



# 2010ECL

## Type 170 / 179 / 2070 Signal Monitor

### INTRODUCING A NEW STANDARD OF SAFETY AND DIAGNOSTIC CAPABILITIES IN TYPE 170 / 2070 ENHANCED SIGNAL MONITORS

The EDI model 2010ECL Signal Monitor is designed to upgrade the capabilities of the basic 210 monitor used in Type 170 / 179 Output Files. The unit is fully compatible with the requirements of the 170, 179, and 2070 Controller Units. The 2010ECL Signal Monitor utilizes enhanced monitoring functions to increase cabinet fault coverage, providing additional assurance that cabinet equipment malfunctions will be detected and diagnosed properly.

### 2010 OPERATIONAL FEATURES

- Enhanced 210 Monitoring Functions:** The 2010ECL meets all requirements of the Caltrans "TSCE Specifications 1/89". Basic fault coverage includes Conflict, 24Vdc, and CU Watchdog monitoring. Red Monitoring senses the absence of signals on a channel, and requires the output file to be wired for Red signals. Dual Indication Monitoring detects simultaneous active signals on a channel. Sequence Monitoring ensures sequencing of signals with a proper minimum yellow clearance interval. AC Line Monitoring detects and responds to low AC Line voltages as well as interruptions with a minimum flash interval.
- Event Logging:** The 2010ECL monitor maintains a 100 record nonvolatile event log which contains records of fault events showing the complete intersection status as well as AC Line events, configuration changes, monitor resets, cabinet temperature and true RMS voltages. A real time clock time stamps each log event with time and date.
- RYG Full Intersection Display:** The Full Intersection display uses Red, Yellow, and Green LEDs to show active colors of all channel inputs simultaneously for real-time intersection status.
- EDI RMS-Engine:** A DSP coprocessor converts ac input measurements to True RMS voltages, virtually eliminating false sensing due to changes in frequency, phase, or sine wave distortion.
- Recurrent Pulse Detection:** The Recurrent Pulse (RP) Detection function supplements the Conflict, Dual Indication, and Red Fail algorithm. RP Detection works in conjunction with the RMS-Engine to detect faults that are pulsing or intermittent in nature.
- Communications to Controller Unit or PC:** An EIA-232 serial link provides access by a computer running EDI ECcom Windows based software for status, event log review, and archival. The 2010ECL is compatible with BI Tran Systems 233 Software to update the Controller Unit with monitor status and automatically synchronize the 2010ECL clock and calendar.
- Signal Sequence History Display:** The Signal Sequence History Log stored in nonvolatile memory graphically displays up to 30 seconds of signal status prior to the fault trigger event with 50ms resolution to ease diagnosing of intermittent and transient faults.
- Configuration Monitor:** The 2010ECL can also detect unintended programming changes and Red Interface cable problems.

EBERLE DESIGN INC.

3819 E. La Salle Street Phoenix, AZ 85040 USA  
tel +1-480-968-6407 www.editraffic.com

