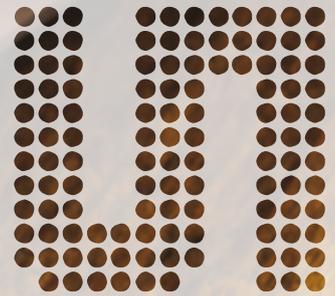


Checking Weight with Lowest Power

www.ams.com/PS081



PS081 – Single-chip solution for weighing applications

- Converter, microcontroller and LCD controller in one chip
- Extreme low total system current (down to 15 μ A including strain gauge)
- Ultra-low self-heating of the sensor
- Digital gain and offset correction of the load cell

**Sensing
is life.**

General Description

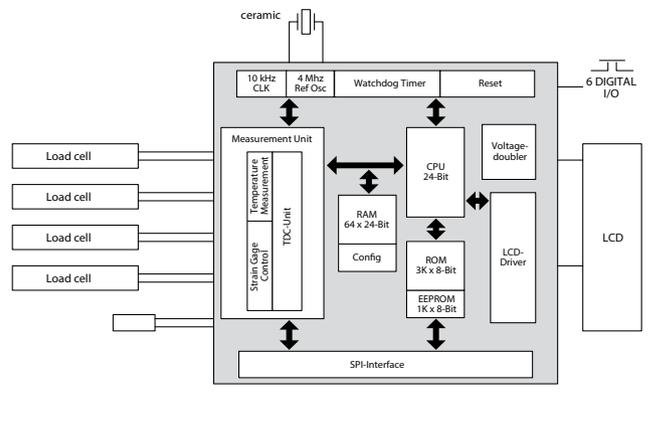
The PS081 is a system on chip for ultra low power and high resolution applications. It was designed especially for weight scales but fits also to any kind of force or torque measurements based on metal strain gauges. It takes full advantage of the digital measuring principle of PICO STRAIN. Thus, it combines the performance of a 28-bit signal converter with a 24-bit microprocessor.

Additional elements like an LCD driver, 3K ROM with many complex pre-defined functions, 2k EEPROM program memory and an integrated 10kHz oscillator round off the device. A small amount of external components is sufficient to build a complete weighing electronic.

Features

- RMS noise 8.9nV SINC5, 5Hz
- Up to 250.000 peak-peak divisions (2mV/V strain)
- Scalable update rate from <1 to 1.000Hz
- Resolution: 28-bit ENOB (RMS)
- 24-bit internal microprocessor with 2 kB EEPROM
- Internal LCD controller for 4x14, 3x15 and 2x16 segments
- 4-wire serial SPI interface
- Current consumption of ~5µA in low current configuration
- Power supply voltage: 2.1V to 3.6V

PS081 Block Diagram



Applications

- Torque wrenches
- Pressure indicators
- Legal for trade scales
- Counting scales

Benefits

- Single-chip solution for weighing applications
- Converter, microcontroller and LCD controller in one chip
- Extreme low total system current (down to 15µA including strain gages)
- Very low self heating of the sensor – gain and offset correction of the load cell