PROCTER & CHESTER (MEASUREMENTS) LTD

Features

- Portable and lightweight handheld instrument.
- 7-digit LCD display with peak, trough, net, overload and shunt calibration indication.
- Single pass calibration (direct mV/V) with dual range.
- Keys for on/off, range select, peak/valley hold and gross/net.
- Accepts an input range of up to 50mV/V.
- IP65/NEMA 4 rating.
- TEDS enabled for automatic sensor calibration.
- Auto sleep feature.
- Battery life of 450 hours in power save mode.
- Optional RS232 output available.
- Optional TEDS chip compatible.

Description

The PSD display is a completely portable (strain gauge/load cell) indicator, packaged in a small, robust IP65/NEMA 4 enclosure. Two separate ranges are available, which enable the instrument to read and display two units of measure.

For simplified use, the operator only has access to six keys. The menu options offer the ability to tailor the instruments response to the application with gross, net, peak and trough measurements easily selected. An annunciator indicates which range has been selected. There is also a window, to insert a legend, describing each range. Once these parameters are set, it provides the user with the simplest of indicators.

The PSD display is also TEDS enabled for automatic sensor calibration. The display is powered by two AA batteries providing long life using innovative power saving features. This display is intended for use as a load cell indicator, strain gauge indicator, force display, weight indicator, weight monitor or load indicator able to drive up to 4 x strain gauge bridges.

The PSD display with the optional RS232 interface enables the connection to many devices whether a PC or simple data logger. The PSD232 is fitted with an 8-pin connector allowing users to connect the appropriate cabling for their application.

Typical Specification

PARAMETER	MIN	TYPICAL	MAX	UNITS
Non-Linearity	-	0.001	0.005	%FR
Internal Resolution	-	24	-	Bits
Sample Rate Resolution AT 1Hz	-	250,000	-	Counts/Divisions
Sample Rate Resolution AT 10Hz	-	65,000	-	Counts/Divisions
Temperature Effect ON ZERO	-	0.0002	0.0007	±%FC/ºC at 2.5mV/V
Temperature Effect ON SPAN	-	0.0002	0.0005	±%/ºC
Storage Temperature EXCLUDING BATTERIES	-40	-	+65	ºC
Operating Temperature EXCLUDING BATTERIES	-10	-	+50	ºC
Offset Stability	-	0.002	0.008	±FR[1]
Gain Stability	-	0.003	0.01	% per annum
Excitation Voltage	4.8	5	5.2	VDC
Strain Gauge Impedance	85	350	5000	Ω
Sensitivity Full Range SETTING 1	-5	-	+5	mV/V
Sensitivity Full Range SETTING 2	-50	-	+50	mV/V

[1] From original offset at any time.

PARAMETER	VALUE
Input Type	Strain gauge, full-bridge sensors.
Internal Battery	2x AA alkaline ACCESS VIA SEALED REAR COMPARTMENT **BATTERIES NOT INCLUDED**

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Dalehouse Lane, Kenilworth, Warwickshire, CV8 2UE, UK
T: 01926 864444 | E: sales@pcm-uk.com
www.pcm-uk.com

PARAMETER	VALUE
Battery Life 350Ω SENSOR	35 hours if continuously on or up to 450 hours in low power mode.
Update Rate STRAIN GAUGE FULL BRIDGE	10mS to 2s including peak/valley hold capture rate.
Display Type	7-digit LCD display, 8.8mm high digits.
Display Resolution	1 part in 250,000 at 1s update.
Annunciators	Low battery warning, peak, trough, hold, net, shunt cal, range, by LCD.

Approvals

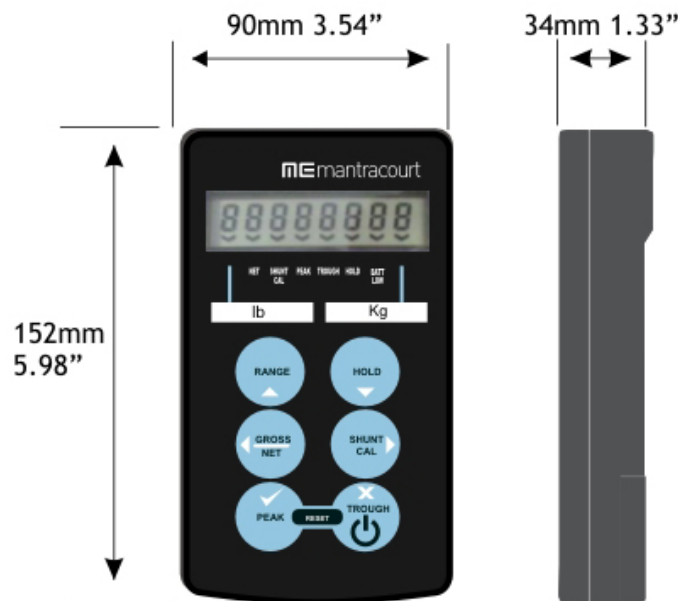| PARAMETER	VALUE
EMC Directive	2014/1108/EC
Low Voltage Directive	2006/95/EC

Control Variables

The PSD display has tactile keys on the front panel for:

- ON/OFF/TROUGH – Switching the display on/off and shows the trough reading.
- RANGE – To switch between the two ranges (inputs) available.
- PEAK – Displays the peak reading.
- HOLD – Allowing you to hold the figure on screen when pressed, cycles on/off.
- GROSS/NET – Toggles between the gross and net figure readings.
- SHUNT CAL – Places the PSD into shunt calibration mode (100K resistor).

The display also offers user programmable parameters for the display resolution, reading rate (0.5, 1, 3, 10 or 25Hz) and low power modes.

Calibration of the PSD display is accessible from the front panel, protected by a key sequence. If your display has been set up and calibrated for you, you should not need to access these settings.

Outline Dimensions in millimetres

Ordering Codes

PSD	Handheld Display and mating connector.
PSD232	Handheld Display with serial RS232 output and mating connector.
TR100-CA	Black leather case with clear viewing window and shoulder strap.

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