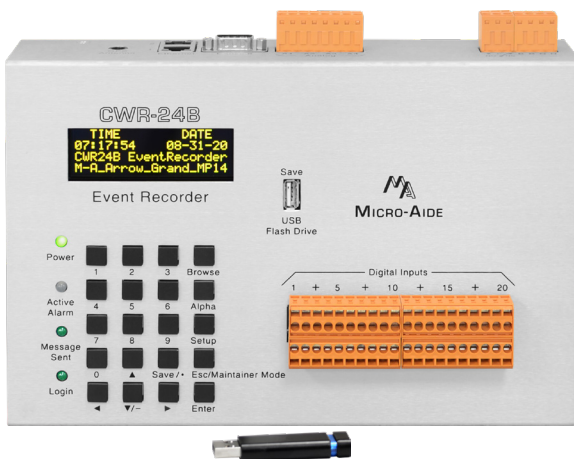


MICRO-AIDE



www.micro-aide.com

CWR-24B EVENT RECORDER



Would you prefer to access your Event Recorder via a browser-based interface?

Need a full feature Event Recorder with extensive and automatic alarm/fault reporting?

Would you like your maintainers to copy record data directly to a flash drive, while not using a PC?

CWR-24B ~ the preferred event recording solution for your crossing requirements.

FEATURES & CAPABILITIES

- ▶ Browser-based user interface works with Chrome, Firefox, Edge and IE
- ▶ 20 Digital and 4 Analog Inputs
- ▶ 8 Virtual and 8 Timer Inputs, all programmable
- ▶ Digitally signed and secure Event Record reports
- ▶ Memory capacity of 310,888 records (expandable to 3,012,928)
- ▶ Records stored for up to 128 days
- ▶ Uses SNTP-Unicast method to provide precise time stamping
- ▶ Precise flash rate reporting and measurement
- ▶ USB Host Port for copying records directly to a flash drive
- ▶ 80-character OLED Display and 20-position keypad
- ▶ Automatically detects and reports numerous crossing failures
- ▶ Reports alarms to a server via existing LAN/WAN/VPN
- ▶ Support for primary and secondary DNS assignments
- ▶ Dual Ethernet Ports provide redundancy and simultaneous access
- ▶ 20 different alarms can be defined to report real-time crossing status
- ▶ Message forms can include state of XR, crossing occupancy, gates, AC power and battery voltages, etc.
- ▶ Detachable tension clamp style connectors
- ▶ Minimum 3800 Vdc and 2000 Vac of isolation
- ▶ Options include: GPS Receiver and expanded memory

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SPECIFICATIONS

Physical

Size (without mounting brackets)
L: 10.4" H: 7.6" D: 3.4"

Weight
2.4 lb.

Operating Environment
Temperature: -40 °C to 72 °C

Humidity: 0 to 95 %, non-condensing

Mounting

Shelf or backboard, includes mounting brackets

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 36 Vdc

Consumption
Maximum: 3.0W (with GPS option)

Isolation

Power Terminals, Digital and Analog Inputs, Ethernet and GPS Rcvr Ports
Minimum: 3800 Vdc to chassis and any terminal

Capacities

Inputs

Digital: 20, all opto-isolated

Analog: 4 total, voltage or current (optional)

Virtual: 16, user-assigned

Timer: 16, user-assigned

Alarm: 20, user-assigned

System: various for reporting power on/off, abnormal temp., clock sync, train speed, etc.

Output

Relay: single form C

Event Storage

310,888 records, expandable to 3,012,928 records

OLED Panel

Characters: 80 total on 4 lines

Viewing Area: 2.8" by .8"

Front Panel Keypad

Quantity: 20 keys

Physical Inputs

Input Impedance

Digital: minimum 10KOhms, optically isolated

Analog: minimum 10MOhms

Range

Digital Input - On: 9 to 36 Vdc

Digital Input - Off: 0 to 1 Vdc

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

Analog AC Voltage: 2 scales, 25.5, 255

Analog Current: 2 scales, ± 25.5 Aac, 25.5 Aac

Event Validation Times

Digital: .001 to 32.767 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 Voltage: ± 15 V or ± 1.5 V

Typical Current: ± 2 A

Virtual Inputs (16)

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

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

Can be used to Set or Clear an Alarm

Creates standard Event Records

Can be used to control each Relay Output

Timer Inputs (16)

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

Alarm Inputs (20)

Types

Set, Cleared and periodic Health Check

Alarm-related Event Records saved to memory

Definitions

User-assigned inputs, input states and duration times qualify each Alarm

Operating Modes

Automatic: messages sent via VPN or LAN/WAN using DNS name resolution

Maintainer Mode: disables Alarm transmission while crossing is being tested or repaired

Memory

Type

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

Storage Longevity

Infinite with power off, rated for 100,000 write operations (with wear leveling)

Ports

Ethernet (2)

Usage: Provides remote or local access via browser-based interface, concurrent and independent operation

Browser Support: Chrome, Firefox, Edge, and IE

Data transfer rates: of 3,600 Event Records per second, 2.1 Mbps

Concurrent Sessions: users 4, Modbus unlimited

Assignable Addresses: IP, gateway, sub-net mask, and DNS server (all dual)

Time Server Address: user-assigned

Type: 10/100 Base-T

Protocols: HTTP Get, Modbus, TCP/IP, SNMP-Unicast and -Multicast

USB Host

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

GPS Receiver (optional)

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

Console

Factory use only (no user-access)

Connectors

Power, Relay, Digital and Analog Inputs

Detachable, TENSION clamp, 12 to 22 AWG

Ethernet Ports (2)

RJ-45 female

Connectors (continued)

USB Host Port

USB Type A female

GPS Receiver (optional)

MCX female

Console Port

DE-9 male (no user-access)

Indicators

Display Panel

OLED design provides enhanced visibility and temperature stability

Displays numerous command menus for configuring the recorder and retrieving data

Front Panel LEDs (4)

Power: green, flashes while running

Active Alarm: red

Message Sent: green

Login: green

Ethernet Port LEDs (2 pair)

Green: link established

Yellow: data activity

Keypad

Located on front panel, below OLED display

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

Internal Clock

Accuracy

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

Resolution

.001 seconds for all Event Records

Sync

SNTP-Unicast and -Multicast

GPS (with GPS 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 GPS option

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

Unrestricted access to all functions, limit 8 characters

Restricted Level

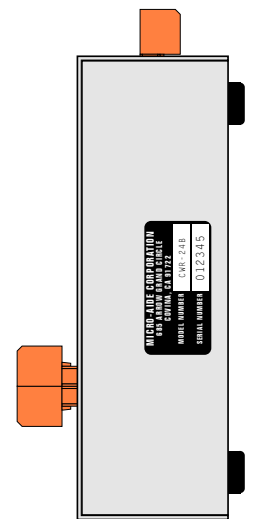
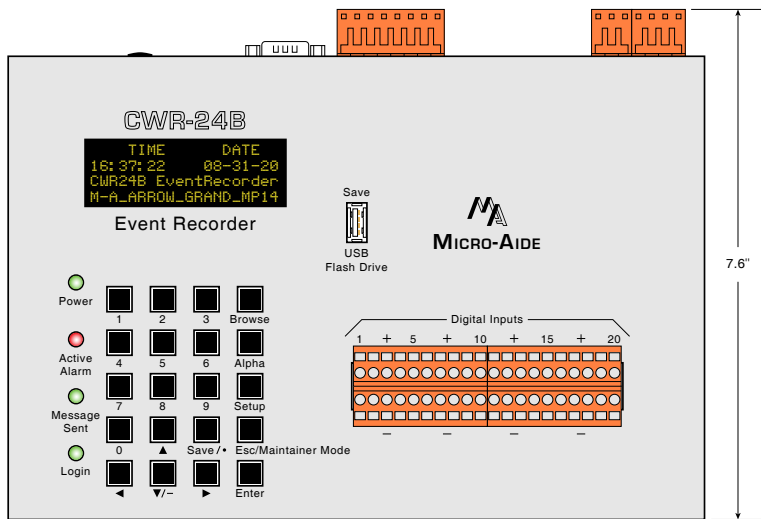
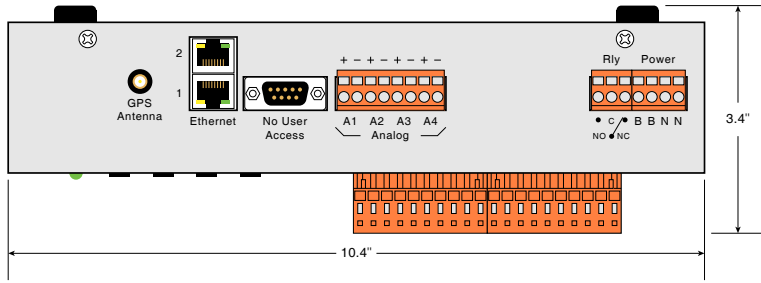
Limited access to site specific parameters, unrestricted Event Record and Setup Database viewing, limit 8 characters

Keypad Passcode

Unrestricted access to most functions, limit 8 digits

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

DIMENSIONAL DRAWING



MOUNTING DIMENSIONS

With mounting brackets installed

