

MICRO-AIDE



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CWR-264AX EVENT RECORDING SYSTEM



CWR-264AX ~ a fully integrated and seamless system that can be modularly expanded to monitor as many as 4096 relays. It is the ultimate in large capacity Event Recording Systems.

FEATURES & CAPABILITIES

- ▶ System comprised of CWR-264AP Primary Unit, 1 - 16 CWR-264AS Secondary Units
- ▶ 256 - 4096 Digital and 4 - 64 Analog Inputs
- ▶ 32 Virtual and 99 Timer Inputs, all programmable
- ▶ Dual Relay Outputs, programmable
- ▶ 16 Train Speed Monitors
- ▶ Memory capacity of 5,080,576 records
- ▶ Records stored for up to 128 days
- ▶ Selectable time zone and automatic Daylight Saving Time adjustment
- ▶ Non-volatile flash memory, no internal batteries required
- ▶ Real-time clock drift of less than ± 8 sec. per month
- ▶ Zero clock drift with Ethernet Port and optional GPS Receiver
- ▶ Precise flash rate reporting and measurement
- ▶ Ethernet Port (included) provides multi-Modbus and -Telnet sessions
- ▶ 2 RS-232 and USB Device Ports
- ▶ USB Host Port for copying records directly to a flash drive
- ▶ Internal temperature reporting
- ▶ Front panel control via 20-position keypad and 80-character LCD
- ▶ Detachable connectors
- ▶ Minimum 3800 Vdc and 2000 Vac of isolation
- ▶ Mounts in std. 19" relay rack
- ▶ Based upon proven CWR-264A

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Physical

Size

L: 19.0" H: 8.1" D: 2.5"

Weight

3.8 lb.

Operating Environment

Temperature: -40 °C to 72 °C

Humidity: 0 to 95 %, non-condensing

Mounting

Standard: 19" rack

Power

Voltage

Range: 9 to 36 Vdc

Consumption

Maximum: 3.5 W (with GPS Receiver option)

Isolation

Power, Terminal Ports, USB Device Port, USB

Host Port, Ethernet Port, GPS Rcvr Port (opt.)

Minimum: 3800 Vdc to chassis and any terminal

Internal Modem

Designed to meet FCC part 68 standards

Capacities

Secondary Units

16

Inputs

Digital: 4096 with 16 Secondary Units, all opto-isolated

Analog: 64 with 16 Secondary Units, voltage only

Virtual: 32, user-assigned

Timer: 99, user-assigned

Train Speed Monitor: 16

Relay Outputs

Relay: 2, form C

Event Storage

5,080,576 records

Liquid Crystal Display

Characters: 80 total on 4 lines

Viewing Area: 2.8" by .8"

Front Panel Keypad

Quantity: 20 keys

Virtual Inputs

Any logical association shared by 1 to 4 variables (i.e., Digital, Analog, Timer or Virtual Inputs)

Assigned by defining the state of the Virtual Input for each combination of variable states

Creates standard Event Records

Relays can be controlled by each Virtual Input

Modem can be enabled to dial out Event Records

Timer Inputs

Programming

Any input can be assigned as a trigger or terminating source

Limit Values

High and Low Limits: in multiples of .1 seconds

Range: 0.0 to 999.9 seconds

Reporting

Measured Time is reported in each Timer Input Event Record

Violation of Limit Values are also reported

Train Speed Monitor

Usage

Reporting: via standard Event Record

Sensors: wired to 2 spare Digital Inputs, 50' to 5280'

Limit Values

5 to 180 mph

Memory

Type

Non-volatile, Event Records and Setup Database are stored in flash memory chip, newest data over-writes oldest data, 129th day over-writes first day

Storage Longevity

Infinite with power off, rated for 100,000 write operations

Ports

RS-232

Quantity: 2, for use with a PC

Baud Rates: 300 to 115,200

USB Host

Compatible with FAT-32 flash drives, can create a text file of Event Record data from any time span

USB Device

Eliminates need for serial comm port, data transfer rates of 4.71 Mbps

Ethernet

Type: 10/100 Base-T

Protocols: TCP/IP, Telnet, Modbus, SNTP-Unicast and -Multicast,

Concurrent Sessions: Modbus (3), Telnet (1)

Provides remote or local access via TCP/IP

Data transfer rates of 4.70 Mbps

User-assignable IP Address, port, sub-net mask, Unicast IP Address, Secondary Unit IP Addresses and UDP Port

Modem

Provides remote access, auto-answer

GPS Receiver (optional)

Used to provide precise, real-time clock control, latitude and longitude coordinates

Connectors

Power, Relays Outputs (2)

Detachable, tension clamp, 12 to 22 AWG

Terminal Ports (2)

DE-9 male, configured as DCE

USB Host Port

USB Type A female

USB Device Port

USB Type B female

Telephone Line

RJ-11 female

Ethernet Port

RJ-45 female

GPS Receiver (optional)

MCX female

Indicators

LCD Panel

Includes LED back lighting for enhanced visibility

Displays numerous command menus for configuring the recorder and retrieving data

LEDs (3)

GPS/Alarm: green, red for GPS or network failure

Terminal: green, flashes with send/rcv data

Modem: green, flashes with send/rcv data and ring

Controls

Keypad

Located on front panel, below LCD

Keys: 0-9, Browse, Alpha, Setup, Esc, Enter, Save/., left, right, up, down/-

LCD Contrast Adjust

Single-turn pot., accessible from front panel

Internal Clock

Accuracy

Typical: ±8 seconds per month (3ppm)

Resolution

.01 seconds for all Event Records

Sync

SNTP-Unicast and -Multicast via accessible time server

GPS (with GPS Receiver option)

Operation

Full calendar, auto-adjusted for leap year, non-volatile for 30 days with loss of power

Enable or disable of automatic Daylight Saving Time adjustment

Non-drift, precise control with SNTP and/or optional GPS Receiver

GPS Receiver (optional)

Includes PCB and external antenna

PCB

Plugs into mating connector inside recorder

Antenna

Size: Dia. 1.8", H .6" (not including mounting screw)

Weight: 2 oz. (less cable)

Operating Temperature: -40 °C to 85 °C

Mounting: bulkhead mountable to surface less than 3/8" thick

Location: unobstructed skyward orientation, for use outdoors

Password Protection

Administrative Level

Access to all functions, limit 8 characters

Restricted Level

Access to Event Record and Setup Database viewing, limit 8 characters

Passcode

Provides limited alterations to Setup Database via front panel, limit 8 digits

MICRO-AIDE reserves the right to make changes, at its sole discretion, to any specification listed herein.

Physical

Size

L: 19.0" H: 8.1" D: 3.4"

Weight

7.0lb.

Operating Environment

Temperature: -40 °C to 72 °C

Humidity: 0 to 95 %, non-condensing

Mounting

Standard: 19" rack

Construction

Fully enclosed, anodized aluminum with externally accessible keypad, LEDs and connectors

All components mounted on conformal coated, internal PCBs

Power

Voltage

Range: 9 to 36Vdc

Consumption

Maximum: 2.5W

Isolation

Power, Terminal Port, Digital and Analog Inputs, USB Device Port, Ethernet Port

Minimum: 3800 Vdc to chassis and any terminal

Capacities

Inputs

Digital: 256, all opto-isolated

Analog: 4, voltage only

Temporary Buffer Memory

Size: 266,000 events

Physical Inputs

Input Impedance

Digital: minimum 10 KOhms, opto-isolated

Analog: minimum 10 MOhms

Range

Digital Input-On: 9 to 36 Vdc

Digital Input-Off: 0 to 1 Vdc

Analog DC Voltage: 3 scales, ± 25.5 Vdc, +51.1 Vdc, ± 255 Vdc

Analog AC Voltage: 2 scales, 25.5 Vac, 255 Vac

Event Validation Times

Digital: .01 to 327.67 seconds, compatible with fixed rate flashing circuits

Analog: fast and slow filter settings

Analog Limit Values

Voltage

High and Low Limits: in multiples of .1V or 1V

Internal Temperature

High and Low Limits: -67 °F to 257 °F

Analog Input Accuracy

Typical Vdc: $\pm .15$ Vdc or ± 1.5 Vdc

Typical Vac: $\pm .15$ Vac or ± 1.5 Vac

Ports

RS-232

Quantity: 1, for use with a PC

Baud Rates: 300 to 115,200

USB Device

Eliminates need for serial comm port, data transfer rates of 4.71 Mbps

Ethernet

Type: 10/100 Base-T

Protocols: UDP for intra-system communications

User-assignable IP Address, sub-net mask, Primary Unit IP Address and UDP Port

Connectors

Power, Analog Inputs

Detachable, tension clamp, 12 to 22 AWG

Digital Inputs

Detachable, screw-down, 12 to 22 AWG

Terminal Port

DE-9 male, configured as DCE

USB Device Port

USB Type B female

Ethernet Port

RJ-45 female

Indicators

LEDs (4)

Power: green

Alarm: red for intra-system LAN failure

Terminal: green, flashes with send/rcv data

Network: green, flashes with send/rcv data

Internal Clock

Accuracy

Typical: ± 8 seconds per month (3ppm) when not synchronized by Primary Unit

Volatility: maintains accuracy for minimum of 30 days with loss of power

Sync

Synchronized by Primary Unit every 10seconds

Password Protection

Administrative Level

Access: unrestricted to all functions

Length: 8 characters

Restricted Level

Access: Linmits user to read-only activities, modifications to Setup Database are not permitted

Length: 8 characters

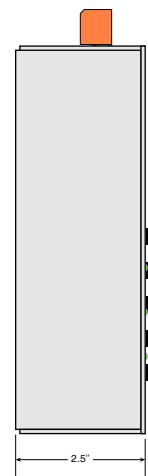
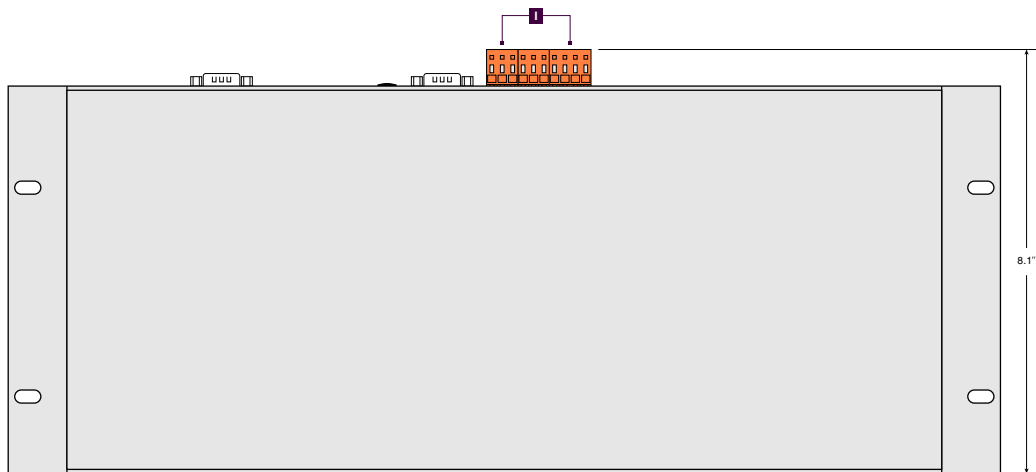
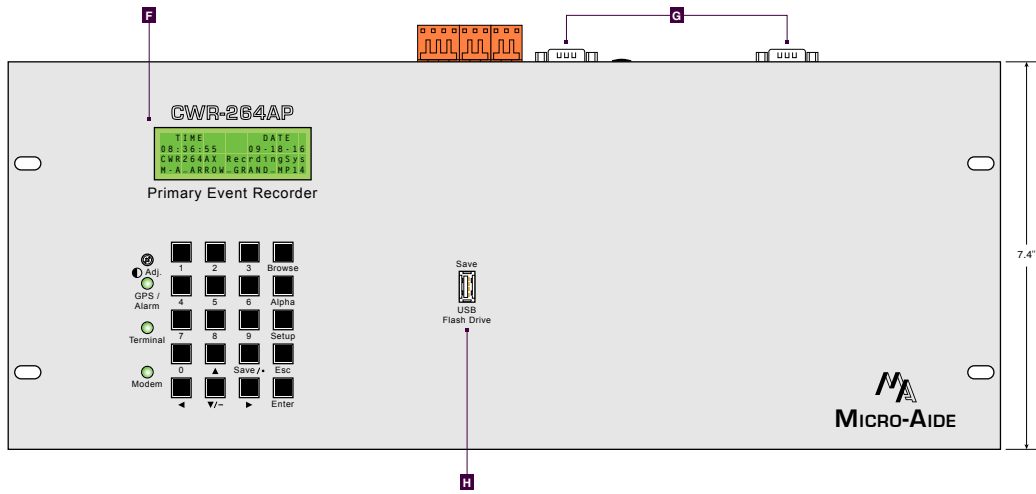
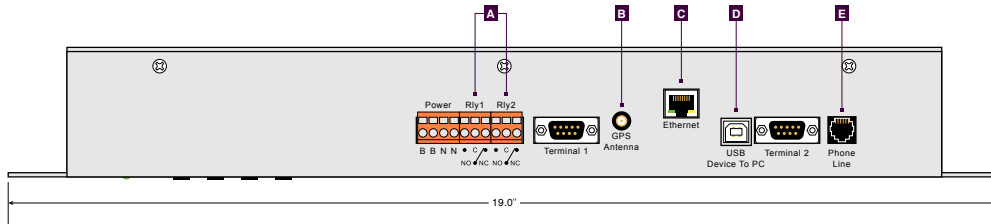
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CWR-264AP



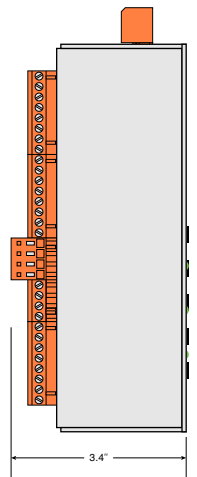
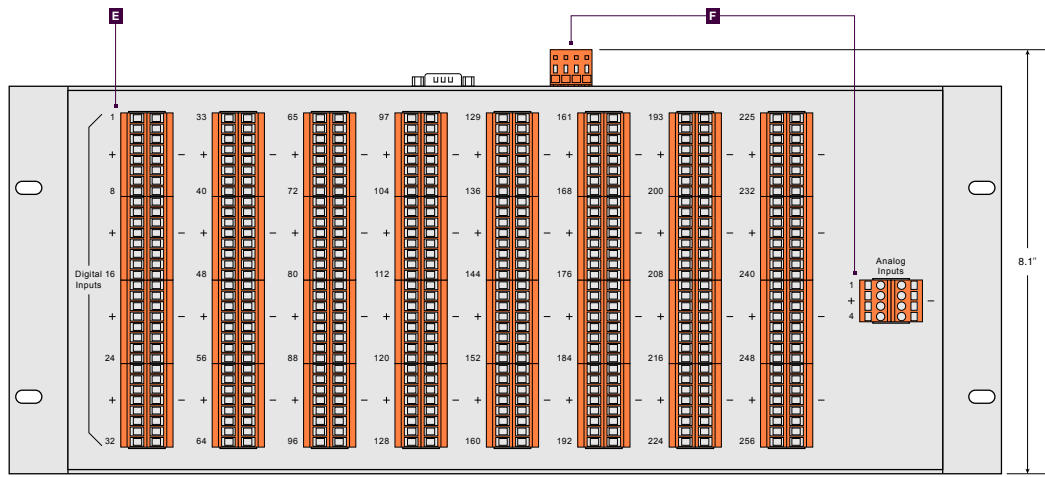
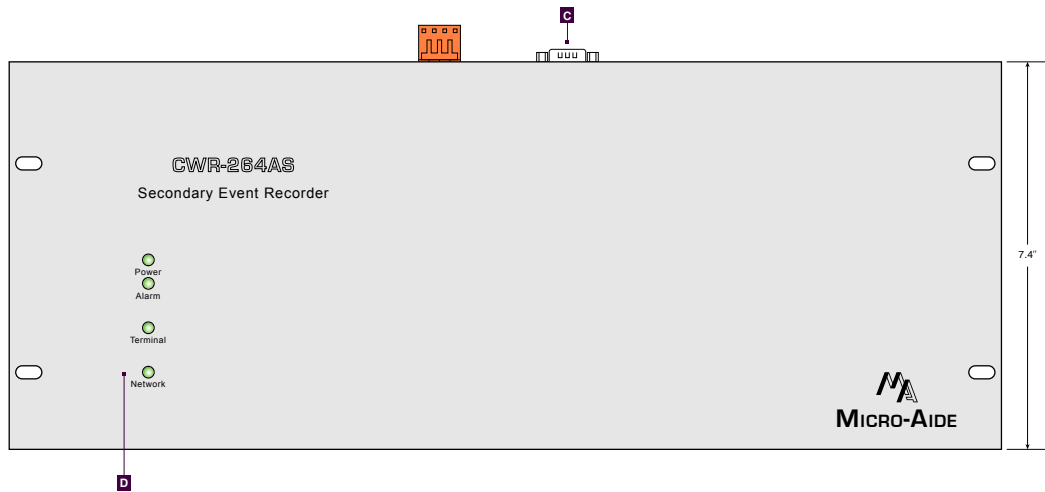
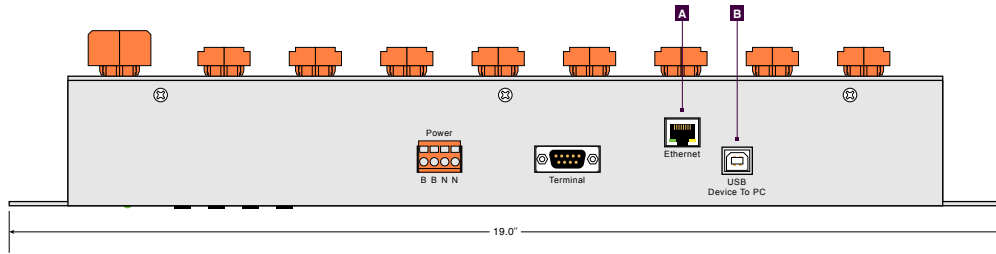
MICRO-AIDE

CWR-264AP
PRIMARY UNIT



- A** Dual output relays
- B** Optional GPS Receiver
- C** Ethernet Port (Telnet, SNMP-Unicast, SNMP-Multicast, Modbus)
- D** USB Device Port
- E** 33.6K Baud Modem
- F** 80-character LCD
- G** Dual RS-232 Terminal Ports
- H** USB Host Port
- I** Detachable tension clamp connectors

CWR-264AS



- A Ethernet Port
- C RS-232 Terminal Port
- E Detachable screw-down connectors
- B USB Device Port
- D LED status Indicators
- F Detachable tension clamp connectors

TYPICAL INSTALLATION

