

# PL7413

## 4ch Power/Energy Metering AFE Controller

### OVERVIEW

PL7413 is a highly integrated power monitoring IC that measures electricity-related data for power usage measurement applications. It has built-in 4-channel ADC and a programmable DSP which can adapt to different applications such as metering, power protection and Master/Slave.

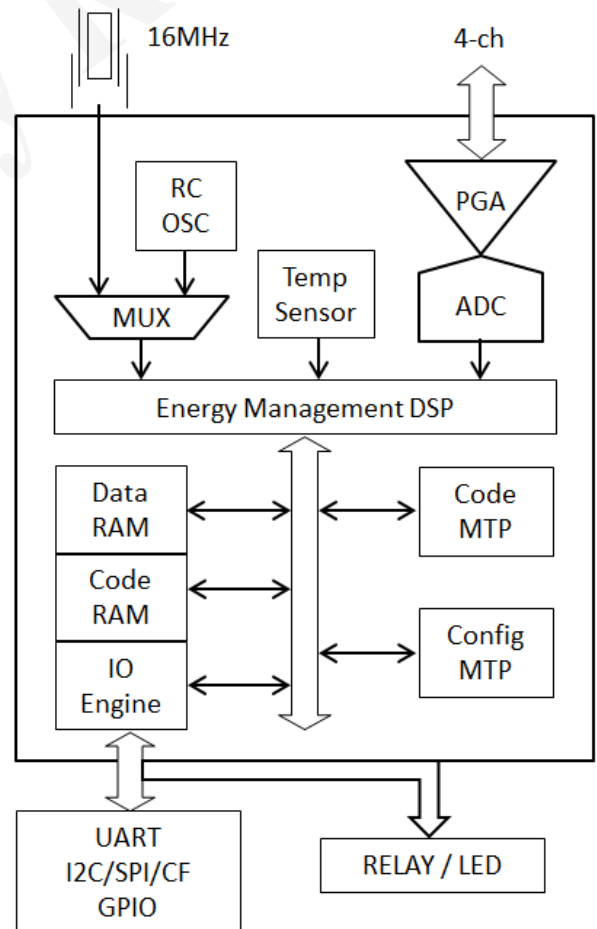
PL7413 has a built-in MTP that stores the chip configuration, DSP code and calibration data. It provides SPI/I2C/UART interface and can be used for calibration and programming data or DSP code. MCU can be accessed through SPI/I2C/UART interface.

PL7413 can diagnose the electricity-related data to identify overloading, short circuit, leakage current and arcing condition for further power protection features. It also provides a flexible architecture, low system BOM cost and programmable solution, to help manufacturers minimize development efforts and design a versatile and flexible product.

### FEATURES

- ADC Input
  - 4-ch 24bit  $\Sigma\Delta$  ADC
  - 3-ch differential and 1-ch single-end input with PGA (1X~32X)
  - For voltage or current signal input
- Programmable DSP function
  - Individual program and data space
  - Configurable DSP parameters
  - Built-in IEEE 754 floating point format conversion
- SPI/I2C/UART interface for
  - MCU mode interface
  - Calibration and MTP programming usage
- UART auto baud rate detection
- MTP memory for
  - Chip configuration
  - Calibration data
  - DSP configuration data
- 3.3V to 1.8V internal LDO
- 5V tolerance GPIO
- Supports 16MHz external crystal or internal oscillator
- Built-in Watch-dog timer
- Package Type : QFN24

### BLOCK DIAGRAM



**Prolific Technology Inc.**

7F, #48, Sec.3, Nan-Kang Rd., Taipei, Taiwan 115, ROC

Tel: 886-2-2654-6363 Fax: 886-2-2654-6161