Furness Controls

PPC500

Portable Pressure

CALIBRATOR

PPC500

- HIGH ACCURACY WITH LONG RANGES
- MODEL 1 COVERS .00004 "wg - 80.000 "wg
- MODEL 2 COVERS .0004 "wg - 80.000 "wg
- ROBUST, PORTABLE AND SELF CONTAINED
- ON-SITE OR TEST BENCH USE

MENU-DRIVEN FUNCTIONS

Selection of the various functions is made easy using only a few keys through menu-driven choices. The LCD display shows the options, with 'Next' and 'Last' keys giving access through the menu in both directions. The Up and Down keys allow the choices to be explored without changing the selection until 'Enter' is pressed. 'Escape' returns the instrument to its normal function. With the menu-driven system, modifications can be made to the programme without having to change any hardware.

CALIBRATION PRESSURE

Calibration pressure units are chosen from the menu. the options available are: Pa, kPa, µbar, mbar, bar, mmH^2O, thouH^2O, inH^2O, mmHg, inHg, PSI and PSF.

The pressure is displayed as the upper figure in the LCD display with the selected units shown. A Full Scale reading of up to 24000 units is provided to give easy calibration of 2, 20, 200 scales, whilst retaining full instrument accuracy. The instrument is dual range to give maximum range capability.

DATALOGGER

The optional built-in datalogger allows storage of calibration results to the PPC500's memory. The PPC500 can be configured to memorise the results from 20 instruments with 10 points, 10 instruments with 20 points, 40 instruments with 5 points or 60 instruments with 3 points. Tag No or serial numbers can be entered to provide unique information about the instrument being calibrated. Results can be downloaded from memory through the RS232C to a PC for processing.

The PPC500 incorporates a high accuracy 5 digit meter with 20 volt and 20 mA ranges to read the output signal from the instrument being calibrated. the PPC500 can also be programmed to display the signal in engineering units for the direct comparison with the applied pressure. The third option displays percentage error. This makes calibration checks and corrections even easier and gives the figures for direct entry onto a calibration chart.

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PRESSURE OUTPUT

The PCC500 is independent of external presusre sources. In incorporates a static dual piston pump, matched to the FSD of the particular model, which gives coarse and fine control to generate the calibration pressure. However, if the device to be calibrated is connected to a live pressure source, the calibrator connections may simply be coupled in to the existing impulse lines.

LCD DISPLAY

The LCD screen is designed to be readable in all lighting conditions. It incorporates a timed backlight, variable from 1 to 60 minutes, for use in poorly lit surroundings such as may be encountered in site use. Bright sunlight, which makes LED meters unreadable, produces a clear, high contrast display.

APPLICATION

Since the PCC500 provides the calibration pressure, readout of the pressure and readout of the signal from the test instrument, it can be used for calibrating any transducer, transmitter or micromanometer within its pressure range. Simultaneous display of calibration pressure and instrument readout, together with variable up-date time on the display, effectively averaging the readings over this time, makes instrument adjustment and recording of results supremely easy.

OTHER USES

The instrument may also be used as a long range, high accuracy micromanometer. It has the advantages of a high static pressure rating, 10bar, and also, for fluctuating pressure readings, the variable up-date time which gives true average readings.

ACCURACY

The PCC500 is calibrated against Furness Controls' FRS4 Primary Pressure Standards. These give 0.01% uncertainty with an ultimate resolution at 0.01 Pa. During calibration, any slight non-linearities are corrected, with the results retained in the memory. This results in an overall accuracy of 0.01% of reading being retained from FSD down to 1% of scale and generally is better than 0.01% FSD below this. These figures are true at 20°C.

Once calibrated, a simple check at Full Scale against a master gives full accuracy at all readings.

SPECIFICATION

Calibrated accuracy	Model 1: 0.1% or reading ±1 digit above 10% FSD better than 0.01% FSD, below 10% FSD Model 2: 0.1% or reading ±1 digit above 1% FSD better than 0.001% FSD, below 1% FSD
Resolution	1 part in 20,000
Temperature effect on range	0.05% per °C
Temperature effect on zero	Eliminated by auto-zero function
Settling time	0.5 sec to less than one digit
Overload	10 x full range
Maximum static pressure	10 bar
Digital signal meter	±20 V DC and ± 20 mA DC with 4¾ digit display
Display	LCD display with timed backlight
Analogue output	0-5 V DC or 0-2.5 to 5 V DC
Options	Built-in datalogger and RS232C output
Supply	Internal power supply with 90 to 250 V AC universal input, also recharges internal battery pack for approximately 8 hours use
Size	300 mm x 125 mm x 250 mm
Weight	3.5 kilos
Accessories	Robust aluminium carrying case with storage for leads and tubes supplied as standard

Figures are correct at S.T.P. (20°C, 1013mb)