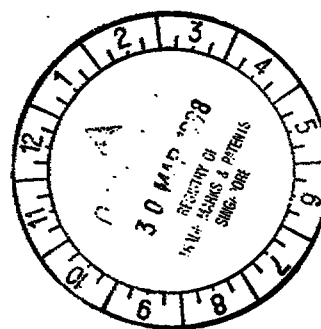




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A circular stamp from the International Patent Office (IPO). The outer ring contains numbers 1 through 12. The inner text reads: "30 MAR 1998", "RECEIVED BY", "INTELLECTUAL PROPERTY", "AND TRADE MARKS DEPT".



The diagram illustrates a system architecture divided into two main functional areas: the **SENSOR MODULE** (left) and the **ELECTRONICS MODULE** (right).

SENSOR MODULE (36):

- ANALOG ELECTRONICS (38):** Contains a **SIGNAL COND'T. FILTER** (42) which receives an input signal (30) through a resistor (32) and a switch (34). The filtered signal is sent to a **PRT** (48) and a series of **V/D** (44) and **C/D** (46) blocks.
- SENSOR PROCESSOR ELECTRONICS (38):** Includes a **MICROPROCESSOR** (28) connected to **EEPROM** (32), **CLOCKS** (30), and **DATA** (34). It also receives input from the **V/D** and **C/D** blocks.

ELECTRONICS MODULE (40):

- Microprocessor (28):** Communicates with the **SENSOR MODULE** and controls the **MODAC** (24) and **LOOP CURRENT CONTROL** (26).
- MODAC (24):** Manages the **VOLTAGE REGULATOR** (22) and the **LOOP CURRENT CONTROL** (26).
- LOOP CURRENT CONTROL (26):** Controls the **LOOP CURRENT** (28) through a resistor (28) and a switch (28).
- VOLTAGE REGULATOR (22):** Provides power to the **MODAC** (24) and the **LOOP CURRENT CONTROL** (26).
- HART RCVR (28):** Receives data from the **MODAC** (24) and sends it to the **MODAC** (24).

A transmitter (10) provides an output signal indicative of mass flow rate of fluid through a conduit (12). The transmitter (10) includes a temperature sensor (34) providing a temperature signal indicative of fluid temperature. A static pressure sensor (30) provides a static pressure signal indicative of static pressure in the conduit. A differential producer (32) provides a differential pressure signal. The transmitter (10) also includes a controller (66) which provides the output signal indicative of mass flow of the fluid through the conduit.