
1 Purpose

The purpose of this standard is to establish documentation for that class of instrumentation consisting of computers, programmable controllers, minicomputers and micro-processor based systems that have shared control, shared display or other interface features. Symbols are provided for interfacing field instrumentation, control room instrumentation and other hardware to the above. Terminology is defined in the broadest generic form to describe the various categories of these devices.

It is not the intent of this standard to mandate the use of each type symbol for each occurrence of a generic device within the overall control system. Such usage could result in undue complexity in the case of a Piping and Instrument Drawing (P&ID). If, for example, a computer component is an integral part of a distributed control system, the use of the computer symbol would normally be an undesirable redundancy. If, however, a separate general purpose computer is interfaced with the system, the inclusion of the computer symbol may provide the degree of clarity needed for control system understanding.

This standard attempts to provide the users with defined symbolism and rules for usage, which may be applied as needed to provide sufficient clarity of intent. The extent to which these symbols are applied to various types of drawings remains with the users. The symbols may be as simple or complex as needed to define the process.

2 Scope

This standard satisfies the requirements for symbolically representing the functions of distributed control/shared display instrumentation, logic, and computer systems. The instrumentation is generally composed of field hardware communication networks and control room operator devices. This standard is applicable to all industries using process control and instrumentation systems.

No effort will be made on the flow diagram to explain the internal construction, configuration, or method of operation of this type of instrumentation, logic and computer systems. Personnel needing to understand flow diagrams must have a basic understanding of the total system in order to correctly interpret the diagram. The type of computation or the use of the process variable within a program is not indicated except in those cases where the process variable is an integral part of the control strategy. In applications where all instrument system data base information is available to the computer via the communication link, the depiction of the computer interconnections is optional in order to conserve space on flow diagrams.

2.1 Application to work activities

This standard is intended for use whenever any reference to an instrument is required. Such references may be required for the following uses as well as others:

- Flow diagrams, process and mechanical;
- Instrumentation system diagrams;
- Specifications, purchase orders, manifests, and other lists;