

PSD

Strain Gauge or Load Cell Hand Held Display

Features

- Powered by 2 x AA internal batteries
- Portable handheld precision instrument weighing only 250grams
- Tactile keyboard, with dual range selection, peak/valley hold, gross/net and on/off controls
- Microprocessor based, allowing single pass calibration facility
- Dual range facility
- Accepts an input range of up to 50mV/V
- Environmentally sealed to IP65 / NEMA 4
- 7 digit LCD display, with battery, peak, trough, net, error and shunt cal indication
- 1 year Warranty
- Auto sleep



Introduction

The PSD is a completely portable strain gauge battery powered indicator, packaged in a small, robust IP65 / NEMA 4 enclosure. For simplified use, the operator only has access to six keys.

Two separate ranges are available, which enable the instrument to read and display two units of measure.

The menu options offer the ability to tailor the instruments response to the application. Gross, Net, Peak and Trough measurements are 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 Case is Registered Design No. 3021311

Specifications

Description Strain Gauge

	Minimum	Typical	Maximum	Units
Non linearity		0.001	0.005	% FR
Internal resolution		24		Bits
Resolution at 1Hz sample rate		250,000		Counts/divisions
Resolution at 10Hz sample rate		65,000		Counts/divisions
Temperature effect on zero		0.0002	0.0007	+/-%FR/°C@2.5mV/V
Temperature effect on span		0.0002	0.0005	+/-%°C
Offset stability		0.002	0.008	+/-%FR from original offset at any time
Gain stability		0.003	0.01	% per annum
Excitation voltage	4.8	5	5.2	Vdc
Strain gauge impedance	85	350	5000	Ohms
Sensitivity full range, setting 1	-5		+5	mV/V
Sensitivity full range, setting 2	-50		+50	mV/V

Performance

Input Type	Strain Gauge Full Bridge Sensors
Internal Battery	2 x AA Alkaline, access via sealed rear compartment, please note batteries are not included.
Battery Life	With 350R sensor continuously on 35 hours or up to 5000 hrs in low power mode
Update Rate	10mS to 2s Including Peak/Valley Hold capture rate

Indication

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 annunciators

Control Variables

Front Panel User Keys	Tactile Keys for:- ON/OFF/TROUGH Switches PSD power on/off/displays trough reading RANGE Selects between two ranges, PEAK displays peak reading HOLD Switches Hold on/off GROSS/NET Toggles between gross and net readings SHUNT CAL Puts PSD units shunt calibration mode (100k resistor)
Settable Parameters	Display Resolution Rate 0.5, 1, 3, 10, 25Hz Low power modes
Calibration	By front panel keypad buttons protected by key sequence

Physical

Electrical Connection	5 pin Binder Socket (mating plug supplied)
Dimensions	90 x 152 x 34mm (depth)
Weight	250 grams
Legends	Insert legend labels for engineering unit identification

Order Codes

PSD	Portable Display Load Cell/Force Indicator & mating connector
PSD232	Portable Display Load Cell/Force Indicator, mating connector & Serial RS232 Port
-CA	Black leather case, with shoulder strap & clear viewing window

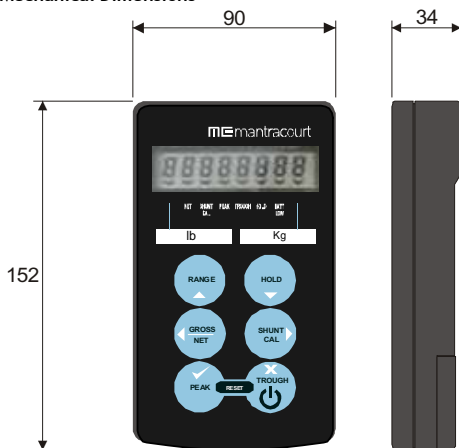
Options

Serial RS232 Port, Streaming ASCII for print, remote display and logging
Leather carry case
VisualLink, PC SCADA application

CE & Environmental

Storage temperature	-40 to +65°C (excluding batteries)		
Operating temperature	-10 to +50°C (excluding batteries)		
Environmental Rating	IP65 / NEMA (when mating plug fitted)		
Enclosure Type	ABS, dark grey (optional black leather case)		
Relative humidity	95% maximum non condensing		
Safety/Low Voltage Directive	73/23/EEC amended by 93/68/EEC	EMC Emissions	BS EN 55011:1998
EMC Directive	BS EN 61010-1:2001, IEC 1010-1-1990 89/336/EEC Basic Standard BS EN 61326:1998	EMC Immunity	BS EN 61000-42:1995 BS EN 61000-4-3:2002 BS EN 61000-4-4:2004 BS EN 61000-4-11:2004

Mechanical Dimensions



C In the interest of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.