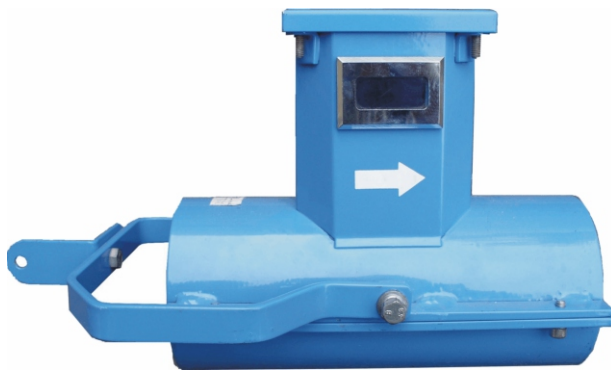




## As-3c – Stationary Anemometer, Air Flow Speedometer

 **Certificate: ATEX**



### Technical specifications:

Model	IM1 Ex ia I
Measuring range	0.1 to 10 m/s or -5 to +5 m/s, according to the order
Measuring error	< 5 %
Current consumption	7 mA
Analogue output signal for AS-3n version	0.4 to 2.0 V
Analogue output signal for the AS-3c version	0.2 to 1.0 mA
Binary insulated output signal	max. voltage 15 V/DC, working current to 20 mA
Alarm limit	0 to 37.5 % of the range with the resolution of 2.5 %
Ambient temperature	0°C to +40°C
Humidity	0 to 95 %
Protection	IP 54
Dimensions	342 x 260 x 196 mm
Weight	6 kg

### Use:

The stationary anemometer, type AS-3, is intended for the measuring of air flow speed in coal mine entries, tunnels, collectors etc. in the environment with the increased risk of methane explosion.

In connection with an alphanumeric transparent, it makes it possible to indicate danger in controlled rooms: The extinguishing of the flow with the adjustable alarm threshold, reversion of the flow direction and missing information on the flow (failure of the measuring circuit).

### Description:

The fundamental part of the device is a measuring system placed in a two-piece pipe. The measuring system consists of two supersonic sensors serving simultaneously for broadcasting and scanning; the sensors are fitted at the ends of the holders built in the pipe, which protects them from mechanical damage. The box, in which electronics and display are placed, is fitted on the outside of the pipe. A shielded cable enters the box through the ZGT cable bushing, through which supply voltage is led and simultaneously an analogue signal goes out to the communication system. A binary signal for light or audible indication is led through the MSD-13 cable bushing.

The fixing mechanism makes it possible to set the anemometer into the flow axis. The AS-3 device is fed from the transmission system DPS2000, MTA, VENTURON or TRANSMITON. It can also be used as a portable device in case it is fed from the accumulator source and the result of the measurement is only shown in the display which is a part of the device. The measuring of the flow is based on the principles of the time ultrasonic method.

The ultrasonic sensors placed in the axis of the flow make it possible to measure the time of the ultrasonic ray flight in the direction of the flow as well as against its direction. Summing-up of the ultrasonic ray flight times is provided by the processor in the measuring module containing a selective amplifier and transmitter keys. The obtained values are further processed. On the basis of the obtained mean values, the arithmetical operations of deducting, dividing and multiplying are carried out. The result obtained in such a way is the value of the air flow speed.

In addition to the measuring function, the device also provides the function of an indicator. The symbol of flashing asterisk instead of the decimal point (0 \* 00) works as the indication of fact that the value has fallen below the set alarm limit. On the basis of the information, the binary output enabling the start of the light or audible indication is initialized after the elapsing of 1 minute. The time delay excludes a short-time fall below the set limit.

The failure of the anemometer is indicated by the occurrence of additional dots from the right-hand side of the decimal point and the measuring result is reset, which shows wrong data. If the supply voltage is low, the display shows the symbol of "Lo bat" and the measured output data are reset again, which makes contingent disconnection from the system possible.

**The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.**