TECHNICAL DATA

Specifications

Physical
Size
Length: 19.0"
Height: 7.8" (10.5" of rack space)
Depth: 3.8"
Weight
7 lb.

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: mounts in 19" rack
Optional: 23" 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 36 Vdc
Consumption
Typical: 7 W
Maximum: 8 W (with Modem and Ethernet options)

Isolation
Power
Minimum: 3800 Vdc from B and N terminals to chassis and inputs
Digital Inputs
Minimum: 3800 Vdc to any terminal
Analog Inputs
Minimum: 3800 Vdc to any terminal
Input to Adjacent Input
Digital: minimum 3800 Vdc
Analog: minimum 3200 Vdc
Internal Modem (optional)
Designed to meet FCC part 68 standards
Ethernet Port (optional)
Minimum: 3800 Vdc to any terminal

Capacities
Inputs
Digital: 256, all opto-isolated
Analog: 16 total; 4 can measure current
Virtual: 16, user assigned
Outputs
Relays: 2, dual form C, rated for 2A at 24 Vdc or 1A at 125 Vac, maximum switching capacity of 125 VA or 60 W, service life 1 million electrical (typical)
Event Storage
Standard: 69,992 records, expandable to 823,400 records
Memory Full: 129th day over-writes first day, newest data over-writes oldest data
Ethernet Port (optional)
Quantity: 1
Type: 10/100 Base-T

Capacities (continued)
RS-232 Port
Quantity: 2, 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
Printer Port
Quantity: 1, parallel, for use with inkjet and laserjet printers
Liquid Crystal Display
Characters: 80 total on 4 lines
Character Set: A-Z upper- and lower-case, 0-9, various symbols
Viewing Area: 2.8" by .8"
Front Panel Keypad
Quantity: 20 keys
Keys: 0-9, Browse, Alpha, Setup, Esc, Enter, Print, left, right, up/., down/-

Inputs
Input Impedance
Digital: minimum 10 KOhms, opto-isolated
Analog: minimum 10 MOhms
Range
Digital Input - On: 5 to 40 Vdc, 5 to 30 Vac
Digital Input - Off: 0 to 2 Vdc or Vac
Analog DC Voltage: 3 scales, ±25.5, +51.1, ±255
Analog AC Voltage: 2 scales, 25.5, 255
Analog Current: 2 scales (optional), ±25.5 Adc, 25.5 Aac

Inputs (capacities)

Event Validation Times

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

Analog: fast and slow filter settings

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

Internal Temperature

Separate high and low limits, -67°F to 257°F

Excessive Train Speed

5 to 180 mph

Virtual Inputs

Quantity

16, user assigned

Definitions

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

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

Reporting

Creates standard Event Record

Relays can be controlled by each Virtual Input

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

Train Speed Monitor

Operation

Reports excessive train speed via Analog Input A16

Logs standard Event Record

Sensors are wired to 2 spare Digital Inputs

Limit Values

5 to 180 mph

Distance between Sensors

50' to 5280'

Memory

Type

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

Storage Longevity

Infinite with power off

Rated for 1 million write operations

Connectors

Digital and Analog Inputs

Detachable, screw-down, 6 or 8 terminals each, 12 to 22 AWG

Terminal Ports (2)

DE-9 male, configured as DCE

Printer Port

DB-25 female, standard parallel printer configuration

Power

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

Dual B and N terminals

Alarm Relays

Detachable, screw-down, 6-position, 12 to 22 AWG

Dual N.O., N.C. and common

Telephone Line (2)

RJ-11 female, wired in parallel

Ethernet Port (optional)

RJ-45 female

Current Sensor

DE-9 female, used with CWR-CS

Controls

Keypad

20 keys, located on front panel

LCD Contrast Adjust

Single-turn potentiometer, located on front panel

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: if not synchronized, ±1 minute per month (20 ppm)

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

Sync

Via optional Ethernet Port using SNTP or spare Digital Input using Clock Sync Input feature

Resolution

Event Records are time stamped to nearest .01 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

Ethernet Port (optional)

Type: 10/100 Base-T

Speed: 100Mbps

Protocol: TCP/IP, Telnet

LED Indicators: Green - link established; Yellow - data activity

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

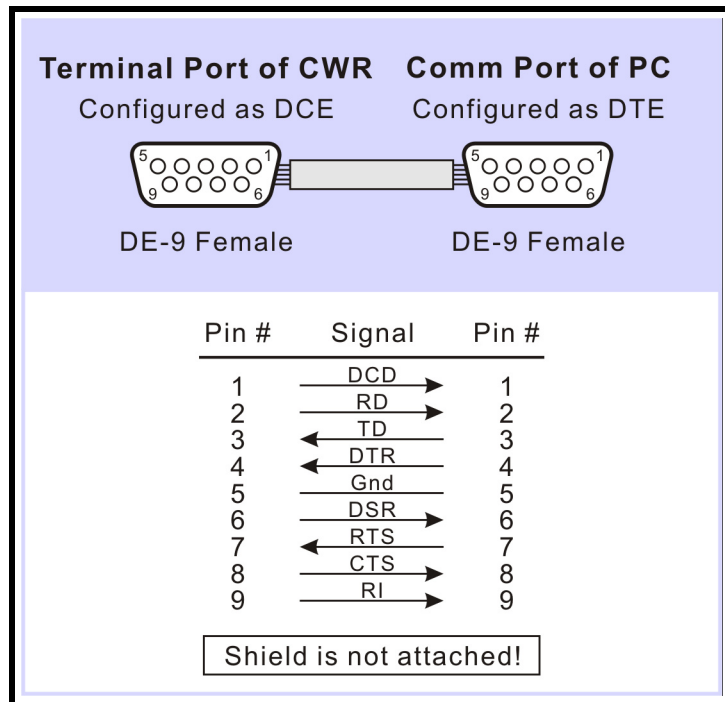# Terminal Port Cable

The following cable is included with every CWR-272E.

Figure 7 - Terminal Port Cable - Wiring Diagram

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