

Low Pressure

MICROPROCESSOR MICROMANOMETER



- MENU DRIVEN
- LARGE LCD DOT MATRIX DISPLAY
- MEASURES FLOW AND DIFFERENTIAL PRESSURE READINGS DOWN TO 0.001 PASCALS
- VELOCITY AND CUBIC FLOW MEASUREMENTS
- COMPENSATION FOR TEMPERATURE AND ABSOLUTE PRESSURES

DESCRIPTION

The FC0510 Micromanometer is a microprocessor-based precision measuring instrument for ultra-low-range differential pressures. In addition, through its unique features and advanced software, it can display air velocity, volume flow, temperature and absolute pressure on its large dot matrix backlit liquid crystal display.

Furness Controls first developed electronic micromanometers more than 30 years ago and the FC0510 model represents the seventh generation of instrument through continuous development over this period.

Each FC0510 Micromanometer comprises a highly sensitive ultra-low-range differential pressure transducer capable of resolution down to 0.001 pascals. The instrument displays the pressure in one of 12 different measuring units as selected from the menu. Through the use of Pitot static tubes and laminar flow elements, flow velocity and volume flow can be displayed in a choice of 18 different measuring units. In addition, the FC0510 Micromanometer accepts 4-20 mA inputs from an absolute pressure sensor and a temperature sensor to provide automatic correction for mass velocity and flow, which can be displayed in a choice of six different measuring units.

A datalogging facility allows storage of measurements in the memory. Results can be downloaded to a computer or printer, using the RS232C output.

In addition to the display of differential pressure, the instrument can show peak, valley and an analogue bar graph of trend. Different windows in the display can be configured to show flow and differential pressure readings simultaneously.

The FC0510 Micromanometer measuring instrument is supplied complete with an aluminium carrying case, twin core silicon tubing and a 200mm long Pitot static tube. For the serious airflow and pressure measuring engineer the FC0510 offers the best test instrument available today.

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RANGES

Model 1: 20.000/200.00 Pa, Velocity 18.000 m/s

Model 2: 200.00/2000.0 Pa, Velocity 57.000 m/s

Model 3: 2.0000/20.000 kPa, Velocity 180.00 m/s

Velocity ranges are stated for 1013 mb, 15°C

SPECIFICATION

Languages	English, French, German
Accuracy	0.25% of reading between 10% of lowest range and full scale, ± one digit below 10%, better than 0.025% FSD
Storage temperature	-10°C to 50°C
Working temperature	0°C to 45°C
Mains supply	90 to 250 VAC 50 – 60 Hz
DC supply	12 VDC min 350 mA
DC outputs	18 VDC 25 mA for 4 to 20 mA sensors
Media compatibility	Dry non-corrosive gases, 0 to 95% relative humidity non-condensing, compatible with construction materials
Materials in contact	Copper, stainless steel, mica, silicone grease, loctite, nickel, hytel
Maximum overload	10 times instrument differential
Maximum static	10 bar applied to both "plus" and "minus" ports simultaneously
Pneumatic fittings	For 6 mm OD by 4 mm ID tube
Flow devices	Laminar element or Pitot tube
External sensors	4 to 20 mA loop powered. External source or 18 V internal supply
Temperature range	External sensor or preset value -100 to +800°C
Absolute pressure range	External sensor or preset value 0 to 11 bar
Relative viscosity range	0.1 to 3.0
Relative density range	0.1 to 3.0
Pitot K factor range	0.5 to 3.0
Duct cross-section range	0.1 to 10.0 m ²
Laminar flow range	0.001 to 9999.999 l/m
D.P. for laminar flow element	0.01 to 9999.99 pa
D.P. units	Pa, kPa, mmH ₂ O, "H ₂ O, µbar, mbar, mmHg, "Hg, thou, Nm ² , PSF, PSI (model 2 and 3)
Velocity units	m/s, mph, ft/s, ft/m, km/h, Knots
Temperature units	°C, °F, °K
Absolute pressure units	kPa, mbar, bar, PSI, "Hg
Units for area	cm ² , m ² , in ² , ft ²
Volume flow units	mm ³ /s, ml/s, ml/m, ml/h, cc/s, cc/m, cc/h, l/s, l/m, l/h, m ³ /s, m ³ /m, m ³ /h, in ³ /s, in ³ /m, in ³ /h, ft ³ /m, ft ³ /h
Mass flow units	Kg/s, kg/m, kg/h, lb/s, lb/m, lb/h
Display average time	0.3 to 20.0 seconds
Other functions	Peak hold, valley hold, volume flow, mass flow, time, date, automatic zero, display of up to three parameters
Outputs	0-5 VDC or 0-2.5-5 VDC
Temperature effect on zero with auto zero disabled	0.02% FSD per °C
Temperature effect on range	0.05% FSD per °C
Dimensions	300 x 125 x 250 mm
Accessories	Robust aluminium carrying case with storage for leads and tubes
Datalogger	Built-in datalogger for storage of test results. Includes RS232C output for downloading to a PC or printer
Weight	6 kilos

Agents Stamp:

ST-65 XXXXXXXXXXXX

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Furness Controls has a UKAS certified laboratory which offers pressure calibration from 0 to 40 kPa and Flow calibration from 0.1 ml/min to 2000 litres/min

