

MCP3911 and PIC18F85K90 Single-Phase Anti-Tamper Energy Meter

Part Number: ARD00385

Devices Supported:

MCP3911

Summary Description:

The MCP3911 and PIC18F85K90 Single-Phase Anti-Tamper Energy Meter is a fully functional single-phase meter with enhanced capabilities, such as battery backup, RTC and anti-tamper features. The two current channels are measured with the MCP3911 device and the voltage channel is measured with the 12-bit SAR ADC integrated in the microcontroller. This design has two sensors for the current measurements: a current transformer and a shunt. The PIC18F85K90 microcontroller directly drives the LCD and communicates via UART with the MCP2200, offering an isolated USB connection for meter calibration and access to the device power calculations. The system calculates active and reactive energy, active, reactive and apparent power, power factor, RMS current, RMS voltage and the line frequency. The Microchip Energy Meter Software is used to calibrate and monitor the system.

This Kit Contains:

- 1x MCP3911 and PIC18F85K90 Single-Phase Anti-Tamper Energy Meter (ARD00385)
- 1x Mini-USB cable



Features:

- Rated 5(60)A 220V 3200 imp/kWh IEC62053-22 Class 0.5 Energy Meter
- Calculates active and reactive energy, active, reactive and apparent power, power factor, RMS current, RMS voltage and the line frequency
- Anti-tamper monitoring including neutral monitoring, current circuit reversal, magnetic field disturbance and cover opening detection
- Microchip Energy Meter Software is used to calibrate and monitor the system
- Calibration can be done in closed loop or open loop
- Low-cost capacitive-based power supply design

