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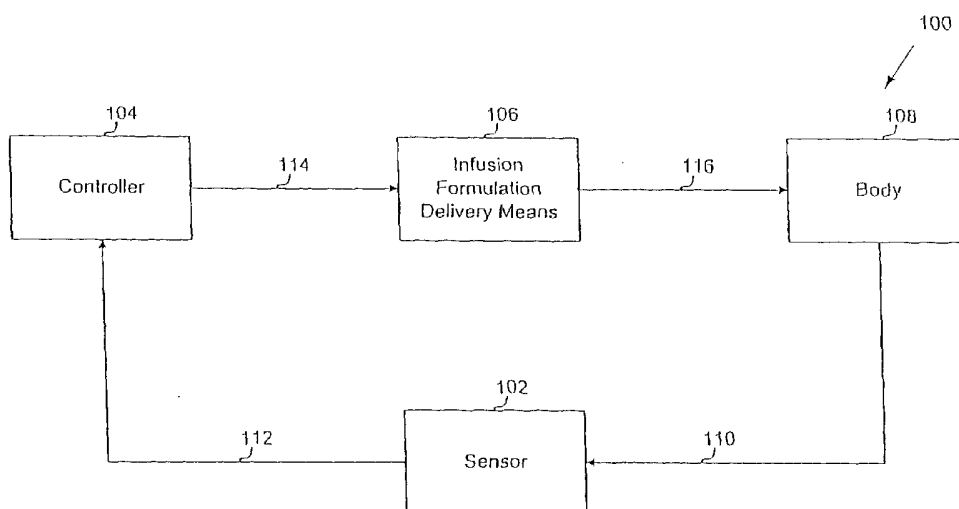
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[Continued on next page]

(54) Title: A SYSTEM AND METHOD FOR PROVIDING CLOSED LOOP INFUSION FORMULATION DELIVERY



(57) Abstract: A system and method for providing closed loop infusion formulation delivery which accurately calculates a delivery amount based on a sensed biological state by adjusting an algorithm's programmable control parameters. The algorithm calculates a delivery amount having proportional, derivative, and basal rate components. The control parameters may be adjusted in real time to compensate for changes in a sensed biological state that may result from daily events. Safety limits on the delivery amount may be included in the algorithm. The algorithm may be executed by a computing element within a process controller for controlling closed loop infusion formulation delivery. The biological state is sensed by a sensing device which provides a signal to the controller. The controller calculates an infusion formulation delivery amount based on the signal and sends commands to an infusion formulation delivery device which delivers an amount of infusion formulation determined by the commands.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 604/504, 500, 503, 65, 66, 67; 600/347, 365

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|---------------|--|---|
| X --- Y | US 5,474,552 A (PALTI) 12 December 1995, see entire patent. | 1, 2, 9, 11-28, 39, 40, 42-48 ----- 10, 41 |
| X --- Y | US 5,995,860 A (SUN et al) 30 November 1999, see entire patent. | 1, 2, 29-35 ----- 3-8 |
| Y | US 5,497,772 A (SCHULMAN et al) 12 March 1996, see entire patent. | 3-8, 10, 41 |

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☐ See patent family annex.

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