



# CER CROSSING & EVENT RECORDER

The CER is a fully-featured yet compact and low-cost crossing & event recorder designed to increase safety and diagnostics efficiency.



## WHY MONITOR CROSSINGS?

### BETTER REACTIVE CAPABILITIES

- ▶ Respond quickly and with confidence to public reports of non-compliance by pinpointing root cause
- ▶ Improve incident investigation quality by possessing indisputable digital event logs
- ▶ Reduce investigation costs

### GET PROACTIVE AT YOUR CROSSINGS

- ▶ Immediate indication of crossing non-compliance
- ▶ Predictive capabilities warn of non-compliance before it occurs, reducing the likelihood of incidences leading to costly investigations and settlements
- ▶ Device features and analysis tools facilitate high-confidence fault diagnosis
- ▶ Manage crossing maintenance more efficiently

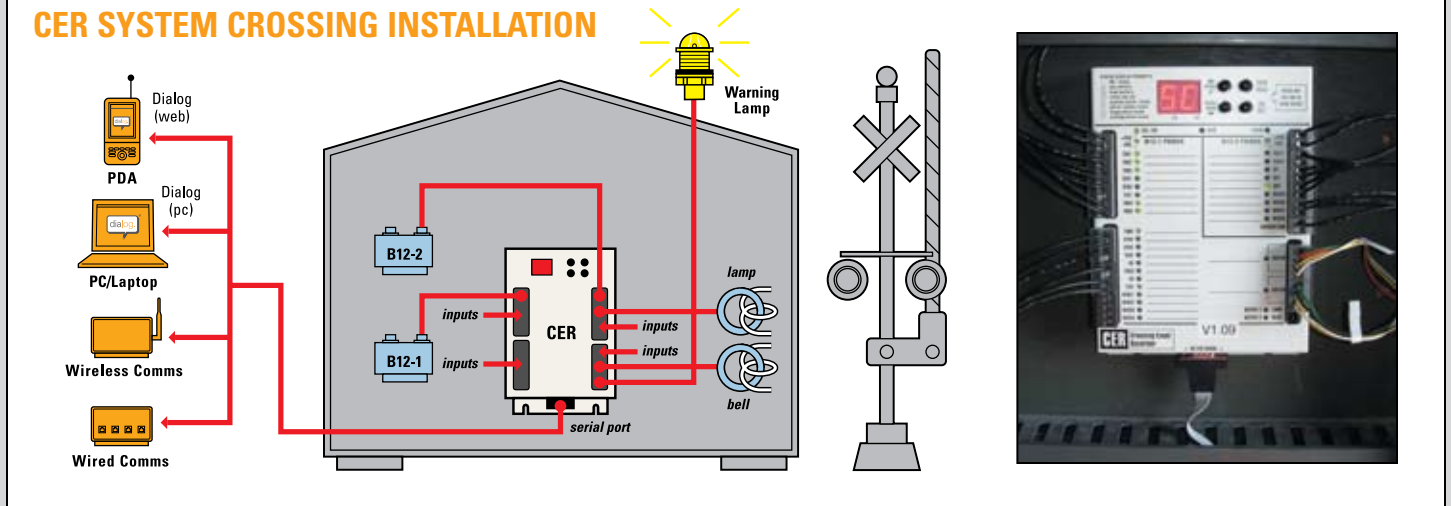


## WHY THE CER SYSTEM FOR CROSSINGS?

- ▶ Low cost and small product footprint mean blanket coverage is now possible
- ▶ Can be used in dark territories (areas without CTC coverage)
- ▶ Large event log capacity
- ▶ Large input count
- ▶ Advanced and helpful crossing diagnostics
- ▶ Ease of installation
- ▶ Sophisticated configuration and data analysis software tools
- ▶ Dedicated warning lamp
- ▶ Additional programmable output channel
- ▶ PC application including:
  - event analysis tool with event filtering
  - automated upgrade
  - variable length log download



## CER SYSTEM CROSSING INSTALLATION



The CER is designed to offer maximum crossing & event recording functionality at low cost in a compact size. Capturing digital logs at crossings improves investigations and reduces cost.

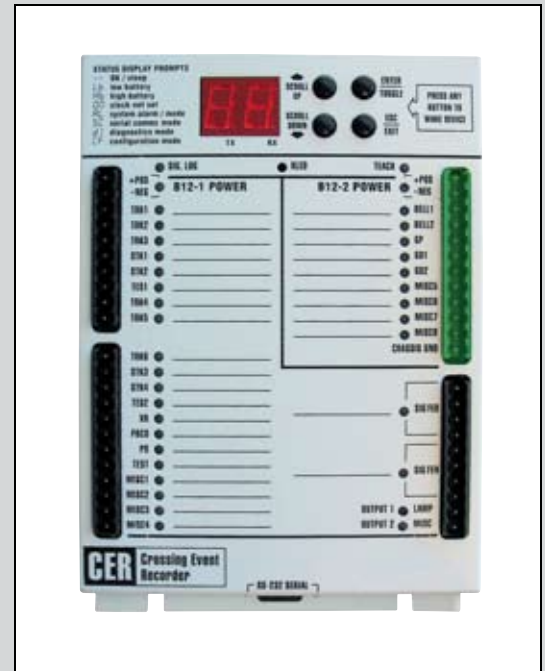
The CER's ability to warn in the event of crossing equipment failure or predict impending equipment failure improves crossing safety, minimizing or even preventing future crossing incidences.

**Logging features include:**

- ▶ 8Mb non-volatile flash memory guarantees log integrity
- ▶ 688,000 log entry storage capability
  - ▶ 45 events per train \* 40 trains/day = 382 days of logging
- ▶ Differential event logging (*event-based*)
- ▶ 0.125 second log resolution
- ▶ Every log entry is time and date stamped
- ▶ FIFO (*circular*) log operation
- ▶ 'Sig Log' LED indicates CER has logged an input triggering a user-configurable smart alarm (*eg. battery bank exception*)

**Smart alarm capabilities capable of intelligently interpreting input data and generating specific alarms**

- |                            |                             |
|----------------------------|-----------------------------|
| ▶ Short warning time (x2)  | ▶ Loss of shunt (x6)        |
| ▶ Gate related alarms (x3) | ▶ Light out (x2)            |
| ▶ Bell rate (x2)           | ▶ Flash rate (x2)           |
| ▶ AC power off             | ▶ Excessive operation       |
| ▶ Track Circuit (x6)       | ▶ Battery bank voltage (x2) |
| ▶ Self-tests failure       | ▶ Crossing not active       |
| ▶ Unstable bell rate (x2)  | ▶ Reverse train move        |
| ▶ Unstable flash rate (x2) | ▶ No test                   |
| ▶ XT no lights (x2)        | ▶ Invalid train sequence    |
| ▶ Trailing track down      |                             |



**CUSTOM INTEGRATION**

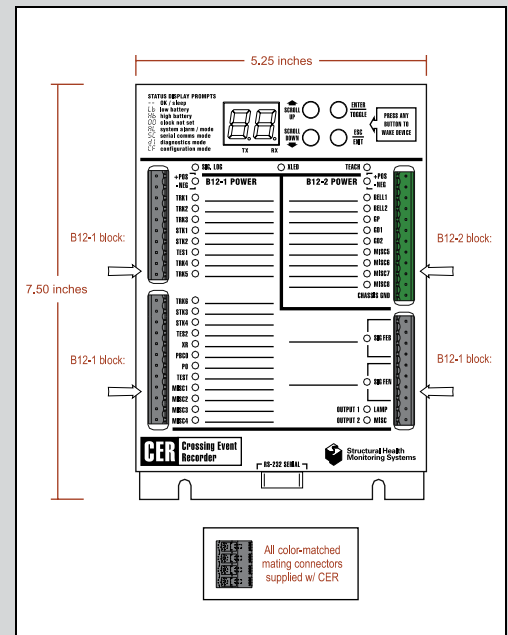
While the CER System was designed as a low-cost and stand-alone system, IDERS understands client's need for systems integration. Considering this, the CER System was designed with additional internal capabilities to enable both new functionality and/or custom integration requirements. Please contact IDERS with your specifications.

### Features:

- ▶ Connection to and monitoring of one or two battery banks with reverse protection
- ▶ 27 digital inputs
  - 20 referenced to B12-1
  - 7 referenced to B12-2
- ▶ 4 analog inputs
  - 2 for current sensors referenced to B12-1
  - 2 for bells referenced to B12-2
- ▶ 2 digital outputs
  - 1 for warning lamp
  - 1 for miscellaneous use
- ▶ All channels equipped with real-time status LED
- ▶ Bright LED user interface for status (including alarms), diagnostics and configuration using 4 push buttons (no PC / laptop or PDA required)
- ▶ Real-time clock
- ▶ Visual display of real-time clock and battery bank voltages through diagnostic menu
- ▶ 115k BPS xModem serial port for PC / laptop, PDA or modem connection
- ▶ Dialog and TLAVu<sup>®</sup> software applications for advanced CER utilities, event log data analysis
- ▶ CER firmware is in-field upgradeable. Call SHMS for options
- ▶ Power channels equipped with bicolor (green, red) LED

### Specifications:

- ▶ Digital inputs use 12V logic with 3V hysteresis
- ▶ Analog bell inputs (0 to 25V)
- ▶ Analog current sensor inputs (1.67V to 3.33V)
- ▶ Digital outputs capable of sinking 500mA each
- ▶ 2500V RMS isolation between B12-1, B12-2, serial port and chassis
- ▶ Normal operating range of 9.5V to 18V DC
- ▶ Reduced functionality outside of normal operating range
- ▶ Low power consumption (does not include warning lamp)
  - normal mode (user interface active): 1.50W average (125mA @ 12V)
  - sleep mode (user interface inactive): 1.00W (83mA @ 12V)
- ▶ -40°C to +85°C operation
- ▶ Small installation footprint: 7.50L x 5.25W x 1.50H (191 x 133 x 38mm)
- ▶ Quick-connects supplied, rated for 12 to 28 AWG



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