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**ENDO et al.**(10) **Pub. No.: US 2022/0352707 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **ANALOG SIGNAL INPUT DEVICE FOR  
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CONTROL SYSTEM****Publication Classification**

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(57) **ABSTRACT**

A first input unit receives an analog signal from a pair of input terminals, to which a sensor is connected, as a differential input via a pair of first input lines between which a first resistor is interposed. The analog signal input device converts the analog signals read via the first input unit and a second input unit having a similar configuration into a multi-bit digital signal and outputs the digital signal. When a prescribed instruction is received, a current is supplied from one of the pair of first input lines to a power supply line, and it is determined that there an open circuit when the output of the second input unit obtained when the output of the first input unit has increased in response to the current supply from the current supply unit is equal to or larger than a predetermined threshold value.

