

applications, it may be desirable to limit the costs associated with such controllers by eliminating certain features of each programmable controller. For example, programmable controllers without a display are often utilized in such situations. This improves efficiency, especially when simple and low costs programmable controllers are being utilized, because including a display is often expensive relative to the overall costs of a programmable controller. However, this traditionally results in inefficiencies associated with the inability to access and/or program the controllers in the field. Indeed, in most traditional systems, a computer is required to access such systems in order to provide updates and so forth. It is now recognized that it may be desirable to eliminate this requirement along with the associated inefficiencies and expenses.

BRIEF DESCRIPTION

[0004] According to one embodiment of the present invention, an automation controller is provided. The automation controller includes a central processing unit configured to communicate via an input/output module with automation devices of a process controlled by the automation controller. Additionally, the automation controller includes a retention feature configured to toollessly couple with a detachable display and memory module. Further, the automation controller includes a controller connector configured to communicatively couple with a display connector of the detachable display and memory module such that the automation controller and the detachable display and memory module are communicatively coupled, wherein the central processing unit is configured to transmit data for presentation on a display of the detachable display and memory module and configured to receive data from a memory and/or a data entry feature of the detachable display and memory module when the detachable display and memory module is communicatively coupled to the automation controller, and wherein processing functions of the display and memory module are directly provided by the central processing unit of the automation controller.

[0005] According to one embodiment of the present invention, an automation controller system is provided. The system includes a detachable display and memory module with a module housing, a display disposed within the module housing, a memory

disposed within the module housing, a first connector, and coupling features. The system also includes an automation controller. The automation controller includes a central processing unit configured to communicate via an input/output module with automation devices of a process controlled by the automation controller. Additionally, the automation controller includes a retention feature configured to toollessly couple with the coupling features of the detachable display and memory module. Further, the automation controller includes a second connector configured to communicatively couple with the first connector of the detachable display and memory module such that the automation controller and the detachable display and memory module are communicatively coupled, wherein the central processing unit is configured to transmit data for presentation on the display of the detachable display and memory module and configured to receive data from the memory of the detachable display and memory module when the detachable display and memory module is communicatively coupled to the automation controller and wherein processing functions of the display and memory module are directly provided by the central processing unit of the automation controller.

[0006] According to one embodiment of the present invention, a detachable display and memory module is provided. The detachable display and memory module includes a module housing, a display disposed within the module housing, and a memory disposed within the module housing and configured to exclusively utilize a central processing unit of an automation controller for processing functions. Additionally, the detachable display and memory module includes a display connector configured to communicatively couple with a controller connector of ~~an~~ the automation controller upon attachment of the detachable display and memory module with the automation controller. Further, the detachable display and memory module includes coupling features configured to toollessly couple with aspects of a retention feature of the automation controller.

DRAWINGS

[0007] These and other features, aspects, and advantages of the present invention will become better understood when the following detailed description is read with reference to the accompanying drawings in which like characters represent like parts throughout the drawings, wherein: