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A tilting current meter for low velocity currents

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ABSTRACT

A low-cost, uncomplicated current meter with enhanced dynamic range and low speed accuracy has been developed from earlier, now discontinued, film recording instruments. Appropriate for arrays or where capital is limited, it is particularly applicable where data entry labor is inexpensive. Instruments such as this can assist environmental monitoring programs in Third World countries.

Super-8 motion picture film is the data recording medium, with a CMOS timer and sequencing module controlling the camera and lamp. The tilt and direction indicators are decoupled from one another. We will discuss electronic design, sensor construction, installation, and data recovery.

In use since 1987, this camera and electronic module combination is also effective as a self-contained hydrocast data logger for temperature, depth, and transparency measurements.