

CR21H Micrologger

for Intelligent HVAC Control

DESCRIPTION

The CR21H system consists of a CR21 MICROLOGGER and the relay driver circuitry required to convert the four (4) control outputs from the CR21H into relay contact closures. Sealed lead acid batteries and charger are included for battery back-up operation.

Special HVAC control software is written for the CR21H and combined with the standard data logging and telecommunication functions of the CR21. The CR21H can monitor and log switch closures, relative humidity, electrical current expenditures, wetness, flow meter output and more while intelligently controlling HVAC functions.

The HVAC software uses 4 outputs for control of cooling, venting, air circulation and heating processes. The outputs are controlled according to user entered thresholds and occupancy times, and 4 temperature measurements including: 1) inside air temperature, 2) inside thermal mass temperature, 3) return air temperature, and 4) outside air temperature. The CR21H can be effectively implemented to control the operation of a cooler, vents, air handler, and boiler or hot water circulating pump in buildings where these functions are centrally performed.

FEATURES

- User programmable occupancy times over a 7-day cycle
- User selectable/entered thresholds defining comfort range
- Building heat loss/gain prediction algorithm for optimizing building warm-up time
- Optimized usage of outside air for cooling—including night time cooling of thermal mass if building is unoccupied
- Data logging capability for building energy analysis
- Temperature threshold setback when building is unoccupied
- Remote interrogation and networking with telecommunications
- Cost effectiveness for retrofits as well as original equipment installations
- Adaptability to a broad range of building sizes
- \$1950 price (does not include sensors or phone modem)

SPECIFICATIONS

Mounting Panel:	14 gauge steel, 16" by 6".	Scan Frequency:	once each minute.
Weight:	approximately 9 lbs.	Battery Life:	3 days without AC power.
Power:	0.1 amps @ 120 volts AC or 300 milliamps @ 14 volts DC max.	Relay Contacts:	5 amps @ 120 volts AC or 28 volts DC.
		Relay Configuration:	single-pole-double throw.

SENSORS

CSI's Model 101 Thermistor Probe is the recommended temperature sensor. All sensor excitation outputs from the CR21H are at a maximum of 5 volts DC and source a maximum of 1 milliamp current. Most building codes allow sensor wiring to be done outside of conduit at this power level.

OPTIONS

When connected to a DC103A Answer Modem the CR21H can be interrogated via telephone. This is a distinct advantage for the service contractor who wants to set up a network of service accounts in an area that can be automatically called up and checked for required servicing. Refer to the C2000 brochure for more information on networking.

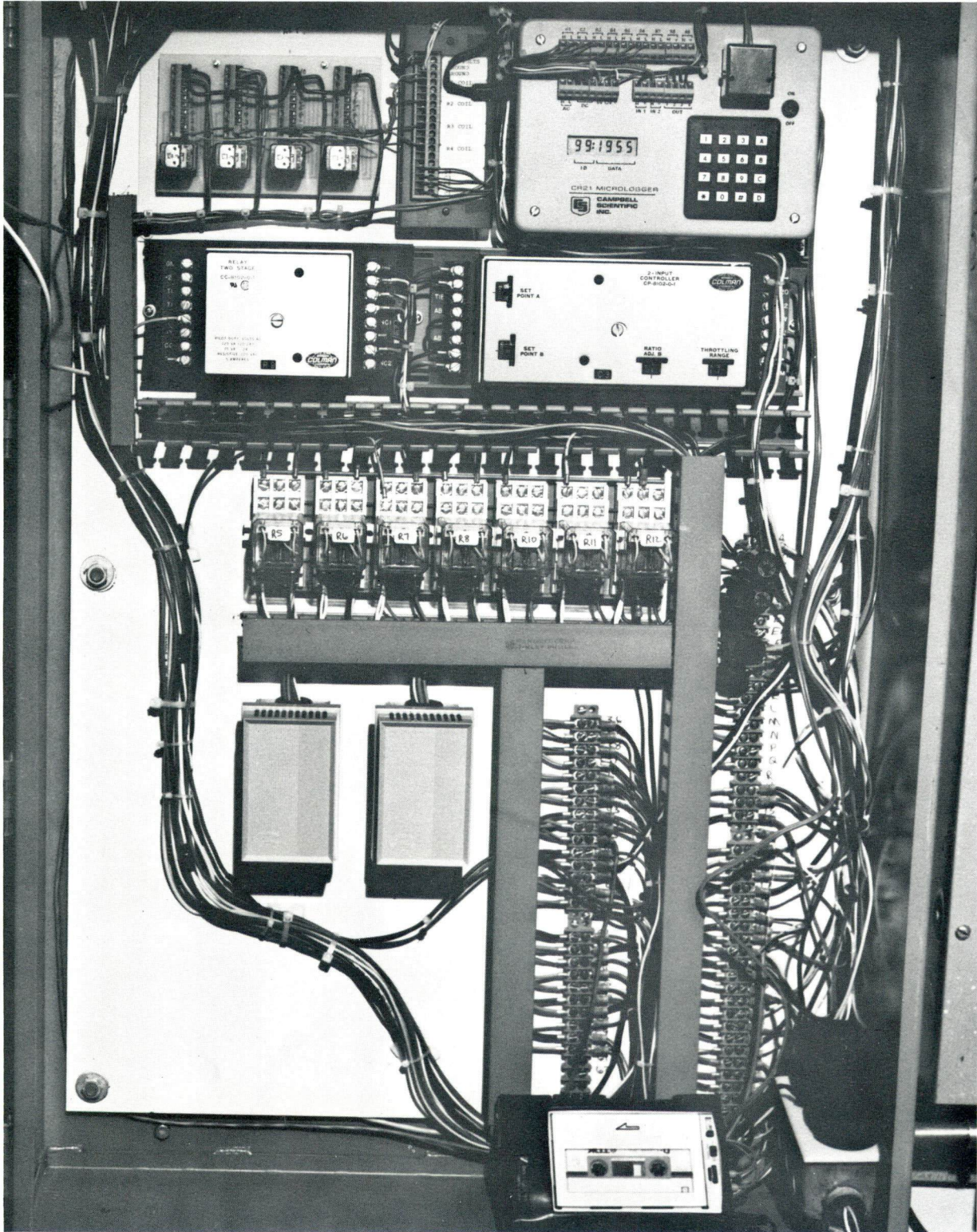
Data monitored by the CR21H and logged on cassette tape can be used to provide building performance and energy usage information.

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CR21H in a typical NEMA-4 enclosure installation, interacting with proportional controllers and interfacing relays to control the mechanical system in a 17,000 ft.² multi-zone building.