

Smoke Detection System SDS-2/6 and SDS-48

How does the Automatic Switch Over Function of the Fan Unit Work ?

1. Automatic Periodical Switch Over

The Smoke Detection System SDS-2/6 and SDS-48 carry out an automatic switch over of both fans of the fan unit approximately all 24 hours. This time is a fixed value and cannot be adjusted.

2. Automatic Switch Over after Failure of the Running Fan

To avoid expensive sensors, the control panel uses the airflow indicators (pressure switches) of each detection line to detect the failure of a running fan. If none of the airflow indicators detects sufficient air flow in the detection lines, the control panel assumes a failure of the running fan. In this situation the control panel switches over to the stand-by fan. If now the previous stand-by fan is running and at least one of the airflow indicators detects air flow in the appropriate detection line, the control panel displays:

CHECK: Fan -x-

If after a while the second fan also fails, the control panel will NOT switch over again to avoid a continuous switching over. There will be no automatic switch over until a reset of the system will be carried out or until a manual switch over of the fans will be carried out. Both procedures activate the automatic switch over function again.

If after switch over of the fans still no airflow will be detected, the control panel displays:

CHECK: Valves and Fans

The reason for this indication could be either two faulty fans or closed valves on all detection lines, which leads to the same situation that none of the airflow indicators detects air flow in one of the detection lines.

3. How to Test the Automatic Switch Over Function

Due to the complex algorithm for the fan control, testing of the automatic switch over function often leads to confusion. If you want to proceed a test, please consider the following:

* Ensure, that neither “CHECK: Fan -x-“ nor “CHECK: Valves and Fans” will be

displayed before the test begins. In this situation no further automatic switch over will be carried out.

* Close the valves in all detection lines to simulate the situation that no airflow will be detected on any detection line.

WARNING: Do not stop the running fan by screwing off the fuses. Due to the inductive load of the fans heavy sparks could be generated which destroy the fuse holders. The fuses are not manual switches !

* After all valves are closed, the fans will be switched over immediately. Now you must open at least one valve within some seconds, so that the control panel will detect airflow again. The display now shows: "CHECK: Fan-x-". If the valves will all be kept closed, the display shows: "CHECK: Valves and FANS".

* Don't forget to reset the system after this test to allow further automatic switch over of the fans.