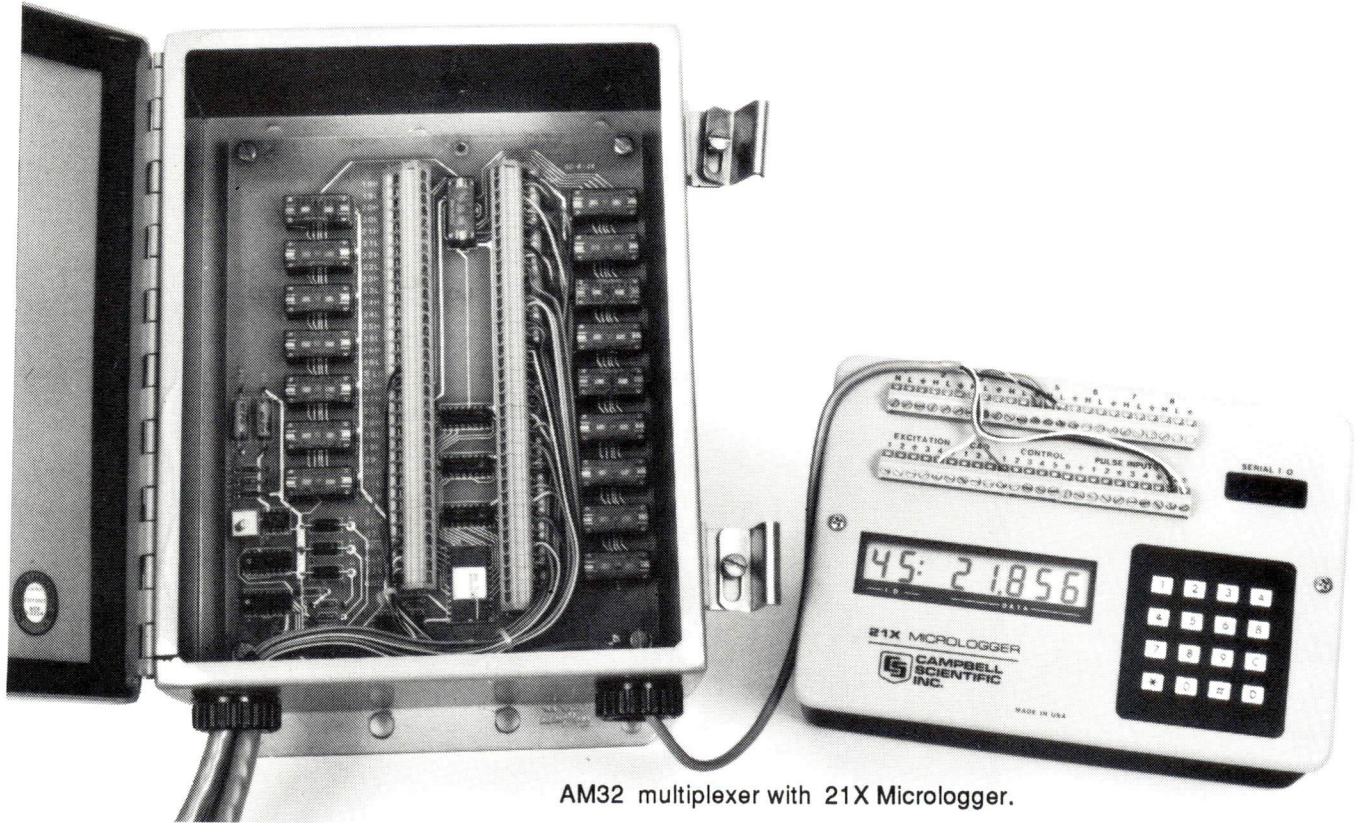


# AM32 Input Multiplexer



AM32 multiplexer with 21X Micrologger.

The AM32 Input Multiplexer sequentially connects as many as 32 sensors to a single CR10, CR7(X), or 21X input channel. Many sensor types are compatible with the AM32; examples include thermistors, thermocouples, pyranometers and soil moisture probes. Concurrently scanned sensors may be of a single type or of certain compatible combinations. The AM32 reduces lead wire cost on long wire runs because only 6 leads are required to connect to the datalogger.

Each AM32 requires a datalogger control port to enable a scan, and a second control port (or 21X/CR7 excitation channel) to clock it through its channels. For sequential scans of multiple AM32's, the clock line may be common; separate enable lines are then used select the active AM32. When the enable and clock lines are common to several multiplexers, the AM32's scan simultaneously. Up to six AM32's may be controlled by one datalogger.

Excitation-resistance type sensors, such as half-bridges, should have their completion resistors located at the datalogger. For full bridge measurements (Instr. 6) such as strain gages, CSI recommends use of its AM416 multiplexer. For

full bridge measurements with measured excitation (Instr. 9), an AM32 and AM416 may be used in tandem.

Use of thermocouples requires either a single thermocouple connection to the datalogger or a reference junction temperature measurement within the AM32. When thermocouples are used, care should be taken to minimize temperature gradients along the AM32 terminal strips.

The AM32 eliminates the requirement for DC blocking capacitors on multiple conductivity sensors (such as soil moisture blocks and salinity sensors) because the sensors are connected to datalogger ground only at the time of measurement. If these sensors are not isolated, galvanic action between electrodes and the datalogger earth ground connection can cause rapid deterioration of the electrodes. Soil moisture probes without DC blocking capacitors (model number 223) may be ordered from CSI.

**Note:** An enclosure is standard with AM32 purchase, customers wishing to provide their own enclosures should order the AM32B.

## SPECIFICATIONS

- Power: 9 to 15 VDC, unregulated
- Current drain: 15  $\mu$ A - Quiescent; 25 mA - Active (average)
- Enable levels: 1.5 V - Reset, 3.5 V - Enabled
- Clock levels: Scan advance occurs on the leading edge of the clock pulse (from below 1.5 V to above 3.5 V).
- Minimum clock pulse width: 5 ms
- Initial relay on resistance: 0.1 ohm
- Maximum current through relays: 50 mA
- Minimum contact life:  $10^7$  closures

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