 2 can be configured by the user		-
Page 2	Drive status	10.98	-
	Status word 10.01 to 10.15	10.01 to 10.15	-
Page 3	Motor speed	5.04	rpm
	Current magnitude	4.01	A
Page 4	Output frequency	5.01	Hz
	Active current	4.02	A
Page 5	Output voltage	5.02	V
	Output power	5.03	kW
Page 6	DC bus voltage	5.05	V
	Supply voltage	7.70	
Page 7	Analog input AI1	7.01	
	Analogue/digital input ADI2	7.02	%
Page 8	Analogue/digital input ADI3 or CTP	7.03	%
Page 9	Analog output AO1	7.68	%
	Analog output AO2	7.69	%
Page 10	Digital I/O Relay outputs DIO1, DIO2, DIO3, DI4, DI5, RL10, RL20, SDI	8.01 to 8.05 , 8.07 to 8.09	-
Page 11	Selected ref indicator	1.49	-
	Selected preset reference indicator	1.50	-
Page 12	Speed reference selected	1.01	rpm
Page 13	Pre-ramp reference	1.03	rpm
	Post-ramp reference	2.01	rpm
Page 14	Control board temperature	7.55	°C

POWERDRIVE

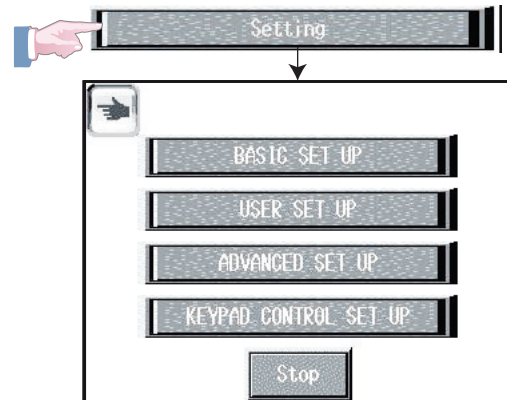
Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.3 - "Setting" function

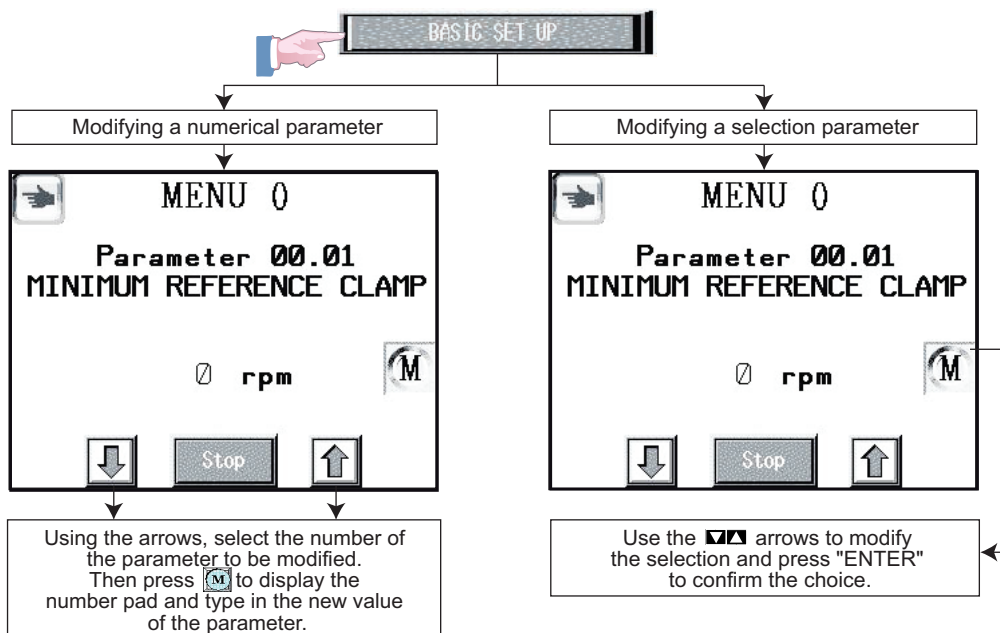
This mode is divided into four sub-menus each providing adapted user access levels. These sub-menus are as follows:

- "BASIC SET UP": gives access to menu 0 corresponding to the most common parameters.
- "USER SET UP": access to 10 parameters customised for the application.
- "ADVANCED SET UP": gives read and write access (protected by a code) to all the drive parameters.
- "KEYPAD CONTROL SET UP": allows the control mode to be configured via the interface (protected by a code).



2.2.3.1 - Basic set up

"BASIC SET UP" corresponds to menu 0, and groups together the most common parameters. See Section 2.3.4.1 "parameter list" in the commissioning manual.

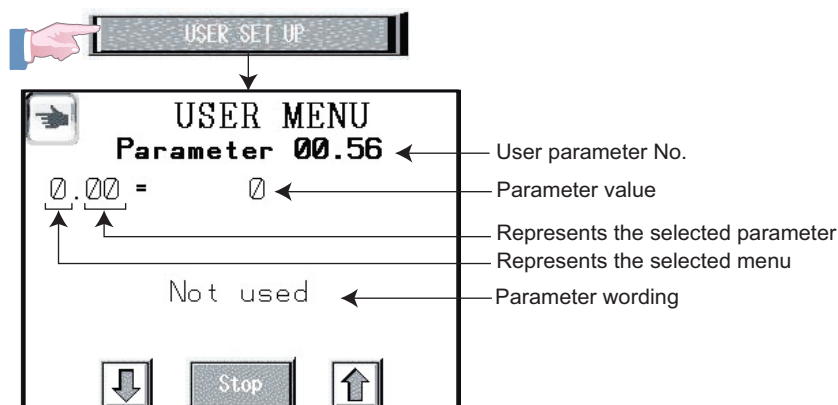


2.2.3.2 - User set up

"USER SET UP" allows access to 10 parameters (00.56 to 00.65) customised for the application. These parameters are determined by the user by means of the following sub-menu:

- Setting/Advanced set up/User set up assignments (see Section 2.2.3.3.1).

The factory settings of these 10 parameters are blank.



POWERDRIVE

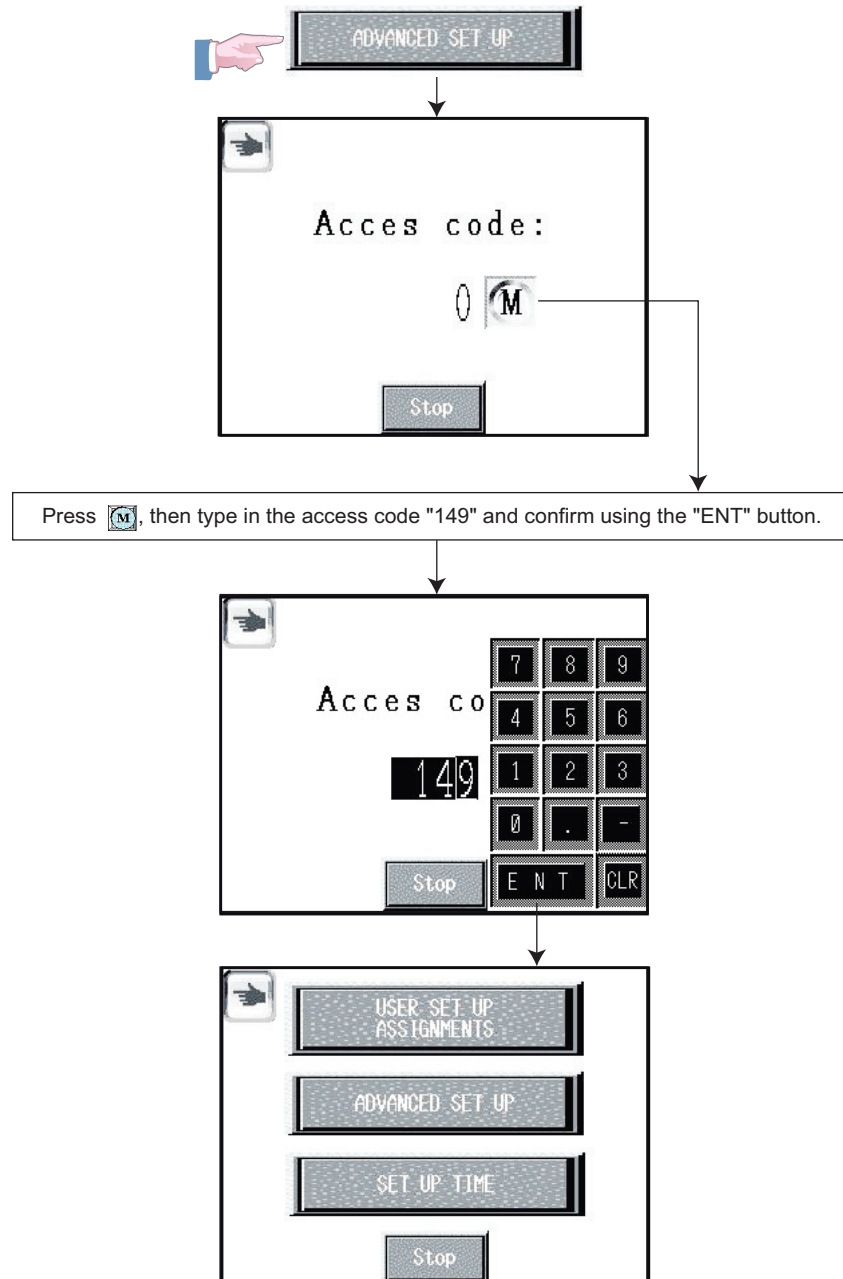
Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.3.3 - Advanced set up

"ADVANCED SET UP" gives read and write access (protected by a code) to the parameters for programming the various functions available on the HMI, in three separate sub-menus:

- "USER SET UP ASSIGNMENTS": used to configure the 10 user parameters **00.56** to **00.65**.
- "ADVANCED SET UP": provides access to all the drive's parameters (Menus 1 to 21).
- "SET UP TIME": for adjusting the date and time.



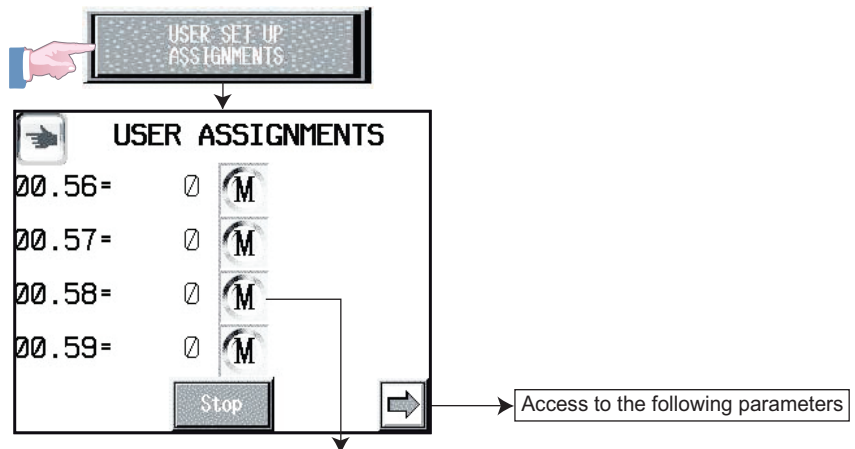
POWERDRIVE

Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.3.3.1 - User set up assignments

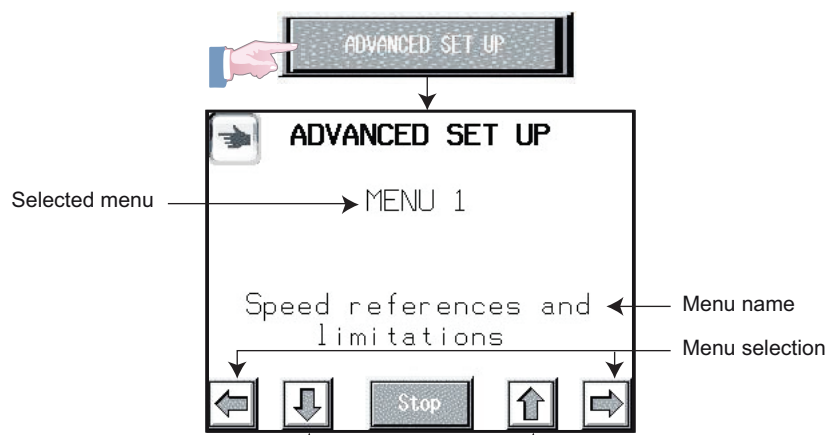
"USER SET UP ASSIGNMENTS" is used to configure the 10 parameters **00.56** to **00.65** required by the user and accessible directly in the sub-menu: Setting/User set up (see 2.2.3.2). These 10 parameters are unassigned in the factory settings.



Press the **M** button corresponding to the number of the user parameter to be modified, then type in the number of the parameter which is to be displayed in the "User set up" menu. Any parameter (menu 1 to 21) can be assigned.

2.2.3.3.2 - Advanced set up

"ADVANCED SET UP" gives access to all available drive parameters, from menu 1 to menu 21. These various parameters are accessible for reading and writing.

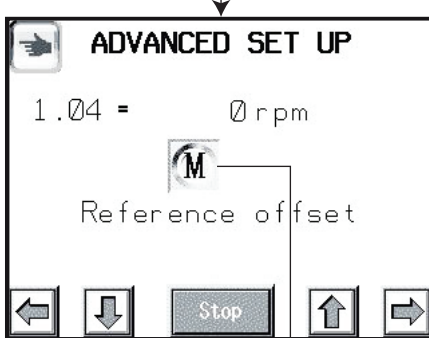
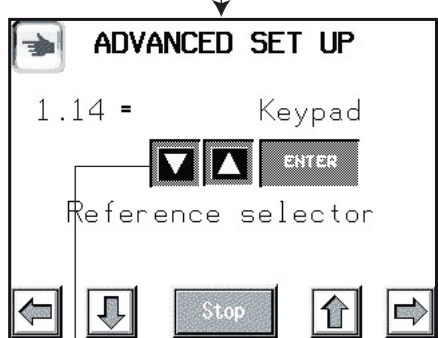
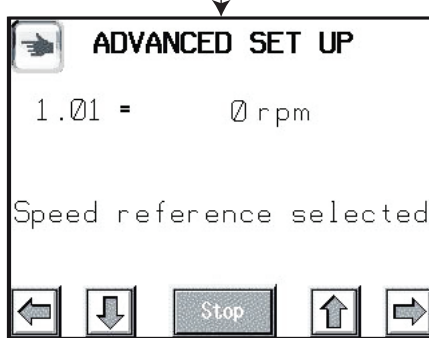


Selecting parameters from a menu

Read-only parameter

Modifying a selection parameter

Modifying a numerical parameter



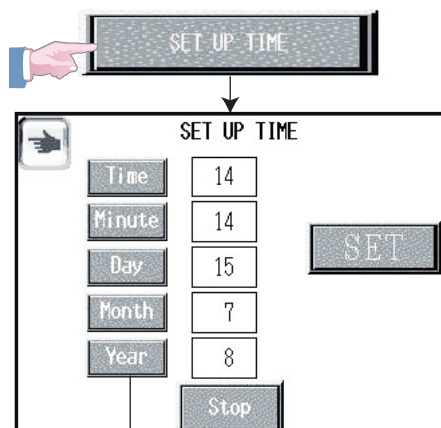
POWERDRIVE

Addition for the human-machine interface operation

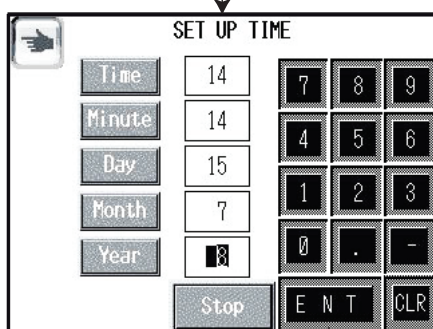
CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.3.3.3 - Set up time

"SET UP TIME" enables the user to set the drive's date and time.



Press one of the touch buttons corresponding to the setting to be modified.



Using the number pad, type in the new value, then press "ENT" to confirm the new setting.
Then press "SET" to confirm all the new settings.
The display returns automatically to the information page.

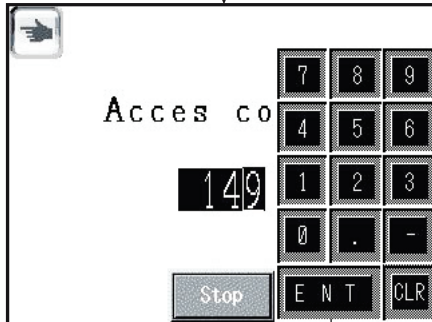
POWERDRIVE

Addition for the human-machine interface operation

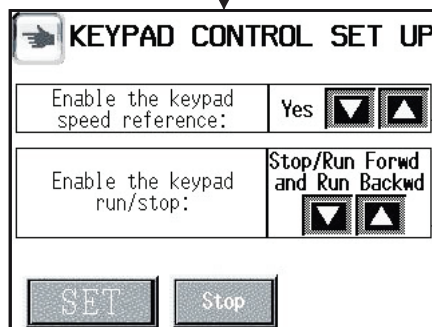
CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.3.4 - Keypad control set up

"KEYPAD CONTROL SET UP" is used to configure the controls possible from the Human-Machine Interface (Run Forward/Run Backward, Stop, Speed reference). Access is protected by a code.

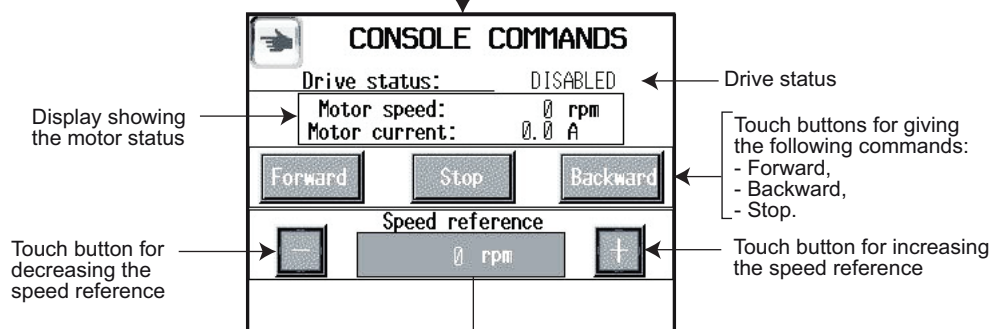


Press , then type in the access code "149" and confirm using the "ENT" button.



Setup possible	Effects on the "KEYPAD CONTROL" page
NO	No speed adjustment via the HMI.
YES	3 buttons for adjusting the speed reference are displayed.
NO	No Run Fwd/Run Backwd/Stop command via the HMI.
Stop/Run Forward	Two buttons, Forward and Stop, are displayed.
Stop/Run Fwd/ and Run Backwd	Three buttons, Forward, Stop and Backward, are displayed.

Press "SET" to confirm the new settings.



On pressing the "Speed reference" button, the number pad is displayed for direct entry of the desired speed reference. The + and - buttons will then allow the value to be adjusted more easily.

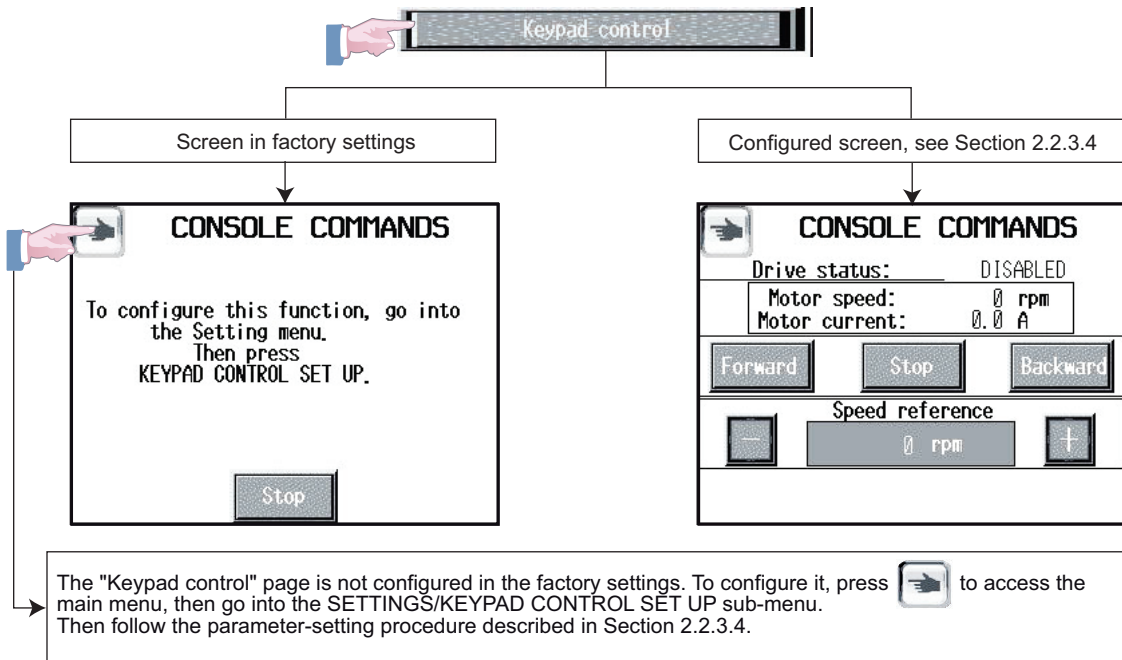
POWERDRIVE

Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

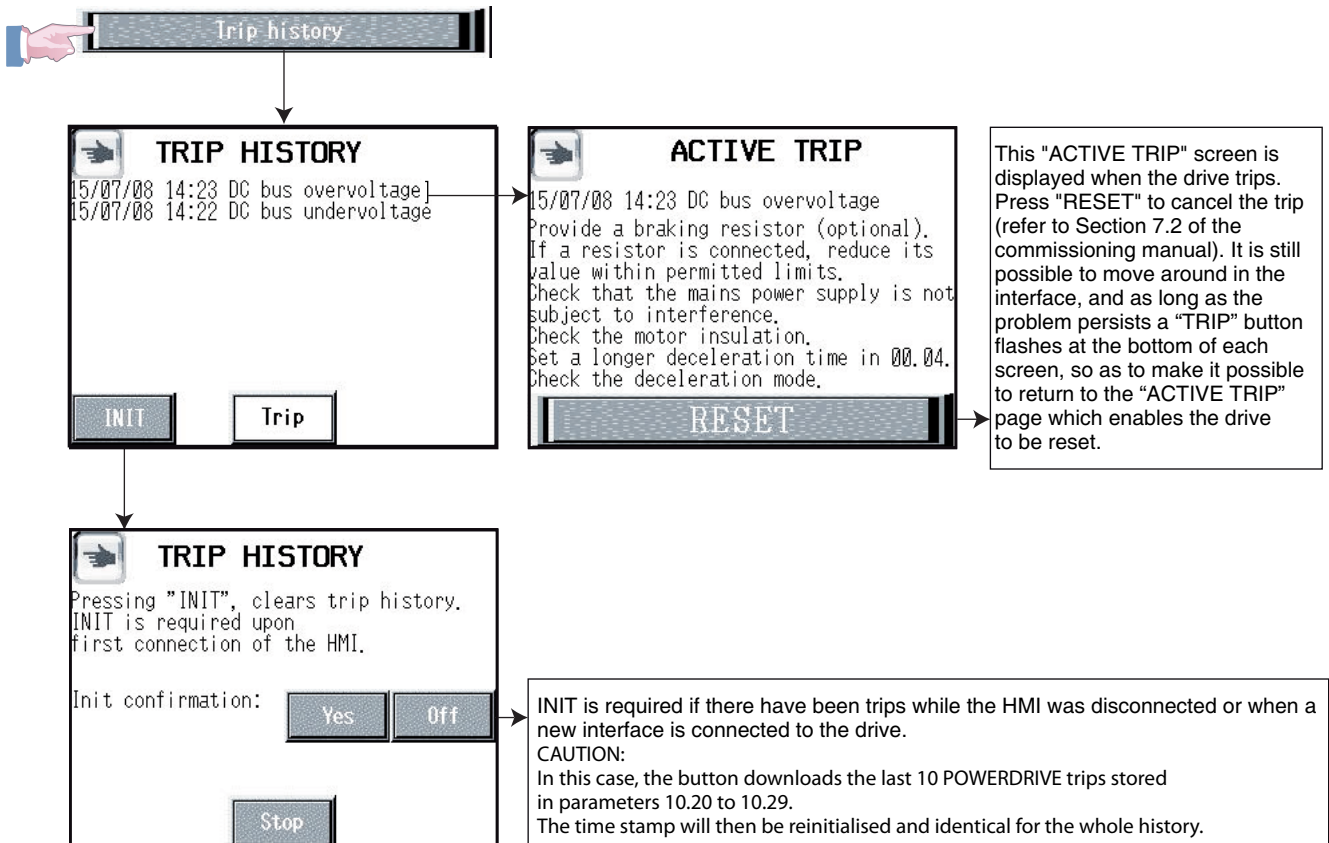
2.2.4 - "Keypad control" function

This function gives direct access to the "KEYPAD CONTROL" page and enables the drive to be controlled via the HMI interface.



2.2.5 - "Trip history" function

If the date and time settings are correct (see Section 2.2.3.3.3), this page shows a history of the last 10 drive trips with their precise date and time.



POWERDRIVE

Addition for the human-machine interface operation

CANCELS AND REPLACES SECTIONS 2.1 TO 2.2.6 IN THE MANUAL 3871

2.2.6 - "Stop" function




This "Stop" button gives a stop command. This function can be configured by a combination of parameters **06.12** and **06.43** in accordance with the table below.

CAUTION:

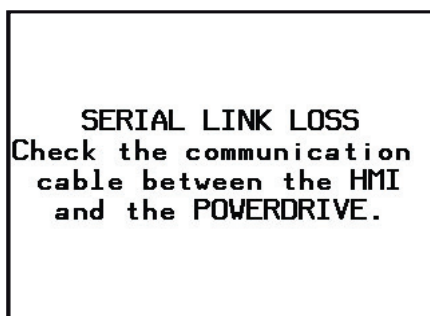
The stop button is automatically enabled in Keypad control mode. If the stop button is inactive, it is not displayed on the screen.

When the drive is tripped, the flashing "Trip" button takes priority. The "Stop" button then becomes inaccessible (see "TRIP HISTORY" screen, Section 2.2.5).

06.43 (00.23)	06.12	
Terminals	Enabled	Active (factory setting)
	Disabled	Inactive
Fieldbus	Enabled	Active
	Disabled	Inactive
LCD keypad	Enabled	Active
	Disabled	
Inactive	Enabled	Active
	Disabled	Inactive

2.3 - Communication loss alarm

If communication between the drive and the HMI is broken, the following flashing message appears on the screen, preventing access to all HMI functions.



To restore communication, check that the lead between the HMI and the drive is connected properly. If the alarm persists, please get in touch with your usual LEROY-SOMER contact.