

- C. The user application program shall be stored in Random Access Memory (RAM) or a combination of RAM and Electronically Erasable and Programmable Read Only Memory (EEPROM).
- D. The user application program scan time, on average, shall be no greater than 50ms for logic and integer processing. Where three terms control (PID) and Floating point data processing is required, the application scan time shall be no greater than 100ms.
- E. The Central Processing Unit shall contain a minimum Intel 80188 or Intel 80386EX microprocessor operating at speeds no less than 10 MHz up to 25MHz as the main processing element, memory.
- F. The CPU shall contain a built-in Ethernet (IEEE802.4) port, 10BaseT. The port shall support simultaneous communications for programming, PLC-to-PLC exchanges through programming, and Host/SCADA communications from PCs.
- G. The CPU shall contain a function block for accumulated Flow, Pump Running Hours, Pump Number of Starts.

#### **1.3.22.11 Serial Communication Port**

- A. Serial communication ports shall be provided to facilitate the following:
- B. Connect the programmer for PC compatible programming software
- C. Connect the Hand-Held Programmer to the PLC
- D. Connect to one of the wide variety of third-party operator interfaces utilizing an open architecture software protocol.
- E. Provide RS-422 signals with RS-485 compatibility. The characteristics of this port shall be software configurable and shall be modem compatible

#### **1.3.22.12 Real Time Clock**

- A. All PLC's, shall be additionally programmed to perform, alarm and event logging incorporating a real-time clock (RTC). The RTC shall have stability better than 1 Second Per Day.
- B. The RTC shall be protected against power failure for a minimum of 200 hours. Timing shall continue throughout any power failure.
- C. The use pf RTC functions within the PLC other than time dependent control and logging shall be kept to a minimum. The use of constant frequency bits, reserved within the PLC data areas, shall be used for general timing applications.