

MICRO-AIDE



www.micro-aide.com

RAIL SIGNAL PRODUCTS

EVENT RECORDERS

RECORDING SYSTEMS

ALARM REPORTERS

DATA LOGGERS

CLOCK SYNCHRONIZERS

CURRENT SENSORS

LIGHT OUT DETECTORS

VOLTAGE MONITORS

BATTERY MONITORS

POWER ISOLATED MODEMS

CUSTOM ENGINEERING

PRODUCT CATALOG

July 1, 2022 – June 30, 2023

MICRO-AIDE CORPORATION

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*M*ICRO-AIDE was founded in 1981 and remains today a privately owned and operated company. We believe our “hands-on” practice of ownership and management has served our company well and ultimately the needs of our customers. It takes many disciplines to manage the affairs of a successful company. However, MICRO-AIDE’s philosophy is that financial management, sales, marketing and production activities represent crucial assets that are best utilized when they serve the needs of one over-arching concern. That concern is design and the pool of engineering expertise that underpins its success. MICRO-AIDE is, and will forever remain, an engineering-driven company decidedly interested in the technical needs of its customers and the industries that it serves.

*T*oday MICRO-AIDE manufactures products that address the needs of several industries. The Rail Signal Products sector has evolved into a key component of each year’s business plan. We have been designing recording and other ancillary devices since 1988. Over the years we’ve developed many innovative and successful products. However, our most successful products have been those that were initially conceived by our end users. We believe our engineering-driven philosophy provides us with an enhanced ability to appreciate the technical needs of our customers. It follows that we are better positioned to realize those needs in the form of useful products. Along with its customers, MICRO-AIDE shares an aversion for needless complexity and the degradation in performance, quality and product longevity that it frequently engenders. Technical efficiency is a hallmark of every MICRO-AIDE design.

*S*ince its creation we have been located in the greater Los Angeles area. All of our design, manufacturing, testing, documentation and support activities share a factory facility in Covina, CA. We are enthusiastic supporters of, and participants in, the Buy America program. Our products are sold, supported and serviced directly by MICRO-AIDE. There are no agents, distributors or representatives who are authorized to act on our behalf.

*T*hank you for your continued interest in our products and the many contributions you have made that have supported our success.

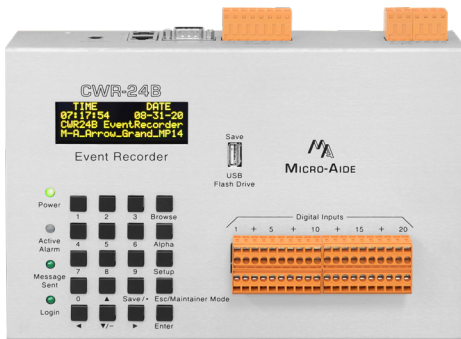


Ron P. Garcia
Director of Marketing

BROWSER ACCESSIBLE EVENT RECORDERS

NEW!

▶ **P/N: CWR-24B**



APPLICATION

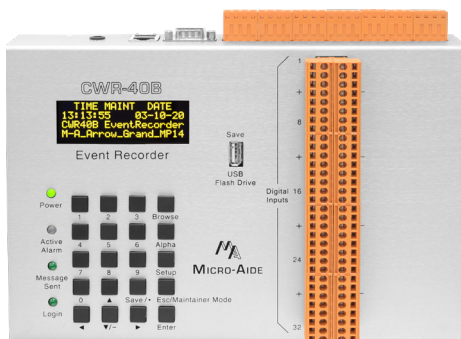
EVENT RECORDER ~ All user-related access is performed via a browser interface (e.g., Firefox, Chrome, IE). Best suited for use at single track or smaller crossings.

DESCRIPTION

- ▶ Includes MICRO-AIDE Crossing Alarm Reporter (CAR) features
- ▶ 20 user-programmable alarms
- ▶ Alarms reported to a central server via LAN/WAN or cell modem
- ▶ 20 opto-isolated Digital Inputs and 4 Analog Inputs
- ▶ 16 Virtual and 16 Timer Inputs, all programmable
- ▶ 80-character OLED panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 310,888 Event Record storage (expandable)
- ▶ Digitally signed reports for enhanced security
- ▶ Dual Ethernet Ports provide redundancy and concurrent access
- ▶ Employs SNTP for precise time synchronization
- ▶ Tension clamp, detachable input and power connectors
- ▶ Available options include: GPS Receiver and expandable memory

NEW!

▶ **P/N: CWR-40B**



APPLICATION

EVENT RECORDER ~ All user-related access is performed via a browser interface (e.g., Firefox, Chrome, IE). Best suited for use at mid-size crossings or small interlockings.

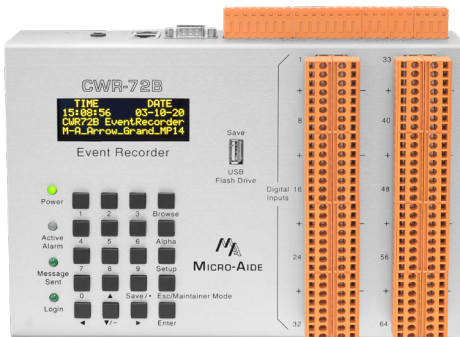
DESCRIPTION

- ▶ Includes MICRO-AIDE Crossing Alarm Reporter (CAR) features
- ▶ 20 user-programmable alarms
- ▶ Alarms reported to a central server via LAN/WAN or cell modem
- ▶ 32 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 32 Virtual and 32 Timer Inputs, all programmable
- ▶ 80-character OLED panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 261,632 Event Record storage (expandable)
- ▶ Digitally signed reports for enhanced security
- ▶ Dual Ethernet Ports provide redundancy and concurrent access
- ▶ Employs SNTP for precise time synchronization
- ▶ Tension clamp, detachable input and power connectors
- ▶ Available options include: GPS Receiver and expandable memory

BROWSER ACCESSIBLE EVENT RECORDERS

NEW!

▶ **P/N: CWR-72B**



APPLICATION

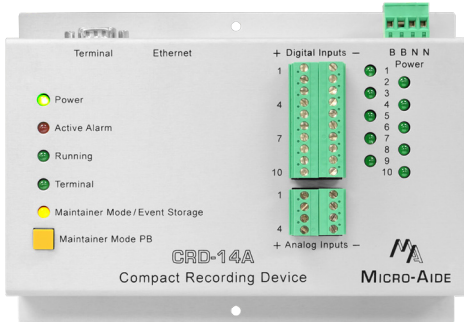
EVENT RECORDER ~ All user-related access is performed via a browser interface (e.g., Firefox, Chrome, IE). Ideal for multi-track/multi-approach crossings or small interlockings

DESCRIPTION

- ▶ Includes MICRO-AIDE Crossing Alarm Reporter (CAR) features
- ▶ 20 user-programmable alarms
- ▶ Alarms reported to a central server via LAN/WAN or cell modem
- ▶ 64 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 32 Virtual and 32 Timer Inputs, all programmable
- ▶ 80-character OLED panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 261,632 Event Record storage (expandable)
- ▶ Digitally signed reports for enhanced security
- ▶ Dual Ethernet Ports provide redundancy and concurrent access
- ▶ Employs SNTP for precise time synchronization
- ▶ Tension clamp, detachable input and power connectors
- ▶ Available options include: GPS Receiver and expandable memory

EVENT RECORDERS

▶ P/N: CRD-14A



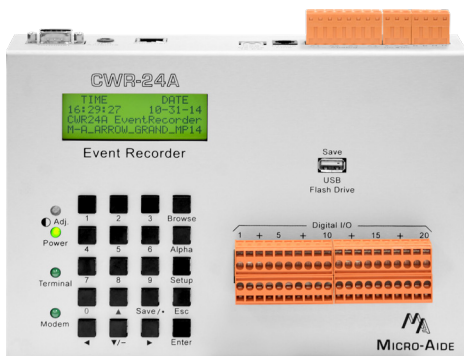
APPLICATION

EVENT RECORDER ~ Low cost recording device designed to meet the needs of crossing applications where alarm reporting is required, but a VPN is not accessible.

DESCRIPTION

- ▶ Companion product to CAR-14A
- ▶ 10 opto-isolated Digital Inputs and 4 Analog Inputs
- ▶ User-controlled Counter per Digital Input
- ▶ 8 Virtual and 8 Timer Inputs, all programmable
- ▶ Max. 20 user-programmable alarms can be reported
- ▶ Easy-to-use Setup Database defines each alarm
- ▶ RS-232 Port
- ▶ 297,045 Event Record storage (expandable)
- ▶ Alarms are logged to memory as Event Records
- ▶ Screw-down, detachable input and power connectors
- ▶ Available options include: Ethernet Port and expandable memory
- ▶ Upgradable to CAR-14A (with added cost)

▶ P/N: CWR-24A



APPLICATION

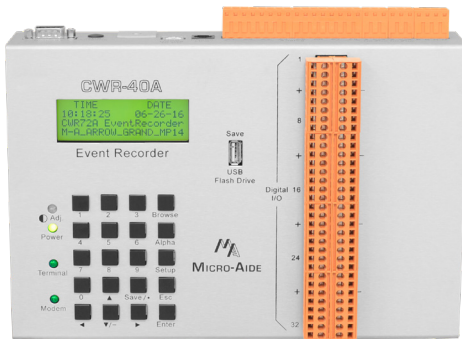
EVENT RECORDER ~ Ideally suited for use at crossing locations and when a portable recording device is required.

DESCRIPTION

- ▶ 20 opto-isolated Digital Inputs and 4 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ USB Device Port
- ▶ RS-232 Port
- ▶ 307,123 Event Record storage (expandable)
- ▶ Tension clamp, detachable input and power connectors
- ▶ Programmable relay output
- ▶ Includes mounting brackets
- ▶ Available options include: GPS Receiver, Ethernet Port, internal modem and expandable memory

EVENT RECORDERS

▶ P/N: CWR-40A



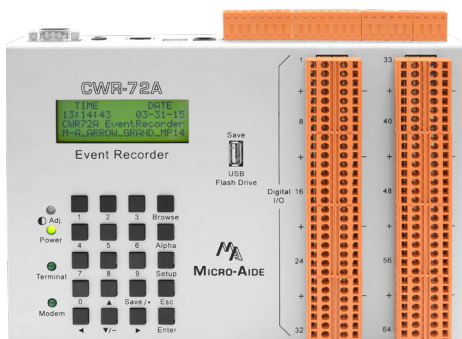
APPLICATION

EVENT RECORDER ~ For use with multi-track crossings or small interlockings. Similar recorder to CWR-72A, except with 32 rather than 64 Digital Inputs.

DESCRIPTION

- ▶ 32 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 32 Virtual and 32 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ USB Device Port
- ▶ RS-232 Port
- ▶ 234,777 Event Record storage (expandable)
- ▶ Tension clamp, detachable input and power connectors
- ▶ Programmable dual relay outputs
- ▶ Includes mounting brackets
- ▶ Available options include: GPS Receiver, Ethernet Port, internal modem and expandable memory

▶ P/N: CWR-72A



APPLICATION

EVENT RECORDER ~ For use with large multi-track crossings or small interlockings. Small enough to serve as a portable device.

DESCRIPTION

- ▶ 64 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 32 Virtual and 32 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ USB Device Port
- ▶ RS-232 Port
- ▶ 234,777 Event Record storage (expandable)
- ▶ Tension clamp, detachable input and power connectors
- ▶ Programmable dual relay outputs
- ▶ Includes mounting brackets
- ▶ Available options include: GPS Receiver, Ethernet Port, internal modem and expandable memory

EVENT RECORDERS

▶ P/N: CWR-264A



APPLICATION

EVENT RECORDER ~ Designed for use at large interlockings and within LAN-based polling networks. Replaces CWR-264XL.

DESCRIPTION

- ▶ 256 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 96 Virtual and 200 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 10/100 Base-T Ethernet Port with 5 concurrent Modbus interfaces
- ▶ USB Device Port
- ▶ Dual RS-232 Ports
- ▶ 221,284 Event Record storage (expandable)
- ▶ Detachable screw-down and tension clamp connectors
- ▶ Programmable dual relay outputs
- ▶ Available options include: GPS Receiver, internal modem and expandable memory

▶ P/N: CWR-272A



APPLICATION

EVENT RECORDER ~ Designed specifically for the Chicago Transit Authority. Provides Event Record data for fixed rate coding conditions. Replaces CWR-272E.

DESCRIPTION

- ▶ 256 opto-isolated Digital Inputs and 16 Analog Inputs
- ▶ 16 Virtual Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 10/100 Base-T Ethernet Port
- ▶ USB Device Port
- ▶ Dual RS-232 Ports
- ▶ 147,480 Event Record storage (expandable)
- ▶ Detachable screw-down and tension clamp connectors
- ▶ Programmable dual relay outputs
- ▶ Available options include: GPS Receiver, internal modem and expandable memory

EVENT RECORDING SYSTEMS

▶ P/N: CWR-264AP



APPLICATION

PRIMARY UNIT ~ The CWR-264AP serves as the Primary Unit to the modularly expandable CWR-264AX Recording System. It provides all network and user-interface features.

DESCRIPTION

- ▶ CWR-264AP supports 1 - 16 CWR-264AS Secondary Units
- ▶ 256 - 4096 opto-isolated Digital Inputs and 4 - 64 Analog Inputs
- ▶ 32 Virtual and 99 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 10/100 Base-T Ethernet Port supports intra-system LAN
- ▶ Dual Modbus interfaces
- ▶ USB Device Port
- ▶ Dual RS-232 Ports and internal 33.6K Baud modem
- ▶ 5,080,576 Event Record storage
- ▶ Detachable tension clamp connectors
- ▶ Programmable dual relay outputs
- ▶ Available options include: GPS Receiver

▶ P/N: CWR-264AS



APPLICATION

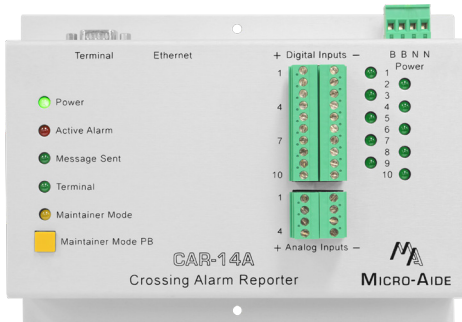
SECONDARY UNIT ~ The CWR-264AS serves as the Secondary Unit to the modularly expandable CWR-264AX Recording System. It provides all Digital and Analog Inputs.

DESCRIPTION

- ▶ As many as 16 Secondary Units per CWR-264AX Recording System
- ▶ 256 opto-isolated Digital Inputs and 4 Analog Inputs per Secondary Unit
- ▶ 10/100 Base-T Ethernet Port provides LAN-based communications with Primary Unit
- ▶ USB Device Port
- ▶ RS-232 Port
- ▶ 266,000 Event Record storage buffer
- ▶ Detachable screw-down and tension clamp connectors
- ▶ Direct user interface provides diagnostic and real-time input status reports
- ▶ Based upon design of proven CWR-264A

CROSSING ALARM REPORTERS

▶ P/N: CAR-14A



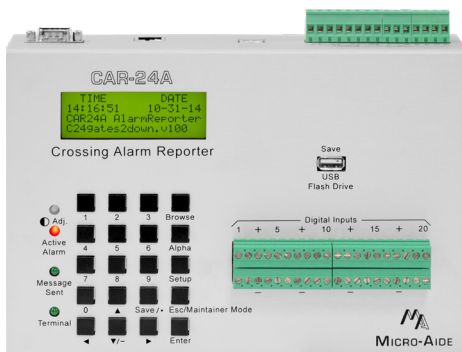
APPLICATION

CROSSING ALARM REPORTER ~ Detects and reports crossing alarms to a message processing server. Designed to the specific requirements of Union Pacific.

DESCRIPTION

- ▶ 10 opto-isolated Digital Inputs and 4 Analog Inputs
- ▶ 8 Virtual Inputs, all programmable
- ▶ 10/100 Base-T Ethernet Port
- ▶ Secure user access via RS-232 and Ethernet Ports
- ▶ Max. 20 user-programmable alarms can be reported
- ▶ Easy-to-use Setup Database defines each alarm
- ▶ Interfaces with cell modem for remote access using VPN
- ▶ Support for direct to LAN connections
- ▶ DHCP and DNS used to configure network settings
- ▶ Uses SNTP-Unicast for precise message time stamps
- ▶ Automatic Health Check message transmitted periodically
- ▶ Companion product to MICRO-AIDE CAR-24A

▶ P/N: CAR-24A



APPLICATION

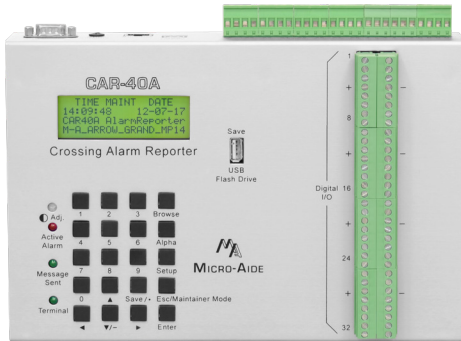
CROSSING ALARM REPORTER ~ Intended for use at crossings where alarm reporting is needed, but an Event Recorder is not available.

DESCRIPTION

- ▶ Includes all alarm reporting features of the CAR-14A
- ▶ 20 opto-isolated Digital Inputs and 4 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ 10/100 Base-T Ethernet Port
- ▶ User access via RS-232, Ethernet and USB Device Ports
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 302,084 Event Record storage (expandable)
- ▶ Screw-down, detachable input and power connectors
- ▶ Programmable relay output
- ▶ Includes mounting brackets
- ▶ Available options include: expandable memory

CROSSING ALARM REPORTERS

▶ P/N: CAR-40A



APPLICATION

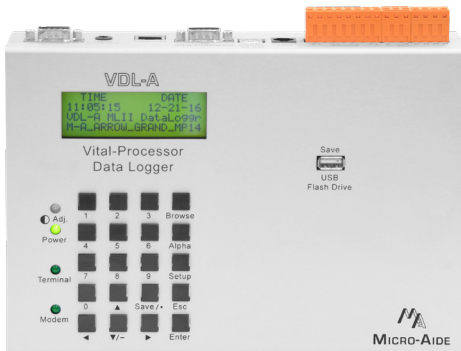
CROSSING ALARM REPORTER ~ Detects and reports crossing alarms to a message processing server. Provides greater input capacity to companion products CAR-14A and CAR-24A

DESCRIPTION

- ▶ Includes all alarm reporting features of the CAR-24A
- ▶ 32 opto-isolated Digital Inputs and 8 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ 10/100 Base-T Ethernet Port
- ▶ User access via RS-232, Ethernet and USB Device Ports
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ 230,924 Event Record storage (expandable)
- ▶ Screw-down, detachable input and power connectors
- ▶ Programmable relay output
- ▶ Includes mounting brackets
- ▶ Available options include: expandable memory

DATA LOGGERS

▶ P/N: VDL-A MLII



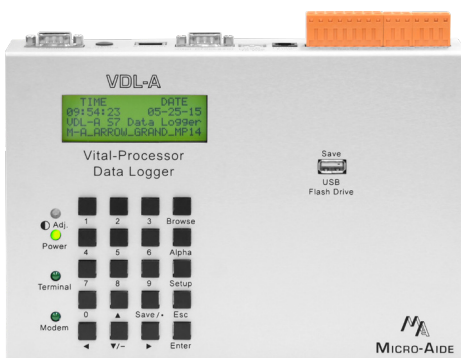
APPLICATION

VITAL PROCESSOR DATA LOGGER ~ Adds full-featured Event Recording capabilities to an Ansaldo Microlok II processor.

DESCRIPTION

- ▶ Connects as a non-vital device to port 3 or 4 of Microlok II
- ▶ Uses Peer Protocol to acquire bit transition data
- ▶ 256 Digital Inputs and 4 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ User access via RS-232, Ethernet and USB Device Ports
- ▶ 284,785 Event Record storage (expandable)
- ▶ Programmable relay output
- ▶ Includes mounting brackets
- ▶ Available options include: GPS Receiver, Ethernet Port, internal modem and expandable memory

▶ P/N: VDL-A S7



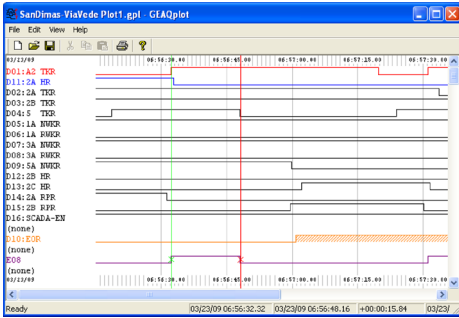
APPLICATION

VITAL PROCESSOR DATA LOGGER ~ Adds full-featured Event Recording capabilities to a Siemens S7-300 processor.

DESCRIPTION

- ▶ Connects as a non-vital device to CP 340 of S7-300
- ▶ Uses 3964R protocol to acquire bit transition data
- ▶ 999 Digital Inputs and 4 Analog Inputs
- ▶ 8 Virtual and 16 Timer Inputs, all programmable
- ▶ 80-character LCD panel with 20-position keypad
- ▶ USB Host Port for copying Event Records to a flash drive
- ▶ User access via RS-232, Ethernet and USB Device Ports
- ▶ 284,785 Event Record storage (expandable)
- ▶ Programmable relay output
- ▶ Includes mounting brackets
- ▶ Available options include: GPS Receiver, Ethernet Port, internal modem and expandable memory

▶ P/N: GEA



APPLICATION

GRAPHICAL EVENT ANALYZER SOFTWARE ~ Windows-based application that allows a user to poll, save, review and plot Event Record data.

DESCRIPTION

- ▶ Runs on any Windows PC
- ▶ Compatible with all MICRO-AIDE CWR and VDL products
- ▶ Supports serial port, USB, modem and Ethernet access to recording device
- ▶ Can be used to access and save Event Record data
- ▶ User-selected data range and polling schedule
- ▶ Saved data can be plotted using 256 different channels
- ▶ Flexible input to plotting channel assignments
- ▶ Customizable Plot Window provides dual cursor positioning and time measurements
- ▶ Output equations and annotations can be plotted
- ▶ Download without charge from MICRO-AIDE website

RECORDING PRODUCT SELECTION GUIDE 1/2

Features	CRD-14A	CWR-24A	CWR-24B	CWR-40A	CWR-40B	CWR-72A	CWR-72B	CWR-264A	CWR-272A	CWR-264AX
Browser Accessible			✓		✓		✓			
Modularly Expandable										✓
Digital Inputs	10	20	20	32	32	64	64	256	256	256-4096
Analog Inputs	4	4	4	8	8	8	8	8	16	4-64
Virtual Inputs	8	8	16	32	32	32	32	96	16	32
Timer Inputs	8	16	16	32	32	32	32	200		99
Counters	10									
Train Speed Monitors		4	4	4	4	4	4	4	4	16
Relay Output(s)		1	1	2	2	2	2	2	2	2
Std. Memory Capacity	297,045	307,123	310,888	234,777	261,632	234,777	261,632	221,284	147,480	5,080,576
Max. Memory Capacity	1,264,533	1,274,611	3,193,064	2,947,289	3,055,104	2,947,289	3,055,104	3,711,844	3,095,064	5,080,576
Terminal Port(s)	1	1		1		1		2	2	2
USB Device Port		1		1		1		1	1	1
Ethernet Port(s)	opt.	opt.	2	opt.	2	opt.	2	1	1	1
USB Host Port		1	1	1	1	1	1	1	1	1
GPS Receiver		opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.	opt.
Internal Modem		opt.		opt.		opt.		opt.	opt.	✓
Time Stamp Res. (sec.)	.001	.001	.001	.01	.01	.01	.01	.01	.01	.01
SNTP Time Sync	opt.	opt.	✓	opt.	✓	opt.	✓	✓	✓	✓
Modbus Interfaces			unlimited		unlimited		unlimited	5		2
Coding Detection										✓
Temperature Sensor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PLC Interface										
Alarm Reporting	✓		✓		✓		✓			
Definable Alarms	20		20		20		20			
GEA Support		✓		✓		✓		✓	✓	✓
Front Panel LCD/OLED		✓	✓	✓	✓	✓	✓	✓	✓	✓
Front Panel Keypad		✓	✓	✓	✓	✓	✓	✓	✓	✓

- ▶ Standard features are indicated by a numerical value or ✓ symbol
- ▶ Items available as added cost options are indicated by an opt. reference
- ▶ Items not available or not applicable are indicated by a blank field

RECORDING PRODUCT SELECTION GUIDE 2/2

Features	CAR-14A	CAR-24A	CAR-40A	VDL-A MLII	VDL-A S7
Browser Accessible					
Modularly Expandable					
Digital Inputs	10	20	32	256	999
Analog Inputs	4	4	8	4	4
Virtual Inputs	8	16	8	8	8
Timer Inputs		16	16	16	16
Counters					
Train Speed Monitors		4	4		
Relay Output(s)		1	2	1	1
Std. Memory Capacity		302,084	230,924	284,785	284,785
Max. Memory Capacity		1,269,572	2,943,436	1,182,769	1,182,769
Terminal Port(s)	1	1	1	1	1
USB Device Port		1	1	1	1
Ethernet Port(s)	1	1	1	opt.	opt.
USB Host Port		1	1	1	1
GPS Receiver				opt.	opt.
Internal Modem				opt.	opt.
Time Stamp Res. (sec.)		.001	.01	.1	.1
SNTP Time Sync	✓	✓	✓	opt.	opt.
Modbus Interfaces					
Coding Detection					
Temperature Sensor	✓	✓	✓	✓	✓
PLC Interface				✓	✓
Alarm Reporting	✓	✓	✓		
Definable Alarms	20	20	20		
GEA Support				✓	✓
Front Panel LCD/OLED		✓	✓	✓	✓
Front Panel Keypad		✓	✓	✓	✓

- ▶ Standard features are indicated by a numerical value or ✓ symbol
- ▶ Items available as added cost options are indicated by an opt. reference
- ▶ Items not available or not applicable are indicated by a blank field

EVENT RECORD MEMORY OPTIONS

P/N	CRD-14A	CWR-24A	CWR-24B	CWR-40A CWR-72A	CWR-40B CWR-72B	CWR-264A	CWR-272A	CWR-264AX	CAR-24A	CAR-40A	VDL-A MLII VDL-A S7
Std.	297,045	307,123	310,888	234,777	261,632	221,284	147,480	5,080,576	302,084	230,924	284,785
40-0416	619,541	629,619	654,784	481,369	436,224	453,988	302,616		624,580	477,516	584,113
40-0616			916,800	727,961	610,816	686,692	457,752			724,108	
40-0816	1,264,533	1,274,611	1,178,816	974,553	785,408	919,396	612,888		1,269,572	970,700	1,182,769
40-1016			1,440,832	1,221,145	960,000	1,152,100	768,024			1,217,292	
40-1216			1,702,848	1,467,737	1,134,592	1,384,804	923,160			1,463,884	
40-1416			1,964,864	1,714,329	1,309,184	1,617,508	1,078,296			1,710,476	
40-1616			2,226,880	1,960,921	1,483,776	1,850,212	1,233,432			1,957,068	
40-1816			2,488,896	2,207,513	1,658,368	2,082,916	1,388,568			2,203,660	
40-2016			2,750,912	2,454,105	1,832,960	2,315,620	1,543,704			2,450,252	
40-2216			3,012,928		2,007,552	2,548,324	1,698,840				
40-2416				2,947,289	2,182,144	2,781,028	1,853,976			2,943,436	
40-2616					2,356,736	3,013,732	2,009,112				
40-2816					2,531,328	3,246,436	2,164,248				
40-3016					2,705,920						
40-3216					2,880,512	3,711,844	2,474,520				
40-3416					3,055,104		2,629,656				
40-3616							2,784,792				
40-3816							2,939,928				
40-4016							3,095,064				

- ▶ First row indicates record capacity of standard unit before any expanded memory is added
- ▶ Expanded memory option should be selected when recording product is initially ordered
- ▶ Memory capacity can only be expanded for an existing product if the recording product is returned to the factory

CLOCK SYNCHRONIZERS

▶ P/N: 85-0135



APPLICATION

GPS RECEIVER OPTION ~ Adds GPS-based time synchronization to a variety of MICRO-AIDE recording devices.

DESCRIPTION

- ▶ GPS module plugs directly into socket inside recording device
- ▶ Provides 100% accurate time stamping of Event Records
- ▶ Eliminates all user intervention related to time setting
- ▶ User-assignable time sync interval
- ▶ Comes with antenna attached to 16' cable
- ▶ Ruggedized antenna design allows for outdoor mounting
- ▶ Operating temperature range of -40°C to 72°C
- ▶ Fully powered by recording device's isolated power supply
- ▶ Time shift for 7 different North American time zones
- ▶ Optional item, for use with CWR-24A, CWR-24B, CWR-40A, CWR-40B, CWR-72A, CWR-72B, CWR-264A, CWR-272A, CWR-264AX, VDL-A MLII and VDL-A S7

▶ P/N: 85-0175



APPLICATION

GPS RECEIVER OPTION ~ Adds GPS-based time synchronization to a variety of MICRO-AIDE recording devices. To be used with customer provided GPS antenna.

DESCRIPTION

- ▶ GPS module plugs directly into socket inside recording device
- ▶ Provides 100% accurate time stamping of Event Records
- ▶ Eliminates all user intervention related to time setting
- ▶ User-assignable time sync interval
- ▶ Comes with 15' SMA low loss cable
- ▶ Cable includes MCX and Type N connectors for attachment to PolyPhaser® surge protector or direct to multi-band antenna
- ▶ Operating temperature range of -40°C to 72°C
- ▶ Fully powered by recording device's isolated power supply
- ▶ Time shift for 7 different North American time zones
- ▶ Optional item, for use with CWR-24B, CWR-40B and CWR-72B

▶ P/N: HCS-4



APPLICATION

HIGH CURRENT SENSOR ~ Designed to detect excessive current flow in track switching machines. Limit values are adjustable to suit a variety of requirements.

DESCRIPTION

- ▶ Equipped with 4 independent sensors
- ▶ Hall-effect design provides completely passive operation
- ▶ AC/DC compatible
- ▶ 1 to 20 Amp current range
- ▶ Outputs use normally open/closed, dry relay contacts
- ▶ Selectable latching and non-latching relay operation
- ▶ Digital design provides excellent stability and accuracy
- ▶ Screw-down, detachable relay and power connectors
- ▶ Powered from typical BN source, 8 to 40 Vdc
- ▶ Performs as a valuable preventative maintenance tool when limit values are set slightly less than over-current relay level

▶ P/N: FLD-2



APPLICATION

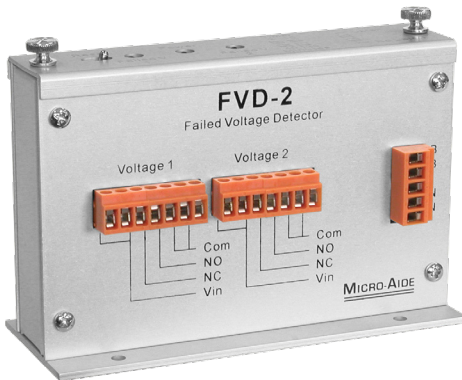
FAILED LAMP DETECTOR ~ Provides detection of single or multiple lamp failures in flashing lamp circuits that use incandescent or halogen bulbs.

DESCRIPTION

- ▶ Supports monitoring of two independent lamp circuits
- ▶ Hall-effect design provides completely passive operation
- ▶ AC/DC compatible
- ▶ 3 to 12 lamps per circuit
- ▶ Dual-leg design provides Flash Pulse (FP) output
- ▶ FP output mimics operation of EOR relay
- ▶ Digital design provides excellent stability and accuracy
- ▶ Simple, "set and forget" calibration
- ▶ Screw-down, detachable output and power connectors
- ▶ Powered from typical BN source, 8 to 40 Vdc
- ▶ LO outputs can be connected directly to any alarm reporting device or Event Recorder

VOLTAGE MONITORS

▶ P/N: FVD-2



APPLICATION

FAILED VOLTAGE DETECTOR ~ Continuously monitors two separate batteries for abnormal voltage levels. Protracted duration feature prevents false failure indications.

DESCRIPTION

- ▶ Isolated design with very high input impedances
- ▶ Adjustable High and Low Limit Values per input
- ▶ Selectable duration times of 2, 10, 40 and 120 minutes
- ▶ Outputs use normally open/closed, dry relay contacts
- ▶ Selectable latching and non-latching relay operation
- ▶ LEDs indicate Limit Value violation
- ▶ Reset switch clears LEDs and relay outputs
- ▶ Digital design provides excellent stability and accuracy
- ▶ Screw-down, detachable relay and power connectors
- ▶ Powered from typical BN source, 8 to 36 Vdc
- ▶ Can be connected directly to any Event Recorder or Alarm Reporter

▶ P/N: CSI-1



APPLICATION

CHARGE STATUS INDICATOR ~ Monitors ability of battery charger to provide charging current at critical time when battery voltage is low.

DESCRIPTION

- ▶ Hall-effect circuitry provides passive current monitoring
- ▶ Isolated design with very high input impedances
- ▶ Low Limit Value for voltage is adjustable, 10 to 30 Vdc
- ▶ Low Limit Value for current is fixed at 1.0 Adc
- ▶ Output uses normally open/closed, dry relay contacts
- ▶ Red LED indicates voltage and current have failed
- ▶ Dual green LEDs indicate voltage and current are nominal
- ▶ Screw-down, detachable relay and power connectors
- ▶ Monitored battery is used to provide power, 8 to 30 Vdc
- ▶ Less than 1 W of power consumption
- ▶ Can be connected directly to any Event Recorder or Alarm Reporter

▶ P/N: PIM



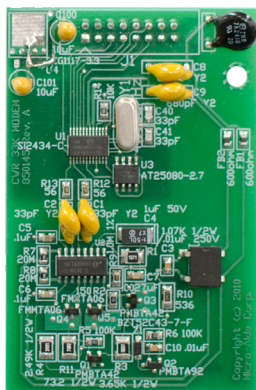
APPLICATION

POWER ISOLATED MODEM ~ Ruggedized standalone modem designed specifically for use in a variety of railroad applications.

DESCRIPTION

- ▶ Operating temperature range of -40°C to 72°C
- ▶ Powered from typical BN source, 8 to 36Vdc
- ▶ Uses fully isolated internal power supply
- ▶ Designed to meet FCC part 68 standards
- ▶ Small mounting footprint of 5.3" x 6.6"
- ▶ Supports all line signal speeds up to 33.6bps
- ▶ Supports V.42 bis and V.44 data compression standards
- ▶ Supports error correction V.42 and MNP 2-5 standards
- ▶ Mounted inside an all-aluminum housing
- ▶ 6 front panel LEDs indicate modem status
- ▶ Comes with MICRO-AIDE's easy-to-use ModemConfig application for saving and creating specialized profiles

▶ P/N: 85-0145



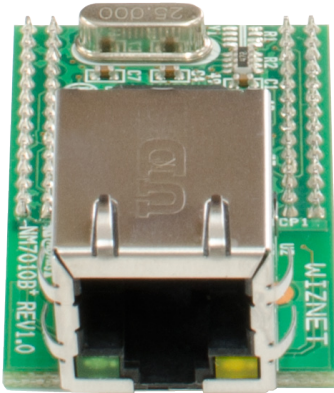
APPLICATION

MODEM OPTION ~ Adds remote dial access feature to various MICRO-AIDE recording devices.

DESCRIPTION

- ▶ Plugs directly into socket inside recording device
- ▶ Operating temperature range of -40°C to 72°C
- ▶ Fully powered by recording device's isolated power supply
- ▶ User-assignable auto-answer delay
- ▶ Allows Virtual Inputs to dial out fault-related Event Records
- ▶ Designed to meet FCC part 68 standards
- ▶ Supports all line signal speeds up to 33.6bps
- ▶ Supports V.42 bis and V.44 data compression standards
- ▶ Supports error correction V.42 and MNP 2-5 standards
- ▶ Optional item, for use with CWR-24A, CWR-40A, CWR-72A, CWR-264A, CWR-272A, VDL-A MLII and VDL-A S7 (other legacy products)

▶ P/N: 85-0136



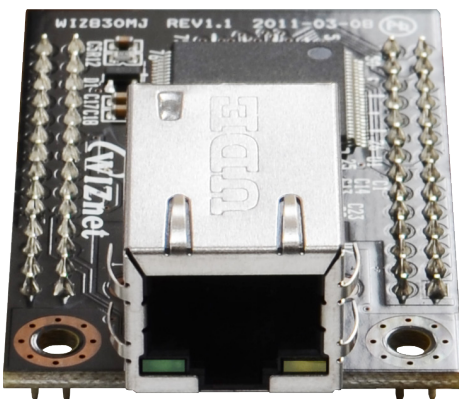
APPLICATION

ETHERNET PORT OPTION ~ Plug-in module that adds Ethernet-based features to applicable MICRO-AIDE recording devices.

DESCRIPTION

- ▶ Plugs directly into socket inside recording device
- ▶ Provides alternative, high speed user interface
- ▶ 10/100 Base-T Ethernet Port
- ▶ Provides 4 Ethernet sockets
- ▶ Adds SNTP-Multicast time syncing of real-time clock
- ▶ Provides remote access to recording device using Telnet
- ▶ Assignable IP address, sub-net mask and Telnet port
- ▶ Assignable gateway and MAC addresses
- ▶ Telnet and raw TCP/IP data modes
- ▶ Link active and data activity LEDs
- ▶ Optional item, for use with CWR-24A, CWR-40A, CWR-72A, VDL-A MLI and VDL-A S7 (other legacy products)

▶ P/N: 85-0158



APPLICATION

ETHERNET PORT OPTION ~ Plug-in module that adds Ethernet-based features to applicable MICRO-AIDE recording devices.

DESCRIPTION

- ▶ Plugs directly into socket inside recording device
- ▶ Provides alternative, high speed user interface
- ▶ 10/100 Base-T Ethernet Port
- ▶ Provides 4 Ethernet sockets
- ▶ Adds SNTP-Multicast time syncing of real-time clock
- ▶ Provides remote access to recording device using Telnet
- ▶ Assignable IP address, sub-net mask and Telnet port
- ▶ Assignable gateway and MAC addresses
- ▶ Telnet and raw TCP/IP data modes
- ▶ Link active and data activity LEDs
- ▶ Optional item, for use with CRD-14A, available as part of CRD-14A to CAR-14A upgrade

WHISTLE DETECTOR

▶ P/N: WDR



APPLICATION

WHISTLE DETECTOR RELAY ~ Used to reactivate crossing when a train whistle is detected. Allows cab engineer to keep gates down during an unusually long station occupancy.

DESCRIPTION

- ▶ Automatically detects loud sonic energy that is nearby
- ▶ Adjustable sound detection level
- ▶ Adjustable detection duration of .5 to 10 sec.
- ▶ Dual relay outputs
- ▶ Outputs use normally open/closed, dry relay contacts
- ▶ 8 Ohm outdoor speaker can be used as microphone
- ▶ Easy to install and set up
- ▶ 60 to 1000 Hz audio range
- ▶ LEDs indicate sound and relay status
- ▶ Screw-down, detachable mic, relay and power connectors
- ▶ Small mounting footprint
- ▶ Powered from typical BN source, 8 to 36 Vdc

PRODUCT ORDERING INFORMATION

- ▶ All prices are USD, exclusive of delivery charges, freight insurance, taxes and duties
- ▶ Payment terms are 0% discount, net 30 days
- ▶ All prices will be increased 2% when buyer payment terms are 31 to 60 days
- ▶ All prices will be increased 4% when buyer payment terms are 61 to 90 days
- ▶ Purchase orders with payment terms in excess of 90 days will not be accepted
- ▶ A 5% volume-based discount is available on purchase orders of \$150,000 and more
- ▶ VISA® and MasterCard® are accepted
- ▶ Unless otherwise acknowledged, freight is FOB factory, Covina, CA
- ▶ Unless otherwise acknowledged, freight is handled on a prepay-and-add basis
- ▶ Unless otherwise acknowledged, UPS Ground service will be used for all shipments
- ▶ Purchaser must advise MICRO-AIDE if freight insurance is required
- ▶ All MICRO-AIDE Rail Signal Products include a 5-year limited warranty
- ▶ Detailed product information is available at: www.micro-aide.com/support/documentation.html
- ▶ Firmware and software upgrades can be downloaded at: www.micro-aide.com/support/downloads.html