INSTALLATION INSTRUCTIONS

DOOR MONITOR DM1

Introduction

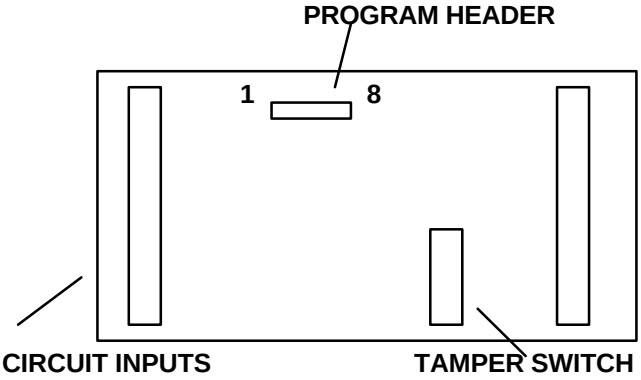
The DM1 processes and displays the status of up to eight circuits. The actual number of processed circuits may be programmed by the engineer during installation. A set input is used to determine the response of the unit to the state of the inputs. Two buzzers are provided which sound to give an audible indication when the inputs do not correspond to the normal condition. Provision is made to extend the buzzer to a remote position.

Each of the inputs are additionally monitored using 2K2 resistors for open circuit and short circuit fault conditions.

A relay with a clean set of contacts is available for monitoring the sum of the inputs. Additionally a clean set of contacts are provided from a tamper switch.

Operation

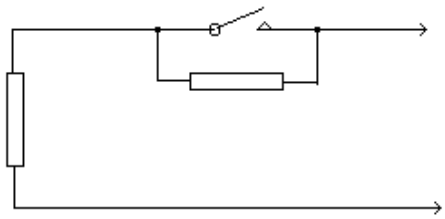
The number of circuits to be monitored is determined by a link placed in the program header (see diagram). When placed in position 8 all inputs are enabled. Position 7 will monitor only inputs 1 to 7, position 6 will monitor circuits 1 to 6 and so on.



The status of the system is determined by the set input. When open circuit the system is set (night mode) and when closed circuit the system is considered to be open (day mode).

Each circuit is terminated with a 2K2 end of line device and the door contacts (which are open when the door is open) should be fitted with a 2K2 resistor in parallel.

In day mode the LEDs are enabled and display the current status of the inputs, green indicating door open and red either door closed or fault (i.e. line open circuit or closed circuit). All circuits which have been de-activated on the program header will always display red irrespective of their status. The buzzers will sound if any of the enabled circuits are either in fault or if the door is closed.



GENERAL ARRANGEMENT OF RESISTORS

Once a set signal is detected, the buzzer will sound if any of the inputs are in fault (open circuit or short circuit) or if the door is open. As soon as all circuits are clear the buzzers will be disabled until the set input goes open circuit at which time it will respond as in day mode. At the same time the LEDs will be extinguished and will remain so until the set input opens again.

The relay is normally energised and will release whenever one or more of the enabled door circuits indicates open irrespective of the condition on the set input. Additionally the relay will release if any circuit goes into fault when the system is set.

Installation

1. Remove the front panel from the box rear. Select which knockouts are to be used and break them open.

2. Select the number of active circuits which are to be used on the program header. Note: position 1 will enable circuit 1 only, position 2 will enable circuits 1 and 2, position 3 will enable circuits 1,2 and 3 and so on. If it is necessary to change the number of circuits enabled, this may be done later without removing power.

3. Cable in the circuit inputs. These should be clean relay contacts with a 2K2 resistor fitted across it; closed to indicate door closed and open to indicate door open (unused inputs may be either left open or linked out). The line should be terminated with a 2K2 resistor.

4. Cable in the set input which should be clean relay contacts (no end of line resistors are required) open for system set and closed for system open.

5. Cable in the relay and tamper contacts. The alarm relay is normally energised when all inputs are clear and de-energised when one or more inputs are open. The indications on the unit are for when the relay is de-energised (i.e. in alarm). The tamper contacts are closed when the box is closed.

5. If an external buzzer is to be used this may be fitted by wiring the negative end to the buzzer output terminal and the buzzer positive to +12V.

6. Apply power (12volts) and test the system by activating each input in turn and monitoring the appropriate LEDs, the buzzer and the relay output.

Problems

If the system does not function correctly the problem may lie in the connections to the inputs. Ensure that the end of line devices are installed and correctly wired.

If the relay operates as expected but there is no response from either the buzzer or the LEDs, then the most likely cause is the set input being open circuit.

One or more circuits not responding may be caused by the program link being in the wrong position.

Simple Test Procedure

If you are unsure about the operation of the unit follow this simple test procedure:

Place the shorting link in position 1. This will then isolate all other inputs.

Connect a 2K2 resistor across input 1 terminals. This will hold input 1 clear.

Short circuit the set input and apply power.

At this point all LEDs should show red, the buzzer should sound and the relay should be energised.

Remove the link in the Set input. The buzzer should cease and all LEDs should extinguish. Replace the set link and place a 4K4 resistor (i.e. two 2K2 resistors in series) across input terminal 1 in place of the 2K2 resistor. This simulates the door being open. The relay should now release and the circuit 1 LED should show green. The sounder should also silence.

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