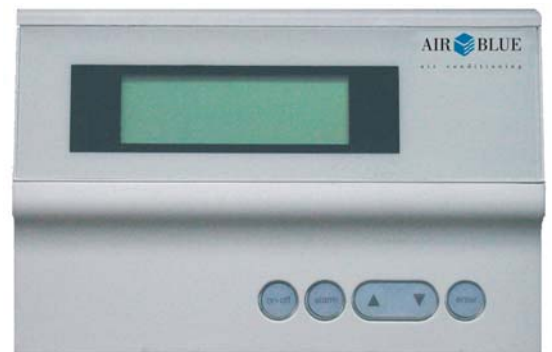


# DATALOGIC electronic control for Telecom applications

Manual **201717A02**  
Issue **08.99**  
Replaces **05.99**

## User manual



**CE**  
**1370**



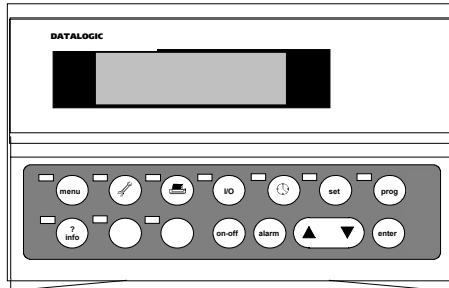
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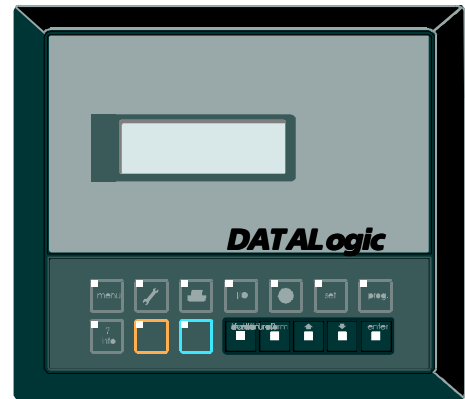
# 1. THE TERMINAL

The figures below show the DataLogic terminals used on Air Blue for Telecom units. In the case of Data Wall 10-15-150 models, the “portable” model only is available.

The microprocessor-controlled terminal features a 4-row, 20-column LCD display and LED keyboard for unit configuration (operating limits and control parameters, such as set points and alarm thresholds) and main operations by the user. The power board does not require connection of the terminal to mains power for standard operation.



**Portable model**



**Fixed model**

The terminal is used for the initial programming of operation parameters, as well as for displaying work data. The terminal in fact allows the user to:

- modify the run time of main operating parameters;
- display detected alarms, which can also be indicated by a buzzer;
- display the sizes measured;
- configure the Master/Slave network.

## 1.1. TECHNICAL FEATURES OF THE TERMINAL

The terminal is powered by the board installed in the unit electrical enclosure, by means of a 6-way connector on the electrical board.

Keys:

- 10 on polycarbonate
- 5 with translucent silicone rubber keyboard

LEDs:

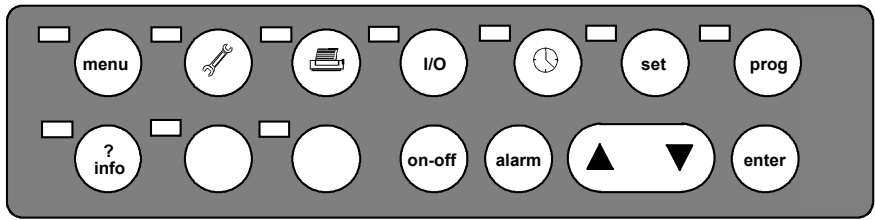
- 3 beneath rubber keys
- 10 beneath polycarbonate

Electromagnetic self-starting buzzer c. 2 kHz, continuous operation.

The portable terminal also features a front hatch that opens to a maximum of 150 degrees. When the hatch is closed, access is only possible to the 5 silicone rubber keys, in which case the 3 back-lit LEDs will also be visible.

**NOTE: Display contrast can be adjusted by means of the knob on the rear of the terminal.**

The keyboard features 15 small keys and a liquid crystal display, making up the interface facility between the operator and the system.



The operating parameters (or parameter loops) can be accessed directly by means of the keyboard. The functions controlled by each key are described below:

- ON / OFF key                    Press to switch the unit on or off (when the unit has not been set to automatic operation by the manufacturer parameters).
- ALARM key                      Press once to silence the buzzer, twice to display alarm messages, three times to clear the alarm.  
If there are no alarms, the message "No alarm active" will be displayed when the key is pressed.  
To display the alarm sequence mask, press the arrow keys UP / DOWN.
- UP / DOWN keys                Use these keys to scroll the mask when the cursor is positioned at the top left; press to move from the last to the first, and vice-versa.  
Press the keys to increase the value indicated by the cursor inside a numerical field.  
Press the keys to display the options available (e.g. Yes / No).
- ENTER key                        Press once in the value setting masks to move the cursor to the first entry field.  
Press the key again to confirm the entered value and move to the next field.  
After an entry has been made in the last field, the cursor will return to the start position at the top left.
- MENU key                        Press this key to go to the first main menu mask.
- INFO key                         Press to obtain information on the installed EPROM.
- MANUT key                      Press to go to the first maintenance mask; access to this function is controlled by a password.
- PRINT key                        Not available.
- I/O key                          Press to go to the first mask with information on input and output status.
- CLOCK key                      Not available.
- SET key                         Not available.
- PROG key                        Press to go to the first mask for service; access to his function is controlled by a password.
- MENU+PROG keys access to    Press both keys at the same time to go to the first mask dedicated to the "manufacturer"; this function is controlled by a password.

**1.2. LEDs**

To the side of each key is a green LED, which lights up when the associated key is pressed. The LED indicates the mask group currently accessed by the user.

When the MENU+PROG keys are pressed, the machine configuration mask group is accessed and the LED associated with the PROG function lights up.

Three other LEDs beneath the rubber keys indicate:

- ON / OFF key                    green LED        instrument is on and operating.
- ALARM key                      red LED         alarm situation is present.

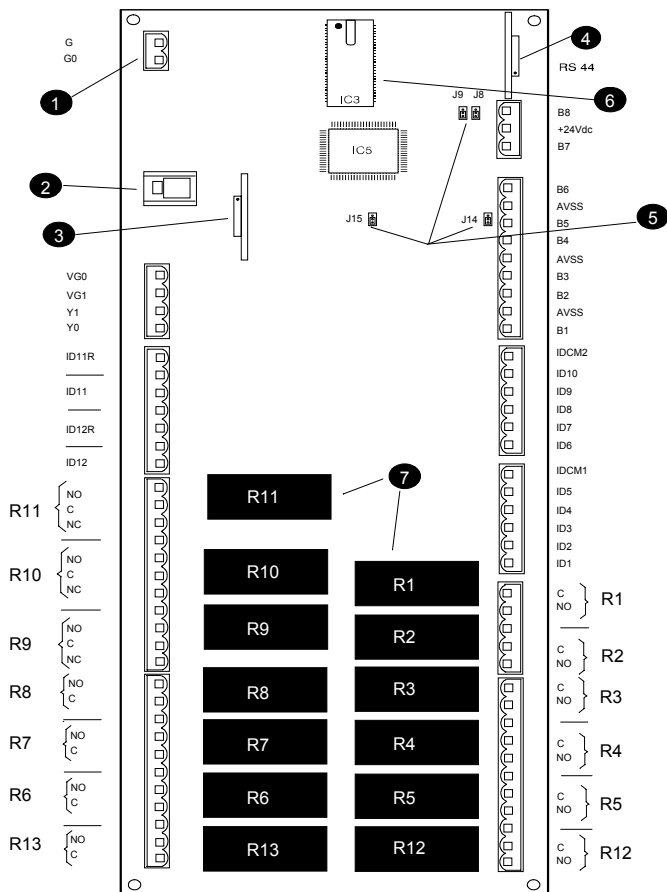
ENTER key                      yellow LED      instrument is correctly powered.

Approximately 5 minutes after the last keyboard operation, the system will reset to the Main mask (also accessible by pressing the MENU key) displaying the temperature sensor values and/or current unit status.

## 2. POWER BOARD

The control power board, containing the microprocessor that performs the control algorithm, is the heart of the entire system.

Each board can be used indifferently as Master or Slave.



### 2.1. COMPONENTS

- (1) 24 VAC or 24 VDC connector
- (2) Telephone type connector socket
- (3) Clock board (not available)
- (4) RS422 or RS485 serial board, opto-isolated for connection to supervision/teleassistance serial line (not available)
- (5) Pin strip
- (6) EPROM containing program
- (7) Output relays

Rxx: Relay output connectors  
 No: Normally open contact  
 Nc: Normally closed contact  
 C: Common reference for contacts  
 ID : Digital inputs  
 IDCM: Common reference for digital inputs

Bx : Analogue input  
 AVSS: Reference for analogue inputs  
 Yx: Analogue outputs

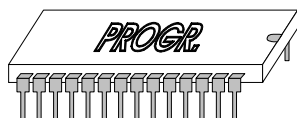
## 2.2. TECHNICAL AND MECHANICAL SPECIFICATIONS

Plate on 16.5 DIN modules:	107 x 292.5 mm
Secured by:	6 x 4 mm fasteners
Terminal type:	male / female removable connectors
Maximum current:	16 A
Maximum voltage:	250 Vac / 24Vdc
Maximum cable section:	2.5 mm <sup>2</sup>

## 2.3. EPROM ASSEMBLY

**The EPROM is connected to the base board (i.e. the board with inputs and outputs).  
When installing the EPROM, make sure that the reference notches on the chip are in line with those on the board.**

Refer to the figure below.



When fitting the EPROM, pay particular attention to the following:

- An arrow on the label indicates the exact position for fitting the EPROM.
- The correct polarity of the EPROM; the notch on the EPROM must coincide with the one on the board.

Pay special attention when inserting the EPROM to avoid bending or breaking the pins. Do not touch the pins with your fingers; contact could generate static electricity charges, which could damage the component and

its functions.

## 3. FIRST INSTALLATION OR RENEWAL OF THE EPROM

### 3.1. HARDWARE CONNECTIONS

To replace the EPROM, proceed as follows:

- connect the telephone line from the user terminal to the I/O board;
- fit the program EPROM in its seat;
- \*\*\* BE CAREFUL TO FIT THE EPROM IN THE CORRECT DIRECTION \*\*\*
- connect the sensors and the I/O board devices while referring to the input/output table;
- connect the power supply to the interface.

### 3.2. UPDATING THE EPROM PROGRAM

Press the CLOCK + SET keys at the same time for approximately 30 seconds.

Refer to the paragraph 5.2 on page 11.

## 4. OPERATING LOGIC OF THE CONDITIONER UNIT

### 4.1. OPERATING LOGIC WITH A SINGLE CONDITIONER UNIT

The control actuates the conditioner functions (compressor, electrical heaters, free-cooling) by referring to outdoor temperatures. The outdoor temperature intervals are divided into a series of ZONES.

For example, if the outdoor air temperature is between  $-20^{\circ}\text{C}$  and  $+12^{\circ}\text{C}$  and the delivery temperature is below  $7^{\circ}\text{C}$ , the electrical heaters (if present) are activated until the delivery temperature reaches  $7^{\circ}\text{C}$ . When the outdoor temperature is between  $-20^{\circ}\text{C}$  and  $25^{\circ}\text{C}$  and the intake temperature is below  $24^{\circ}\text{C}$ , the CDZ operates completely in free-cooling mode.

If the outdoor temperature is greater than  $25^{\circ}\text{C}$  and the intake temperature to the CDZ is greater than  $24^{\circ}\text{C}$ , the free-cooling system is inhibited and the active conditioner (with compressor) is switched on.

Outdoor temp. ( $^{\circ}\text{C}$ )	Delivery temp. ( $^{\circ}\text{C}$ )	Cond. intake temp. ( $^{\circ}\text{C}$ )	Conditioner unit function
-20 - +12	< +6		Heating
-20 - +12	+10		Free-cooling
+12 - +20	Free-cooling 100%		Free-cooling
+20 - +25	Free-cooling 100%		Free-cooling
+25 - +50		>+24	Conditioner active Free-cooling inhibited
		Emergency conditions	Conditioner active Free-cooling inhibited
		> +24 with active free-cooling	Free-cooling inhibited Conditioner activated

### 4.2. OPERATING LOGIC WITH TWO CONDITIONER UNITS (MASTER/SLAVE)

Outdoor temp. ( $^{\circ}\text{C}$ )	Delivery temp. ( $^{\circ}\text{C}$ )	Cond. intake temp. ( $^{\circ}\text{C}$ )	Master conditioner function	Slave conditioner function
-20 - +12	< +4		Heating	Heating
-20 - +12	< +6		Heating	Off.
-20 - +12	+10		Free-cooling	Off.
+12 - +20	Free-cooling 100%		Free-cooling	Off.
+20 - +25	Free-cooling 100%		Free-cooling	Free-cooling
+25 - +50		> +24	Conditioner active	Off.
+25 - +50		> +26	Conditioner active	Conditioner active
		Emergency conditions		
		> +24 with free-cooling active	Free-cooling inhibited Conditioner activated	Off
		> +26 with free-cooling active	Conditioner active	Conditioner active

In the event of mains power failure (230V), the system will operate in free-cooling mode only, as shown above.

### 4.3. SYMBOLS

The following parameters are considered:

- " $T_{\text{ext}}$ " Outdoor temperature.  
Value measured by outdoor sensor.
- " $T_{\text{man}}$ " Delivery temperature.  
Value measured by delivery sensor.
- " $T_{\text{rit}}$ " Intake temperature.  
Value measured by intake sensor.
- " $Z1_{\text{min}}$ " Minimum temperature zone.  
Configurable value.
- " $Z1_{\text{max}}$ " Maximum temperature zone 1.  
Configurable value.
- " $Z2_{\text{min}}$ " Maximum temperature zone 2.  
Configurable value.
- " $Z2_{\text{max}}$ " Maximum temperature zone 2.  
Configurable value.
- " $Z3_{\text{min}}$ " Minimum temperature zone 3.  
Configurable value.
- " $Z3_{\text{max}}$ " Maximum temperature zone 3.  
Configurable value.
- " $Z4_{\text{min}}$ " Minimum temperature zone 4.  
Configurable value.
- " $Z4_{\text{max}}$ " Maximum temperature zone 4.  
Configurable value.
- " $T_{\text{RM}}$ " Master heater temperature.  
Configurable value.
- " $dT_{\text{RM}}$ " Master heater temperature differential.  
Configurable value.
- " $T_{\text{RS}}$ " Slave heater temperature.  
Configurable value.
- " $dT_{\text{RS}}$ " Slave heater temperature differential.  
Configurable value.
- " $T_{\text{FCM}}$ " Master free-cooling temperature.  
Configurable value.
- " $dT_{\text{FCM}}$ " Master free-cooling differential.  
Configurable value.
- " $T_{\text{CM}}$ " Master compressor cut-in temperature.  
Configurable value.
- " $dT_{\text{CM}}$ " Master compressor differential.  
Configurable value.
- " $T_{\text{CS}}$ " Slave compressor cut-in temperature.  
Configurable value.
- " $dT_{\text{CS}}$ " Slave compressor differential.  
Configurable value.

## 4.4. OPERATING ZONES

There are 4 control zones of operation. The zones refer to outdoor temperature.

Zone 1:	$Z1_{min} < T_{ext} \leq Z1_{max}$	$-20^{\circ}\text{C} < T_{ext} \leq +12^{\circ}\text{C}$
Zone 2:	$Z2_{min} < T_{ext} \leq Z2_{max}$	$+12^{\circ}\text{C} < T_{ext} \leq +20^{\circ}\text{C}$
Zone 3:	$Z3_{min} < T_{ext} \leq Z3_{max}$	$+20^{\circ}\text{C} < T_{ext} \leq +25^{\circ}\text{C}$
Zone 4:	$Z4_{min} < T_{ext} \leq Z4_{max}$	$+25^{\circ}\text{C} < T_{ext} \leq +50^{\circ}\text{C}$

The minimum and maximum temperatures can be set by the program, on the condition that:

$$Z1_{min} < Z1_{max} < Z2_{min} < Z2_{max} < Z3_{min} < Z3_{max} < Z4_{min} < Z4_{max}$$

Component functions according to operating conditions:

CONDITION	FUNCTION	EXAMPLE
<input type="checkbox"/> if $Z1_{min} < T_{ext} \leq Z1_{max}$		$-20^{\circ}\text{C} < T_{ext} \leq +12^{\circ}\text{C}$
$T_{man} \leq T_{RM}$	Master heater On.	$T_{man} \leq +6^{\circ}\text{C}$
$T_{man} \geq T_{RM} + dT_{RM}$	Master heater Off.	$T_{man} \geq +6^{\circ}\text{C} + 2^{\circ}\text{C}$
$T_{man} \leq T_{RS}$	(Slave heater + Slave main fan) on.	$T_{man} \leq +4^{\circ}\text{C}$
$T_{man} \geq T_{RS} + dT_{RS}$	(Slave heater + Slave main fan) off.	$T_{man} \geq +4^{\circ}\text{C} + 2^{\circ}\text{C}$
$T_{man} \leq T_{FCM}$	Master free-cooling damper closed 0%	$T_{man} \leq +10^{\circ}\text{C}$
$T_{FCM} < T_{man} \leq T_{FCM} + dT_{FCM}$	Master free-cooling damper modulated (if pres.)	$10^{\circ}\text{C} < T_{man} \leq 10 + 3^{\circ}\text{C}$
$T_{man} \geq T_{FCM} + dT_{FCM}$	Master free-cooling damper open 100%	$T_{man} \geq 10 + 3^{\circ}\text{C}$
<input type="checkbox"/> if $Z2_{min} < T_{ext} \leq Z2_{max}$		$+12^{\circ}\text{C} < T_{ext} \leq +20^{\circ}\text{C}$
	Master free-cooling damper open 100%	
<input type="checkbox"/> if $Z3_{min} < T_{ext} \leq Z3_{max}$		$+20^{\circ}\text{C} < T_{ext} \leq +25^{\circ}\text{C}$
	Master free-cooling damper open 100% plus	
	Slave main fan on +	
	Slave free-cooling damper open 100%	
<input type="checkbox"/> if $Z4_{min} < T_{ext} \leq Z4_{max}$		$+25^{\circ}\text{C} < T_{ext} \leq +50^{\circ}\text{C}$
$T_{rit} \geq T_{CM} + dT_{CM}$	Master compressor on +	$T_{rit} \geq 24 + 3^{\circ}\text{C}$
	Master free-cooling closed +	
	Slave free-cooling closed +	
	Slave main fan off.	
$T_{rit} \leq T_{CM}$	Master Compressor Off	$T_{rit} \leq 24^{\circ}\text{C}$
$T_{rit} \geq T_{CS} + dT_{CS}$	Master compressor on. plus	$T_{rit} \geq 26 + 3^{\circ}\text{C}$
	Slave compressor on.	
$T_{rit} \leq T_{CS}$	Master compressor on. plus	$T_{rit} \leq 26^{\circ}\text{C}$
	Slave compressor off.	

Always check:

CONDITION	FUNCTION	EXAMPLE
if $Z1_{min} < T_{ext} \leq Z4_{max}$		$-20^{\circ}\text{C} < T_{ext} \leq +50^{\circ}\text{C}$
<b>With free-cooling active</b>		
$T_{rit} \geq T_{CM} + dT_{CM}$	Master compressor on + free-cooling damper	$T_{rit} \geq 24 + 3^{\circ}\text{C}$
	Master closed plus Slave free-cooling damper	with free-cooling active
	closed plus Slave main fan off.	
$T_{rit} \geq T_{CS} + dT_{CS}$	Master compressor on + Slave compressor on.	$T_{rit} \geq 26 + 3^{\circ}\text{C}$

## 4.5. INPUTS AND OUTPUTS LIST

### 4.5.1. Analogue inputs

TERMINAL	REFERENCE	DESCRIPTION
J2 - 1	B1	NTC indoor temperature intake sensor
J2 - 2	AVSS	Common analogue inputs
J2 - 3	B2	NTC outdoor temperature sensor
J2 - 4	B3	NTC delivery temperature sensor
J2 - 5	AVSS	Common analogue inputs
J2 - 6	B4	<b>Not available</b>
J2 - 7	B5	<b>Not available</b>
J2 - 8	AVSS	<b>Not available</b>
J2 - 9	B6	<b>Not available</b>

### 4.5.2. Digital inputs

TERMINAL	REFERENCE	DESCRIPTION
J4 - 1	ID1	Slave main fan input
J4 - 2	ID2	Slave compressor input
J4 - 3	ID3	Slave free-cooling input
J4 - 4	ID4	Slave heater input
J4 - 5	ID5	Master/Slave selection input
J4 - 6	IDCM1	ID1-ID5 common digital inputs
J3 - 1	ID6	Compressor high pressure
J3 - 2	ID7	Compressor low pressure
J3 - 3	ID8	No air flow
J3 - 4	ID9	Filter requires cleaning
J3 - 5	ID10	Heater thermal switch
J3 - 6	IDCM2	ID6-ID10 common digital inputs
J21 - 1	ID11R	Common input under tension
J21 - 2	ID.24	<b>Not available</b>
J21 - 3	ID.230	<b>Not available</b>
J21 - 5	ID12R	Common input under tension
J21 - 6	ID.24	<b>Not available</b>
J21 - 7	ID.230	No 230V power

### 4.5.3. Board digital outputs

TERMINAL	REFERENCE	DESCRIPTION
J5 - 4 / J5 - 5	NO1/C1	Main fan
J5 - 1 / J5 - 2	NO2/C2	Compressor (+ condensing fan)
J6 - 10 / J6 - 11	NO3/C3	Heater
J6 - 7 / J6 - 8	NO4/C4	Slave main fan control output
J6 - 4 / J6 - 5	NO5/C5	Slave compressor control output
J24 - 7 / J24 - 8	NO6/C6	Slave free-cooling control output
J24 - 4 / J24 - 5	NO7/C7	Slave heater control output
J24 - 1 / J22 - 2	NO8/C8	Master/Slave control output
J22 - (9/10/11)	NO9/C9/NC9	General alarm 1
J22 - (5/6/7)	NO10/C10/NC10	General alarm 2
J22 - (1/2/3)	NO11/C11/NC11	Soiled filter alarm

### 4.5.4. Analogue outputs

TERMINAL	REFERENCE	DESCRIPTION
J20 - 3	VG0-Y0	Modulating free-cooling damper control
J20 - 4	VG0-Y1	Main fan control

## 5. PUTTING INTO SERVICE

---

### 5.1. PRELIMINARY OPERATIONS

Make sure that the terminal is connected to the telephone line from the conditioner unit electrical board. Switch on first the alternating current (220 VAC) then the direct current (48 VDC). The terminal will make a buzzing noise, then the following mask will appear for approximately 50'':

Mask 1

PLEASE WAIT INITIALISATION IN PROGRESS
---

When the initialisation phase is completed, the system mask with conditioner unit operating status will be displayed.

Mask 2

TR.23.2°C	TM 15.0°C
<input type="checkbox"/> Fan.	<input type="checkbox"/> Comp.
<input type="checkbox"/> Freec.	<input type="checkbox"/> Heater
Unit ON	U:M

Displays the current operating mode.  
A blacked square indicates the active function.

**TR** = Intake temperature; **TM** = Delivery temperature  
U: Master; U:Slave

Press the MENU key to display Mask 2.

### 5.2. SOFTWARE INITIALISATION (ENTERING DEFAULT PARAMETERS)

To enter the default parameters (listed at the end of this manual), press the CLOCK+SET keys at the same time for approximately 30 seconds until the following mask is displayed.

Mask 3

Press ENTER key To enter Manufacturer Parameter
--

Press ENTER to confirm the selection

Mask 4

Confirm Operation? NO (Press ENTER key)
--

Press ENTER again to switch from NO to YES (with arrow keys), then ENTER again to confirm the final selection.

**Non-existent alarm conditions could be displayed following this operation. Press the ALARM key twice to reset the alarm status to zero.**

### 5.3. MASTER/SLAVE CONFIGURATION

When the two units are connected in a MASTER/SLAVE relationship, the MASTER-SLAVE configuration between the two is made AUTOMATICALLY, without any pre-established order. Remember to power up the units one at a time.

## 6. OPERATING PARAMETER CONTROL

---

The DataLogic controller can be configured by means of a series of masks arranged in three groups:

**Manufacturer parameters, user parameters, assistance parameters** (the values given in the following masks are indicative only; the default values are listed in the table at the end of the manual).

### 6.1. MANUFACTURER PARAMETERS

To access the default parameters, press the MENU and PROG keys at the same time, then set the default password. Once the password has been entered correctly, press ENTER to confirm. The user can now use the keys to scroll the masks.

#### Default mask sequence

Mask 5

Enter Manufacturer Password <b>1234</b>
--

Password : **1234**

Mask 6

Unit configuration General parameters Timing Unit initialisation
---

#### (Unit configuration)

Mask 7

Enable free-cooling: <b>S</b> Free-cooling damper Regulation: <b>Modulating</b>
--

N = free-cooling disabled S = free-cooling enabled  
Servo control modulating damper or ON/OFF.

Mask 8

Analogue output Main fan speed: <b>10V</b>
--

Analogue output 0-10V for speed adjustment of main fan

Mask 9

Rotation time Hours Time <b>006</b>
--

**MINUTES** = to perform temporary test  
**HOURS** = to perform cyclical rotation

Mask 10

Slave main Fan Operation <b>Res./Free-cool./Comp</b>
---

**Digital input** = digital input function when required by Master  
**Compres./Resist** = operating with Slave compressor and heaters  
**Always on** = always on function  
**Res./Frec./Comp.** = operating with heaters or free-cooling or with Slave compressor.

Mask 11

Running Unit <p style="text-align: center;"><b>By keyboard</b></p>
---

**Automatic** = unit starts up independently of ON/OFF control key  
**By keyboard** = unit switched on and off by keyboard only

(General parameters)

Mask 12

Regulation: P Integral time (only P+I): 0600sec
---

P = proportional  
P+I = proportional + integral

Mask 13

(Ensure that Zone 1 < Zone 2 < Zone 3 < Zone 4)

External temperature Zone 1 (°C): <b>-20.0°C&lt;Text=&lt;20.0</b>
---

E.g.  
**-25°C<Text=<+20°C**

Mask 14

External temperature Zone 2 (°C): <b>20.0°C&lt;Text=&lt;23.0°C</b>
--

E.g.  
**+20°C<Text=<+23°C**

Mask 15

External temperature Zone 3 (°C): <b>23.0°C&lt;Text=&lt; 25.0°C</b> (N.B. Z1<Z2<Z3<Z4)
---

E.g.  
**+23.0°C<Text=<+25°C**

Mask 16

External temperature Zone 4 (°C): <b>25.0°C&lt;Text=&lt; 50.0°C</b> (N.B. Z1<Z2<Z3<Z4)
---

E.g.  
**+25°C<Text=<+50°C**

Mask 17

Heater temp. Master: <b>10.0°C</b> Diff.: <b>02.0°C</b>
---

(Reverse operation logic)  
E.g. +10°C  
  
+2°C

Mask 18

Heater temp. Slave: <b>07.0°C</b> Diff.: <b>02.0°C</b>
--

(Reverse operation logic)  
E.g. +7°C  
  
+2°C

Mask 19

Damper Temp. Free-cooling: <b>17.0°C</b> Diff.: <b>03.0°C</b>
---

Minimum delivery temperature (IT) setting  
E.g. +17°C  
  
+3°C

Mask 20

Compressor Temp.	
Master:	<b>26.0°C</b>
Diff.:	<b>03.0°C</b>

(Direct operation logic)  
E.g. +26°C  
  
+3°C

Mask 21

Compressor Temp.	
Slave:	<b>28.0°C</b>
Diff.:	<b>03.0°C</b>

(Direct operation logic)  
E.g. +26°C  
  
+3°C

Mask 21/1

Num, Inter. Alarms:	
High press.:	<b>3</b>
Low press.:	<b>3</b>
Flow switch:	<b>3</b>

Sets number of cut-ins before unit shutdown.  
Reset by keyboard only.

**(Timing)**

Mask 22

Time delay switching	
Fan on	<b>000 sec</b>
Delay time	<b>000 sec</b>
Fan off.	

E.g.  
0 sec  
  
0 sec

Mask 23

Low pressure	
Delay alarm	<b>180 sec</b>
Air flow	
Delay alarm	<b>030 sec</b>

E.g.  
180 sec  
  
30 sec

Mask 24

Minimum compressor	
Off time:	<b>360 sec</b>
Minimum Compressor	
On time	<b>000 sec</b>

E.g.  
360 sec  
  
0 sec

**(Unit initialisation)**

Mask 25

New manufacturer password	
	<b>1234</b>

## 6.2. USER PARAMETERS

To access the user parameters, press the PROG key, then set the "user" password. Once the password has been entered correctly, press ENTER to confirm. Use the arrow keys to scroll the masks.

### User mask sequence

Mask 26

Enter user password	<b>1234</b>
------------------------	-------------

Mask 27

High ambient Temperature alarm	
Set	<b>40.0°C</b>
Differ.	<b>01.0°C</b>

(Direct operation logic)

Mask 28

Low ambient Temperature alarm	
Set	00.0°C
Differ.	01.0°C

(Reverse operation logic)

Mask 29

Delivery temp. limit In free-cooling	
Set	<b>18.0°C</b>
Band.	<b>02.0°C</b>

(Reverse operation logic)

Mask 29/1

Diff. Temp. In Blackout Stop Free-cooling	
(Ext-Int):	<b>01.0°C</b>
Band.	<b>01.0°C</b>

Controls free-cooling operation during blackout condition of main power line. Prevents external air input when T.ext>T.int. Damper is completely open when T.int.>T.ext.

Mask 30

Time on Buzzer:	<b>010 sec.</b>
Automatic restart after power failure:	<b>S</b>

Mask 31

New user Password	<b>1234</b>
----------------------	-------------

### 6.3. ASSISTANCE PARAMETERS

To access the assistance parameters, press the key featuring the key symbol, then set the "assistance" password. Once the password has been entered correctly, press ENTER to confirm. The user can now use the keys to scroll the masks.

#### *Assistance mask sequence*

Mask 32

Working hours: Fan: 000000 Compressor: 000000
---

Mask 33

Enter maintenance password  <b>1234</b>
--

Mask 34

Main fan  Threshold: 100x100 Reset N 000000
--

Mask 35

Compressor:  Threshold: 100x100 Reset N 000000
---

Mask 36

Sensor adjustment Intake: 35.5 0.0°C External: 10.3 0.0°C Delivery: 25.2 0.0°C
---

Mask 37

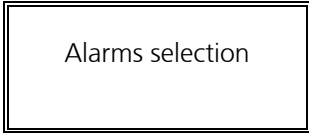
Sensor filter: Enabled: N Time 060 sec Diff.: 01.0°C
---

### 6.3.1. ALARM CONTROL

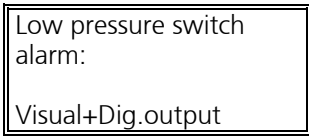
Use this function to set the required alarm selection for the alarm situations present.  
The alarms can be:

- VISUAL ONLY: the alarm is given by a display message ONLY
- DIGITAL OUTPUT ONLY: the alarm is given by the opening of a voltage-free contact ONLY
- VISUAL + DIG. OUTPUT: the alarm is given by a DISPLAY message and a DIGITAL output
- NOT PRESENT the alarm is handled but not given

Mask 38

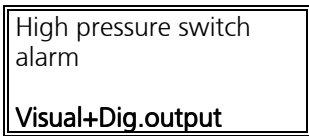


MASK 39



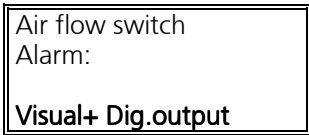
VISUAL ONLY = visual alarm only  
 VISUAL+ DIG. OUTPUT = visual alarm + dig. output  
 (general alarm 1 and general alarm 2)  
 DIGITAL OUTPUT ONLY = alarm by digital output only  
 (general alarm 1 and general alarm 2)  
 NOT PRESENT = alarm not present  
 (visual alarm = alarm type message and acoustic)

Mask 40

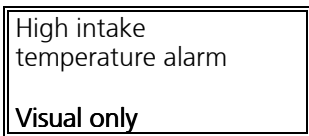


(alarm activated after third cut-in)

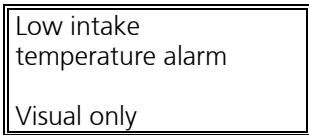
Mask 41



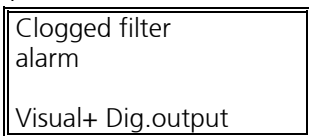
Mask 42



Mask 43

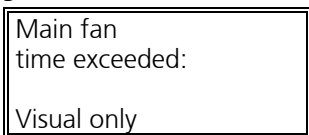


Mask 44



(enable soiled filter alarm digital output)

Mask 45



Mask 46

Compressor time exceeded:  
Visual only

Mask 47

Input temp. sensor Faulty or Not connected:  
Visual+ Dig. output

Mask 48

Delivery temp. sensor Faulty or Not connected:  
Visual+ Dig.output

Mask 50

External temp. sensor Faulty or Not connected:  
Visual+Dig.output

Mask 51

No 220 Vac power Alarm  
Visual+Dig.output

Mask 52

EEPROM error  
Visual+Digital Out.

Mask 52/1

Heater thermal Alarm  
**Visual+ Dig.output**

Mask 53

Manual procedure (only with unit OFF)

The manual procedure is reserved for authorised technicians. This function can only be enabled when the automatic start function is disabled (Mask 11).

**IMPORTANT: all protection devices (high and low pressure switches, air flow switch and heater thermal cut-out switch) must be disabled during manual procedures.**

Mask 54

Main fan: N  
Compressor: N  
Heater: N

N = No  
Y = Yes (operation is forced)

Mask 55

Free-cooling
Damper: 00.0V
Main
fan: 00.0V

### 6.4. I/O KEY

To access this function, press the I/O key, then use the arrow keys to display the required mask.

#### *Input/output mask sequence*

Mask 56

Analogue inputs:
Inlet temp.: 26.2°C
External temp.: 16.1°C
Outlet temp.:19.2°C

Parameter values and machine status display

Mask 57

Digital inputs:
C = Close O = Open
01:CCCCC 06=CCCXC
11:CC

Mask 58

Analogue output:
Free-cooling
damper: 06.0V
0% 100%

Mask 59

Digital outputs:
C = Close O = Open
01:000 04=000
07:000 10=00

Mask 60

Analogue output:
Fan: 00.0V
0% 100%

### 6.5. PRINTER KEY

Mask 61

Not present
-------------

### 6.6. SET KEY

Mask 62

Not present
-------------

## 6.7 ? INFO KEY

To access this function, press the ?INFO key, then use the arrow keys to display the required mask.

Mask 63

AIR BLUE Air conditioning Cod.:xxxxxxxxxx Ver.xxxxxxxxxxxx
---

## 7. DEFAULT PARAMETERS

The default parameters entered in the conditioner unit EPROM are collected in a table delivered together with the unit.

Example of the "DEFAULT PARAMETER" table.

### UNIT DEFAULT PARAMETERS

Description	Access i	Default value
Enable Free-cooling	Factory	
Free-cooling with	Factory	
Main fan analogue output	Factory	
First start-up	Factory	
Rotation type	Factory	
Rotation time	Factory	
Slave main fan operation	Factory	
Unit operation	Factory	
Adjustment	Factory	
Adjustment time	Factory	
External temperature Zone 1	Factory	
External temperature Zone 2	Factory	
External temperature Zone 3	Factory	
External temperature Zone 4	Factory	
Master heater temperature	Factory	
Set		
Differ.		
Slave heater temperature	Factory	
Set		
Differ.		
Free-cooling damper temperature	Factory	
Set		
Differ.		
Master compressor temperature	Factory	
Set		
Differ.		
Slave compressor temperature	Factory	
Set		
Differ.		
Num. Alarm cut-ins	Factory	
Low press. switch		
High press. switch		
Flow switch		
Main fan start-up delay	Factory	
Main fan shutdown delay	Factory	
Low pressure alarm delay	Factory	
Air flow alarm delay	Factory	
Compressor shutdown min. time	Factory	
Compressor start-up min. time	Factory	
New manufacturer password	Factory	
High ambient temperature alarm	User	
Set		
Differ.		
Low ambient temperature alarm	User	
Set		
Differ.		







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**BLUE FROST Refrigeration**

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