



CE FAT 420

## Technical Data

<b>Ranges</b>	FAT 420/004	0-4 m/s
	FAT 420/008	0-8 m/s
	FAT 420/016	0-16 m/s
	Other ranges available on request	
<b>Accuracy</b>	± 5% of range	
<b>Response time</b>	<10 seconds	
<b>Setting time</b>	<25 seconds after power up	
<b>Housing</b>		
Material	Flame retardant ABS	
Dimensions	55 x 90 mm diameter	
<b>Probe</b>		
Material	Aluminium	
Dimensions	240 x 19 mm diameter	
<b>Protection</b>	IP67	
<b>Output</b>	4-20 mA	
<b>Supply</b>	24 Vdc ±15%	
<b>Max. current</b>	70 mA	
<b>Max. inrush current</b>	70 mA	
<b>Max loop resistance</b>	600 ohm @ 24 Vdc	
<b>EMC</b>	EN-50081-1 Emmission	
	EN-50082-1 Immunity	

## Guidelines to recommended Air Velocities for Ventilation Systems

	Public Buildings	Industrial Plants
Air intake from outside	2,5 - 4,5m/s	5 - 6m/s
Main supply ducts	5 - 8m/s	6 - 12m/s
Branch supply ducts	2,5 - 3m/s	4,5 - 9m/s
Mainextract ducts	4,5 - 8m/s	6-12m/s
Branch extract ducts	2,5 - 3m/s	4,5 - 9m/s

## Features

- Accuracy ±5%
- Power supply 24Vdc
- 4-20mA loop powered
- Rapid response time
- Damped output for stable control signal

## Application

The FAT 420 is an air velocity transmitter which operates on calometric principle, measuring the temperature of heated thermistor element and deducing the heat loss, thereby calculating the air velocity.

The unit provides a 4-20mA output which is directly proportional to the air velocity.

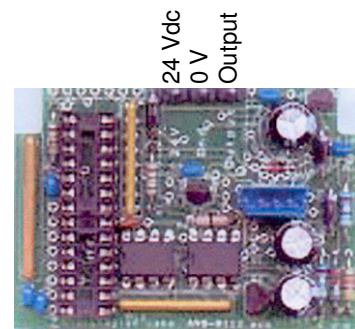
Air velocity measurement can be important factor in control of ventilation to ensure that recommended flow rates for public buildings and industrial plant are achieved

It also useful to measure the carrying velocities for dust extraction, where the recommended flow rate will depend on material being exhausted in the extract system.

## Mounting

The FAT 420 should be installed not less than 2 metres downstream from any heating or cooling devices, source of moisture such as humidifier, fan or behind the ductwork, and should be orientated with 10 degrees of the air flow.

## Connections



## Ordering Codes

<b>FAT 420/004</b>	Air Velocity Transmitter 0-4 m/s 4-20mA
<b>FAT 420/008</b>	Air Velocity Transmitter 0-8 m/s 4-20mA
<b>FAT 420/016</b>	Air Velocity Transmitter 0-16 m/s 4-20mA



## Installation and Connection Details

All connections to DDC controllers, data recorders etc. should be made using screened cable.

Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise.

Low voltage signal and supply cables should be routed separately from high voltage or mains cabling.

Separate conduit or cable trays should be used.

Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth.

This will provide better immunity to high frequency noise. Most modern buildings have a separate earth for this purpose.

## Installation

Transmitters should only be fitted to a system after airflow calibration has been carried out and preferably following full fan running of at least several days, in order that the main contaminants have been removed from the stagnant system.

1. Select a location in the duct where dust & contaminants are at a minimum.
2. Drill pilot holes for the mounting screws at 85 mm centres, and a 20 mm diameter hole centrally between them for the duct probe.
3. Fix the transmitter to the duct ensuring that the neoprene gasket supplied makes a good seal onto the duct.
4. Connect wiring to two part terminal block and make connection.  
Make electrical connections to transmitter only after all other electrical installation and test work has been completed.
5. Ensure that the supply voltage is within the specified tolerances.
6. It is recommended that screened cable be used and that the screen should be earthed at the controller.

Care should be taken not to lay control signal wiring in close proximity to power or other cables which may produce significant magnetic noise.

7. Allow 3 minutes before checking functionality.
8. Allow 30 minutes before carrying out precommissioning checks.

### NB!

It is important that the transmitter is NOT mounting in an environment where it will be subject to wet or condensation.