

The control box CB1 TAC3 CA features 6 alarms:

- an alarm on pressure rise.
- an alarm on the reference pressure initialisation.
- an alarm on fan failure.
- initialisation alarms.
- alarm of non respect of the assignment.
- alarm of failure to initialize assignment pressure in modes CPf/CPs.

Wiring diagram: see appendix.

1. Overpressure alarm (only in modes CA and LS).

This alarm indicates a variation of calculated pressure on the fan with regard to the value of the initialized pressure of reference. The alarm levels are calculated using the system curve principle.

When this alarm is activated: :

- LED Alarm on CB is on.
- PRESSURE ALARM appears on the screen.
- Relay R2 of the optional SAT3 is closed.
- LED above relay R2 of option SAT3 is on.

Example of Initialisation of pressure alarm

It is very important to install the fan properly in the real working conditions.
The setup is done accordingly to the configuration sequences of the control circuit:

1) Setting of the ΔPa increment; suppose $\Delta Pa=80Pa$ (for instance maximum filter pressure)
This value will be referred to when setting the nominal airflow later.

2) Initialisation of the reference pressure:

During initialization sequence select NEW Pa REF ? YES then press ENTER.
Suppose (m^3/h INIT)= 1250 m^3/h , enter this value then press ENTER.
The fan will start running and reach this value, whatever the status of K1/K2/K3 is.
While reaching the reference working point the display shows the following instant values:
Pa REF INIT
xxxx m^3/h and xxxx Pa.
and LED Alarm is blinking.

When reference airflow (1250 m^3/h) is reached, the actual pressure (for example 122 Pa) is memorized and the alarm reference point becomes 1250 m^3/h - (122+80)Pa. The fan starts to run as programmed.

At this stage 4 types of problems can occur :

Text displayed	Description
FAN ALARM CHECK POWER SUPPLY AND CABLES CONNECT. THEN PRESS ON RESET. IF NOT SOLVED REPLACE CABLE OU CB OU MOTOR	Describes a fan function default. Check wiring, connections and 230V supply. Otherwise the problem can be caused by defective wire, control circuit or motor. (text is displayed on several successive screens). Alarm LED is lit, relay R1 is closed and relay LED is also lit.
Pa INIT ALARM AIRFLOW TOO LOW DUE TO TOO HIGH PRESSURE REDUCE PRESSURE	Actual airflow < requested airflow: the requested airflow is located at a pressure level the fan cannot reach. Change the air system, or the airflow requested, or a use bigger fan. (1) Text is displayed on several successive screens

OR FLOW RESTART Pa INIT VIA THE SETUP. PRESS ON RESET.	
Pa INIT ALARM AIRFLOW TOO HIGH MINIMUM MOTOR LIMIT ACHIEVED SET HIGHER AIRFLOW THEN RESTART Pa INIT VIA THE SETUP. PRESS FIRST ON RESET.	This alarm signals that the nominal airflow requested cannot be reached because the lower boundary of the fan's working range is reached. (1) Text is displayed on several successive screens
Pa INIT ALARM Pa NOT STABLE. CHANGE WORKING POINT. THEN PRESS ON RESET.	Pressure too unstable. Change the air system or airflow request. (1) Text is displayed on several successive screens

(1) Alarm LED is ON, relay R1 is in alarm status, LED of relay is ON.

Pa_{ref} cannot be defined and motor sets itself in "softstop". To restart, press RESET until the alarm LED shuts off. The CB will operate normally but without a configured alarm pressure. If you wish a pressure alarm anyway, determine the cause (system pressure or configuration, airflow, working zone of fan,...) and start again.

2. Fan running alarm

Text displayed	Description
FAN ALARM CHECK POWER SUPPLY AND CABLES CONNECT. THEN PRESS ON RESET. IF NOT SOLVED REPLACE CABLE OU CB OU MOTOR	Describes a fan function default. Check wiring, connections and 230V supply. (text is displayed on several successive screens). Alarm LED is lit, relay R1 is closed and relay LED is also lit. Check wiring, connections and 230V supply. Otherwise the problem can be caused by defect wire, control circuit or motor

3. Data error alarm

Text displayed	Description
DATA ERROR	This alarm indicates an error in the data of the control circuit. If this error occurs, Alarm LED is lit, relay R1 is closed and relay LED is lit. To solve this problem : - Make a « factory reset » using the advanced setup (to activate press keys SETUP and ENTER simultaneously until text "ADVANCED SETUP" appears on the screen. Select "factory reset" and press enter. - If not solved circuit has to sent back for a factory reprogramming.

4. Alarm for impossibility to execute the airflow assignment

- **CA/LS alarm (CA or LS mode):**

The airflow requested cannot be maintained at constant level :

2 different situations can occur :

- The airflow requested cannot be held constant because the counterpressure on fan is too high :

Text displayed	Description
CA or LS ALARM AIRFLOW TOO LOW. REDUCE PRESSURE ON THAT FAN.	This alarm means the requested airflow cannot be reached. (text is displayed on several successive screens). Requested airflow cannot be held constant because the counterpressure on the fan is too high. - It is activated if actual airflow < 93% of requested airflow and - Deactivated once airflow reaches value > 97% of requested airflow

- The airflow requested cannot be held constant because the airflow is too low for the working range of the fan:

Text displayed	Description
CA or LS ALARM AIRFLOW TOO HIGH MINIMUM MOTOR LIMIT ACHIEVED	This alarm signals that The airflow requested cannot be held constant because the airflow is too low for the working range of the fan. Activated when airflow is > 112% of requested airflow Deactivated when airflow < 108% of requested airflow . The text appears on different successive screens.

- **CP Alarm (mode CPf or CPs):**

The requested pressure cannot be held constant.

- The minimum airflow of the fan is reached and calculated pressure is still superior to requested pressure:

Text displayed	Description
CPf or CPs ALARM PRESSURE TOO HIGH MINIMUM AIRFLOW ACHIEVED	This alarm states that the minimum airflow of the fan is reached and calculated pressure is still superior to requested pressure. The text appears on different successive screens. Activated when pressure is > 112% of requested airflow Deactivated when pressure < 108% of requested airflow.

- The maximum airflow of the fan is reached and calculated pressure is still inferior to requested pressure:

Text displayed	Description
CPf or CPs ALARM PRESSURE TOO LOW MAXIMUM AIRFLOW ACHIEVED	This alarm states that the maximum airflow of the fan is reached and calculated pressure is still inferior to requested pressure. The text appears on different successive screens. Activated when pressure is < 93% of requested airflow Deactivated when pressure >97% of requested airflow.

5. Initialisation alarm of the CPf/CPs value

At this stage 4 types of problems can occur :

Text displayed	Description
FAN ALARM CHECK POWER SUPPLY AND CABLES CONNECT. THEN PRESS ON RESET. IF NOT SOLVED REPLACE CABLE OU CB OU MOTOR	Describes a fan function default. Check wiring, connections and 230V supply. Otherwise the problem can be caused by defective wire, control circuit or motor. (text is displayed on several successive screens). Alarm LED is lit, relay R1 is closed and relay LED is also lit.
Pa INIT ALARM AIRFLOW TOO LOW DUE TO TOO HIGH PRESSURE REDUCE PRESSURE OR FLOW RESTART Pa INIT VIA THE SETUP. PRESS ON RESET.	Actual airflow < requested airflow: the requested airflow is located at a pressure level the fan cannot reach. Change the air system, or the airflow requested, or a use bigger fan. (1) Text is displayed on several successive screens
Pa INIT ALARM AIRFLOW TOO HIGH MINIMUM MOTOR LIMIT ACHIEVED SET HIGHER AIRFLOW THEN RESTART Pa INIT VIA THE SETUP. PRESS FIRST ON RESET.	The fan cannot reach the assigned airflow because it is working at the minimum level it can reach. (1) Text is displayed on several successive screens
Pa INIT ALARM Pa NOT STABLE. CHANGE WORKING POINT. THEN PRESS ON RESET.	Pressure too unstable. Change the air system or airflow request. (1) Text is displayed on several successive screens

(1) Alarm LED is ON, relay R1 is in alarm status, LED of relay is ON.

P_{ref} cannot be defined and motor sets itself in "softstop". To restart, press RESET until the alarm LED shuts off. Determine the cause (system pressure or configuration, airflow, working zone of fan,...) and start again.

APPENDIX – Wiring diagram

