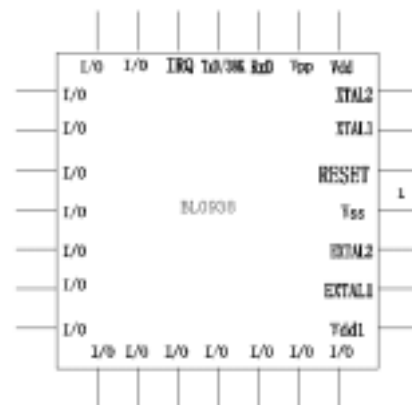


**Summarization**

BL0938 is a kind of 8-bit micro-control unit, which is high-performance and low-power, specially for power meter circuit. It is made with CMOS process, including 4K Byte user ROM and 196K Byte user RAM. It has many merits, such as low-power, high-integrated level, high reliability and etc. It also has high-stability real-time clock and hardware watchdog inside the chip. A serial port is included to meet the needs of infrared and gathering meter-record communication. While applying to infrared mode, a 38K modulated wave is produced inside the chip. Serial port RXD and TXD can be used to communicate with wire-carried wave in low voltage system, or make up gathering meter-record system by 485 port. 16 I/O ports can give users support of multi-path data processing function, or be used as general I/O ports. The ability of resisting electromagnetic interference and radiation is powerful: ESD 4000V; fast pulse group 4000V. BL0938 and BL2220R3, a 8-bit micro controller of Belling, are compatible in command system. BL0938 is mostly used in multi-function power meter (including multi-rate, advance payment and gathering meter-record system) and other plug-in civil or industrial control system.



28pinPLCCpackage

**Feature**

- Low power: asynchronous static chip design method, support STOP, WAIT power-save mode.
- 8-bit timer, with 7-bit pre-position.
- Double crystal vibration circuit inside chip. 4MHz, used as timer of local system bus. 32.768KHz, used as timer at the real time.
- Two ways, 8 I/O port in each (high-impedance as power-on, input mode). Each port has programmable pull-on resistor. Current in I/O port can drive standard TTL.
- Hardware watchdog including.
- 8 interrupt sources: timer, software, outside, RTC, UART, low voltage, keyboard, watchdog.
- One UART serial communication port.
- Programmable real timer RTC, one or ten seconds interrupt can be produce.
- Standard 5V working voltage. Supply RTC by 3.3V backup battery as power down.
- Kinds of reset function: low voltage, electrify, reset pin, watchdog.

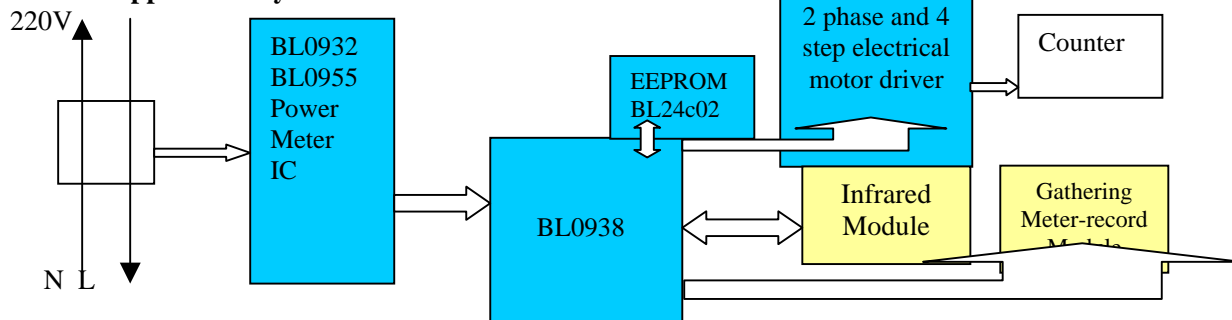
**BL0938 Application System Frame**

Figure 1 : Multi-rate Power Meter System