[0007] In accordance with another aspect, an input/output (I/O) device assembly comprises a plurality of I/O devices mounted on a rail in abutting engagement with each other, each I/O device comprising a base portion configured to communicatively connect the I/O device with at least one other device, an I/O module physically and communicatively connected to the base portion and comprising I/O communication circuitry and a terminal block mount surface, and a terminal block physically and communicatively connected to the terminal block mount surface of the I/O module, the terminal block mount surface having a width that is greater than a corresponding width of the terminal block such that a portion of the terminal block mount surface extends beyond the terminal block, said portion of the terminal block mount surface extending beyond the terminal block including at least one vent for permitting the flow of air through the I/O module and along the terminal block, wherein an air gap is formed between adjacent I/O devices between respective terminal blocks, said air gap defining a passageway for air to circulate from the I/O module past the respective terminal blocks.

[0008] The terminal block mount surface of each I/O module can be an upper surface thereof, and an opposing bottom surface of each I/O module is engaged with the base portion and includes at least one vent in fluid communication with the at least one vent of the terminal block mount surface, whereby air can circulate through each I/O module and past the terminal block. The input/output (I/O) device assembly can further comprise at least one vent on a front surface of each I/O module, the front surface extending between the upper surface and the bottom surface of each I/O module. Each I/O device can further comprise at least one connection terminal for connecting to an adjacent I/O module. The terminal block of each I/O device can be removably secured thereto. Each I/O module can have a width of 15 mm and the terminal block mount surface of each I/O module can have a width coextensive with the width of the I/O module. At least one terminal block can have a width of 10 mm.

[0009] In accordance with another aspect, a method of assembling an input/output device assembly comprises mounting first and second I/O modules to a rail, the I/O modules having a common width and in abutting engagement along respective sides thereof, each I/O module having a terminal block mounting surface including at least one vent for permitting the flow of air through the I/O module and along the terminal block, and mounting a terminal block to the terminal block mounting surface

of one of the first or second I/O modules, the terminal block having a width that is less than the width of the terminal block mounting surface. The I/O modules can be mounted on respective bases secured to the rail.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIGURE 1 is a diagrammatical representation of an exemplary control and monitoring system;

[0011] FIGURE 2 is a perspective view of an I/O device in accordance with the present disclosure;

[0012] FIGURE 3 is an exploded view of an exemplary I/O device in accordance with the present disclosure;

[0013] FIGURE 4 is a front elevational view of an exemplary I/O module and terminal block in accordance with the present disclosure.

DETAILED DESCRIPTION

[0014] FIG. 1 is a diagrammatical representation of an exemplary control and monitoring system adapted to interface with networked components and configuration equipment in accordance with embodiments of the present techniques. The control and monitoring system is generally indicated by reference numeral 10. Specifically, the control and monitoring system 10 is illustrated as including a human machine interface (HMI) 12 and an automation controller or control/monitoring device 14 adapted to interface with components of a process 16.

[0015] The process 16 may take many forms and include devices for accomplishing many different and varied purposes. For example, the process 16 may comprise a compressor station, an oil refinery, a batch operation for making food items, a mechanized assembly line, and so forth. Accordingly, the process 16 may comprise a variety of operational components, such as electric motors, valves, actuators, temperature elements, pressure sensors, or a myriad of manufacturing, processing, material handling, and other applications. Further, the process 16 may comprise control and monitoring equipment for regulating process variables through automation and/or observation.