Airflow Monitor LC 013 / LCF 013 for higher reliability

Photo enlarged

Mechanical switch contact
Versatile fields of application
Small size
Easy to connect

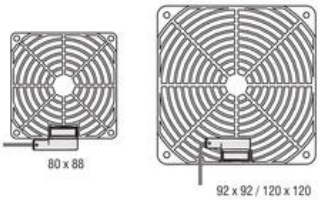
The airflow monitor (NC/NO) is designed to indicate the loss of air movement of a fan or filter fan. The contact detects the loss of air movement caused by fan failure or blocked filter media regardless of direction of air. Its simple mechanical operation makes it a viable alternative to electronic monitoring systems.

Application:
The LC 013 is used as a signal contact to monitor fans or filter fans in stationary, self-contained Protection Class I enclosures. It can be connected to monitoring systems with remote control or can directly switch alarm devices, such as LED's or signal lamps. Loads with capacities exceeding the indicated switching capacity must be switched via a relay, e.g. our electronic relay SM 010. The airflow monitor with NC contact closes upon loss of air movement, i.e. it indicates fan failure (e.g. red signal lamp). The NO contact closes when fan is in operation and serves as optical function display (e.g. green signal lamp).

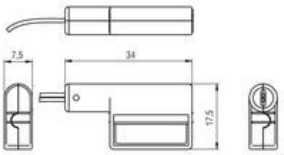
Technical Data

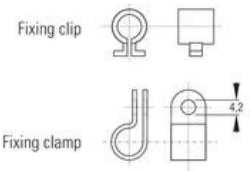
Contact type	reed / magnet contact
Normally Closed (NC)	switch contact open when air is flowing
Normally Open (NO)	switch contact closed when air is flowing
Max. switching capacity	10W (resistive load)
Max. switching voltage	NC: 240VDC (UL), 240V AC/DC (VDE) / NO: 60VDC
Max. switching current	NC: DC 500mA / NO: DC 170mA
Switching threshold of airflow velocity	> 2.5m/s (hysteresis: > 1m/s)
Max. airflow velocity	50m/s
Contact resistance	< 370mOhm (with wire)
Max. air humidity	70% RH (not precipitating)
Service life	> 100,000 cycles
Connection	2 x single strand AWG 26, length 500 mm, tip of stranded wire 5mm stripped and tinned (NC: black, NO: blue)
Mounting	alternatively integrated in protective grille (see table), mounting clamp or mounting clip
Casing	plastic according to UL94-HB, black
Fitting position	bidirectional tab perpendicular to airflow
Operating/Storage temperature	-20 to +50 °C (-4 to +122 °F) / -20 to +80°C (-4 to +176°F)
Protection type	IP20
Approvals	VDE + UL File No. E250507

Airflow monitor integrated in protective grille

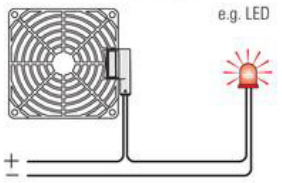


Note: The product of switching voltage and switching current must not exceed 10W. The max. voltage and max. current must not be exceeded, not even short-term (voltage/current peaks). The resulting voltage and current peaks of inductive or capacitive loads must be restricted by a contact protection circuit.





Connection example



Installation notes:
1. The airflow monitor must not be installed in the impact range of permanent magnets or ferrous metals as the built-in permanent magnet will move unintentionally and consequently can not move in dependence with the air flow.
2. A suitable distance from electromagnetic fields, e.g. generated by transformers, motors, etc., must be maintained as otherwise the contact may switch incorrectly with the frequency of the power supply. Interferences must be checked with an oscillograph and the mounting position of the airflow monitor should be adjusted if necessary.
3. Avoid installing the airflow monitors in areas where air pockets or turbulence can be expected.
4. Ambient air with a high dust content should be avoided.

As there are many different conditions of use, suitability of this product must be assessed by the end user in its final application.

Description	Art. No. (NC)	Art. No. (NO)	Dimensions	Weight (approx.)
Airflow monitor with mounting clamp and mounting clip LC 013	01300.0-00	01300.1-00	34 x 17.5 x 7.5mm	5g
Airflow monitor integrated in protective grille (plastic) LCF 013	01301.0-00	01301.1-00	80 x 88 x 10.5mm	20g
	01302.0-00	01302.1-00	92 x 92 x 10mm	20g
	01303.0-00	01303.1-00	120 x 120 x 10mm	30g