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(54) Title: SECURING LEGACY ANALOG SENSOR CIRCUITS USED IN PHYSICAL SECURITY, PREMISE ACCESS CONTROL AND INDUSTRIAL SCADA APPLICATIONS

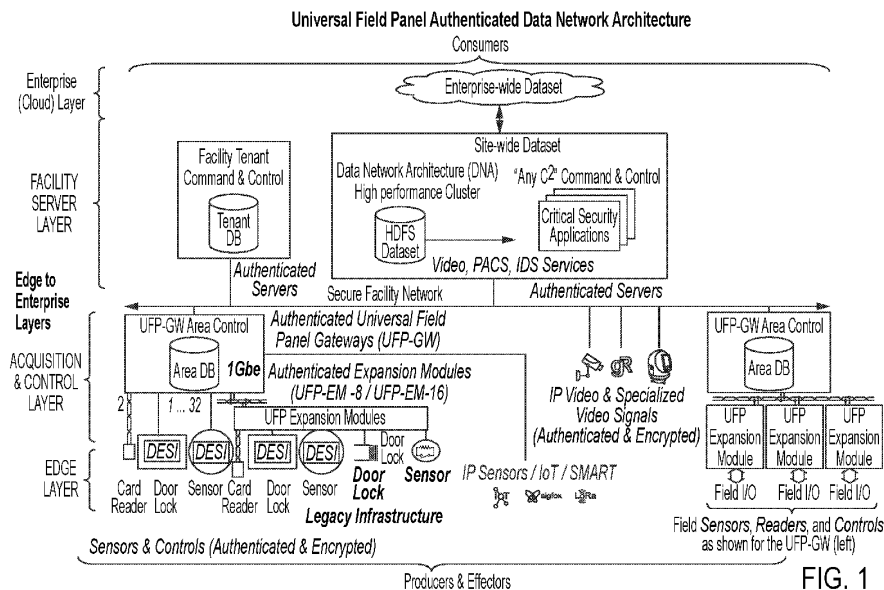


FIG. 1

(57) Abstract: Embodiments are directed to an apparatus, comprising: a microcontroller configured as a Universal Field Panel. The microcontroller provides channels that (i) couple to a digital encrypted security interface (DESI) via a digital communications interface and/or couple to a sensor comprising an analog signal, and wherein the analog sensor comprises one or more resistors coupled with one or more switches to monitor Boolean status from sensors (ii) wherein the digital encrypted security interface (DESI) couples to a sensor input and/or couples to a control output where signals to command a relay are authenticated prior to execution, (iii) authenticate and encrypt the sensor or control output. The control output is a programmable relay or solid-state device that features a Form-C control interface for providing authentication from command-and-control platforms to the devices and/or signals they are controlling.

[Continued on next page]

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