

For Industrial, Commercial, Residential Meters 0.1% & 0.5% Accuracy



Description

The Teridian 71M6513 is a highly integrated SOC with an MPU core, RTC, FLASH and LCD driver. Teridian's patented Single Converter Technology® with a 21-bit delta-sigma ADC, 6 analog inputs, digital temperature compensation, precision voltage reference and 32-bit computation engine (CE) supports a wide range of poly-phase metering applications with very few low cost external components. A 32kHz crystal time base for the entire system and internal battery backup support for RAM and RTC further reduce system cost.

Maximum design flexibility is supported with multiple UARTs, I²C, a power fail comparator, a 5V LCD charge pump, upto 22 DIO pins and an in- system programmable FLASH. The device is offered in high (0.1%) and standard (0.5%) accuracy versions for multifunction residential/commercial meter applications requiring multiple voltage/current inputs and complex LCD or DIO configurations.

A complete array of ICE and development tools, programming libraries and reference designs enable rapid development and certification of meters that meet most demanding worldwide electricity metering standards.

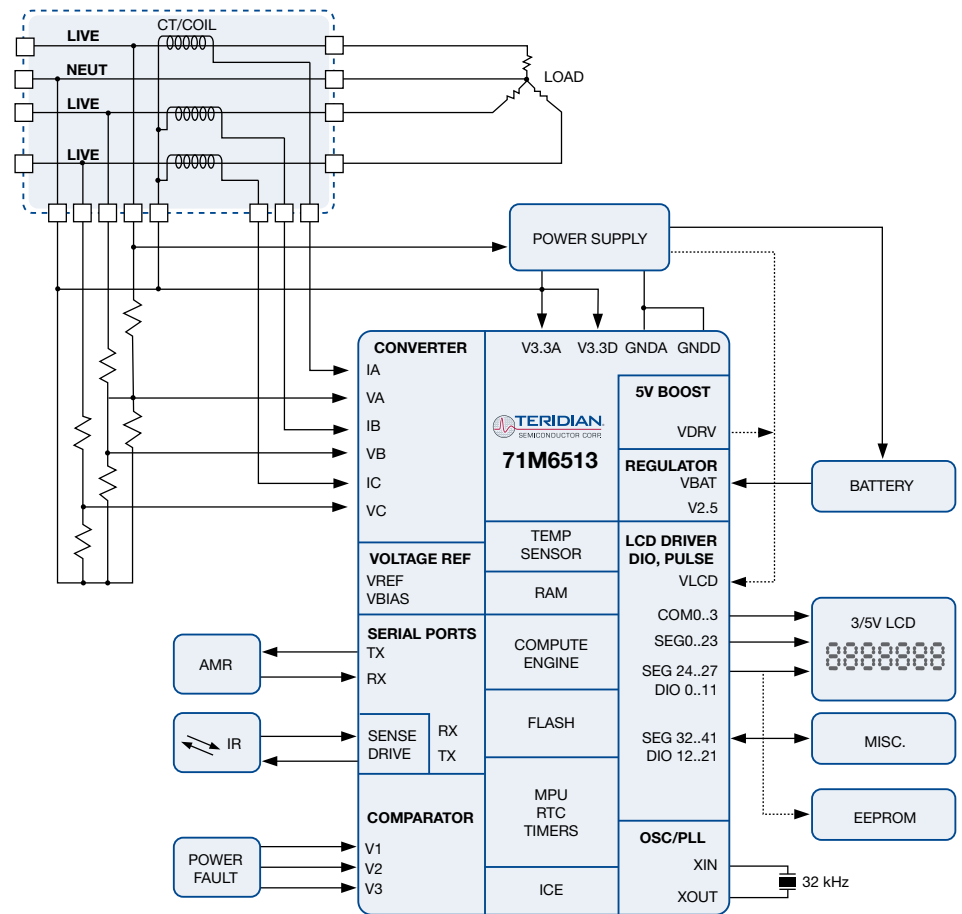
KEY FEATURES	KEY FEATURES
> Wh accuracy over 2000:1 range < 0.1% – 71M6513H < 0.5% – 71M6513	> Voltage reference < 10ppm/°C -- 71M6513H < 50ppm/°C -- 71M6513
> Exceeds IEC62053 / ANSI C12.20 standards	> 22mW @3.3V, 7.2µW back up
> Six sensor inputs - VDD referenced	> Flash memory option with security
> Auxiliary analog input for neutral current	> Battery Backup for RAM and RTC
> Low jitter with Wh/VARh pulse outputs	> 8-bit MPU (80515) - 1 clock cycle per instruction
> Pulse count for pulse outputs	> LCD driver (≤168 pixels)
> Four-quadrant metering	> High speed SSI serial output
> Phase sequencing	> RTC for time-of-use functions
> Line frequency count for RTC	> Hardware watchdog timer
> Digital temperature compensation	> Up to 22 general purpose I/O pins
> Sag detection	> 64KB FLASH, 7KB RAM
> Independent 32-bit compute engine	> Two UARTs for IR and AMR
> 40-70Hz line frequency range	> 100-pin LQFP package
> Phase compensation (±7°)	



Applications

- > Industrial, commercial and residential meters, 0.1% & 0.5% accuracy

71M6513, 71M6513H Block Diagrams



Ordering Information

PART DESCRIPTION	ORDERING NUMBER
71M6513 100-pin LQFP, Lead Free, 0.5% accuracy	71M6513-IGT/F
71M6513 100-pin LQFP, Lead Free, 0.5% accuracy, Tape and Reel	71M6513-IGTR/F
71M6513H 100-pin LQFP, Lead Free, 0.1% accuracy	71M6513H-IGT/F
71M6513H 100-pin LQFP, Lead Free, 0.1% accuracy, Tape and Reel	71M6513H-IGTR/F