

K1261 Zone Module – Technical Data Sheet



The module provides 3 independent, fully monitored (O/C & S/C), input circuits which may be connected to conventional fire detectors and/or switch devices i.e. manual call points, pressure and flow switches etc

Twin red LEDs are provided to indicate when the input circuit is active in the alarm condition.

Twin amber LEDs are provided to indicate when the input circuit is in a fault condition or is isolated.

A 3 position toggle switch is provided to allow isolation of individual input circuits and to provide a one man test facility for the circuits.

The amber LEDs will light continuously whilst an input is isolated and will flash when a circuit is in a fault condition

When a circuit is isolated power is removed from the field wiring.

When one man test is selected the circuit may be triggered into an alarm condition and it will automatically reset itself after 5 seconds.

The K1261 module is an extremely versatile unit, which will interface a variety of detection devices to the R3 control system. Engineer configuration of the module is possible by operation of 12 card mounted switches as follows:

Switches 1 to 3 allow the input circuits to be independently set up to be either latching or non-latching to suit different uses of the inputs. If the circuit is set to be non-latching then the red LEDs will pulse when an alarm condition is sensed and will clear when the alarm signal clears. (It should be noted that if the module were programmed in the R3 system as a fire module then the common control module would latch the fire signal itself.)

Switches 4 to 6 allow the input circuits to be independently set up for use with Zener barrier or Galvanic Isolator units when detection circuits are located in hazardous areas.

Switches 7 to 9 allow the input circuits to be delayed in their operation such that an alarm signal on the input will not be reported to the system for a pre-determined period between 0.5 and 60 seconds. The time delay is adjustable on the module via a potentiometer. This function is of particular use when pressure switches are monitored and pressure fluctuations are normal i.e. towns water mains.

Switch 10 causes any fault signal on the module to be latched until the system common control module is reset.

Switch 11 when set causes any input isolation to be reported to the system control module as a circuit fault.

Switch 12 disables the short circuit monitoring feature of the module for all input circuits.

A Single R3 control system can accommodate a maximum of 84 No. K1261 modules.

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Operation of frontplate mounted 3 position toggle switches.

Normal

When the switch is in this position the input circuit will operate as normal, i.e. as defined by the DIP switch settings described above.

Isolate

When the switch is in this position the +ve supply is disconnected from the field circuit and the input is totally isolated from the control system. The module will send a fault signal to the common control module unless DIP switch 11 is set to the OFF position, the module buzzer will sound for 1 second every 15 seconds whilst the switch is in the isolate position.

Test

When the switch is in this position, the input is in a fully monitored condition. When an alarm signal is received the module buzzer will sound for a period of 5 seconds and then the input will be automatically reset, no alarm signal will be sent to the common control module.

In the test condition the module buzzer will sound for 1 second every 15 seconds and a fault signal is sent to the common control module.

Circuit monitoring.

The K1261 module monitors its input circuits by observing circuit voltage levels. Each circuit is fitted with a 3K9 end of line resistor, which causes the circuit voltage to hold at a level slightly below the power supply voltage. An alarm signal is sensed by an increase in the circuit current, and a corresponding fall in the circuit voltage. When simple switches are connected to K1261 inputs they must be fitted with a 680R resistor in series with the normally open switch contacts in order to operate correctly without causing a short circuit fault condition.

The tables below show the various states of the circuit voltages for normal and zener barrier operation.

Normal Operation.

| Condition | Line voltage |
|---------------------|---|
| Open circuit fault | 22V to power supply voltage (nominally 24V) |
| Normal (quiescent) | 19.5V to 22V |
| Alarm condition | 11V to 19.5V |
| Short circuit fault | 0V to 11V |

Zener Barrier Operation.

| Condition | Line voltage |
|---------------------|---|
| Open circuit fault | 22V to power supply voltage (nominally 24V) |
| Normal (quiescent) | 19.5V to 22V |
| Alarm condition | 15.75V to 19.5V |
| Short circuit fault | 0V to 15.75V |