

# PITOT TUBE THERMO ANEMOMETER

**Model : BI 211P.0 ; BI 211P.2**

**BI 213P.0 ; BI 213P.2**



The BI 211P.0 and BI 211P.2 BI 213P.0 and BI 213P.2 are portable micro-manometers using Pitot tubes and a large LCD display. They are used to perform measurements in the fields of air conditioning, heating and ventilation. They measure the differential pressure detected by a Pitot tube connected to the instrument inputs acquiring the wind speed and flow rate inside pipelines and vents. They also measure the temperature using a type K thermocouple sensor.

The BI 211P.2 and BI 213P.2 instruments are dataloggers. They memorize up to 36,000 samples which can be transferred from the instrument connected to a PC via the

multi-standard RS232C serial port and USB 2.0. The storing interval, printing, and baud rate can be configured using the menu. They are also fitted with an RS232C serial port and can transfer the acquired measurements to a PC or to a portable printer in real time.

# Instrument Technical Characteristics

Display	:	2 × 4½ digits plus symbols
Measuring Unit	:	0 C - 0F - Pa - mbar - mmH O - PSI - m/s 2 3 km/h - ft/m - mph - knot - l/s - m/h - cfm
Dimensions (Length × Width × Height)	:	185×90×40mm
Pressure inputs	:	2 quick couplings f 5mm
TC type K Temperature inp	:	2-pole female polarized standard miniature connector
Weight	:	470g (complete with batteries)
Measuring Rang	:	See Table "A"
Materials	:	ABS, rubber
Pitot Tube Dimension	:	See Table "B"
Operating temperature	:	-5....50°C
Warehouse temperature	:	-25...65°C
Working relative humidity 0...90%RH without condensation	:	
Protection degree	:	IP67
Batteries	:	4 × 1.5V type AA batteries
Autonomy	:	2000 hours with 180mAh alkaline batteries
Power absorbed with instrument off	:	20µA
<i>Mains - models BI 211P.2 and BI 213P.2 Output mains adapter 9Vdc / 250mA</i>		

## *Storage Details - models BI211P.2 and BI213P.2*

Type	:	2000 pages containing 18 samples each
Quantity	:	36000 samples
Storage interval	:	1s...3600s (1 hour)

## *Serial interface RS232C - models BI211P.2 and BI213P.2*

Type	:	RS232C electrically isolated
Baud rate	:	Can be set from 1200 to 38400 baud
Data bit	:	8
Parity	:	None
Stop bit	:	1
Flow Control	:	Xon/Xoff
Serial cable length	:	Max 15m
Immediate print interval	:	1s...3600S (1hour)

## *USB interface - models BI211P.2 and BI213P.2*

Type	:	1.1 - 2.0 electrically isolated
Serial and USB interface-models		
BI211P.2 and BI213P.2	:	8-pole MiniDin connector
Mains adapter - models		
BI211P.2 and BI213P.2	:	2-pole connector (positive at centre)

Measurement of pressure, wind speed and flow rate calculated by the internal sensor, and temperature measured using thermocouple K

TABLE - A

Measurement Range	BI 211P.0 BI 211P.2	BI 213P.0 BI 213P.2
Differential pressure	±20mbar ±200mbar	±20mbar ±200mbar
Speed	2....55m/s 2....180m/s	2....55m/s 2....180m/s
Temperature using thermocouple K	-200...+1370 0C	-200....+1370 0C
Temperature using Pitot tube	-200...+600 0C	-200...+600 0C
Maximum overpressure	±300mbar	±1bar
Resolution		
Differential pressure	0.005bar -0.5Pa	0.01mbar - 1Pa
Speed	0.1m/s - 1 km/h - 1 ft/min - 1 mph - 1 knots	
Flow rate	1 l/s - 0.01.10 3m <sup>3</sup> /h - 0.01.10 3cfm	
Temperature	0.10C	
Accuracy		
Differential pressure	±0.4%f.s.	±0.25%f.s
Speed	±(2% reading+0.1 m/s)	±(2% reading + 0.3m/s)
Temperature	± 0.1 0C	± 0.1 0C
Minimum speed	2 m/s	3 m/s
Automatic air temperature compensation	-200...+ 6000C	
Manual air temperature compensation	-200...+ 6000C	
Unit of Measurement		
Differential Pressure	Pa - mbar - mmH O - PSI	
Speed	m/s - km/h – ft/min – mph – knots	
Flow rate	l/s – m3/h – cfm	
Temperature	0C / 0F	
Pipeline section for flow rate calculation	0.0001...1.9999 m2	
Fluid contacting the membrane	non corrosive air and gas	

ORDER CODES

**BI 211P.0 K** : The kit is composed of the BI211P.0 with 20mbar full scale and thermocouple K input, 4 × 1.5V alkaline batteries, operating manual, case The Pitot tubes have to be ordered separately.

**BI 211P.2 K** : The kit is composed of the BI 211P.2 datalogger with 20mbar full scale and thermocouple K input, connection cable BI 2101/USB, 4 1.5V alkaline batteries, operating manual, case and DeltaLog3 software, The Pitot tubes have to be ordered separately.

**BI 213P.0 K** : The kit is composed of the BI 213P.0 with 200mbar full scale and thermocouple K input, 4×1.5V alkaline batteries, operating manual, case. The Pitot tubes have to be ordered separately.

**BI 213P.2 K** : The kit is composed of the BI 213P.2 datalogger with 200mbar full scale and thermocouple K input, connection cable BI 2101/USB, 4×1.5V alkaline batteries, operating manual, case and DeltaLog9 software, The Pitot tubes have to be ordered separately.

**BI 2110CSNM**: 8-pole connection cable MinDin - Sub D 9-pole MiniDin.

**DeltaLog9** : Software for download and management of the data on PC using Windows 98 to XP operating systems.

**PW** : Extension with male-female standard miniature connectors to connect the Pitot tube's thermocouple K to the instrument, length 2m.





**AF209.60** : Stabilized power supply at 230Vdc-300mA mains voltage.

**S'print-BT** : On request, portable, serial input, 24 column thermal printer, 58mm paper width.



(\*) TC = Pitot tubes with thermocouple K  
**Thermocouple K probes - To be ordered extra.**

**OPTIONAL METER (ECONOMICAL) CAN BE USE WITH PITOT TUBE**

 <p>MANOMETER PBM-UT</p>	 <p>Analogue Flowmeter Model : 31-777</p>	 <p>Digital Manometer Model : 10-DM</p>	 <p>Inclined + Vertical Model : 10-IM</p> <p>Inclined Range : -10 to 50 pa x 2 pa            Vertical Range : 50 to 700 Pa x 20 pa</p>

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Quality is Our Motto

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