

2018KCL

Type 170/2070 18 Channel Signal Monitor

The EDI 2018KCL Signal Monitor is designed to upgrade the capabilities of the basic 210 / 2010 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 2018KCL utilizes enhanced monitoring functions to increase cabinet fault coverage, providing additional assurance that equipment malfunctions will be detected and diagnosed properly.

A removable Datakey™ memory device contains all the monitor set-up information and **completely eliminates the need for a diode Program Card, soldered jumpers and DIP switches.**

Model 2018KCLip: 18 channel with Ethernet Port

Model 2018KCL: 18 channel with EIA-232 Port

OPERATIONAL FEATURES

Enhanced 210 Monitoring Functions:

The 2018KCL meets all requirements of the Caltrans "TSCE Specifications 1/89" and Caltrans TEES, March 2009. 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. Clearance Monitoring ensures sequencing of signals with a proper minimum yellow clearance interval for *both vehicle and pedestrian channels*. AC Line Monitoring detects and responds to low AC Line voltages as well as interruptions with a minimum flash interval.

Datakey Configuration Memory:

Complete 2018KCL programming is provided by an interchangeable Datakey™ nonvolatile memory device. This rugged key stores all 2018KCL configuration parameters and *completely eliminates monitor programming using jumpers, diodes, or DIP switches*. Ethernet network parameters are also included (firmware version xx56 or greater).

Setup Wizard:

Use the MonitorKey® Setup Wizard to *automatically and accurately* configure the Enhanced settings of the 2018KCL by answering a short series of questions regarding intersection geometry and operation.

Event Logging:

The 2018KCL 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.

LEDguard®:

This EDI innovative signal thresholding technique is used to increase the level of monitoring protection when using LED based signal heads.

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.

Flashing Yellow Arrow PPLT:

Three operational modes are built-in for support of the MUTCD Flashing Yellow Arrow PPLT operation depending on the number of load switches in the cabinet.

Communications to Controller Unit or PC:

An EIA-232 serial port or optional Ethernet port (2018KCLip) provides access to status and event logs by a local or TMC computer running EDI ECom Windows based software.

Signal Sequence History Display:

Five Signal Sequence History logs stored in nonvolatile memory each graphically display 30 seconds of signal status prior to each fault event. The resulting display eases diagnosing of intermittent and transient faults by viewing the exact signal states that the monitor sensed.

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