



digital turbine system

with RS232 interface



Mini PCB in SMD technology



Flowmeter housing for spirometry application

New from MIR, a **digital turbine system** for all your OEM needs.

This system can be used in a wide variety of industrial, laboratory and medical device applications.

As gas flows through the sensor, a turbine blade interrupts an infrared beam generating a pulse signal with frequency directly proportional to the flow rate.

The system gives two outputs: digital 0-5V square wave pulse and RS232.

The bidirectional optoisolated RS232 port lets you send data to and receive data from your PC or instruments.

The system consists of:

- Mini-PCB with microprocessor controller in SMD technology, dimensions only 80x55x16 mm.
- Digital turbine flowmeter complete with sensor housing plus cable. Several different flowmeter housings are available.

Flowmeter application:

Continuous flow monitoring.
Average flow monitoring.
Continuous volume monitoring.
No calibration required!

Spirometry application:

Through RS232 commands the system can carry out FVC, VC and MVV spirometry tests. Calculates up to 30 inspiratory/expiratory functional parameters. Software routines for test quality control and test interpretation (ATS). Flow/volume and volume/time curve data points. The flowmeter accepts an industry-standard mouthpiece of 30mm diameter.

Note that the MIR R&D department is ready to tailor the system hardware and/or software to your specific requirements.



PCB TECHNICAL SPECIFICATIONS:

Dimensions: 80x55x16 mm (with standard connectors)

Power supply:

During measurement: 5V DC@20mA

Stand by: 5V DC@3mA

Output:

Optoisolated RS232: flow, volume, spirometry data....

Digital (0-5V): Square wave pulse

Internal software: 256 Kbit OTP memory

FLOWMETER TECHNICAL SPECIFICATIONS:

Internal diameter: 30mm

Accuracy: $\pm 3\%$

Flow range: $\pm 16\text{L/s}$

Volume resolution: 20mL

Dynamic resistance: $< 0.5\text{cmH}_2\text{O/L/s}$



Flowmeter housing with face mask connection for ergospirometry application

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