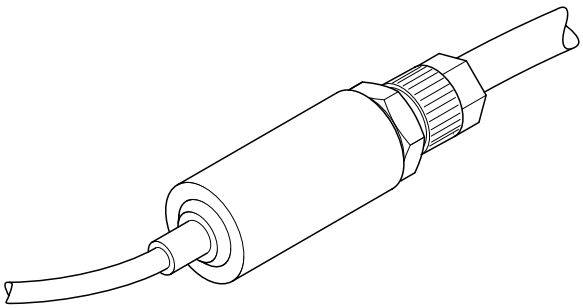
From February 1st, 2017 SAMES Technologies SAS becomes SAMES KREMLIN SAS

A partir du 1/02/17, SAMES Technologies SAS devient SAMES KREMLIN SAS

SAMES KREMLIN



DES00074

User manual

Microphone sensor

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Microphone sensor

1. General

The microphone sensor is designed to read the rotation speed of turbines used for liquid paint atomizing or powder paint spraying.

2. Description

The reader assembly comprises:

- a compressed air hose
- a turbine part operating as a turbine rotation, signal and acoustic transducer
- a measuring air hose
- a microphone sensor
- an electrical connection cable to the frequency measurement processing system. see § 7 page 5

3. Characteristics

Air supply pressure	from 0.3 to 3 bar depending on utilization
Measurement signal voltage	Variable
Frequency signal voltage	2 kHz max

Compressed Air Quality	
Solid impurity content	5 mg / Nm^3 *
Oil content	2 mg / Nm^3 *
Oil content	0.1 p.p.m.
Water content	2 mg / Nm^3 *
Dew point (unpressurized air)	10° C - (14° F)

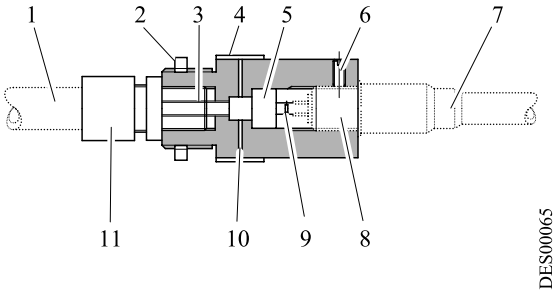
Nm^3: Values given for a temperature of 20° C and atmospheric pressure

4. Important remarks

WARNING : For hose lengths and air supply pressure, see the specific manual for each utilization.
The sensor must not be used in an area close to high voltage.
The use of poor quality compressed air could damage the microphone

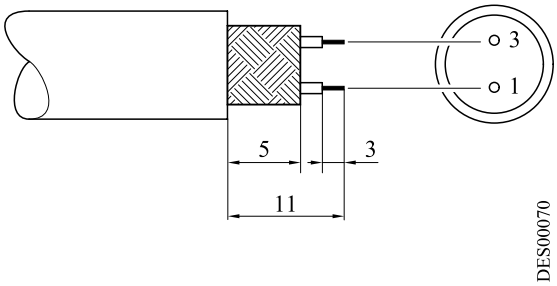
5. Components:

Item	Name
1	Air hose (not supplied)
2	Securing nut
3	Air pipe
4	Exhaust closing ring (option)
5	Microphone
6	Locking screw
7	Female socket (not supplied)
8	Male plug
9	Protection device
10	Exhaust
11	Return signal union



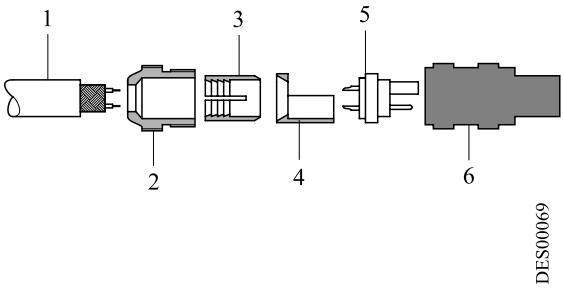
6. Connections

1	+ signal
3	- signal



6.1. 3-pin connector

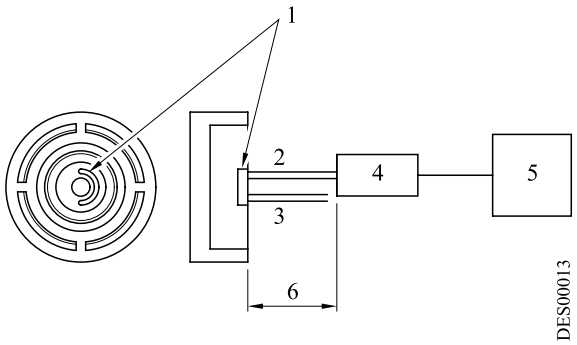
1	Cable 2 x 0.34 mm^2 shielded, armored
2	Cover
3	Clip
4	Socket
5	3-pin base plate
6	Body



NOTE: This assembly is not sold separately

7. Operation

1	Opening
2	Microphone air return
3	Microphone air intake
4	Microphone sensor
5	Speed regulation board
6	Hose, dia. 6, length 3 to 5 m



The air variation is channeled through a tube and is picked up by an electret microphone This converts the pressure variation into voltage variation.

This voltage variation produces a frequency signal. This return frequency signal is directly proportional to the turbine rotation speed.

The signal also depends on the number of pressure variations per turbine revolution transmitted to the sensor. This number of variations depends on the turbine speed transducer element - a pressure variation specific to the turbine used.

7.1. Remarks

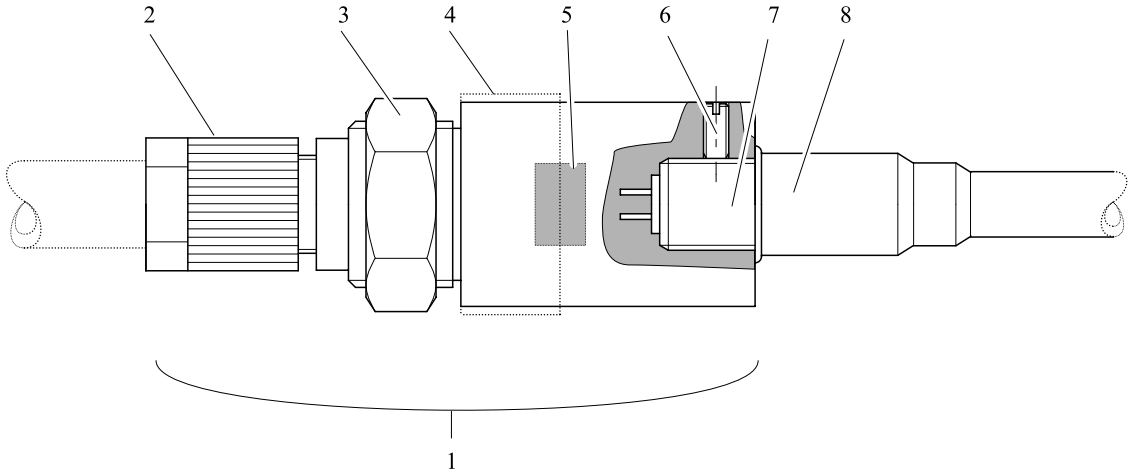
If the signal amplitude is very low it may not be detected. This signal voltage varies according to the air pressure, microphone polarization, rotation speed and the sensor used.
The microphone polarization depends on the device processing the signal reading,
which varies according to the type of installation.

An electret microphone cannot be tested with a multimeter.
It must be connected (polarized) to check that it is operating correctly (2 supply wires).

Depending on the utilization situation, this microphone is used either in pressure mode (exhaust blocked by a ring) or in flow-rate mode (free exhaust).

8. Spare parts

EUROPEAN Model



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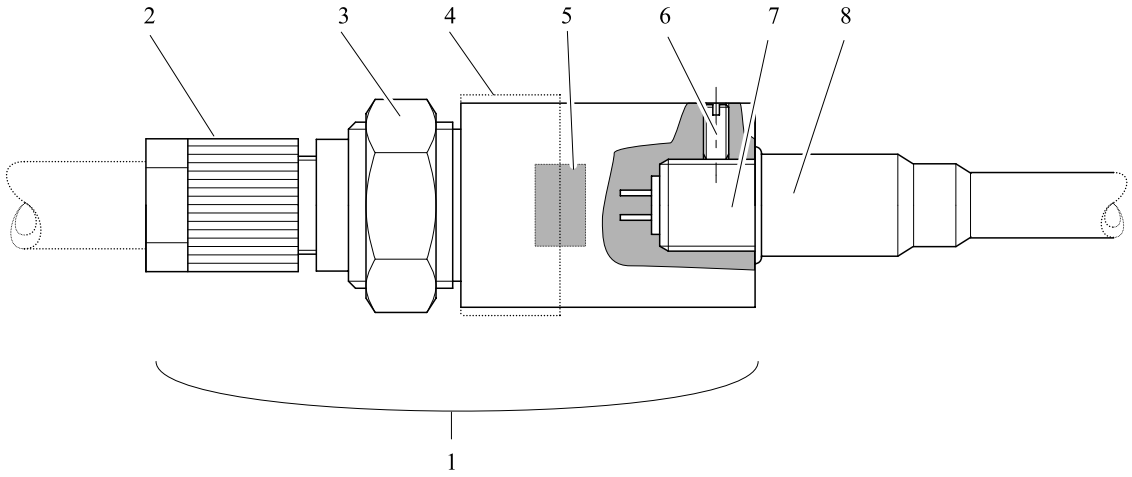
Item	Product code	Name	Qty	Unit of sale
1	851488	Microphone sensor assembly	1	1
2	F6RPUK316	Nylon union, dia 4 x 6 - 1/8 " BSP	1	1
3	E3RPCL011	Brass nut, PE PG11	1	1
4	546994	Exhaust closing ring (option)	1	1
5	540073	Tested microphone	1	1
6	X3ASSC116	Screw, HC M 4 x 6, steel	1	1
7	E4PTFE205	3-pin female base plate	1	1
8	E4PTFS195	3-pin male plug (not supplied)	1	1

U.S. Model



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Item	Product code	Name	Qty	Unit of sale
1	459881	Microphone sensor assembly, US model	1	1
2	F6RPUQ210	Male union, dia. 1/4-1/8 NPT	1	1
3	E3RPCL011	Brass nut, PE PG11	1	1
4	546994	Cover	1	1
5	540073	Tested microphone	1	1
6	X3ASSC116	Screw, HC M 4 x 6, steel	1	1
7	E4PTFE205	3-pin female base plate	1	1
8	E4PTFS195	3-pin male plug (not supplied)	1	1