MICRO-AIDE

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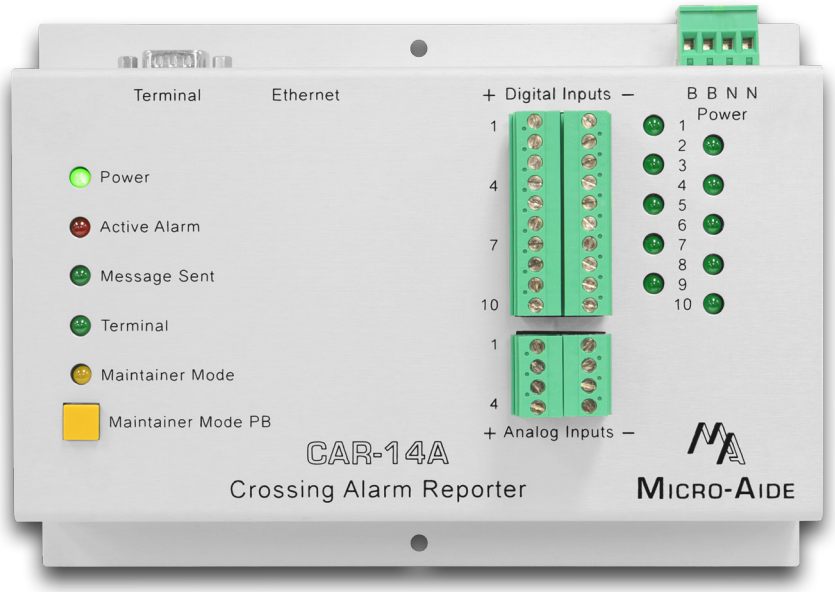
CAR-14A

CROSSING ALARM REPORTER



FEATURES & CAPABILITIES

- Automatically detects and reports numerous crossing failures
- Reports Alarms to a server via a VPN (requires external cellular modem) or LAN
- 20 different Alarms can be defined to report real-time crossing status
- Message forms include state of XR, gates, AC power and battery voltages
- Automatic IP and server name resolution via DHCP and DNS
- Uses SNTP-Unicast method to provide accurate time stamping
- Companion product to MICRO-AIDE'S CAR-24A
- 10 Digital and 4 Analog Inputs
- 8 programmable Virtual Inputs
- Compact, portable size

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Specifications

Physical
Size
L: 8.2″ **H**: 5.9″ **D**: 2.6″ **Weight**: 1.3 lb.

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

Humidity: 0 to 95 %, non-condensing

Mounting
Shelf or backboard

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

All components mounted on conformal coated, internal PCB

Power
Voltage Range: 9 to 36 Vdc

Consumption: maximum: 1.8 W

Isolation
Power Terminals, Digital and Analog Inputs, Ethernet Port
Minimum 3800 Vdc to chassis and any terminal

Alarms
Quantity: 20 total, user-defined

Types: Set, Cleared and periodic Health Check

Definitions
User-assigned inputs, input states and time durations validate establish Alarm criteria

Operating Modes
Automatic: messages sent via VPN or LAN using DNS or fixed IP Addressing

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

Validation Time
As defined by Alarm Configuration Table, 0 to 99,999 seconds

Inputs
Types
Digital: 10, all opto-isolated

Analog: 4, DC voltage only

Virtual: 8, user-assigned

Alarm: 20, user-assigned

Input Impedances
Digital: minimum 10 KOhms

Analog: minimum 10 MOhms

Range
Digital Input-On: 9 to 36 Vdc

Digital Input-Off: 0 to 1 Vdc

Analog Voltage: 1 scale, 0 to +51.1 Vdc

Validation Times
Digital: .001 to 32.767 seconds

Analog: fast filter setting

Analog Inputs
Typical Accuracy: ±.15 Vdc

High and Low Limits: 0 to 51.1 Vdc in multiples of .1 Vdc

Temperature Sensing
Usage: logs abnormal internal temperatures

High and Low Limits: -67 °F to 257 °F

Ports
RS-232
Quantity: 1, for use with a PC, set for ANSI terminal emulation

Baud Rates: 300 to 115,200

Bit Format: 8-N-1

Ethernet
Type: 10/100 Base-T, to cell modem or LAN

Protocols: HTTP-Get, TCP/IP, Telnet, SNTP-Unicast

Ports (continued)
User Interface: provides remote or local access via TCP/IP connection

Settings: user-assignable IP Address, port, sub-net mask, dual IP Addresses for time server

Indicators and Controls
System Status LEDs (5)
Power, Message Sent, Terminal: green

Alarm: red, illuminates when Alarm is active

Maintainer Mode: yellow

Input Status LEDs (10)
Digital Inputs: green, illuminates when input is on

Maintainer Mode Pushbutton
Controls Maintainer and Remote Port Modes

Memory
Setup Database is non-volatile with loss of power

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

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

Sync
SNTP-Unicast: via primary or secondary time servers, once per day at 00:05:00

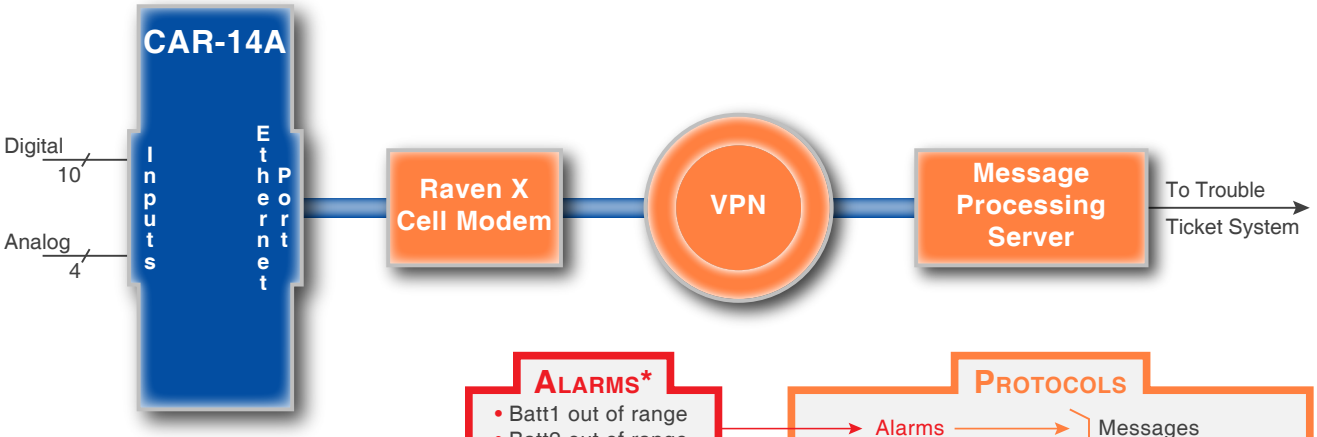
Operation
Time Zones: selectable from 7 different North American settings

Daylight Saving Time: enable or disable automatic adjustment

Leap Year: automatically adjusted

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

Message Handling



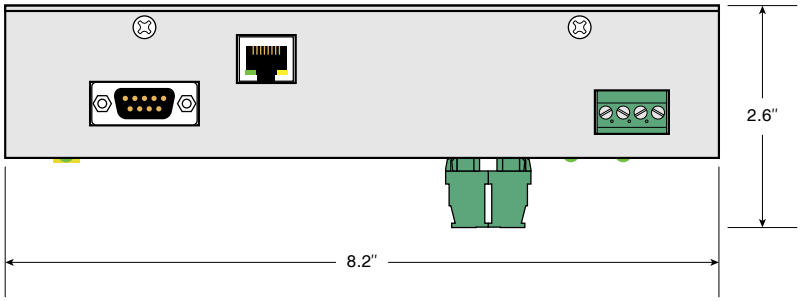
* A total of 20 alarms can be defined and reported

Alarms listed are for c14sear2.v101 Database

Alarms*
- Batt1 out of range
- Batt2 out of range
- Batt3 out of range
- Batt4 out of range
- POR off > 30min.
- POR off > 2hr.
- Pwr. failure > 5sec.
- High temperature
- Gate problem
- Long XR > 30min.

Protocols
- Alarms → Messages • HTTP 1.1 - Get
- Health Check → Messages • HTTP 1.1 - Get
- Clock ↔ Time Sync • SNTP - Unicast
- User Infc ↔ TCP/IP • Telnet

Dimensional Drawing



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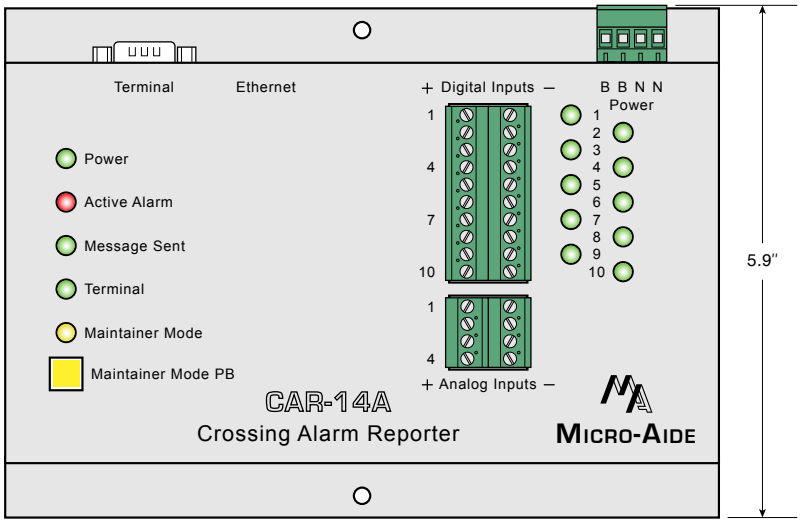
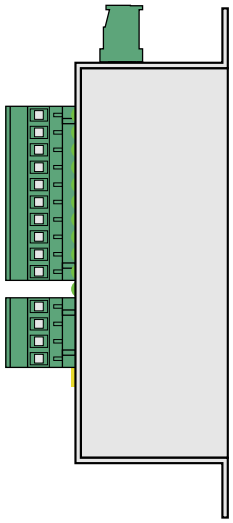
CAR-14A

Crossing Alarm Reporter





Mounting Dimensions