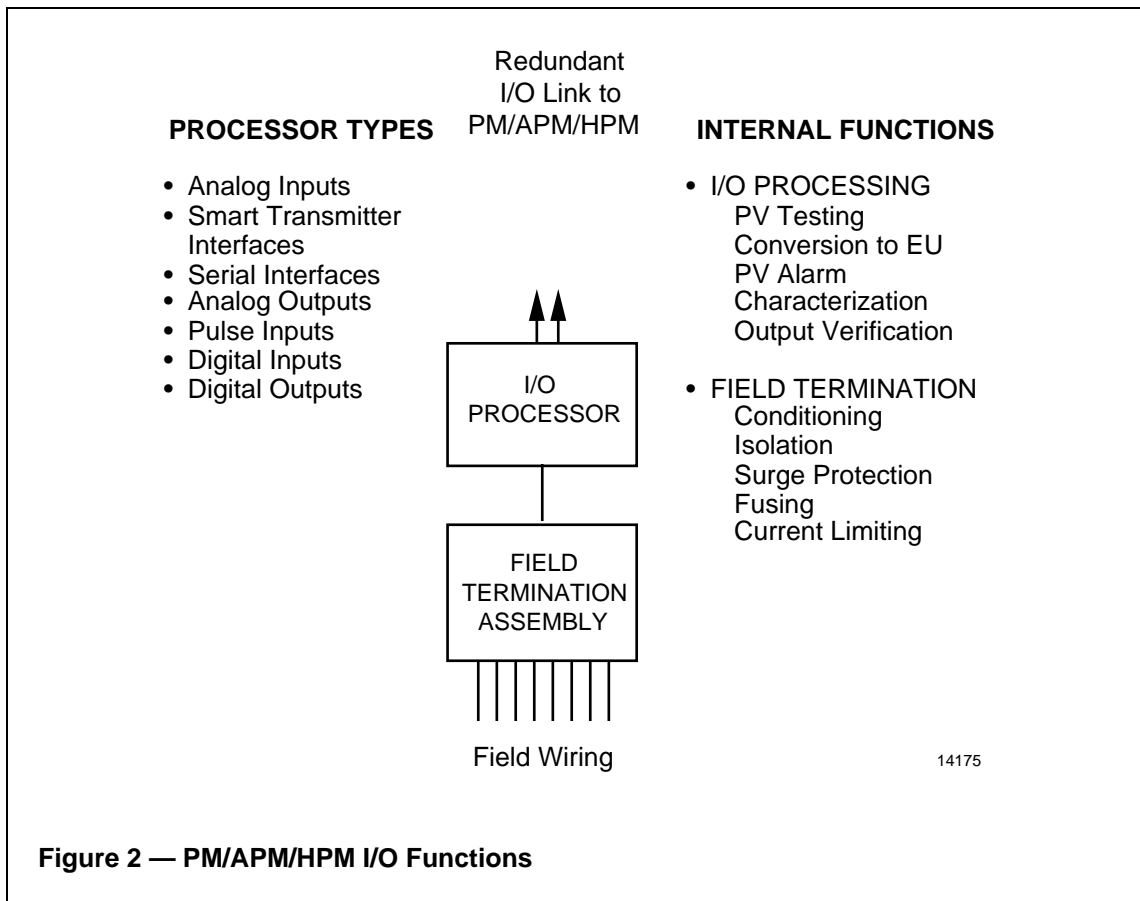


Functional Description

Functional Overview

I/O Processors, along with Field Termination Assemblies (FTAs), perform input and output scanning and processing on all field PM/APM/HPM I/O (Figure 2).



A redundant I/O Link is standard for maximum security. Optionally, High Level Analog Input, Smart Transmitter Interface, Analog Output, Digital Input and Digital Output processors can be redundant. I/O processing is performed separately from control processing functions so that I/O scan rates are completely independent of I/O quantity, controller loading, processing, and alarming. This partitioning of functions allows more efficient use of advanced Control Processor capability and provides for future I/O expansion.

A variety of I/O processors are available for the PM controllers:

- Analog Input–High Level (16 points)
- Analog Input–Low Level (8 points)
- Analog Input–Low Level Multiplexer (32 points)
- Smart Transmitter Multivariable Interface (16 points)
- Analog Output (8 points)
- Analog Output (16 points)
- Serial Device Interface (16 points—2 ports)
- Serial Interface (32 arrays, 2 ports)*
- Pulse Input (8 points)
- Digital Input (32 points)
- Digital Input 24 Vdc (32 points)
- Digital Input Sequence of Events (DISOE) (32 points)*
- Digital Output (16 points)
- Digital Output (32 points)

* *APM and HPM only*

Digital Input Sequence of Events (APM and HPM only)

This specialized digital input processor (DISOE) provides all the functions of the conventional Digital Input except accumulation. Inputs from the board can be used for control strategies just like any other digital input. Note that the DISOE IOP is supported by the APM and HPM *only*.

In addition, this DISOE processor provides high-resolution sequence of events monitoring. Using the DISOE processor, SOE time stamp resolution within 1 ms is assured.

The DISOE processor provides optimum resolution when used with the standard 24 Vdc Digital Input FTA.

Optional one-on-one redundancy is available for higher availability.

Digital Output

Two versions of the Digital Output IOP are available: one with 16 outputs and one with 32 outputs. Both processors provide the following functions:

- Output types (configurable per output)
 - Latched
 - Pulsed
 - Pulse-width modulated
- Output default action on failure (hold or unpowered)
- Output readback checking

The 16-point digital output processor provides separate output latches with redundant power regulators for added output security. As an option, one-on-one Digital Output processor redundancy is available for the 32-output IOP.