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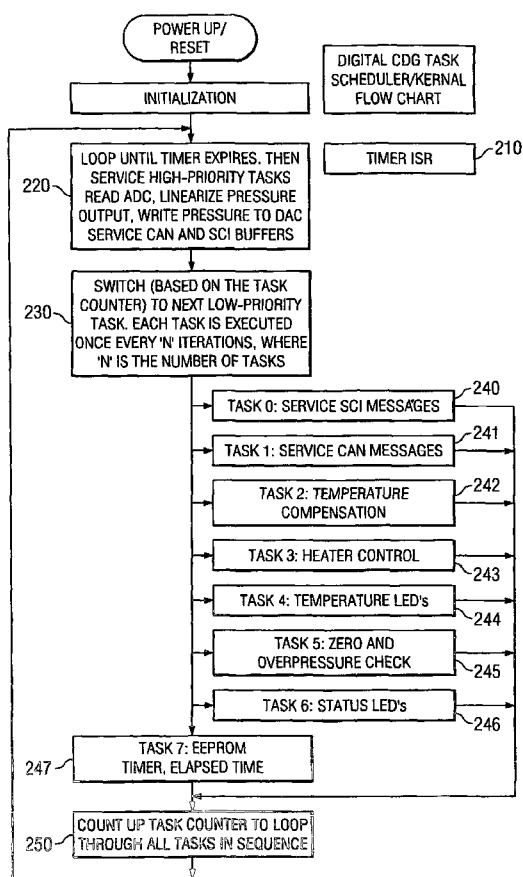
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(54) Title: SYSTEM AND METHOD OF OPERATION OF AN EMBEDDED SYSTEM FOR A DIGITAL CAPACITANCE DIAPHRAGM GAUGE



(57) Abstract: Systems and methods for digitally controlling sensors. In one embodiment, a digital controller for a capacitance diaphragm gauge is embedded in a digital signal processor (DSP). The controller receives digitized input from a sensor AFE via a variable gain module, a zero offset module and an analog-to-digital converter. The controller automatically calibrates the received input by adjusting the variable gain and zero offset modules. The controller also monitors and adjusts a heater assembly to maintain an appropriate temperature at the sensor. The controller utilizes a kernel module that allocates processing resources to the various tasks of a gauge controller module. The kernel module repetitively executes iterations of a loop, wherein in each iteration, all of a set of high priority tasks are performed and one of a set of lower priority tasks are performed. The controller module thereby provides sensor measurement output at precisely periodic intervals, while performing ancillary functions as well.



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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