



Pressure Switches

General

Pressure switches serve to protect the air conditioning from damage resulting from excessively high or low pressures. Different types are: low pressure switches, high pressure switches and trinary switches. Trinary switches contain the high and low pressure switches as well as an additional switching contact for the condenser fan.



Function

As a rule the pressure switch (pressure monitor) is installed on the high pressure side of the air conditioning. It switches off the power to the compressor clutch when the pressure is too high (approx. 26 - 33 bar) and switches it back on when the pressure decreases (approx. 5 bar).

When the pressure is too low (2 bar) the power supply is also interrupted in order to avoid compressor damage resulting from insufficient lubrication and switched back on when the pressure increases (2.2 bar). The third switching contact in the trinary switch controls the electric condenser fan to ensure optimum condensation of the refrigerant in the condenser.



Effects of Failure

Failure recognition:

- Poor refrigeration capacity
- Compressor clutches switches on/off frequently
- Air conditioning does not work

Causes of failure:

- Bad electrical connections
- Contamination in the system
- Housing damaged due to vibration





Diagnostics

Diagnostic Checks

- Visual check
- Ensure that connection plug is seated correctly
- Check components for damage
- Measure pressure with compressor switched and engine running
- Check components in removed state with nitrogen bottle, pressure reducer and multi-meter

