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(54) Title: SHUNT CURRENT REGULATOR FOR DOWNHOLE DEVICES

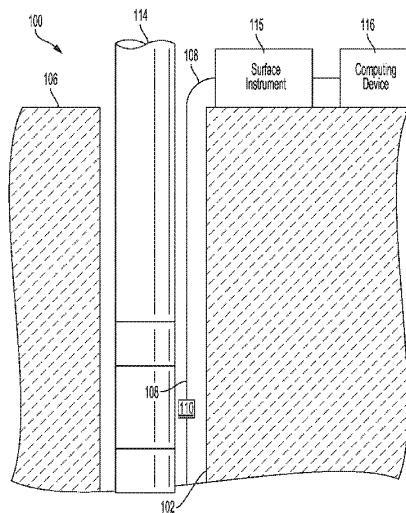


FIG. 1

(57) Abstract: A shunt current regulator can be used to maintain current levels at downhole device on a tubing encapsulated cable and improve communication speed between the surface and downhole devices. The shunt current regulator reduces the current noise on the tubing encapsulated cable allowing for higher bitrate transfer. In some aspects, a sensing element monitors the current drawn and generates a sense signal. In other aspects, a compensation signal is generated from the sense signal. The compensation signal may be used as input to control a transistor to regulate the current drawn from the tubing encapsulated cable. The transistor can dissipate power to stabilize the current drawn or provide compensation current to increase the current drawn.

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