Worthington Creyssensac

User Manual

EN

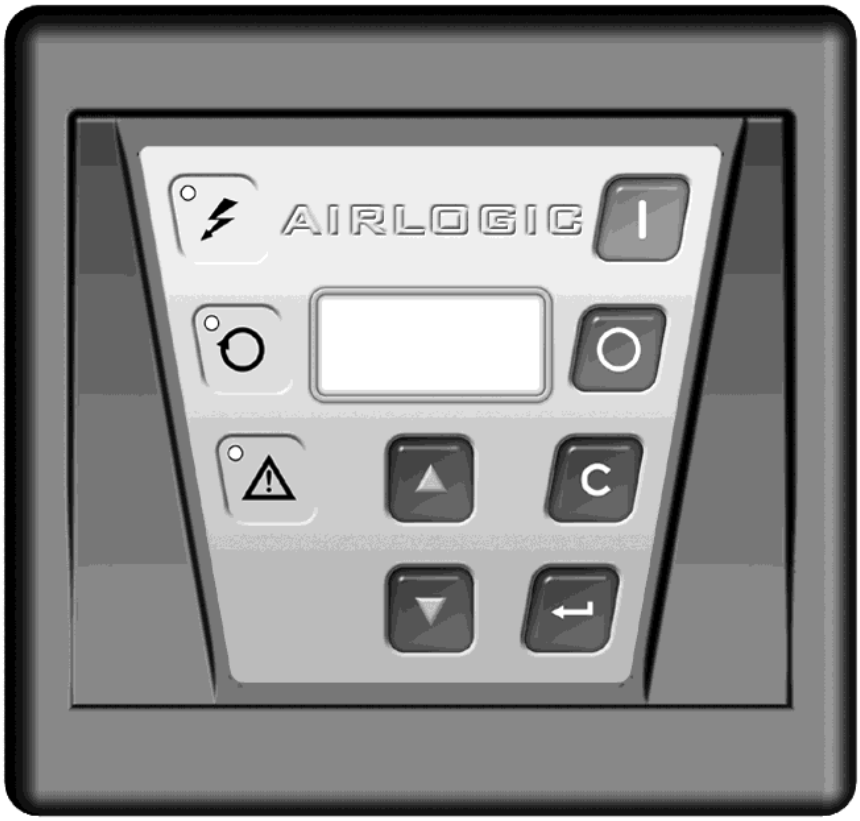
Electronic controller

AIRLOGIC®

For ROLLAIR® V

62 305 169 11 ed00

Soft version : 9820 3979 80



WARRANTY

The AIRLOGIC® has a warranty for 12 months from the date of commissioning or a maximum of 18 months from date of manufacture (which ever occurs first).

The warranty shall be applicable only if the installation conditions and the maintenance operations specified in this user manual are followed.
The guarantee is limited to replacing parts that are recognised as defective by our services.

NOTA :

This user manual complies with the requirements stipulated by the guidelines on machine safety 98 / 37 / CE and is valid for machines carrying the CE label.

SUMMARY

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Chapter 1 - Safety Measures

SAFETY

The personnel using the AIRLOGIC® shall use safe work practices and respect the local instructions and regulations concerning safety and hygiene.

All electrical tests shall be carried out according to the professional rules. Always cut off the electrical power supply before starting any kind of maintenance work.

INSTALLATION

The electrical cabinet should have a free access for facilitating maintenance, the location of AIRLOGIC® shall allow at any moment the visibility of luminous indicators and the digital display.

QUALIFICATION

The AIRLOGIC® shall be used only by competent, trained and qualified personnel; the manipulation of parameters can modify the characteristics and the performances of the compressor.

MAINTENANCE AND REPAIRS

The works of maintenance and repairs and the configuration of the AIRLOGIC® can be carried out only by competent and qualified personnel. If spare parts are required, use only the original parts supplied by the manufacturer.

EXTERNAL CONTROL

The Stop and Start buttons on the controller are deactivated when the AIRLOGIC® control is on "remote" or "LAN".

To stop the machine with the controller, it must first be placed in Local mode (see § 3.4)

Chapter 2 - Introduction

The display language can be configured according to the following operating procedure, described starting from one of the status screens:

- Press the key ↵ for accessing the list of menus
- Using the vertical scrolling functions ▼ ▲, select from the menu "Conf. User."
- Press the key ↵ for accessing the list of menu parameters
- Using the vertical scrolling functions ▼ ▲, select from the parameters "Language in use"
- Activate the language parameter by pressing the key ↵. The language used is displayed.
- Press the key ↵ again for activating the modification mode. The parameter flashes
- Scroll with the help ▼ ▲, the choices of three languages can be seen on the list.
- Validate your choice by pressing the key ↵. The parameter no longer flashes.
- The key C allows returning to the operational screen

2.1 - General

2.1.1 - Description :

The AIRLOGIC® is an electronic control plate equipped with a microprocessor used for the surveillance, management and monitoring of the ROLLAIR® range of compressors at fixed speed and ROLLAIR®V compressors with variable speed, as well as the ROLLAIR® T with integrated dryer.

The AIRLOGIC® offers several functions including the management of control, management of alarms and faults, information on the operational status of the unit, the configuration of remote control and the multi-controller management (optional).

The AIRLOGIC® allows in particular:

- The management of multiple analog inputs:
  - An oil temperature sensor
  - An internal pressure sensor
  - A unit output pressure sensor
  - A dew point sensor in ROLLAIR® T
- The control and the management of fixed speed or variable speed compressor
- The programming of operating time of loading and shutdown with possible selection of two control bands
- The control, the fault reporting and the display of the operational status of the compressor by remote control
- The automatic restarting in cascade after a mini-outage in power supply.
- The management of the integrated dryer module
- In option, the centralised management of up to 4 compressors equipped with AIRLOGIC®.

The exceptional modularity of AIRLOGIC® allows connecting additional electronic modules (the modules available are described in the Chapter 5.4) and thus add the logical and / or analog inputs / outputs necessary for certain special applications. For example, you can manage the pressure loss of your air treatment chain from the AIRLOGIC®.

2.1.2 - Emergency stop, time delay stop:

ATTENTION

Each compressor equipped with the AIRLOGIC® plate is provided with an EMERGENCY STOP palm button that shuts down the compressor and the dryer.

ATTENTION

When the button "STOP" is pressed, a time delay is applied before the compressor is stopped, an unloading run of 30 seconds minimum is imposed before the complete shutdown of the machine. The complete shutdown phase is indicated by the message "Compressor Off." on the display and the luminous indicator "Automatic Operation" is turned off.

2.2 - Functions

2.2.1 - Command:

Six keys on the front panel of AIRLOGIC® allows the operator to command and control the compressor.

2.2.2 - Display:

The display and the luminous indicator of AIRLOGIC® allow:

- Viewing the operational status of the compressor at a given instant
- Viewing the maintenance messages (alarms, faults)
- Viewing the setting parameters of the compressor

2.2.3 - Indication of maintenance operations

When a maintenance operation becomes necessary, either because the machine has reached the number of hours necessary before an intervention or because a sensor has detected a limit, a red indicator flashes and a message is displayed indicating the nature of the operation. The machine does not stop.

2.2.4 - Management of warnings

The warning characterises either a maintenance operation or a warning limit before reaching the limit of the fault, which when reached, would stop the machine. This allows anticipating a malfunctioning and dealing with it without compromising your production of compressed air. The indication of the nature of warning is transmitted to the AIRLOGIC®.

2.2.5 - Management of functional faults

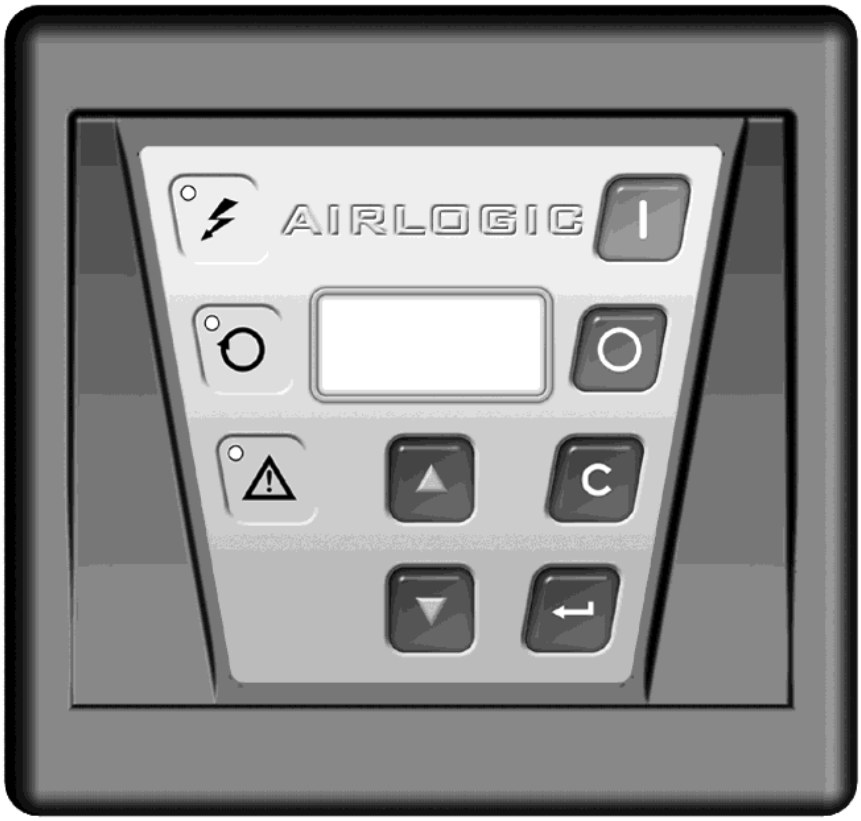
On the appearance of a functional fault, the AIRLOGIC® stops the compressor, indicates the fault by a red fault indicator and displays the message allowing the rapid identification of the cause of the incident.

An entry is added to the menu "History" of faults, displaying the nature of the fault, the date and the time as well as the value of certain parameters recorded when the fault appeared.

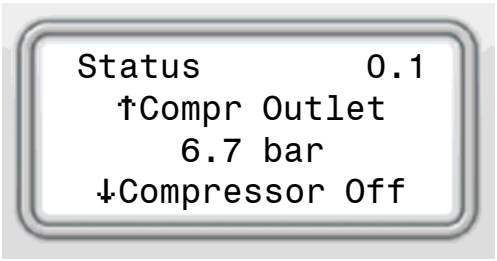
2.2.6 - Programming of pressure timers

The real time clock of AIRLOGIC® allows after programming the pressure timers, the automatic start and stop of the compressor. While programming the loaded running, two pressure limits are available for allowing to vary the control pressure over a time, depending on the applications.

2.3 - Front panel of AIRLOGIC®



2.3.1 - Digital display screen:



4 lines of 16 characters.

The screen displays all the information necessary for the navigation, the control of functional parameters and the error messages.

The choice of 3 languages among 25 (configurable by the software) simplifies the understanding of the messages and the parameters.

2.3.2 - Luminous indicators:

Power supply indicator (green lamp lit): controller powered on

Automatic functional mode: green lamp on (the compressor was not stopped manually, it was either loaded or unloaded or stopped but ready to start automatically, if necessary).

Error: red flashing light
Warning: fixed red light

2.3.3 - Keys

Button **"START"** allows starting the compressor in automatic mode (this shall stop and restart automatically depending on the pressure variations in the network).

Button **"STOP"** allows stopping the compressor when it is in automatic functional mode. The complete shutdown takes place only after a depressurisation cycle of a modifiable period of 30 seconds.

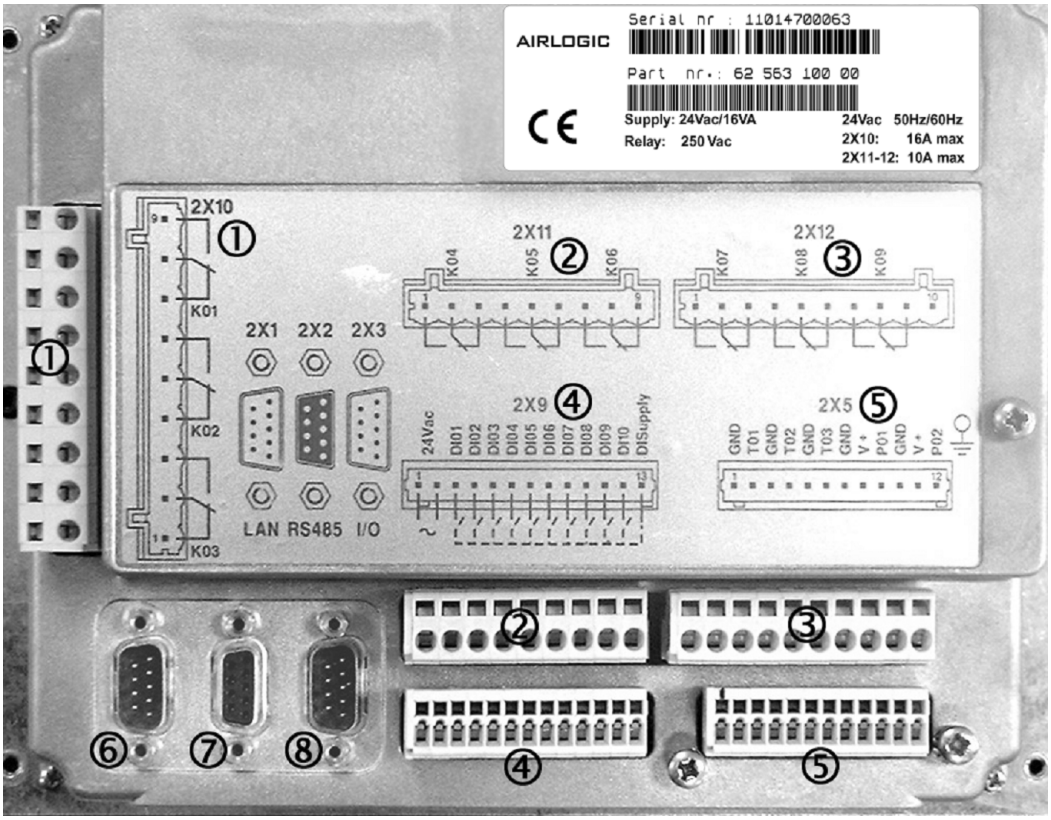
Button **"CANCEL":**
- Cancellation of a modification of the value of a parameter.
- Return to previous level in the menus.
- Shortcut menu Controle Mode.

Button **"VALIDATE"**
- Enter the menu currently displayed while navigating the menu (the screen then displays the list of parameters of this menu).
- Validation of the modification of the value of a parameter.
- Enter the mode of modification of the value of a parameter. It will then start flashing.·
- Rearming after a fault or a warning when the cause has been eliminated.

Navigation Up
Display of the previous menu or parameter
Increment the value of a parameter during its modification.

Navigation Down
Display of the next menu or parameter
Decrement the value of a parameter during its modification.

2.4 - Rear panel of AIRLOGIC®



Contactor No.	Terminal No.	Usage
1 - 2X10	K01	Fan contactor
1 - 2X10	K02	Inverter communication return
1 - 2X10	K03	NA
2 - 2X11	K04	Regulation solenoid
2 - 2X11	K05	Dryer contactor
2 - 2X11	K06	Solenoid of condensate purge
3 - 2X12	K07	Report of automatic functionings
3 - 2X12	K08	Report of warnings
3 - 2X12	K09	Report of general faults
4 - 2X9	DI01	Emergency stop
4 - 2X9	DI02	Remote start stop
4 - 2X9	DI03	NA
4 - 2X9	DI04	NA
4 - 2X9	DI05	NA
4 - 2X9	DI06	Thermal relay turbine motor
4 - 2X9	DI07	Phase controller
4 - 2X9	DI08	Water flow rate sensor (if option fitted)
4 - 2X9	DI09	Start/stop Multilogic
4 - 2X9	DI10	Selector of pressure band
5 - 2X5	T01	Temperature sensor in outlet of compression block
5 - 2X5	T02	Temperature sensor of dryer (Dryer LAT)
5 - 2X5	T03	Not used
5 - 2X5	P01	Pressure sensor on compressor outlet
5 - 2X5	P02	Pressure sensor of internal tank
6 - 2X1	LAN	Connector for mounting in network (Multilogic) or communication with a PC
7 - 2X2	RS485	Connector for link with the frequency regulator
8 - 2X3	I/O	Connector for the additional input/output modules or for the Multilogic or for the electronic key

Chapter 3 - Control of the compressor

3.1 - Command of the regulation

In the case of ON/OFF regulation, the AIRLOGIC® manages:

- The command of unloading run when the pressure measured by the analog sensor reaches the idling pressure.
- The command of loading run when the pressure measured by the analog sensor reaches the minimum regulation pressure (pressure of loading run).
- The command of motor shutdown after a period of idling.
- The restriction on restarting the motor if the pressure in the oil tank is greater than 1.5 bar or if the oil temperature at the outlet of compression block is less than 2°C.
- **If you need to intervene on the machine when it is stopped, you should place it in total safety by cutting off its electrical power supply.**

3.2 - Stop on fault

The following inputs and parameters lead to a stopping of the compressor on fault when their status switches (for inputs) or when their value crosses the predefined values (top or bottom limits for the analog parameters or inputs):

- Input : Emergency stop
- Input : Motor overload
- Input : Turbine motor overload
- Input : Phase controller (option)
- Input : Water flow sensor (option on water cooled version)
- Input : External fault (dryer, filter, other equipment …)
- Analog Input: temperature in outlet of compression block. In addition to the value of this temperature, its increase is also monitored during about 15 seconds after the starting of the compressor, if the temperature does not increase sufficiently, the controller considers that the motor is running in the wrong direction (the air is not compressed therefore the air is not heated) and stops the compressor. It is then necessary to cut off the power supply to the compressor, interchange the two phases of the supply to the main motor, then restart the power. This error cannot be cancelled by manipulations of the controller!
- Analog input: dryer temperature (estimate of the dew point set as a dryer "LAT parameter") too high or too low, there will be a warning if the temperature moves out of these high and low limits.
- Analog input internal pressure: this input replaces the high and low pressure switches of older regulation systems. If the internal pressure of the tank is too high, the controller displays a first warning notifying the user that the pressure is approaching dangerously close to the maximum limit, then it will trigger an error (and the shutdown of the compressor) if the pressure continues increasing.
- Parameter differential pressure: a calculation of the difference of pressure between the machine outlet and the internal tank also replaces the differential pressure switches.
- Analog Input : motor temperature (sensors in option on certain machines)

3.3 - Warning before stop on fault

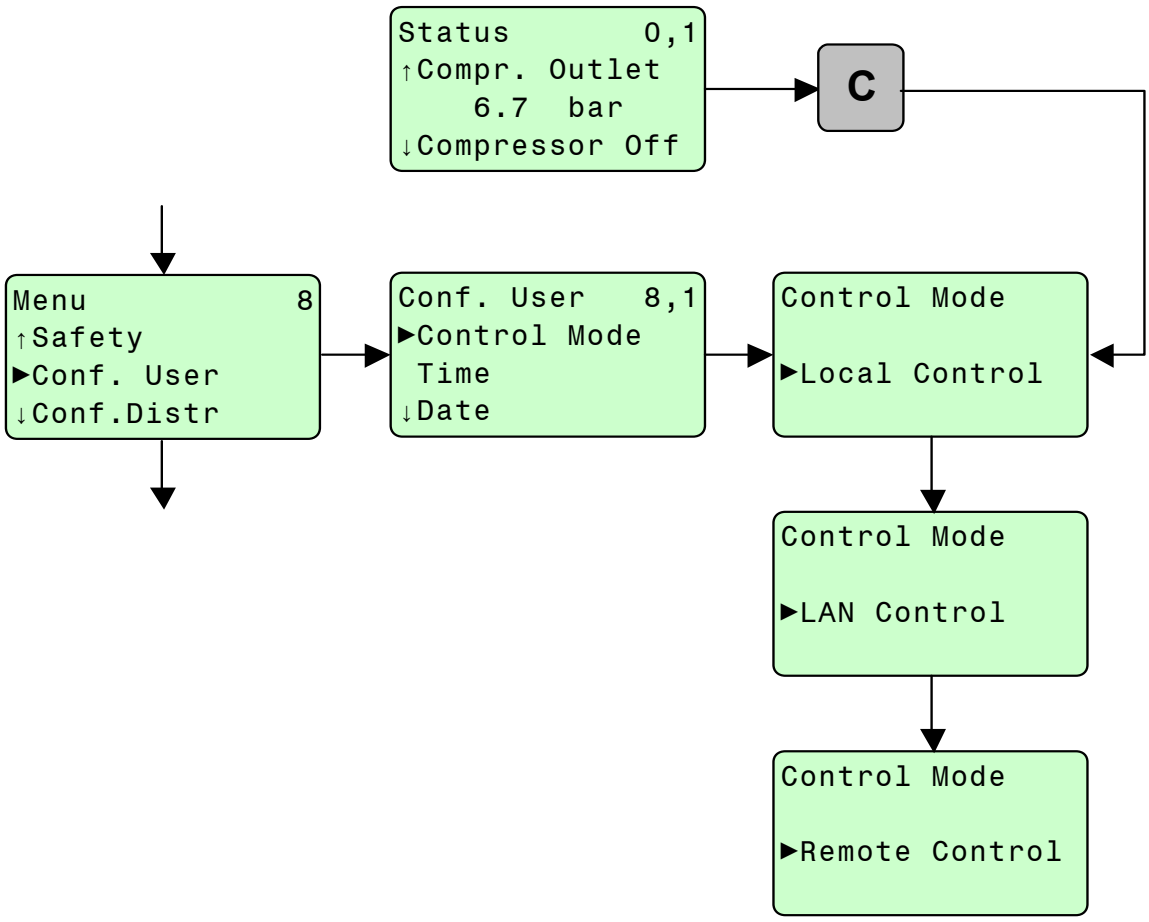
Most of the values measured or calculated have before fault warning thresholds whose values are slightly below (or above) the maximum (or minimum) fault thresholds. The operator shall thus be warned that the operation of the compressor is approaching an error threshold.

3.4 - Control mode

AIRLOGIC® has three control modes, Local / remote / LAN.
In Local mode, it is possible to start or stop the compressor directly from the controller.
In remote mode, the stop and start control is via a dry external contact (adjustment may still be internal (via the machine's sensor) or external (pressure switch….))
In LAN mode, start and stop control is by using the CANBUS compressor network through a master supervisor.

Note : For the latter two cases, the compressor is stopped by the local controller (maintenance…..). The control mode must be first changed and returned to local mode.

A shortcut using the **"C"** key is provided for this.



Chapter 4 - Structure of menus

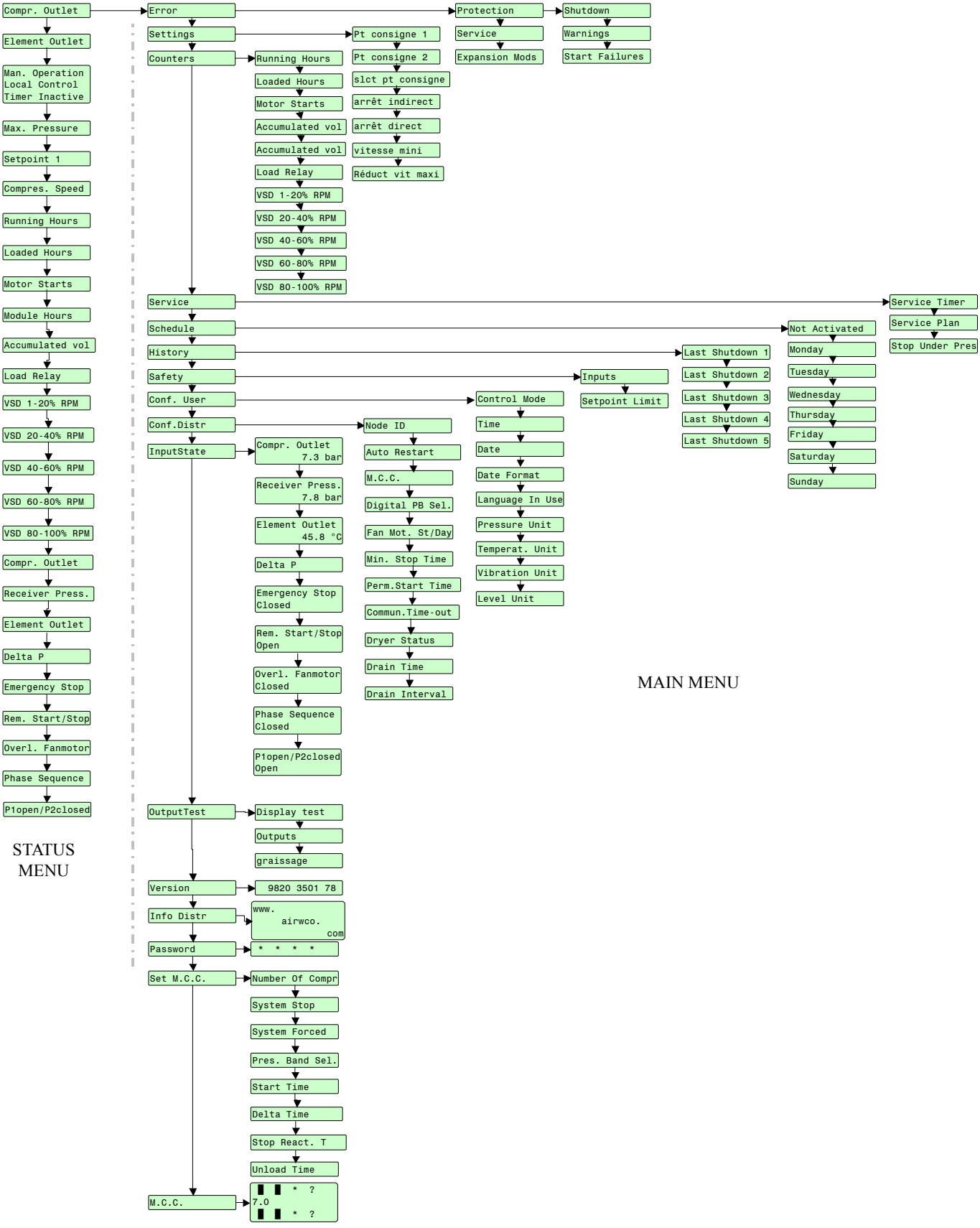
The "screens" displayed on the controller are organised into menus, sub-menus, display screens and/or modification of parameters.

The following section describes the general structure of the menus. However, depending on the options of your compressor, additional screens and/or parameters may be displayed. The logic of navigation and modification of parameters remains identical.

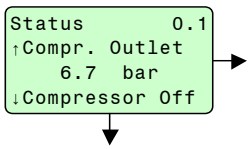
4.1 - General structure

The structure of the AIRLOGIC® is composed of two sections. The left hand column represents the status menus transmitting the parameters relating to the functional status of the machine; these are usable as check lists.

The rest of the structure offers the parameters for configuring the compressor. Some of these parameters are read only while others can be modified, with restriction of access through password, depending on the qualification of the operator.


Compr. Outlet
Element Outlet
Man. Operation
Local Control
Timer Inactive
Max. Pressure
Setpoint 1
Compres. Speed
Running Hours
Loaded Hours
Motor Starts
Module Hours
Accumulated vol
Load Relay
VSD 1-20% RPM
VSD 20-40% RPM
VSD 40-60% RPM
VSD 60-80% RPM
VSD 80-100% RPM
Compr. Outlet
Receiver Press.
Element Outlet
Delta P
Emergency Stop
Rem. Start/Stop
Overl. Fanmotor
Phase Sequence
P1open/P2closed
STATUS MENU
Error
Settings
Counters
Protection
Shutdown
Service
Warnings
Expansion Mods
Start Failures
Pt consigne 1
Pt consigne 2
slct pt consigne
arrêt indirect
arrêt direct
vitesse mini
Réduct vit maxi
Running Hours
Loaded Hours
Motor Starts
Accumulated vol
Accumulated vol
Load Relay
VSD 1-20% RPM
VSD 20-40% RPM
VSD 40-60% RPM
VSD 60-80% RPM
VSD 80-100% RPM
Service
Service Timer
Service Plan
Stop Under Pres
Schedule
Not Activated
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
History
Last Shutdown 1
Last Shutdown 2
Last Shutdown 3
Last Shutdown 4
Last Shutdown 5
Safety
Inputs
Setpoint Limit
Conf. User
Control Mode
Time
Date
Date Format
Language In Use
Pressure Unit
Temperat. Unit
Vibration Unit
Level Unit
Conf.Distr
Node ID
Auto Restart
M.C.C.
Digital PB Sel.
Fan Mot. St/Day
Min. Stop Time
Perm.Start Time
Commun.Time-out
Dryer Status
Drain Time
Drain Interval
InputState
Compr. Outlet 7.3 bar
Receiver Press. 7.8 bar
Element Outlet 45.8 °C
Delta P
Emergency Stop Closed
Rem. Start/Stop Open
Overl. Fanmotor Closed
Phase Sequence Closed
P1open/P2closed Open
OutputTest
Display test
Outputs
graissage
Version
9820 3501 78
Info Distr
www. airwco. com
Password
* * * *
Set M.C.C.
Number Of Compr
System Stop
System Forced
Pres. Band Sel.
Start Time
Delta Time
Stop React. T
Unload Time
M.C.C.
7.0
MAIN MENU

4.2 - How to read the structure



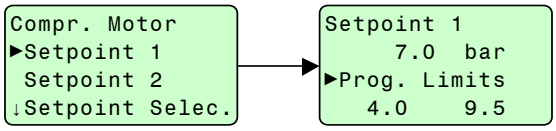
A vertical arrow pointing to a screen indicates that you have reached this screen from the screen located above (the origin or the arrow) by pressing the key ▼.

A horizontal arrow indicates that you can:

- Go to the menu located at the top of the arrow by pressing the key ↵
- Go to the screen for modifying the parameter displayed by pressing the key ↵
- Return to the screen located at the end of the arrow pointing to the screen by pressing the key C
- A vertical arrow leaving from a screen indicates that you can reach the screen from the one located below (at the tip of the arrow) by pressing on the key ▼.

4.3 - How to modify a parameter

The vertical navigation inside an menu using the keys ▼ / ▲, horizontal navigation for entering or leaving a sub-menu with the help of the keys ↵ / C, allow you to reach the parameter you wish to modify.



DISPLAY OF THE PARAMETER VALUE

When the cursor ■ is positioned against the parameter (loading press 1), press the key ↵ for displaying the value of the parameter. This value is displayed along with its mini and maxi limits.

ACTIVATION OF THE MODIFICATION MODE

Press the key ↵ the flashing of the value indicates that the parameter may be modified within programming limits.

MODIFICATION OF THE VALUE

Using the key ▲, the value of the parameter is incremented within the defined limit. The key ▼ allows decrementing the value up to the bottom limit.

VALIDATION OF PARAMETERISATION

By pressing the key ↵, the modification of the parameter is validated. The flashing stops.

CANCELLATION OF PARAMETERISATION

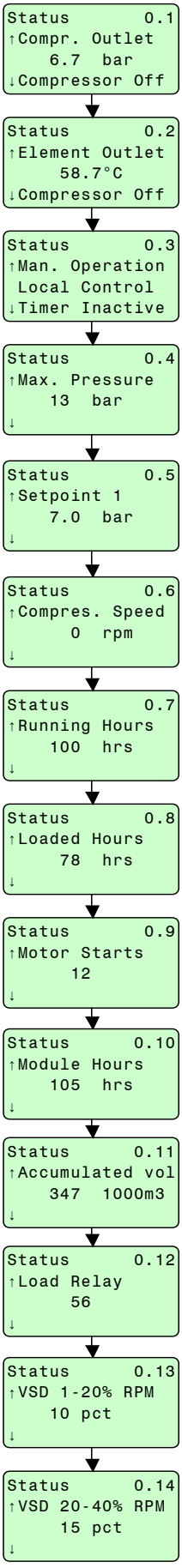
By pressing the key C, the modification is cancelled and the parameter returns to its initial value before entering into modification mode

EXIT FROM THE MENU

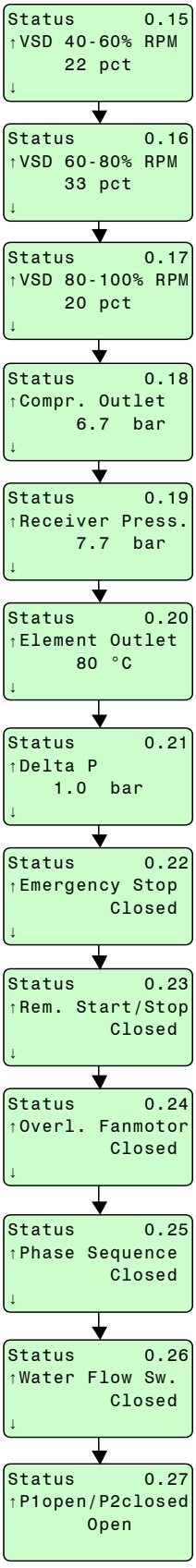
Pressing the key C allows returning to the parameters selection list of the menu.

4.4 - Status menus

These status menus only display the different parameters / values relating to the functional state or settings of the compressor.



1. **P compressor outlet** : Indication of the pressure read by the sensor in machine outlet
2. **T element outlet** : Indication of the temperature read by the sensor in outlet of the compression element
3. **Manual operation/Local control/Timer inactive**: Indicates that the compressor is in autonomous operating mode (it is not controlled by an external controller) / indicates that the pressure sensor read by the compressor is the integrated sensor (and not an external sensor) / Indicates that the weekly programming function is not activated.
4. **Max. pressure** : Maximum limit of unloading pressure setting.
5. **Setpoint 1** : Setpoint pressure. The user can choose between two configurable setpoint pressures.
6. **Compress. Speed** : Indicates the motor rotation speed.
7. **Running hours** : Number of running hours of the compressor motor operation (unloaded or loaded) from its start-up.
8. **Loaded hours** : Number of hours of loaded operation of the compressor from its start-up.
9. **Number of motor starts** : Number of motor starts from its start-up.
10. **Module hours** : Number of hours during which the AIRLOGIC® remains powered on.
11. **Accumulated vol** : for ROLLAIR® V, an internal calculation in the AIRLOGIC® enables the display of an estimated volume of air produced since commissioning.
12. **Load relay** : Number of passages of the compressor in load from its start-up.
13. **VSD 1-20% RPM** : Percentage of operating time during which the compressor has operated between 1 and 20% of its maximum speed.
14. **VSD 20-40% RPM**: Percentage of operating time during which the compressor has operated between 20 and 40% of its maximum speed.



15. **VSD 40-60% RPM** : Percentage of operating time during which the compressor has operated between 40 and 60% of its maximum speed.

16. **VSD 60-80% RPM** : Percentage of operating time during which the compressor has operated between 60 and 80% of its maximum speed.

17. **VSD100-80% RPM** : Percentage of operating time during which the compressor has operated between 80 and 100% of its maximum speed.

18. **P compressor outlet** : Reuse of the first parameter. From this parameter, the menu displays the status of all the analog and logical inputs that are activated.

19. **Receiver press.** : Pressure as read by the sensor placed on the deoiling tank of the compressor

20. **T element outlet** : Indicates the temperature read by the sensor in outlet of the compression element

21. **DeltaP** : Indicates the difference between the internal tank pressure and the pressure in compressor outlet.

22. **Emergency stop** : Status of the logical input emergency stop (closed = no error)

23. **Start/stop remote** : Status of the logical inputs indicating to AIRLOGIC® that it is remote started (input closed) in the "Remote control" operating mode

24. **Overload fan motor** : Overload of turbine motor - input activated by the thermal protection relay of the turbine motor.

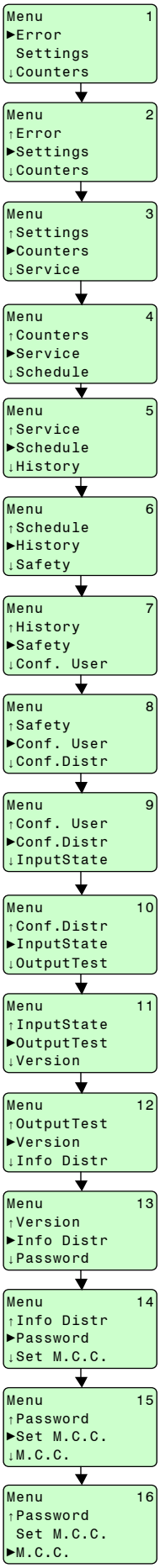
25. **Phase sequence** : Input triggering an error if the phase controller (in option) detects a wrong direction of the phases (and therefore the motor) or else, an absence of phase.

26. **Water flow switch** : used only on water cooled versions, Indicates the status of the water flow sensor.

27. **Status of the input** for selection of the pressure band. Pressure band 1 if open, pressure band 2 if closed (active if the parameter "Digital PB set" of the menu "Conf.distr" is activated).

4.5 - Inputs in the main menus

From each of the inputs in the status menu, pressing the key ↵ brings you to the first menu of the following list:



1. **Error** : It is to this menu that you will be systematically guided when an error or a warning is activated/active. Pressing the key ↵ allows deactivating the display of error, if, of course, the cause of this error has been resolved. If no error / warning is active, then the message "All conditions are OK" is displayed.

2. **Settings** : In this menu appear all the basic settings used for controlling the compressor (unloading pressures and loaded running for each of the two usable pressure bands, pressure band used)

3. **Counters** : In this menu, one can access the different counters for reading: running hours, loaded hours, number of motor starts, number of passages into load.

4. **Service** : Access menu for data relating to compressor maintenance (delay from last intervention, before next intervention, type of maintenance performed), to the menus for parameterising types of maintenance periods and also to menu Stop Under Pres.

5. **Schedule :** Menu of weekly programming of pressures

6. **History** : This menu and its sub-menus allow displaying the latest errors occurred as well as a list of values of certain parameters and inputs recorded at the time of this error.

7. **Safety** : Access to menus reserved for advanced users having to deal with the compressor safety parameters (warning and error thresholds, delays) on the analog inputs and certain logical inputs

8. **Conf. User** : Menu for configuring the date, time, units, language, etc.

9. **Conf. Distrib** : Menu reserved for the distributor (password) in which he can modify the parameters of compressor control and operation.

10. **Status of inputs** : Displays the protection elements configured on certain logical and analog inputs (those having a protection).

11. **Test outputs** : Menus allowing to test the display, the LEDs as well as each of the logical outputs. (Caution, coils may be powered).

12. **Version** : Indicates the version number of the application uploaded into the controller.

13. **Info Distrib** : Menu for display of information, can be customised by the distributor using the FSP software.

14. **Password** : In this menu, the password coded on 4 digits is entered, depending on the level of access desired.

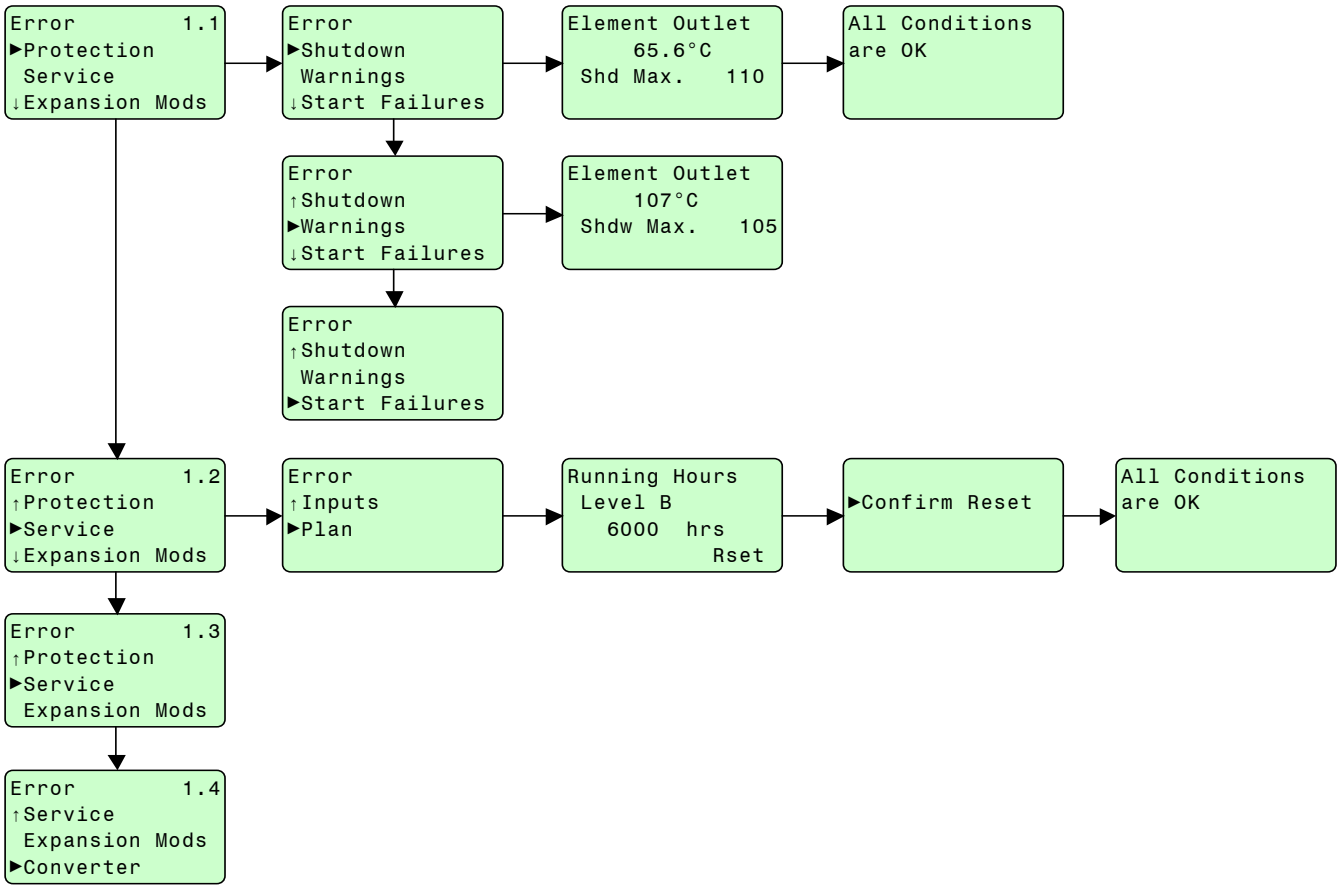
15. **Set MCC** : See information in the MULTILOGIC manual.

16. **M.C.C.** : See information in the MULTILOGIC manual.

4.6 - Error Menu

It is to this menu that you will be systematically guided when an error or a warning is activated/active. Pressing the key ↵ allows deactivating the display of error, if, of course, the cause of this error has been resolved. If no error / warning is active, then the message "All conditions are OK" is displayed.

Definition of different types of error



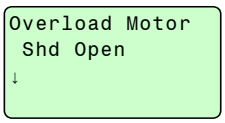
When there is a warning, the error LED is lit fixed. A message flashes on last line of the screen STATUS 0.1 stipulating the type of warning:

Alarm
Sensor error
Service required
Pre-alarm
** Fault **
*Key absent *
Internal fault
Starting fault.

Pressing the key ↵ then takes you to the Error menu and the parameter of this menu corresponding to the type of warning flashes. This indicates the menu that you have to enter in order to identify the input port of the warning and the protection that is activated.

When the cause of the warning has been removed, the flashing message of the menu STATUS 0.1 disappears and the message "All conditions are OK" is displayed on the "Error" menu.

When an error occurs, the compressor stops and the screen displays the name of the input in fault as well as the cause of the error. For example:



Pressing the key C then displays the menu "Error" with the type "fault" flashing. Pressing on the enter key then displays again the same error message.

When the cause of the error has been removed (rearming the thermal protection relays, for example), pressing the key ↵ then displays the message "All conditions are OK". The error indicator is turned off and the compressor can be restarted.

When an error occurs, a new entry is added in the menu "History" with the corresponding saved data.

4.7 - Settings Menu

In this menu appear all the basic settings used for controlling the compressor (unloading pressures and loaded running for each of the two usable pressure bands, pressure band used)

AIRLOGIC® allows configuring the two bands of operating pressure and then selecting one of them depending on your needs at a given time.

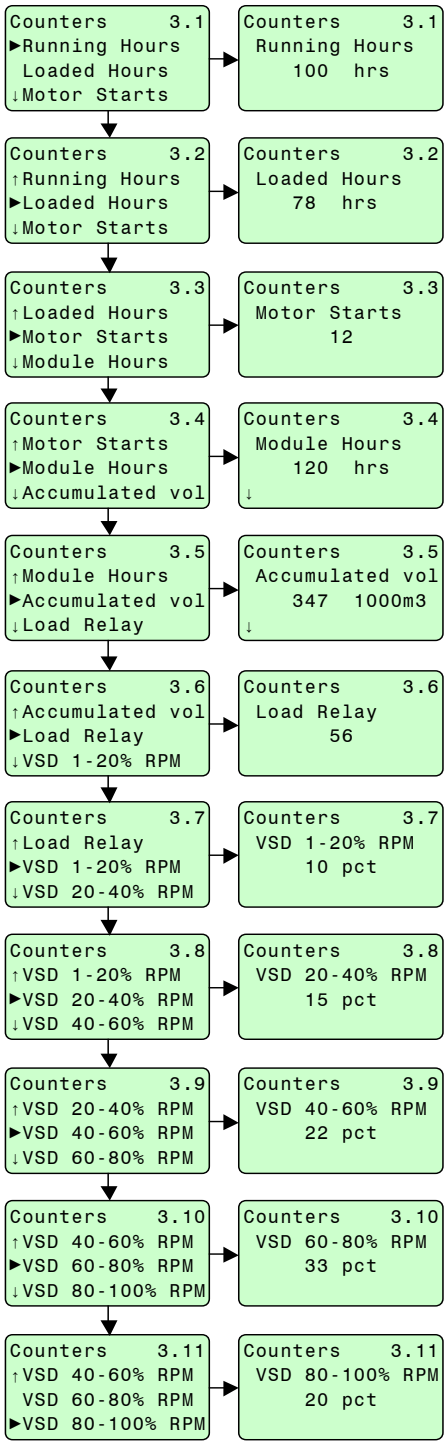
STRUCTURE	DEFINITION	MIN	MAX
Compr. Motor ►Setpoint 1 Setpoint 2 ↓Setpoint Selec. Setpoint 1 7.0 bar ►Prog. Limits 4.0 9.5	Setpoint 1: the compressor will try to maintain this pressure in the network if this setting is selected.	4 bar	Value of parameter "Setpoint Limite" Safety menu
Compr. Motor ↑Setpoint 1 ►Setpoint 2 ↓Setpoint Selec. Setpoint 2 7.2 bar ►Prog. Limits 4.0 9.5	Setpoint pressure 2: the compressor will try to maintain this pressure in the network if this setting is selected.	4 bar	Value of parameter "Setpoint Limite" Safety menu
Compr. Motor ↑Setpoint 2 ►Setpoint Selec. ↓Indir.Stop Lev. Setpoint Selec. ►Setpoint 1	Selection of the setpoint pressure to be applied for operation of the compressor.	Setpoint 1	Setpoint 2
Compr. Motor ↑Setpoint Selec. ►Indir.Stop Lev. ↓Direct Stop Lev Indir.Stop Lev. 0.3 bar ►Prog. Limits 0.1 1.0	Value added to the current setpoint pressure above which the compressor will switch to no-load operation.	0.1 bar	1.0 bar
Compr. Motor ↑Indir.Stop Lev. ►Direct Stop Lev ↓Minimum Speed Direct Stop Lev 1.0 bar ►Prog. Limits 0.3 1.5	Value added to the actual setpoint pressure above which the compressor will stop and switch to default. No error is generated.	Value of previous parameter	1.5 bar
Compr. Motor ↑Direct Stop Lev ►Minimum Speed ↓Max.RPM Reduct. Minimum Speed 100 rpm ►Prog. Limits 0 900	Minimum rotation speed of the main compressor motor. This new setpoint is only taken into account when it is greater than the standard minimum speed.	460RPM depends on the compressor	900RPM depends on the compressor
Compr. Motor ↑Direct Stop Lev Minimum Speed ►Max.RPM Reduct. Max.RPM Reduct. 100 pct ►Prog. Limits 75 100	Percentage maximum speed reduction. Allows the user to limit this maximum speed for certain applications.	75 %	100 %

If the unloaded running period is too long (if the pressure remains high in the customer network -- due to increased demand for air, for example), then the compressor shall stop automatically (the period depends on the parameter "Progr. Stop Time" in the menu "Conf. Distri" and it shall be ready to restart if the pressure drops again below the "Loading Pres. 1".

The pressure bands used can also be configured in the menu "Schedule" for using the weekly programming of start-stop cycles.

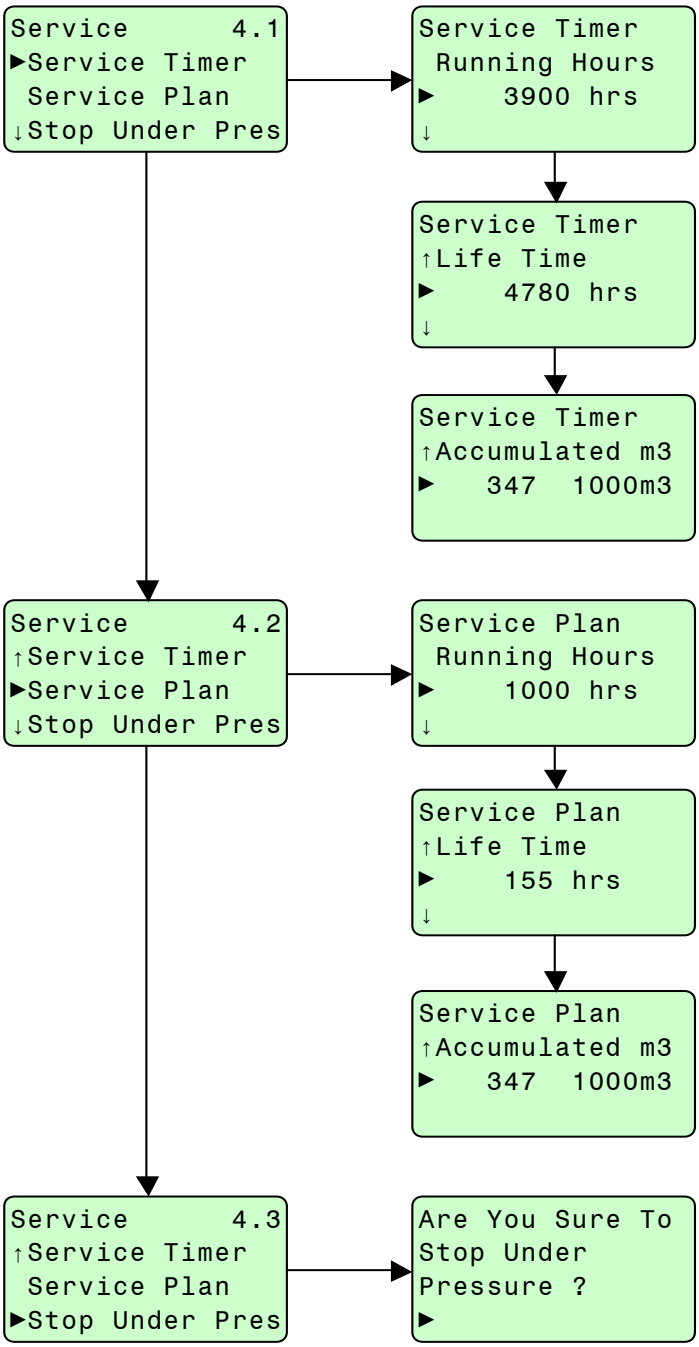
4.8 - Counters Menu

In this menu, one can access the different counters for reading: running hours, loaded hours, number of motor starts, number of passages into load.

STRUCTURE	DEFINITION
	Running hours : Number of hours during which the motor has run from the first powering on of the controller. Loaded hours : Number of hours during which the compressor has operated "in load" from the first powering on of the controller. Number of motor starts : From the first powering on of the controller. Number of module hours : Period during which the AIRLOGIC® remained powered on at which the controller is first switched on. Accumulated volume: volume of compressed air produced when the controller is first switched on. Number of transitions from no-load operation to on-load operation starting from the point at which the controller is first switched on. Percentage of operating time during which the compressor has operated between 1 and 20% of its maximum speed. Percentage of operating time during which the compressor has operated between 20 et 40% of its maximum speed. Percentage of operating time during which the compressor has operated between 40 and 60% of its maximum speed. Percentage of operating time during which the compressor has operated between 60 and 80% of its maximum speed. Percentage of operating time during which the compressor has operated between 80 and 100% of its maximum speed.

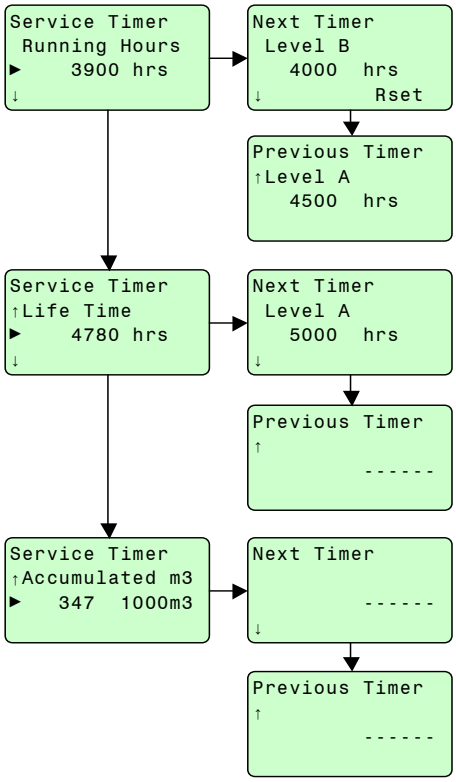
4.9 - Service Menu

Access menu for data relating to compressor maintenance (delay from last intervention, before next intervention, type of maintenance performed), to the menus for parameterising types of maintenance periods and also to menu Stop Under Pres.



4.9.1 - Service Menu / Service counter

This menu allows the operator to find out when the last maintenance operation took place and when the next should take place.

STRUCTURE	DEFINITION
	Number of hours of compressor running at which the next service should be conducted and its type (from A to J). The running hours displayed are incremented with the functioning of the compressor Number of running hours at which the last service was carried out and its type (from A to J) Number of hours of the machine (calculated from its date of commissioning machine powered on or not) at which the next service has to take place and its type (from A to J). The life period displayed increments with the functioning of the compressor. Number of hours of the machine (calculated from its date of commissioning - machine powered on or not) at which the last service was conducted and its type (from A to J) Volume of air produced (calculated since start commissioning) at which the next service should be carried out and the service type (from A to J). Volume of air produced (calculated since commissioning) at which the last service was carried out and its type (from A to J).

4.9.2 - Service Menu / Service Plan

This menu allows viewing and eventually modifying (not recommended) the maintenance intervals according to their level as defined in the compressor instruction manual.

Please refer to your ROLLAIR® instruction manual for finding the correspondence between the service level displayed and the maintenance operations to be performed.

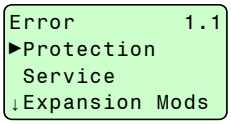
The first maintenance at 500 hours does not take place at regular intervals. It is necessary to deactivate it after it is completed. For this, you have to change the value of the parameter "Level J" from "500 Hours" to "-----" by decrementing the value displayed.

The maintenance operator can add the levels of maintenance personnel and their intervals corresponding, for example, to the external elements of the compressor (filters network)

STRUCTURE	DEFINITION
Service Plan Running Hours ► 1000 hrs ↓ → Service Plan ↑Level A ► 2000 hrs ↓ 0 100000	Interval of number of running hours at which the type A service has to be performed.
Service Plan ↑Level B ► 6000 hrs ↓ 0 100000	Interval of number of running hours at which the type B service has to be performed.
Service Plan ↑Level J ► 500 hrs ↓ 0 100000	And so on up to the type J service level…
Service Plan ↑Life Time ► 155 hrs ↓ → Service Plan ↑Level A ► 8760 hrs ↓ 0 100000	Interval of number of hours of service life (with or without functioning) at which type A service has to be performed. If the compressor remains without functioning during one year, an oil change has to be made nevertheless.
Service Plan ↑Level B ► ----- ↓ 0 100000	Interval of number of hours of service life (with or without functioning) at which type B service has to be performed.
Service Plan ↑Level J ► ----- ↓ 0 100000	And so on up to the type J service level…
Service Plan ↑Accumulated m3 ► 347 1000m3 → Service Plan ↑Level A ► 8760 hrs ↓ 0 100000	Interval of volume of compressed air produced by the machine at which service type A should be carried out.
Service Plan ↑Level B ► ----- ↓ 0 100000	Interval of volume of compressed air produced by the machine at which service type A should be carried out.
Service Plan ↑Level J ► ----- ↓ 0 100000	And so on up to the type J service level…

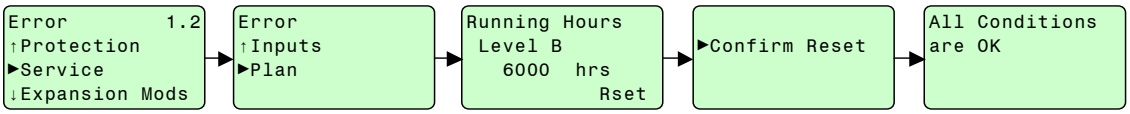
When a maintenance becomes due, the menu STATUS 0.1 displays on its last line the flashing message "Service Required*".

Pressing the key ↵ takes you to the menu "Error", pressing again on ↵ displays the following menu:



(the sign "⊣" indicates that pressing on ? is inoperative)

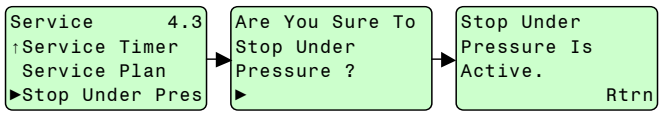
where the menu "Service" flashes. Enter in the menu "Service" then in the menu "Contract" that also flashes.



The service level required is then displayed. The message "Reset" flashes at the bottom of the screen. Press again ↵ and confirm then that you have correctly completed the maintenance operation. The message "All conditions are OK" confirms the validation of the service performed.

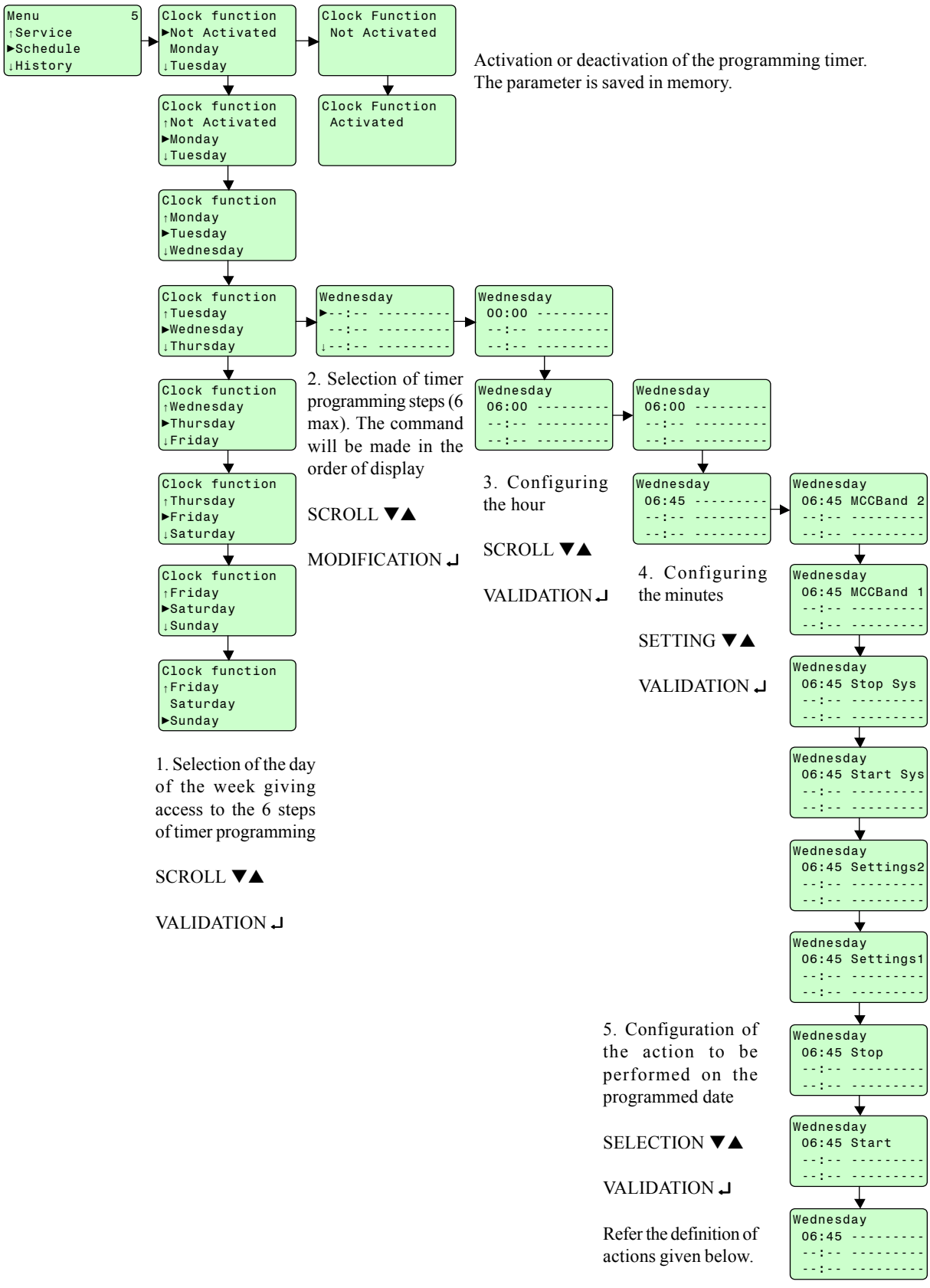
4.9.3 - Service Menu / Stop Under Pres.

Please refer to the ROLLAIR® instruction manual for a detailed description of unloading under pressure.

STRUCTURE	DEFINITION
	If the machine is running in load, the validation of this menu allows to programme a stop under pressure. The compressor passes to unload, then a few seconds later, the motor stops. When the pressure has dropped below a given limit, the unloading solenoid is again supplied with power for stopping the depressurisation of the internal tank. When the unloading is completed, press the key C several times for returning to the screen **STATUS 0.1**

4.10 - Weekly Prog. / Timer Function

This menu allows weekly programming of pressures.



The menu "Weekly Prog." Allows programming over a week, the starts and stops of the compressor as well as the pressure regulation bands. For each day of the week, you can define up to 6 programmes step. For each of these steps, you can define the time and type of the action to be performed from the following list:

"---------" : cancellation of the programme steps. No action shall be taken into account

"Start": the compressor is started at the indicated time, the pressure band is used as defined in the menu "Settings".

"Stop": the compressor is stopped at the time indicated

"Settings 1": the use of the control parameters as defined in the menu "Settings" for the pressure band 1 starting from the time indicated

"Settings 2": same as "Settings 1" but with pressure 2

If the compressor is part of the multi-compressor MULTILOGIC network (in option) and when it is the master compressor, the following choices are also possible:

"Start.sys": It is used when the controller is the "master" of a network of several compressors in MULTILOGIC mode. It indicates that the entire network will be ready to start at the indicated time. The pressure band used is the one defined in the menu "Settings" of the master compressor.

"Stop sys": It is used when the controller is the "master" of a network of several compressors in MULTILOGIC mode and indicates that the entire network will be stopped at the indicated time.

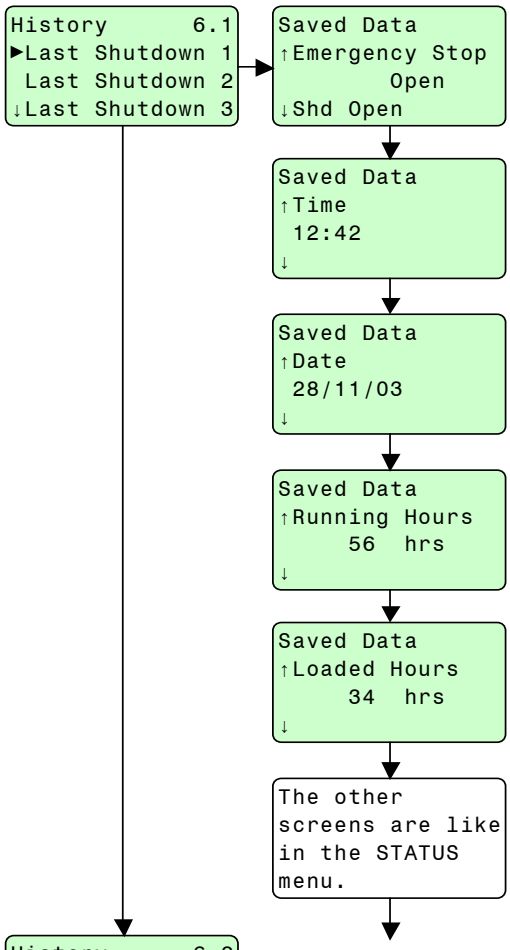
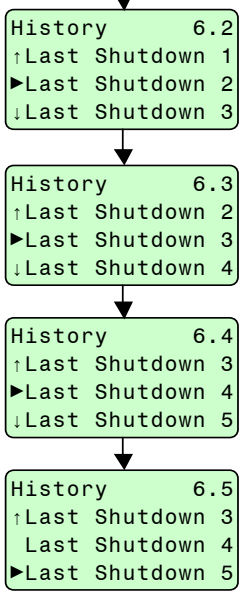
"MCC P1": It is used when the controller is the "master" of a network of several compressors in MULTILOGIC mode. It indicates that the entire network will be ready to start at the indicated time. The pressure band used is the one defined in the menu "MCC Settings" for the band 1 of the MULTILOGIC mode.

"MCC P 2": It is used when the controller is the "master" of a network of several compressors in MULTILOGIC mode. It indicates that the entire network will be ready to start at the indicated time. The pressure band used is the one defined in the menu "MCC Settings" for the band 2 of the MULTILOGIC mode

4.11 - History menu

This menu and its sub-menus allow displaying the latest errors occurred as well as a list of values of certain parameters and inputs recorded at the time of this error.

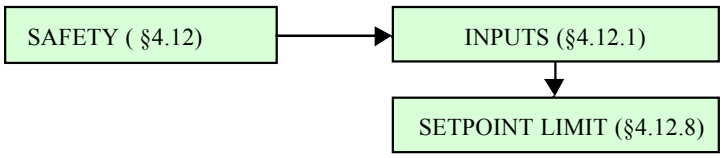
This menu displays the data recorded during the last 5 errors.

STRUCTURE	DEFINITION
	The first screen indicates which input has triggered the error number 1. Indicates the time at which the error number 1 occurred. Indicates the date on which error number 1 occurred. Indicates the number of running hours of the compressor when the error number 1 occurred. Indicates the number of loaded running hours of the compressor at which the error number 1 occurred. Indicates the status of different logical and analog inputs at the time when the error number 1 occurred.
	Starting point of indications recorded for the error number 2.
	Starting point of indications recorded for the error number 3.
	Starting point of indications recorded for the error number 4.
	Starting point of indications recorded for the error number 5.

4.12 - Safety Menu

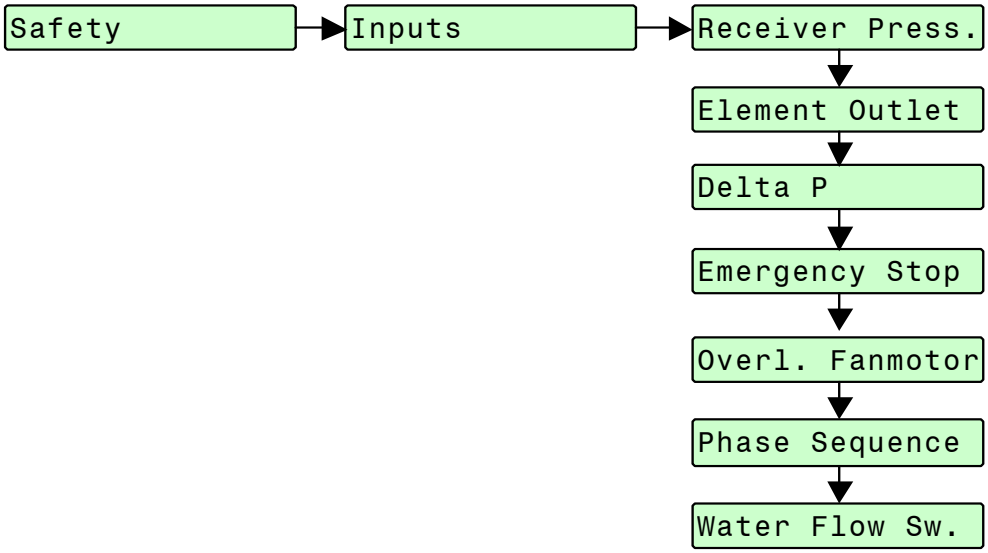
The access to this menu for modification is restricted to advanced users. It then allows modifying the safety parameters of the compressor (warning thresholds of errors, delays) on the analog inputs and on certain logical inputs.

Its tree structure is large and is divided into 2 main sections:



4.12.1 - Safety of Inputs

Summary of the structure of the menu Safety/inputs



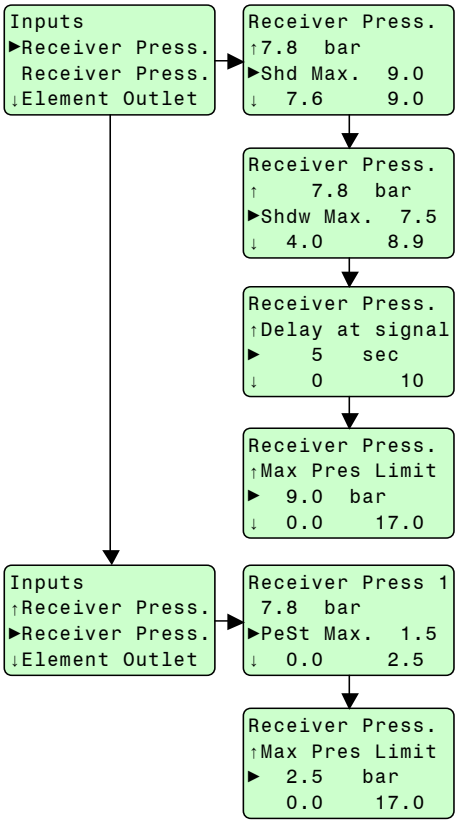
This menu displays logical and analog inputs for which one or more protections can be defined.

Some inputs may appear several times if they have several protections. For example, the input "T element outlet" corresponding to the temperature sensor at the outlet of compression element has a first protection for stopping the compressor if this temperature exceeds a certain value and a second protection preventing the compressor from starting if this temperature is too low.

A detailed description of the protections of each of these inputs is provided in the following pages.

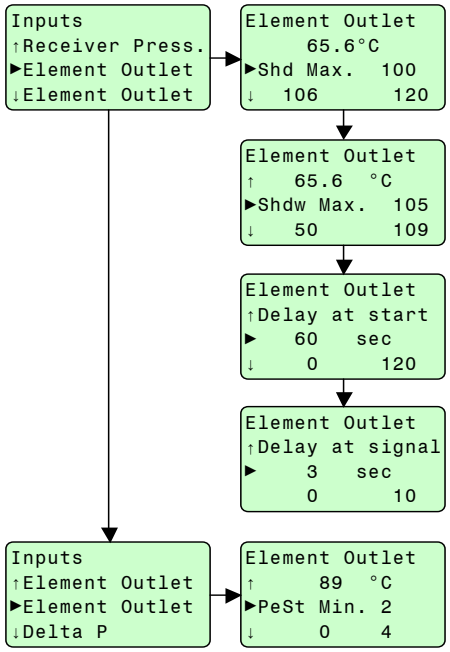
4.12.1.1 Safety of the input: "Receiver press"

Protections on the input "internal pressure receiver" on the analog input corresponding to the pressure sensor installed with a pressure tap in the oil tank, before the Air-oil separator.

STRUCTURE	DEFINITION	MIN	MAX
	Signifies that an error will be generated if the pressure crosses 10.0 bar.	> value of next parameter	Limit P maxi of this parameter
	Corresponding to the pressure (8.0 bar) at which a "pre-alarm" will be displayed for informing the user that a protection limit is being approached.	0 bar	< value of the above parameter
	The pressure must cross the maxi threshold plus 1 second (value of this parameter) when an error will be generated.	0 s	10 s
	This parameter defines the maxi value that you can set for the parameter "shd.Maxi."	0 bar	17 bar
	Signifies that the compressor cannot start as long as the tank pressure is greater than this value (1.5 bar)	0 bar	2.5 bar
	This parameter defines the maxi value that you can set for the parameter "P start.Maxi."	0 bar	17 bar

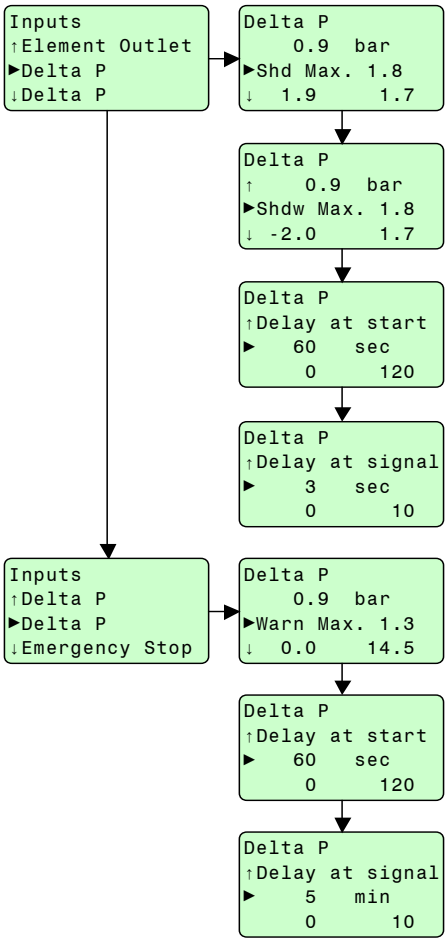
4.12.2 - Safety of the input: "Element outlet"

Protects the input "Temperature at element outlet". Analog input corresponding to the temperature sensor installed at the outlet of the compression element, taking AIR-OIL temperature at the highest point.

STRUCTURE	DEFINITION	MIN	MAX
	Signifies that an error will be generated if the temperature crosses 110°C.	> value of fixed parameter	120°C
	Corresponding to the temperature (105°C) at which a "pre-alarm" will be displayed for informing the user that a protection limit is being approached.	0°C	< value of the above parameter
	Time after the starting of the compressor when these protection becomes active.	0 s	120 s
	An error shall be generated if the temperature crosses the maxi threshold (110°C) plus 3 seconds (value of this parameter).	0 s	10 s
	The compressor will not start if the temperature in the outlet of the screw element is lower than this value (2°C)	0 s	4°C

4.12.3 - Safety of the input "DeltaP"

Protections on the calculated analog input "DeltaP". This dummy analog input corresponds to the difference between the pressure in the internal tank and pressure at the compressor outlet.

STRUCTURE	DEFINITION	MIN	MAX
	Maximum value of the differential pressure beyond which an error is triggered.	0 bar	3 bar
	Maximum value of the differential pressure beyond which a warning appears in the menu STATUS 0.1	0 bar	< value of the previous parameter
	Delay after the starting of the compressor during which this protection is inactive.	0 s	120 s
	The differential pressure must exceed the maxi thresholds during more than 3 s for an error to be generated.	0 s	10 s
	Maximum value of the differential pressure beyond which a warning is display	0 bar	1.8 bar
	Delay after the starting of the compressor during which this protection is inactive.	0 s	120 s
	The differential pressure must exceed the maxi thresholds during more than 5 minutes for an error to be generated.	0 min	15 min

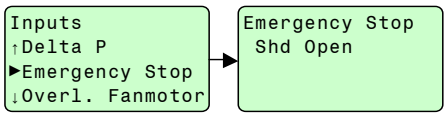
The presence of two similar protections on this input can be explained as follows:

The first protection at 1.8 bar is the safety limit beyond which the oil separator faces the risk of implosion. An error shall therefore be generated if this value is crossed for more than 3 s.

The second protection at 1.3 bar allows warning the operator that the deoiler filter is saturated and has to be replaced. Only a warning shall be displayed if the value of differential pressure crosses this threshold for more than 5 minutes.

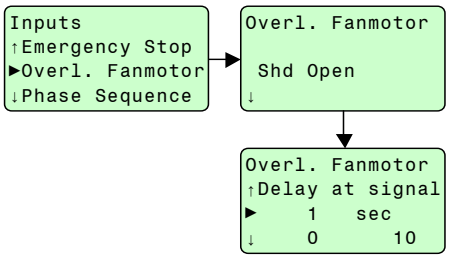
4.12.4 - Safety of the input "Emergency Stop"

The protections on the input "Emergency Stop ". Information about the status of the analog intput

STRUCTURE	DEFINITION	MIN	MAX
	An error shall be generated if the input "Emergency Stop" is open.	Open	Closed

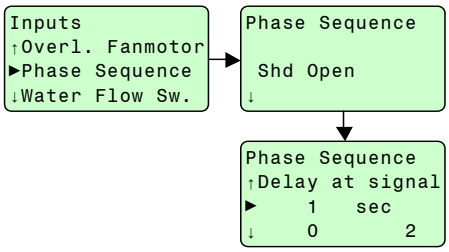
4.12.5 - Safety of the input "Overload fan motor"

Protections on the input "overload fan motor (or turbine)". Analog input corresponding to the magnetothermy of the fan or the cooling turbine

STRUCTURE	DEFINITION	MIN	MAX
	An error is generated if the input "Overload fan motor" is open	Open	Closed
	The opening of the input must be detected during one second so that the absence of the signal can be considered an error.	0 s	10 s

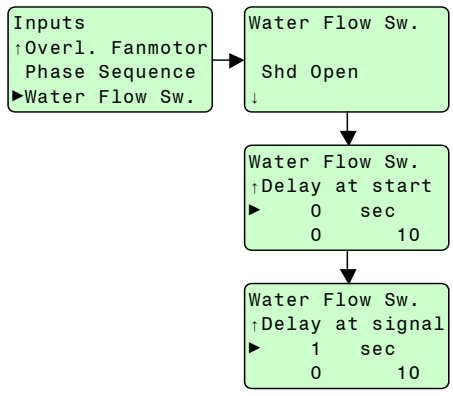
4.12.7 - Safety of the input "Phase sequence" (OPTION)

Protections on the input of the option "phase control ". Logical input in option corresponding to the phase controller of the electrical cabinet.

STRUCTURE	DEFINITION	MIN	MAX
	An error is generated if the "phase sequence" input is open. (This option is only wired if the phase controller is physically installed in the compressor)	Open	Closed
	The opening of the input must be detected during one second so that the absence of the signal can be considered an error.	0 s	10 s

4.12.8 - Safety of the input "Water flow switch"

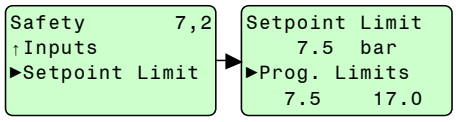
Protections on the input "detection of water flow switch" for the water-cooled machine. Logical input in option corresponding to a water flow control device for checking the circulation of water in the cooling circuit.

STRUCTURE	DEFINITION	MIN	MAX
	An error is generated if the input "Water flow switch" (water flow sensor if the option water cooling is activated) is open.	Open	Closed
	Time from the starting of the compressor after which the signal is processed.	0 s	10 s
	The opening of the input must be detected during one second so that the absence of the signal can be considered an error.	0 s	10 s

4.12.8 - Safety menu/Setting Limit P

Settings of safety limits that cannot be crossed on the input "pressure at compressor outlet". Analog input corresponding to the pressure sensor at the compressor outlet.

The modification of this parameter is justified only if a change is made in the transmission ratio. No other reason can justify increasing the value of this parameter.

STRUCTURE	DEFINITION	MIN	MAX
	This menu has only one parameter that allows limiting the maxi pressure serving as the limit of all the user pressure settings (loading, unloading pressure).	7.5 bar	17 bar

4.13 - Conf.user Menu

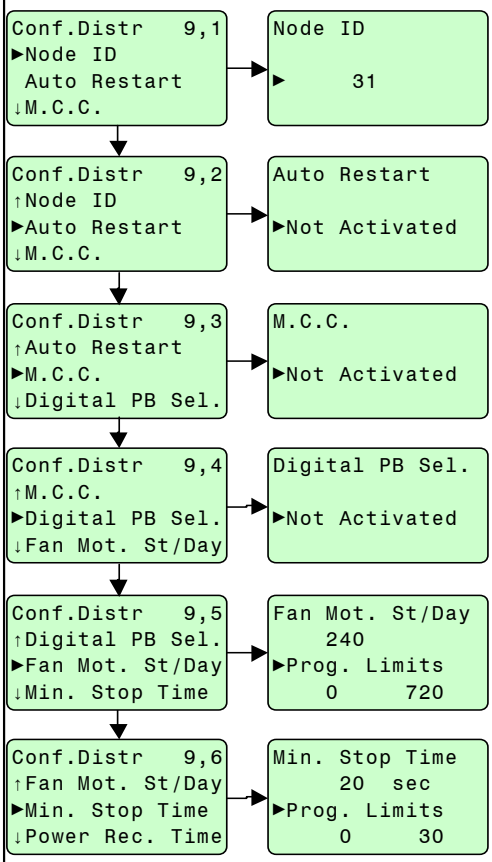
Configuration menu for numerous parameters, making it possible to adapt signals to your standards: date, time, unit, language, etc …

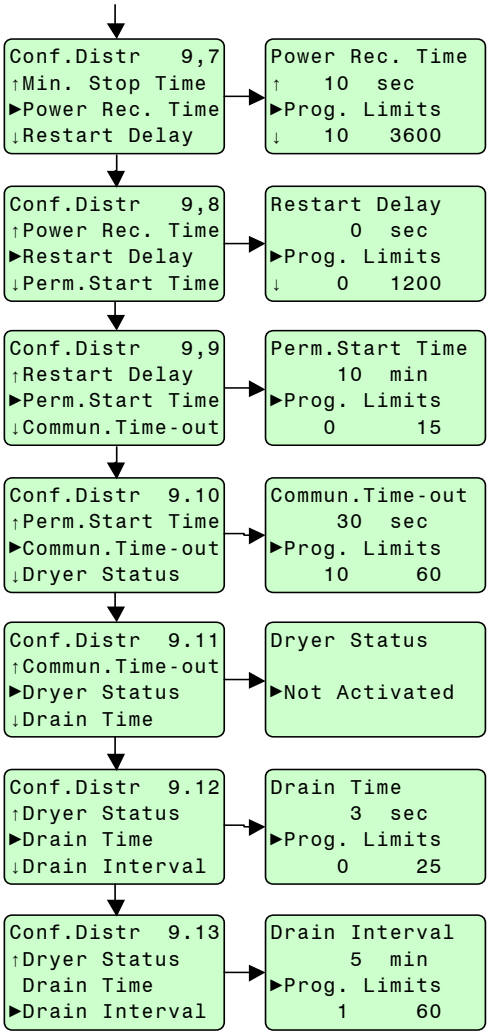
STRUCTURE	DEFINITION
Conf. User 8,1 ►Control Mode Time ↓Date → Control Mode ►Local Control	Mode of control of compressor : Local (by the keyboard), remote (by the inputs / outputs) or LAN (through the network). (refer Chapter §3.4)
Conf. User 8,2 ↑Control Mode ►Time ↓Date → Time ►13:45	Current local time
Conf. User 8,3 ↑Time ►Date ↓Date Format → Date ►21/06/04	Current date in the format indicated below.
Conf. User 8,4 ↑Date ►Date Format ↓Language In Use → Date Format ►JJ/MM/AA	Date display format: DD/MM/YY MM/DD/YY YY/MM/DD
Conf. User 8,5 ↑Date Format ►Language In Use ↓Pressure Unit → Language In Use ►English	Language used : One language from among the 3 that were loaded in the controller. A choice of 3 languages out of 25 is possible by reloading the application.
Conf. User 8,6 ↑Language In Use ►Pressure Unit ↓Temperat. Unit → Pressure Unit ►bar	Choice of the unit for displaying the pressure : bar, kg/cm², MPa or psi
Conf. User 8,7 ↑Pressure Unit ►Temperat. Unit ↓Vibration Unit → Temperat. Unit ►°C	Choice of the unit for displaying the temperatures : °C, °F or K
Conf. User 8,8 ↑Temperat. Unit ►Vibration Unit ↓Level Unit → Vibration Unit ►micron	Choice of the unit for displaying the vibrations : microns or mils
Conf. User 8,9 ↑Temperat. Unit Vibration Unit ►Level Unit → Level Unit ►mm	Choice of the unit for displaying the levels (not used in our application) : mm or inches

In the factory, 3 languages are configured out of a choice of 25 available. If you wish to ship your compressor to a particular location, we request you to contact our local after-sale service that can update the configuration of the choice of 3 languages..

4.14 - "Conf Distr" Menu

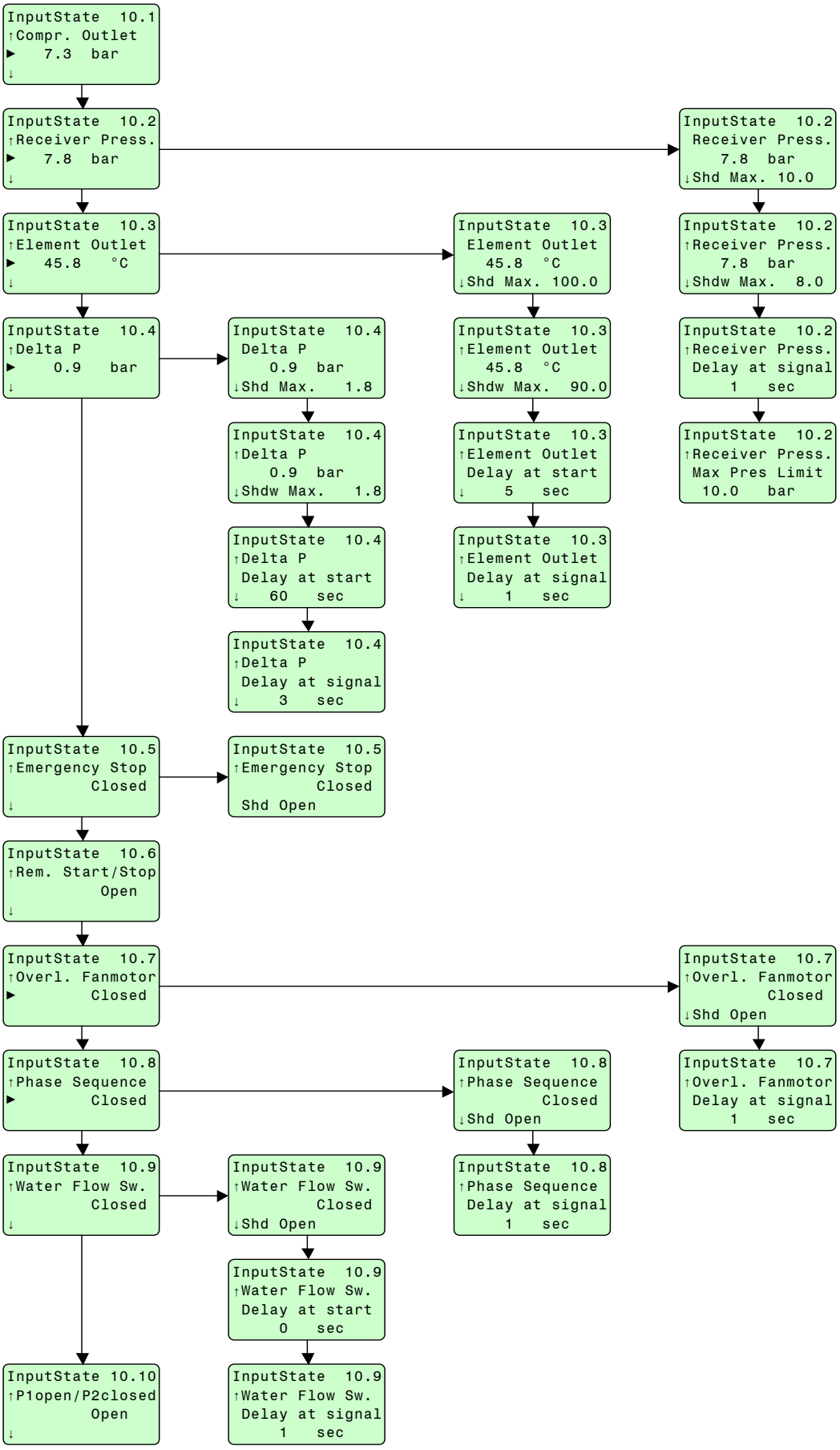
Menu reserved for the distributor (password), in which he can modify the control and operating parameters of the compressor.

STRUCTURE	DEFINITION	MIN	MAX
	ID number of the compressor in the LAN network.	1	31
	Automatic restart after break in power supply. "Activated" allows the restarting if the outage does not exceed a certain time "T.energy saving" from the same menu. "Infinite" allows restarting without any time limit.	Not activated Activated Infinite	
	The Multilogic. It is used when several (up to 4) compressors are connected in a network and are controlled by a "master".	Activated	Not activated
	Allows activating or deactivating the possibility of using the input 10 for selecting the pressure band to use.	Activated	Not activated
	Maximum number of turbine starts per day. Facilitates limitation of the frequency of turbine starts by increasing the operating time where necessary. The value 240 is equal to 10 starts/hour	0	720
	This minimum shutdown time allows depressurisation of the tank for preventing a restart under pressure and limiting the forces on the motor during this restart.	0 s	30 s

STRUCTURE	DEFINITION	MIN	MAX
	Time beyond which the automatic restarting shall not take place if it is parameterised as "Active".	10 s	3600 s
	Automatic restart delay. Allows restarts in cascade when several compressors are working together.	0 s	1200 s
	Time during which the compressor starter protections (type "permissive START") are tested.	0 s	15 min
	Time beyond which a communication fault with other elements of a LAN network is displayed as a fault.	10 s	60 s
	Allows activating/deactivating the integrated dryer management parameters.	Activated	Not activated
	Opening period of the condensates purge solenoid valve.	1 s	25 s
	Interval between two condensate purges.	1 min	60 min

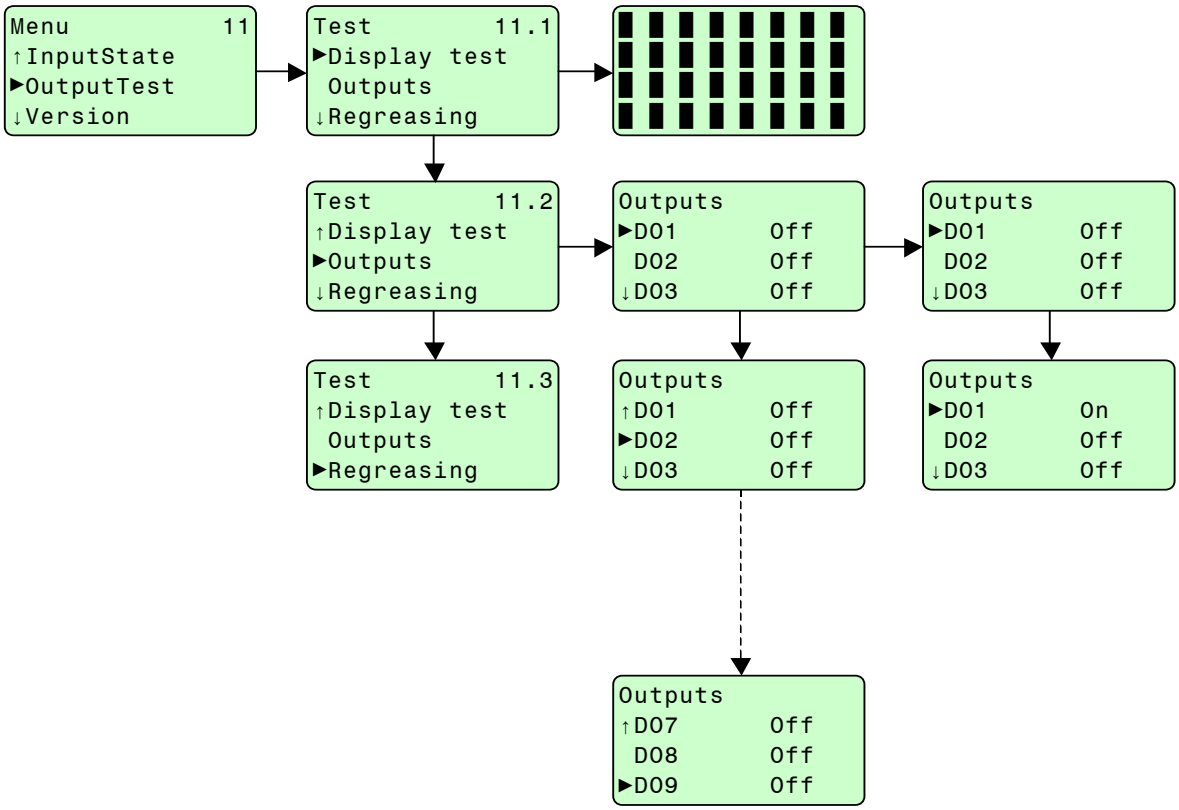
4.15 - "Input State" Menu

This menu displays the values and the different protections of all the active logical and analog inputs. It does not allow modifying the values of the protections. It reproduces a part of the "Status" menu and the "Safety" menu in read only.



4.16 - "Output test" Menu

Menu used for testing the display, the LEDs and each of the logical outputs.

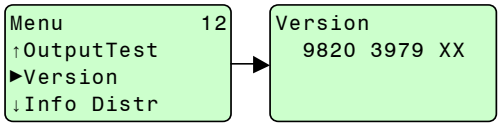


The first sub-menu "Test screen" allow testing the display as well as the LEDs of the controller (they are all lit as long as the key **C** is not pressed).

The second sub-menu "Outputs" allows testing the correct activation of the outputs of the controller one by one. **The compressor has to be stopped before these tests can be performed.**

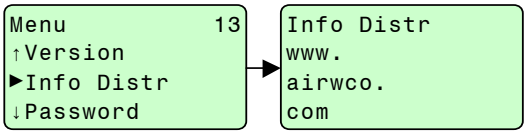
4.17 - "Version" Menu

Displays the version number of the application uploaded in the controller.



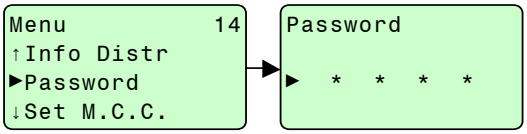
4.18 - "Info distr" Menu

Displays an information that can be customised using the FSP software.



4.19 - "Password" Menu

This menu is used to enter a password, needed to modify the parameters (only for use by distributor)



This password is used to modify the parameters in the "Conf distr" menu.

In case no key is activated during a period of 2 minutes, the password is no longer valid.

4.20 - "M.C.C." Menu

The "Multilogic" (noted M.C.C.) is a function that can be activated in the presence of an electronic key allowing the connection of four compressors equipped with AIRLOGIC®. The operating principle is based on a control managed by a "master" compressor commanding the regulation of other machines of the network.

The "Multilogic" allows managing in the network maximum one variable speed compressor ROLLAIR®V.

The "Multilogic" is a simple device for optimising the operation of a multiple compressor installation.

- Control in a same pressure band eliminating the mode of control by pressure cascade. The energy consumptions are reduced and the pressure delivered is more stable.
- Balances the operating hours in order to facilitate the after-sales management of the production of air
- Programs the timings of pressures for defining two pressure bands depending on the applications during the week.
- Simultaneous starting of compressors, programmable, for an immediate output of air, in order to rapidly inflate an unloaded network during an extended shutdown period
- Instant programmable shutdown of all the compressors in the network for stopping the production of air instantly at the end of the day
- Starting in cascade for eliminating the intensity peak.

This menu is described in a separate document delivered with the option.

Chapter 5 - Control of ROLLAIR® Variants

5.1 - Management of ROLLAIR®

A manual similar to this one describes the application menus loaded in AIRLOGIC® version specific to ROLLAIR® (without speed variation).

5.2 - External connection available in standard

5.2.1 - Fault report

The output K09 is an inverter contact free of potential that allows you to make a general fault report. The output is activated when an error occurs.

5.2.2 - Remote start-stop

The input DI02 allows remote controlling, the start and stop of the compressor through an external contact. For this input to be operational, the parameter "Control Mode" of the menu "Conf Distr" must have the value "Remote control".

5.2.3 - Connection to a LEADAIR®

The compatibility of a network of several compressors with control by a LEADAIR® is provided through a COM-BOX module for CAN <-> Serial protocol conversion.

5.3 - Optional external communication

5.3.1 - BOX electronic modules

Electronic modules are boxes connected to the AIRLOGIC® that can manage signals from supplementary optional sensors installed either in the compressor fairing or close-by. From the AIRLOGIC®, only the thresholds of faults parametered using the software (only for use by factory technicians) will be visible and will make it possible to centralize management of compressed air production.

A few examples of applications:

- Controlling the pressure loss on the air treatment network indicating the acceptable limits of pressure loss
- Measurement of ventilation air temperature Delta for indicating a radiator clogging
- Measurement of the humidity of the compressed air for controlling the quality of air produced.
- All other applications that can use measurements from a sensor 4-20 mA….

Sensors must be controlled separately from the electronic module BOX. A parameter modification software (only for use by qualified personnel) is necessary to configure warning thresholds and sensor errors or logic inputs connected to the electronic module.

Al-BOX3	5 temperature inputs PT 100
Al-BOX4	5 temperature inputs PT 1000
AIO-BOX	4 analog inputs 16 bits + 2 analog outputs 4-20 mA
SPM-BOX	Shock Pulse Meter, device used for vibration measurements of bearing (or bush) wear, for example, on the main motor or a compression element.
DIO-BOX	4 logical inputs + 4 logical outputs
MIX-BOX	2 pressure inputs
	1 Temperature input PT 1000
	3 logical inputs
	2 logical outputs

5.3.2 - Communication modules

MOD-BOX	Modbus communication
PROFI-BOX	Profibus communication
COM-BOX	Conversion of protocols. Contact Worthington Creyssensac for more details.

All the parameters of the status menu can be displayed in order to obtain an instant diagnosis of the operation of the compressor. The alarms or error messages can be displayed and managed by remote control for triggering an intervention at the site.

Chapter 6 - Common operations

6.1 - Quick start

The minimum settings required for starting the compressor are listed below:

LANGUAGE : access by the menu "conf.user" § 4.13

DATE : access by the menu "conf.user" § 4.13

TIME : access by the menu "conf.user" § 4.13

PRESSURE UNIT : access by the menu "conf.user" § 4.13

TEMPERATURE UNIT : access by the menu "conf.user" § 4.13

SETPOINT PRESSURE : access by the menu "settings", parameter "Setpoint 1" § 4.7

UNLOADING PRESSURE : access by the menu "settings", parameter "Indirect shutdown" (offset to be added to the pressure setting to obtain the unloading pressure) § 4.7

SELECTION OF THE CONTROL BAND :

access by the menu "settings", parameter "Slct.Setpoint" § 4.7

The mode of accessing and modifying the above parameters is described in chapter §4.3.

This procedure enables starting a compressor and producing air in order to satisfy the pressure needs of the customer.

6.2 - Reinitialisation of maintenance counters

See details in § 4.9.2

Chapter 7 - Operational incidents

The operational incidents are indicated both by the faults / warning LEDs as well as by displaying the nature of faults on AIRLOGIC®

Error : flashing red light

Warning : fixed red light

Chapter 8 - List of messages (Alarm - Error - Information)

Category	STD	V	Main screen message	Error menu message	Description	Solution
Warning	X	X	**Shutd.Warn.**		(Definition of the type of alarm in the Error\Protection\Alarms menu)High oil temperature pre-alarm	The oil temperature has exceeded the high alarm threshold (105°C) but is less than the maximum temperature, which then generates an error (110°C)
					Tank high pressure pre-alarm	The tank pressure has exceeded the high alarm threshold but is less than the maximum pressure, which then generates an error
	X	?			De-oiler clogging pre-alarm	Verify the loss of de-oiler load, verify de-oiling, and replace the de-oiler if necessary. Verify the VPM.
Error	X	X		Elem. outlet 113°C Shd Max. 110	High temperature error	The oil temperature has exceeded the high error threshold (110°C)
Information	X	X	Process Start		Permissible starting conditions not reached	The machine is verifying the following parameters (time is adjustable depending on whether the drier is enabled or disabled) : - ambient temperature measured by Element outlet temperature (>2°C)-tank pressure (<1,5 bar)-Drier LAT (correct) , drier temperature>-1°C
Information	X	?	Auto Loaded		The machine is under load. It is automatically regulated by its internal sensor.	
Information	X	X	Compressor Off		The compressor is stopped, as well as the motor.	
Information	X	X	Motor Stopped		The compressor as well as the motor are stopped, but could re-start at any time.	
Information	X	?	Auto Unloaded		The machine is operating under no load. It is automatically regulated by its internal sensor.	
Information	X	X	Progr. stop		Stopping is requested. The machine switches to no load.	
Error	X	-		Elem. outlet 88°C Rota	Rotation direction. The Airlogic has calculated that the oil temperature has not increased sufficiently during starting and therefore the compressor turns in the wrong direction.	Verify the direction of rotation of the compressor and the power supply cable. Down-powering required for reset + phase changes. Do not carry out too many tests.
Information	X	X	****** * Sensor Error*		The temperature sensor measures a temperature out of the normal range (-40°C/340°C)	Verify connections, condition of cables. Disconnect the sensor. It should then indicate the ambient temperature. It is also possible to measure the resistance indicated by the sensor and to verify whether or not it has drifted, using the tables.
Error	X	X		Elem. outlet ****** °C Shd Max. 110	The temperature sensor measures a temperature out of the normal range (-40°C/340°C)	Verify connections, condition of cables. Disconnect the sensor. It should then indicate the ambient temperature. It is also possible to measure the resistance indicated by the sensor and to verify whether or not it has drifted, using the tables.
Error	X	X		Receiver Press. 1.7 bar Max.PeSt 1.5	The tank pressure is greater than the maximum starting pressure (1,5 bars)	Verify the emptying circuit (solenoid valve and/or valve) . VPM blocked open, network pressure returned to the tank.
Information	X	X	* Sensor Error*		The tank pressure sensor measures a pressure outside the normal range (0/17 bars)	verify connections, condition of cables. Disconnect the sensor. It must then indicate 0 bar. Verify the sensor for correct operation.
					The pressure regulation sensor (machine output), measures a pressure outside the normal range (0/17 bars)	verify connections, condition of cables. Disconnect the sensor. It must then indicate 0 bar. Verify the sensor for correct operation.
Error	X	X	****** (flashing) Compressor Off / * Sensor Error*		The pressure regulation sensor (machine output), measures a pressure outside the normal range (0/17 bars) during operation under load.	verify connections, condition of cables. Disconnect the sensor. It must then indicate 0 bar. Verify the sensor for correct operation.
Error	X	X		Receiver Press ****** bar Max.PeSt 1.5	The tank pressure sensor measures a pressure outside the normal range (0/17 bars) during permissive start	verify connections, condition of cables. Disconnect the sensor. It must then indicate 0 bar. Verify the sensor for correct operation.

Catégorie	STD	V	Message écran principal	Messagemenu erreur	Description	Solution
Error	X	X		Receiver Press. ****** bar Shd Max. 9.0	The tank pressure sensor measures a pressure outside the normal range (0/17 bars) during operation under load	verify connections, condition of cables. Disconnect the sensor. It must then indicate 0 bar. Verify the sensor for correct operation.
Error	X	X		Receiver Press. 9,3 bar Shd Max. 9.0	The tank pressure is greater than the maximum service pressure (here, 9.0 bars)	Verify the regulation sensor (machine output), verify the emptying circuit (solenoid valve and/or valve), suction box remains open. VPM blocked closed.
Error	X	-		AC Approach 3.0 bar Shd Max. 1.8	The approximate loss of head has exceeded the maximum threshold. (P tank - P output)	Verify de-oiler loss of load, verify de-oiling, and replace de-oiler if necessary. Verify the VPM.
Alarm	X	-		AC Approach 1.5 bar Shd Max. 1.3	The approximate loss of load has exceeded the alarm threshold but remains less than the maximum threshold. (P tank - P output)	Verify de-oiler loss of load, verify de-oiling, and replace de-oiler if necessary. Verify the VPM.
Alarm	-	X		Delta P 1.6 bar Shdw Max 1.3	The approximate loss of load has exceeded the alarm threshold but remains less than the maximum threshold. (P tank - P output)	Verify de-oiler loss of load, verify de-oiling, and replace de-oiler if necessary. Verify the VPM.
Error	-	X		Delta P 2.1 bar Shd Max. 1.8	The approximate loss of load has exceeded the maximum threshold (P tank - P output)	Verify de-oiler loss of load, verify de-oiling, and replace de-oiler if necessary. Verify the VPM.
Information	X	X	Unload: Overpr.		No load switch-over command given by the Airlogic (max. internal pressure of the machine reached) , whereas the machine is controlled by an external regulation device (Digital, LAN…), giving it the under load operating command.	Adjustment of the external operating order to a lower threshold than the maximum permissible pressure of the machine.
Information	X	X	Remote control		Remote stopping / starting	
Information	X	X	LAN control		Control carried out via a LAN type network	
Information	X	X	Manual Unload		The Airlogic is in remote control mode, internal regulation and receives a remote emptying command.	
Error	X	X		Emergency stop Shd Open	Emergency stopping triggered	Release the emergency stop device. Verify connection and operation of the emergency stop push-button.
Error	X	X		Water Flow Sw. Shd Open	The flow rate measured by the water flow rate controller is too low or nil.	Verify whether the water network is open and connected correctly. Verify whether the water stop solenoid valve is powered and that it opens correctly.
Error	X	X		Phase Sequence Fail. Open	The phase controller indicates that the connection of phases is reversed.	Verify the value and its use, and supply of each phase. Verify operation of the controller. Change the phase connection order.
Alarm	X	X	** Warning **	Dryer LAT -5°C Min. frze -1	Dryer frozen. Dryer temperature less than - 1°CThe drier is stopped and restarts at LAT = 7°C	Verify ambient temperature.Verify correct operation of the drier. (HGBV + PS)
	X	-		Dryer LAT Dewp Not normal	Dryer temperature too high The alarm will disappear when the temperature drops	
	-	X		Dryer LAT 232°C Max. alarm 25	Dryer temperature too high The alarm will disappear when the temperature drops	
Error	X	-		Overload Motor Fail. Open	The main motor is overloaded.	
Error	X	X		Overl. Fanmotor Fail. Open	The fan motor is overloaded	
Error	X	X	**Shutdown**		An error has been generated	Go to the error menu to identify the fault
Error	-	X		Compr. Motor Convert.Timeout	Communication problem Airlogic/regulator	Verify : - the regulator is in good condition - the communication cables - continuity of shielding earths of regulator/regulator control module link cables - regulator communication parameters
Information	-	X	Motor starting		The regulator is starting the motor but cannot yet give the signal to the Airlogic concerning motor speed.	
Maintenan-ce alarm	X	X	* Serv.Requir.*	Running Hours Level J 501 Hours reset	Maintenance cycle J lasting 500 h. has been reached	Carry out J type maintenance as described in instructions.Once maintenance is completed, Reset
				Confirm Reset	Confirm rearming or Reset	

8.1 - Inverter messages

Fault code	Fault	Possible cause	Correcting measures
1	Overcurrent	Frequency converter has detected too high a current (>4*In) in the motor cable: - sudden heavy load increase - short circuit in motor cables - unsuitable motor	Check loading.Check motor size.Check cables.
2	Overvoltage	The DC-link voltage has exceeded the limits defined in table 4.2 (NX manual) - too short a deceleration time - high over voltage spikes in supply	Make the deceleration time longer.
3	Earth fault	Current measurement has detected that the sum of motor phase current is not zero. - insulation failure in cables or motor	Check motor cables and motor.
5	Charging switch	The charging switch is open, when the START command has been given. - faulty operation - component failure	Reset the fault and restart.Should the fault re-occur, contact the distributor near to you.
6	Emergency stop	Stop signal has been given from the option board.	
7	Saturation trip	Very high overload Defective component	Cannot be reset from the keypad. Switch off power. If this does not help contact the distributor near to you.
8	Unknown fault	The frequency converter troubleshooting system is unable to locate the fault.	Reset the fault and restart.Should the fault re-occur, contact the distributor near to you.
9	Undervoltage	DC-link voltage is under the voltage limits defined in. - most probable cause: too low a supply voltage - frequency converter internal fault	In case of temporary supply voltage break reset the fault and restart the frequency converter. Check the supply voltage. If it is adequate, an internal failure has occurred.Contact the distributor near to you.
10	Input line supervision	Input line phase is missing.	Check supply voltage and cable.
11	Output phase supervision	Current measurement has detected that there is no current in one motor phase.	Check motor cable and motor.
12	Brake chopper supervision	- no brake resistor installed - brake resistor is broken - brake chopper failure	Check brake resistor.If the resistor is ok, the chopper is faulty. Contact the distributor near to you. Please visit:
13	Frequency converter under temperature	Heatsink temperature is under -10°C	
14	Frequency converter over temperature	Heatsink temperature is over 90°C. Over temperature warning is issued when the heatsink temperature exceeds 85°C.	Check the correct amount and flow of cooling air.Check the heatsink for dust.Check the ambient temperature.Make sure that the switching frequency is not too high in relation to ambient temperature and motor load.
15	Motor stalled	Motor stall protection has tripped.	Check motor.
16	Motor overtemperature	Motor overheating has been detected by frequency converter motor temperature model. Motor is overloaded.	Decrease the motor load.If no motor overload exists, check the temperature model parameters.
17	Motor underload	Motor underload protection has tripped.	
22 23	EEPROM checksum fault	Parameter save fault - faulty operation - component failure	
24	Changed data warning	Changes may have occurred in the different counter data due to mains interruption	No special actions required. Take a critical attitude to the counter data.
25	Microprocessor watchdog fault	- faulty operation - component failure	Reset the fault and restart.Should the fault re-occur, contact the distributor near to you. Please visit:
32	Fan cooling	Cooling fan of the frequency converter does not start, when ON command is given	Contact the distributor near to you.Please visit:

Fault code	Fault	Possible cause	Correcting measures
36	Control unit	NXS Control Unit can not control NXP Power Unit and vice versa	Change control unit
37	Device change	Option board changed. Different power rating of drive.	Reset
38	Device added	Option board added. Drive of different power rating added.	Reset
39	Device removed	Option board removed. Drive removed.	Reset
40	Device unknown	Unknown option board or drive.	
41	IGBT temperature	IGBT Inverter Bridge over temperature protection has detected too high a short term overload current	Check loading.Check motor size.
42	Brake resistor overtemperature	Brake resistor over temperature protection has detected too heavy braking	Set the deceleration time longer.Use external brake resistor.
50	Analogue input Iin < 4mA (selected signal range 4 to 20 mA)	Current at the analogue input is < 4mA. - control cable is broken or loose - signal source has failed	Check the current loop circuitry.
51	External fault	Digital input fault.	
52	Keypad communication fault	The connection between the control keypad and the frequency converter is broken.	Check keypad connection and possible keypad cable.

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