



## Door Monitoring Unit (DM3)

### INTRODUCTION:-

The DM3 is a self contained door monitoring unit requiring only an external low voltage power supply and a set of normally closed door contacts. The unit is microprocessor controlled and includes several modes of operation to allow the configuration of the unit to meet a variety of applications. The unit incorporates the following features:-

- ✓ Internal sounder – Can be programmed to chime when the door opens, Bleep during door open and generate an alarm sound during full alarm.
- ✓ Internal dry contact relay - With common, normally open and normally closed connections. This output can be used to activate a door open LED on Videx telephone handsets or activate external sounders and strobes.
- ✓ Override key switch – The two position key switch is located on the outside of the plastic housing and can be used to disable the unit when required. For example if the door needs to be held open without the alarm going off.
- ✓ Alarm trigger input - This input will set the door monitoring unit in to alarm condition immediately after being triggered and will not switch off until time out (Set by dip switches 4 & 5). It can be triggered using a switched negative.
- ✓ Enable input - Used to monitor if a door has been opened correctly or has been forced. This 12V positive input can be taken from the unit used to release the door (i.e. Code lock, proximity reader, intercom system) and can be used to identify if a door release was authorized (i.e. the door was released by an intercom system, code lock etc).

### CONNECTIONS :-

+	13.8V DC to 40Vdc or 13Vac to 24Vac power supply connection.
-	Negative power supply connection.
<b>DOOR</b>	Door loop contact. This is a standard NC when the door is closed door contact going open when the door is opened.
<b>Tr</b>	Switched negative alarm trigger input. When a negative is switched onto this terminal, the DM3 will sound and go into alarm condition for the programmed time.
<b>EN</b>	A 12V input on this terminal will switch the relay on for the length of time the door is open and will also prevent the unit from going into alarm condition when set to alarm mode.
<b>NO,NC,CO</b>	Dry contact relay output.

### Operation :-

**When the door is closed the unit will be monitoring for the following two actions:-**

1. The Tr terminal going low: This will set the unit into alarm mode for the time set on dip switches 4 & 5.
2. The door opening.

**When the door opens:-**

1. If dip switch 8 is on the internal sounder will chime to acknowledge the door has opened.
2. If dip switch 8 is off there will be no immediate indication of the door opening.

3. If dip switch 6 is on and 12Vdc is present at the EN terminal, the relay will energize until the EN terminal goes low at which point if the door is still open, the delay time will begin to count down. If the EN terminal did not receive 12Vdc the internal sounder will chirp every 5 seconds during the delay time until either the delay time expires or the door is closed.
4. If dip switch 6 is off and delay time will immediately begin to count down. There will be no sound from the internal sounder at this time.

**If the door closes during the delay time:-**

1. The unit will reset and await another door open or trigger on the Tr terminal.

**If and when the delay time expires and the door remains open:-**

1. If dip switch 6 is on the unit will go into alarm condition and will not reset until the run time has expired and only then if the door has closed.
  2. If dip switch 6 is off the unit will go into alarm mode condition but will reset as soon as the door has closed.
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1. If dip switch 7 is on the relay will pulse back and forth at 1 second intervals and the sounder will sound.
  2. If dip switch 7 is off the relay will latch and the sounder will sound.

**If the door is closed during alarm condition:-**

1. If dip switch 6 is off the sounder will stop immediately and the relay will return to its off state.
2. If dip switch 6 is on the sounder will continue for the time programmed on dip switches 4 & 5 after which the sounder will switch off and the relay will return to its off state.

**If after the door remains open after alarm condition:-**

1. If dip switch 7 is off, the relay will return to its off state and the speaker will chirp every 5 seconds until the door is closed.
2. If dip switch 7 is on, the relay will latch on for 5 seconds and then latch off for 5 seconds. This will repeat until the door is closed.

**Dip switches :-** The dip switches have the following functions :-

**DELAY TIME**

Delay time is the time from when the door opens to the time when the unit goes into alarm condition. This can be set from 3 seconds up to 12 minutes using dipswitches 1, 2 and 3 as shown in the table below.

DELAY TIME			
SW1	SW2	SW3	TIME
OFF	OFF	OFF	3 SECONDS
ON	OFF	OFF	15 SECONDS
OFF	ON	OFF	30 SECONDS
ON	ON	OFF	1 MINUTE
OFF	OFF	ON	2 MINUTE
ON	OFF	ON	5 MINUTE
OFF	ON	ON	8 MINUTE
ON	ON	ON	12 MINUTE

**RUN TIME**

After the delay time has expired and the door has not been closed the unit will go into alarm condition. The period of time for which the unit will stay in alarm condition is set using dip switches 4 & 5. The alarm time can be set from 10 seconds up to 2 minutes as shown in the following table.

RUN TIME		
SW4	SW5	TIME
OFF	OFF	10 SECONDS
ON	OFF	30 SECONDS
OFF	ON	1 MINUTE
ON	ON	2 MINUTE

**ALARM MODE**

When this switch is on, the unit will start chirping immediately after the door is opened if no signal is received on the [EN] input and then will go into full alarm if the door remains open longer than the delay time. This mode can be used to monitor if a door has been forced open. Once in alarm mode the sounder will continue until the run time elapses.

ALARM MODE		
SW6	STATE	DESCRIPTION
OFF	OFF	Sounder is silent during delay time, sounds through run time and will reset as soon as the door is closed.
ON	ON	Sounder will chirp during delay time, sounds through run time and can not be reset until run time expires.

**RELAY OUTPUT**

When the unit goes into alarm condition, the relay can be set to a fixed on position or a flashing output at 1 second intervals.

This switch will also determine the state of the relay after the run time has expired and the door has not been closed. With the switch on, the relay will continue to flash at 5 second intervals. Alternatively if the switch is off, the relay will stay switched off but the speaker will chirp at 5 second intervals.

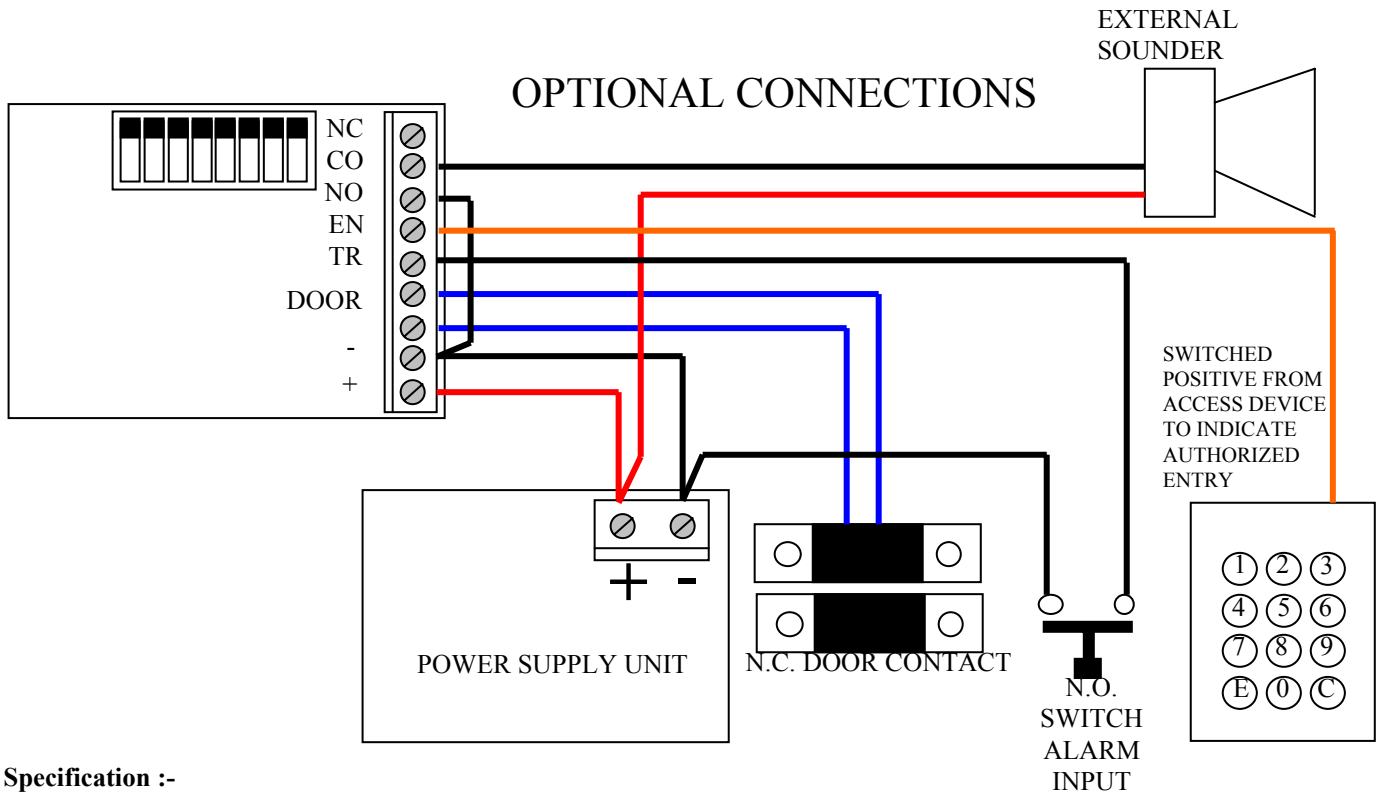
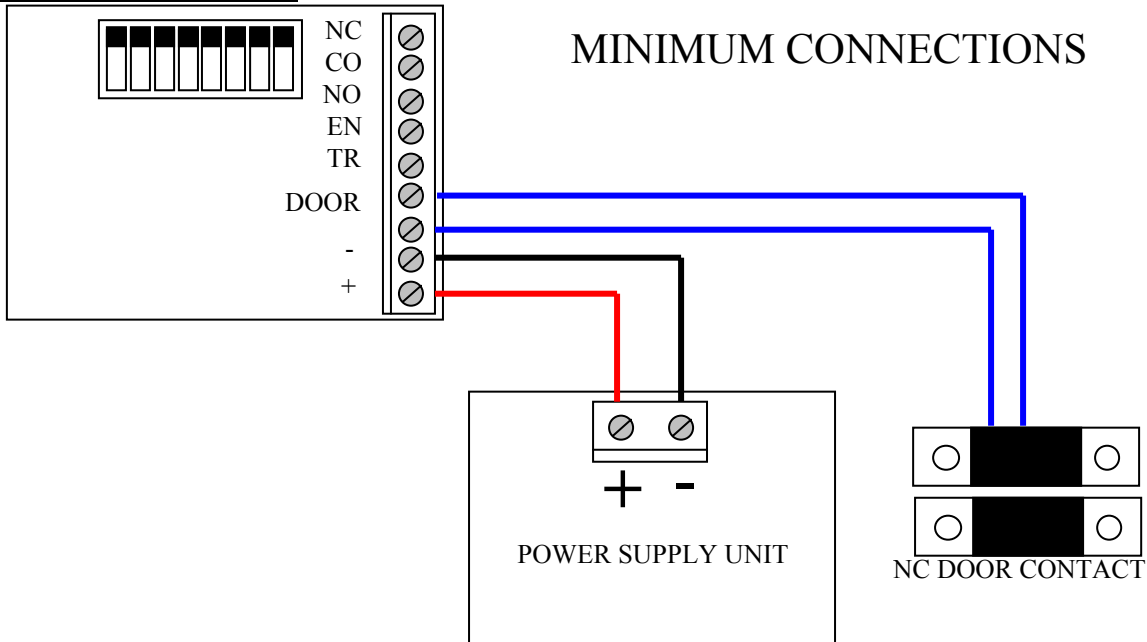
RELAY OUTPUT			
SW7	STATE	DURING RUN TIME	AFTER RUN TIME
OFF	FIXED	Relay latched on until run time expires or door closes	If door is still open after run time expires, relay will be off and sounder will chirp every 5 seconds until the door closes.
ON	PULSING	Relay will flash on for one second and then off for one second repeatedly until run time expires on door closes.	If door is still open after run time expires, relay will flash on for five seconds and then off for five seconds repeatedly until the door closes.

**CHIME**

The on board sounder can be set to chime as the door opens. This feature can be useful when attention needs to be drawn to any entry or exit through a particular door.

CHIME	
SW8	STATE
OFF	OFF
ON	ON

**Connection details :-**



**Specification :-**

Operating Voltage	:	13.8Vdc to 40Vdc or 13Vac to 24Vac
Current (Quiescent)	:	10mA Approx.
Current (During alarm)	:	120mA Approx.
Delay times	:	8
Run times	:	4
Relay contacts	:	2A DC, 2A AC resistive 1A AC inductive - 24VDC 120V AC

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