TECHNICAL DATA

Specifications

Physical

Size

Length: 9.2"

Height: 6.3"

Depth: 2.4"

Weight

2.5lb.

Environmental

Storage

Temperature: -50°C to 85°C

Humidity: 0 to 95%, non-condensing

Operating

Temperature: -40°C to 72°C

Humidity: 0 to 95%, non-condensing

Mounting

Standard: shelf or back board mounting (includes brackets)

Optional: 19" rack mounting brackets available

Construction

Chassis

Fully enclosed, anodized aluminum

Externally accessible keypad, LEDs and connectors

Electrical

All components mounted on conformal coated, internal PCBs

Power

Voltage

Range: 10 to 36Vdc

Consumption

Typical: 4W

Maximum: 5W (with Modem PCB)

Isolation

Power

Minimum: 3800Vdc from B and N terminals to chassis and inputs

Digital Inputs

Minimum: 3800Vdc to any terminal

Analog Inputs

Minimum: 3800Vdc to any terminal

Input to Adjacent Input

Digital: minimum 3800Vdc

Analog: minimum 3200Vdc

Internal Modem (optional)

Designed to meet FCC part 68 standards

Capacities

Inputs

Digital: 18, all opto-isolated

Analog: 4 total, voltage or current (optional)

Virtual: 8, user assigned

Timer: 16, user assigned

Outputs

Relay: 1, form C, rated for 2A at 24Vdc or 1A at 125Vac, maximum switching capacity of 125VA or 60W, service life 1 million electrical (typical)

Event Storage

Standard: 135,797 records, expandable to 297,045 records

Memory Full: 129th day over-writes first day, newest data over-writes oldest data

RS-232 Port

Quantity: 1, for use with a PC

Emulation: ANSI

Baud Rates: 300, 600, 1200, 2400, 4800, 9600, 19,200, 38,400, 57,600, 115,200

Bit Format: N-8-1

Capacities (continued)

Liquid Crystal Display

Characters: 40 total on 2 lines

Character Set: A-Z upper- and lower-case, 0-9, various symbols

Viewing Area: 2.9" by .5"

Front Panel Keypad

Quantity: 20 keys

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

Inputs

Input Impedance

Digital: minimum 5KOhms, opto-isolated

Analog: minimum 10MOhms

Range

Digital Input - On: 5 to 36Vdc

Digital Input - Off: 0 to 2Vdc

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

Analog AC Voltage: 2 scales, 25.5, 255

Analog Current: 2 scales (optional), ±25.5Adc, 25.5Aac

Event Validation Times

Digital: .001 to 32.767 seconds, compatible with fixed rate flashing circuits

Analog: fast and slow filter settings

Memory

Type

Non-volatile, Event Records and Setup Database are stored in flash memory chip

Storage Longevity

Infinite with power off

Rated for 1 million write operations

Analog Input Accuracy

Typical Vdc: ±1% full scale

Typical Vac: ±1.5% full scale

Typical Current: ±2% full scale

Analog Limit Values

Voltage

Separate high and low limits, in multiples of .1V or 1V

Current

Separate high and low limits, in multiples of .1A

Virtual Inputs

Quantity

8, user assigned

Definitions

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

Reporting

Creates standard Event Record

Relay can be controlled by each Virtual Input

Modem (optional) can be set up to dial-out Event Record

Timer Inputs

Quantity

16, user assigned

Programming

Any input can be assigned as the trigger or terminating source

On or Off events can be assigned as the trigger or terminating source

Limit Values

Separate high and low limits per assigned Timer Input, 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

Quantity

4 total, separately programmable

Operation

Reports excessive train speed

Logs standard Event Record

Sensors are wired to 2 spare Digital Inputs

Limit Values

5 to 99mph or 5 to 180mph

Sensor Distance

36" to 99" or 8' to 5280'

Connectors

Digital and Analog Inputs

Detachable, screw-down, 12 or 8 terminals each, 12 to 22AWG

Terminal Port

DE-9 male, configured as DCE

Power

Detachable, screw-down, 4-position, 12 to 22AWG

Dual B and N terminals

Alarm Relay

Detachable, screw-down, 3-position, 12 to 22AWG

N.O., N.C. and common

Telephone Line

RJ-11 female

Current Sensor

DE-9 female, used with CWR-CS

Controls

Keypad

20 keys, located on front panel

LCD Contrast Adjust

20-turn potentiometer, located on Processor PCB

Indicators

LCD Panel

Includes LED back lighting for enhanced visibility

Displays numerous command menus for configuring the recorder and retrieving data

LEDs (3)

Power: green

Terminal: green, flashes with send/rcv data

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

Internal Clock

Accuracy

Typical: ±1 minute per month (20ppm)

Sync: spare Digital Input used to synchronize real-time clock

Resolution

Event Records are time stamped to nearest .001 seconds

Operation

Full calendar, auto-adjusted for leap year

Non-volatile with power off

Y2K compliant

Password Protection

Administrative Level

Access to all functions, limit 8 characters

Restricted Level

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

Passcode

Protects against alterations to Setup Database via front panel, limit 8 digits

Internal Modem (optional)

Type

V.34, 33,600 Baud, data compression and error correction

Usage

Remote access via auto-answer operation

Allows dial-out alarm reporting of Virtual Input records

Compliance

Designed to meet FCC part 68 standards

Dial-out Alarms (optional)

Calling Method

Primary and secondary dial numbers, multiple attempts

Tone or pulse dialing

Data

Issues Event Record for enabled Virtual Inputs

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

Terminal Port Cable

The following cable is included with every CWR-22XL.

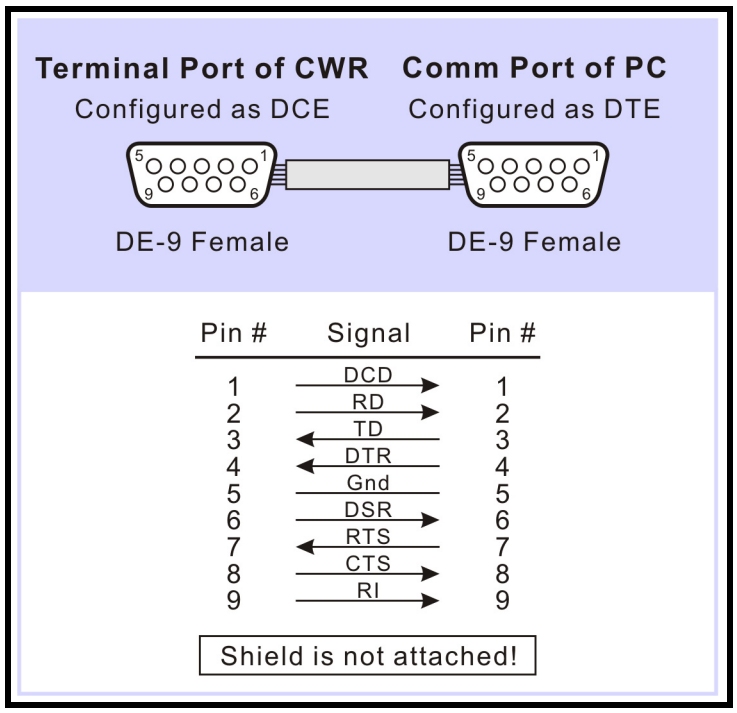

Figure 7 - Terminal Port Cable - Wiring Diagram