1.3.22.13 Visual Diagnostics

A. Status of low or dead battery and the diagnostic status of the discrete I/O modules containing fuses shall be indicated.

B. The red LED shall be illuminated (fail safe) to indicate fuse healthy condition. LED should extinguish to show presence of a blown fuse condition.

C. The diagnostics shall provide information on the configuration and CPU, memory, communications and I/O status.

D. The processor shall maintain the states of up to 128 discrete system diagnostic bits to be read by a host or incorporated as contacts into the ladder program for customized diagnostic routines.

E. Faults may be cleared by the user by way of a programmer. Provision shall be made by way of passwords to protect these faults from unauthorized clearing

F. When an I/O fault occurs, the processor shall report the location of the fault, the condition the address and the circuit number if appropriate.

G. The processor function shall have the capability to time-stamp system faults for future references.

H. Digital I/O signals shall have LED indicator.

1.3.22.14 Input Modules

A. Digital input modules shall be 16-point (maximum per Card), 24 VDC, signal source type, with individual screw terminal connections. Where space restrictions or high-density signal requirements are apparent 32-point 24VDC digital input modules may be permitted with the approval of the engineer.

B. All digital input units shall be capable of accepting, a volt-free contact signal, and the source voltage shall be regulated 24VDC and shall be derived from the PLC panel.

C. Where the input from an external source is not volt-free then suitable isolation devices shall be provided in order to prevent cross-connection of different supplies. This device may be e.g. interposing relay or optical-isolator. For frequencies of operation greater than 30 operations/hour, the use of electromechanical devices shall not be permitted. All interface/isolation devices shall provide visual indication of Signal State.