5 ALARMS

The alarms managed by the program safeguard soundness of the connected devices and provide signals in case the control parameters have exceeded the normal values or the board is faulty. The alarms originate from alarm digital inputs, probes or board. Their effect ranges from the simple block signalling of one or more devices to the air-conditioning unit stop. Many alarms are subject to programmable delay times.
When an alarm state is identified, the following signals occur:

- the red LED under button ALARM turns on
- abbreviation AL starts blinking on the Menu screen

Pushing button Alarm, the buzzer switches off and the alarm screen is displayed. If more alarms are active, the screen of the first alarm is displayed; the other alarms can be displayed by using the arrow buttons. If other buttons are pressed, the alarm screens are left but they keep stored and are displayed again whenever the Alarm button is pressed.
To rearm the alarms and delete the message manually, simply move the cursor on the alarm screens and push button Alarm again; if the alarm causes have disappeared (digital inputs rearmed, temperature within the normal values, etc…), the screens disappear, the red led switches off and message "NO ALARM ACTIVE" is displayed. If the cause of one or more alarms is still active, the disabled alarms only disappear, whereas the other alarms keep displayed and the buzzer and the red led switch on again.
Alarms are divided into two categories: manually-rearmed alarms or automatically-rearmed alarms.
The manually-rearmed alarms require alarm screen deleting (as described above) to restart the devices or the air-conditioning unit. The automatically-rearmed alarms unlock the device or restart the air-conditioning unit after the cause has disappeared, but the alarm screen keeps stored in the memory.

a. Table of alarms

ALARM CODE	SUPERV. ADDRESS	ALARM DESCRIPTION	DELAY
A01	28	Circuit 1 general alarm	-
A02	29	Circuit 2 general alarm	-
A03	30	Low pressure circuit 1	T2-1 / T2-2
A04	31	Low pressure circuit 2	T2-1 / T2-2
A05	32	Air flow alarm	T4-1
A06	33	Evaporating fan overload alarm	20 sec (fixed)
A07	34	Overload electrical heater 1	-
A08	35	Overload electrical heater 2	-
A09	36	Smoke / Fire detection alarm	-
A10	37	Dirty filter alarm	-
A11	38	High temperature alarm	T2-3
A12	39	Low temperature alarm	T2-3
A13	40	High humidity alarm	T2-3
A14	41	Low humidity alarm	T2-3
A15	42	Working hours of compressor 1 alarm	-
A16	43	Working hours of compressor 2 alarm	-
A17	44	Evaporating fan working hours alarm	-
A18	45	Rooom temperature probe fault or offline	60 sec (fixed)
A19	46	Water inlet temperature probe fault or offline	60 sec (fixed)
A20	47	External air temperature probe fault or offline	60 sec (fixed)
A21	48	Supply air temperature probe fault or offline	60 sec (fixed)
A22	49	Room humidity probe fault or offline	60 sec (fixed)
A23	50	Condensing pressure probe of circuit 1 fault or offline	60 sec (fixed)
A24	51	Condensing pressure probe of circuit 2 fault or offline	60 sec (fixed)
A25	52	Condensing temperature probe of circuit 1 fault or offline	60 sec (fixed)
A26	53	Condensing temperature probe of circuit 2 fault or offline	60 sec (fixed)
A27	54	High current alarm in the humidifier	-
A28	55	Lack water alarm in the humidifier	-
A29	56	Low current alarm in the humidifier	-
A30	57	Clock card alarm	-
A31	58	High pressure circuit 1	-
A32	59	High pressure circuit 2	-

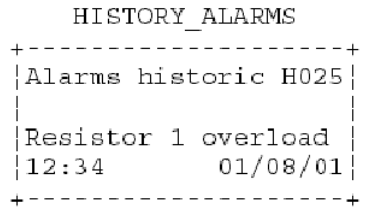
A33	60	Water detector alarm	-
A34	61	Auxiliary alarm	-
A35	62	Overload or high pressure alarm of circuit 1	-
A36	63	Working hours of humidifier alarm	-
A37	64	Overload or high pressure alarm of circuit 2	-
A38	65	Condensing fan 1 overload alarm	-
A39	66	Condensing fan 2 overload alarm	-
A40	67	Water flow alarm	T4-2
A41	124	pLAN disconnected	60 sec (fixed)
A42	125	Driver 1 alarm, probes fault or offline	-
A43	126	Driver 1 EEPROM error	-
A44	127	Driver 1 step motor error	-
A45	128	Driver 1 battery error	-
A46	129	Driver 1 high evaporation pressure (MOP)	Fj-2
A47	130	Driver 1 low evaporation pressure (LOP)	Fj-1
A48	131	Driver 1 low superheat	Fi-1
A49	132	Driver 1 valve not closed during power OFF	-
A50	133	Driver 1 high suction temperature	Fi-2
A51	134	Driver 2 alarm, probes fault or offline	-
A52	135	Driver 2 EEPROM error	-
A53	136	Driver 2 step motor error	-
A54	137	Driver 2 battery error	-
A55	138	Driver 2 high evaporation pressure (MOP)	Fj-2
A56	139	Driver 2 low evaporation pressure (LOP)	Fj-1
A57	140	Driver 2 low superheat	Fi-1
A58	141	Driver 2 valve not closed during power OFF	-
A59	142	Driver 2 high suction temperature	Fi-2
A60	143	High conductivity in the humidifier alarm	1 hour (fixed)
A61	144	High conductivity in the humidifier pre-alarm	1 hour (fixed)
A62	145	Low production of steam in the humidifier	-
A63	146	Water drain alarm in the humidifier	-
A64	147	Cylinder full alarm in the humidifier	-
A65	148	Cylinder pre-exhaustion warning in the humidifer	-
A66	149	Presence of foam warning in the humidifier	-
A67	150	Cylinder exhaustion warning in the humidifer	-
A68	151	Working hours of the humidifier pre-alarm	-
A69	152	Working hours of the humidifier alarm	-
A70	153	Expansion card connection alarm	Cr-3
A71	154	Coil probe fault or offline	60 sec (fixed)
A72	155	Freecooling coil antifreeze alarm	Gu-3
A73	156	Dry-cooler alarm	-
A74	157	External fan overload alarm	-
A75	158	Phase sequence alarm	-
A76	159	Air differential pressure probe fault or offline	60 sec (fixed)
A77	160	High inlet water temperature alarm	Ta-1
A78	161	Dual cooling: normal mode alarm	-
A79	162	Dual cooling: emergency activation warning	-
A80	163	Compressor inverter alarm	Tb-1 / Tb-2

b. Alarms data logging

Alarms data logging allows storing the air-conditioning unit working state whenever an alarm goes off or under particular conditions. Any storing operation becomes an event, which can be displayed as any other event available in the memory. As it functions as a device for “taking photographs” of the system whenever any alarm goes off, data logging is extremely useful for suggesting possible causes and solving system malfunctions and failures. The program is provided with a MAIN and a DEVELOPED data logging.

c. Main log

Events can be stored thanks to the boards very large buffer memory. The MAIN data logging can be enabled by parameter; if the clock card (optional) is not available, neither the MAIN data logging is available. No additional optional card is required.
The maximum number of storable events is 100; after the last space available in the memory (alarm no. 100) is used, next alarm will be overwritten on the first alarm stored (001), which will be automatically deleted. This procedure applies to all following events. The user cannot delete the stored events except at the default values installation. The MAIN data logging screen can be accessed by pushing button ALARM when screen E4 is displayed and can be left by pushing button Esc. The screen is displayed as follows:



Whenever an alarm goes off, the following air-conditioning unit data are stored for each alarm:

- alarm description
- time
- date
- event chronological number (0-100)

The event chronological number, displayed in the upper right corner, indicates the event “stay time” compared to the 100 available memory spaces. Alarm no. 001 represents the first alarm gone off after MAIN data logging enabling.
Moving the cursor on the chronological number and using the arrow buttons, the alarms “history” can be scrolled from 1 to 100.
In position 001 and pushing the down arrow, the alarms cannot be scrolled.
If, for example, 15 alarms have been stored and the cursor is in position 015, pushing the up arrow, the alarms cannot be scrolled.