

ABSTRACT

The preferred embodiment of the present invention comprises a single microprocessor-based interface that connects between a noninvasive blood pressure (NIBP) sensor and an invasive blood pressure (IBP) monitor or module. The interface effectively emulates an IBP transducer in such a way that the IBP monitor sees the interface as if it were a regular IBP transducer from a fluid-filled blood pressure monitoring line. It receives the signal from an NIBP sensor and determines the blood pressure corresponding to the signal. It accepts the excitation voltage provided by the IBP monitor. From the excitation voltage and a known transducer sensitivity which the IBP monitor is configured to work with, the interface emulates the IBP transducer output signal corresponding to the blood pressure. The interface also emulates the input and output impedances of the IBP transducer which the IBP monitor is configured to work with. Zeroing of the interface with the IBP monitor can be easily performed in a way that is similar to that for a fluid-filled system. A noninvasive system comprising a suitable NIBP sensor and this interface can be used as an alternative to the fluid-filled monitoring line.

