

End Of Line Module



Engineering & Technology Concepts End Of Line Monitoring unit (EOLM) is used to interface eight channels of standard normally closed contact field alarm sensors/switches using the industry standard “two or three resistor network” format to sense the state of the sensors/switches and line, and to output this state via potential free relays to one or more independent control systems.

The EOLM has a wide range of user functions and features that are user programmable via an RS232 interface to any computer running a ANSI terminal emulator. The unit is ideally suited for medium to high security applications in government installations, prisons, banks, mines, and any installation where reliable and accurate line monitoring is required.

FUNCTIONS & FEATURES

The EOLM will scan and monitor a correctly installed line to a field sensor or switch with either series or parallel termination resistors and provide the following conditions:

Tamper Short Condition: When the resistance of the field line is below the combined resistance of R1 and R2 combined with R3 - the wire Length And Gauge (LAG) resistance and compensated for tolerances, a Tamper Short Condition will exist. Practically, this is what would happen when the line is shorted.

Tamper Open Condition: When the resistance of the field line is above the resistance of R2 combined in series with R3 - the wire Length And Gauge (LAG) resistance and compensated for tolerances, a Tamper Open Condition will exist. Practically, this is what would happen when the line is cut.

No Alarm Condition: When the resistance of the field line is between the low and high tolerance values of the combined resistance of R1 and R2 combined with R3 - the wire Length And Gauge (LAG) resistance, a No Alarm Condition will exist. Practically, this is what would happen when the line has no faults and switch S1 is closed.

Alarm Condition: When the resistance of the field line is between the low and high tolerance values of R2 combined in with R3 - the wire Length And Gauge (LAG) resistance, a Alarm Condition will exist. Practically, this is what would happen when the line has no faults and switch S1 is open.

Line Fault: When the resistance of the field line is above a No Alarm Condition and below the resistance of a Alarm Condition.

All channels can be individually enabled or disabled.

LINE CABLE GAUGE AND DISTANCE COMPENSATION

The EOLM can compensate for line lengths from 0 – 3000 feet /18 to 26 AWG or 0 – 1000 metres / .22mm to 1.0 mm cable. Any type of cable is suitable that will meet the requirements of the installation and the EOLM can be readily configured to compensate for this variability.

ALARM AND TAMPER OUTPUTS

Each channel has two sets of change over relay contacts. This can be useful for signalling more than one control system. These are low voltage contacts and are designed for interfacing to DVRs, PLCs, Alarm systems and other electronic equipment. Alarm and Tamper relays can easily be configured (No Alarm/Tamper) to be normally on or off depending on system requirements. Additionally the Tamper outputs can be configured to work in unison with the Alarm outputs.

▶ PROGRAMMABLE

▶ FLEXIBLE

▶ EXPANDABLE

EOLM



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FEATURES cont.

TIMING FUNCTIONS

Each channel output (relays) can be configured to follow the channel condition i.e. when an Alarm/Tamper is active/inactive - that output is active/inactive, or a channels outputs (relay) can be configured to come on for a configurable period of seconds and can retrigger after a configurable period of hours if the condition still persists.

TAMPER ROUTING

Each Tamper output (relay) can be routed to any other tamper output. This is useful when the control system is only concerned about a general tamper condition on multiple lines or has limited inputs. It can also free up a Tamper (output) for use with a heartbeat pulse.

HEARTBEAT

A tamper output can be configured as a heartbeat output. This can be used to signal the control system that the EOLM is alive and powered. Alternatively to show when the system is powered, the outputs relays can be configured to be normally on in the inactive state and if there is a power failure to the EOLM, the relays would all toggle indicating a fault condition. Although this is a fail safe method, a heartbeat is a better method as it indicates the unit is running and it is environmentally more friendly as the unit consumes only 0.1 watts as opposed to 3 watts (when the relays are all on and in a inactive state).

LCD Screen

An input diagnostic LCD is provided for:

- Normal : independent for each channel
- Alarm : independent for each channel
- Tamper open circuit : independent for each channel
- Tamper short circuit : independent for each channel
- Line Fault : independent for each channel
- Operation / Config Mode : common to all channels

POWER SUPPLY REQUIRMENTS

	<i>Minimum</i>	<i>Maximum</i>
<i>AC SUPPLY</i>		
Operating Voltage AC:	10	24
Operating Current (all relays + Leds on)	0.290	0.250
Operating Power(Watts)	2	6
<i>DC SUPPLY</i>		
Operating Voltage DC	12	28
Operating Current (all relays + Leds on)	0.270	0.240
Operating Power (VA)	3.6	
<i>Overvoltage on inputs</i>		
Maximum continuous voltage on inputs :	20Vac/dc	
Peak voltage on inputs <10mS :	100Vac/dc	
Storage Temperature :	-10°C to +80°C	
Operating Temperature :	0°C to +45°C	
Weight:	780 grams / 1.10 7/8 lbs	
Dimensions :	115mm wide X 175mm tall X 35mm high	
Alarm and Tamper Relay :	2 Amps 30 VDC	
Maximum contact rating :	1 Amp 125 VAC	

ORDERING

EOLM-II : 8 channel EOLM



High resolution scanning of all inputs in less than 500ms for fully populated systems

Embedded design

Flash upgradeable

EOLM II



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