

Features

- High resolution ADC providing sensitivity of between 7.5mV/V to 480mV/V. (3.3VDC excitation).
- Strain bridge connector for six wire connection plus TEDS support.
- Two-point calibration via the keypad or comprehensive calibration options via the toolkit.
- Simple keypad configuration or fully customised via toolkit software.
- 128 x 64 dot matrix display with backlight.
- USB port providing configuration, calibration, save and restore, as well as live logging.
- Measurement rate up to 2,400SPS.
- Ergonomic design with improved grip and shock protection.
- For ratio metric sensors, torque, strain, load, and pressure.



Description

Superseding the much-loved PSD handheld display, the PSDS, the next generation model delivers supreme flexibility and performance for sensor manufacturers seeking a portable transducer readout for load, force, pressure, torque, and other strain bridge sensors.

Ergonomically designed for portable use and with optional mounting accessories, this tough display provides both simple two-point calibration via the keypad or comprehensive calibration options via the toolkit. Up to six display modes, up to six calibration ranges recalled by the device plus TEDS support for templates 33 (bridge), 40 (multipoint), 41 (polynomial).

The design ethos behind the PSDS is simple flexibility. Flexibility so sensor manufacturers have the tools to tailor the PSDS experience for their customers and applications. By designing the ideal configuration in the toolkit software, OEM's can quickly save and restore the config file to more units as and when required. Layered OEM security settings ensure that end users cannot accidentally change important settings. Menus that are irrelevant for your product can be locked out so that the product is simplified for the end user. Apply your own branding to product labelling and keypad overlay as well as toolkit software.

Design Features

- Intuitive keypad and menu operation.
- Two shot moulding rubberised soft plastic for improved grip and shock protection.
- "Smart" Soft keys.
- Adhesive branding label.
- Backlit display for ease of reading.
- Larger LCD display (128x64 pixels).
- Integrated ¼" headed receptacle for mounting options.
- USB connectivity.
- 2x AA alkaline batteries.
- Improved battery insertion.
- Self-sealing connection.

Typical Specification

PARAMETER	MIN	TYPICAL	MAX	UNITS
Measurement Method	-	6-wire ¹	-	-
Excitation Voltage	3.2	3.3	3.4	VDC
Drive Capability	85	-	10,000	Ω
Sensitivity FSR Ranges ²	±7.5	-	±480	mV/V
Linearity ³	-	±2	-	ppm/FSR ⁴
Offset Temperature Stability	-	12	-	nV/°C ⁵
Gain Temperature Stability	-	1	2	ppm/°C

PARAMETER	MIN	TYPICAL	MAX	UNITS
Internal Resolution	-	24	-	Bit
Resolution at 1 SPS	-	1,100,000 (20)	-	Counts (bit) ⁶
Resolution at 10 SPS	-	550,000 (19)	-	Counts (bit) ⁶
Resolution at 2,400 SPS	-	6,500 (14.3)	-	Counts (bit) ⁶
Filters	-	-	-	-
Display Resolution	-	128 x 64	-	Pixels
Buzzer Acoustic Output	-	45	-	dB
Power Supply ⁷	-	2x AA (LRx) or USB	-	-
Power Consumption	-	35	-	mA ⁸
Standby Current	-	75	-	µA
Battery Life LOW QUALITY 1HZ	-	220	-	Hours
Battery Life HIGH QUALITY 1,200HZ	-	60	-	Hours
Operating Temperature Range	-10	-	50	°C
Storage Temperature Range	-20	-	80	°C
Operating Humidity Range	0	-	95	%RH
Environmental Protection	-	IP64 ⁹	-	-
Weight INCLUDING BATTERIES	-	365	-	g

⁽¹⁾ Can accept 4-wire input. ⁽²⁾ Effective sensitivity from $\pm 0.5\text{mV/V}$ with reduced resolution. ⁽³⁾ Linearity error can be further reduced by device linearization calibration. ⁽⁴⁾ In high quality operating mode. ⁽⁵⁾ At 2.5mV/V . ⁽⁶⁾ Noise free at $\pm 7.5\text{mV/V}$ range. ⁽⁷⁾ Using Energizer L91 3,000mAh cells. ⁽⁸⁾ Measurement operation. ⁽⁹⁾ With connector mated or unmated.

Outline Dimensions in millimetres



Ordering Codes

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

Approvals

PARAMETER	VALUE
EMC Directive	2014/30/EU
Low Voltage Directive	2014/35/EU
RoHS Directive	2011/65/EU

PARAMETER	VALUE
The Electrical Equipment Safety Regulations 2016	2016 No 1101
The Electromagnetic Compatibility Regulations 2016	2016 No 1091
The Restriction of the Use of Hazardous Substances in Electrical and Electronic Equipment Regulations 2012	2012 No 3032

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