EDM

Digitalarm 903

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USER & INSTALLATION MANUAL

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Introduction

The ***Digitalarm 903*** is a fully integrated, microprocessor controlled local alarm system, comprising 2 burglary zones, and a combined panic / 24 hour zone. The delay zone built in entry timer which will hand over to the instant zone provided that entry is made in that order. The unit can be operated via key switch or digital codepad, and facilities are available for additional key switches and or codepads to be fitted.

In the armed state, all zones are monitored except for those which have been manually isolated using the optional codepad.

System status information, such as A.C. mains failure, and zone status are continually monitored and displayed at the control panel and outputs are also provided to display ON /OFF and zone status at the optional remote codepad or at other locations throughout the building.

An on board regulated switch mode power supply feeds internal circuits, and outputs are provided to power external equipment as well as to recharge a standby sealed lead acid battery. The outputs include a dedicated strobe terminal, an alarm relay for driving bells or sirens and an entry warning output.

The ***Digitalarm 903*** can be operated using any one or combination of optional Remote Codepad, Remote Key switch or Radio key. A number of the devices can be used to provide even greater flexibility and security to the alarm system. Each codepad provides comprehensive system control including the ability to isolate zones and it also provides a visual display of the system status at a remote location.

General Operation

The overall purpose of your alarm system is to deter any would be intruder from entering your premises. If you are leaving your home or office ensure that all of the windows and doors are closed. Use the key switch or enter your code followed by the enter key to arm the system.

Once armed, the ***Digitalarm 903*** will count down the pre-programmed 60 second exit time before arming all detection zones. This time should be used to exit all protected areas. Once the exit time has expired the system is ready to accept alarms.
Should any zone other than the delay zone be broken after this time, an instant alarm would occur and the following typical sequence of events would take place.

The Digitalarm 903 will activate any devices that are connected to the alarm relay output such as sirens or bells and will activate the strobe output. Once the relay timer has expired the output will change state and any connected devices will cease operation. This output will now remain in the ready state until the next event occurs.
The strobe output will continue to run until the system is reset.

If entry is made through the delay zone an alarm will not occur straight away. Instead, the entry timer will start counting down its pre-programmed time, allowing you to disarm the system. You may enter through the delay zone and move through the instant zone in that order while the entry timer is still running, as the remaining entry time will be handed to the next sequential zone. The entry time should be set to allow you just enough time to disarm the system.

Any further alarms will cause a repeat of the above events. If the zone that was violated becomes resealed i.e. the door is closed; then after the alarm relay shuts down, and provided lockout has not been selected, this zone will now be ready to cause another alarm, (the zone is said to be re-armed).

Controls & Indicators

The ***Digitalarm 903*** can be operated using a number of different items. For example you can operate and control your system from a key switch, a codepad or a radio key. All of these items provide a method of interfacing between you and your alarm system. To make the interface easier to understand a number of indicators have been included on the optional Key switches and Codepads. A number of indicators have also been included on the control panel PCB to aid installation. This section will describe the indicators.

The Control Panel Indicators

Indicator	Status	Definition
A.C.	OFF	240 volt mains power not connected
A.C.	ON	240 volt mains power is connected and working

Indicator	Status	Definition
24 HOUR	OFF	Zone is sealed. Normal state
24 HOUR	ON	Zone is not sealed
24 HOUR	FLASHING	Zone is in alarm or PANIC triggered

Zone Indicators

Indicator	Status	Definition
DELAY & or INSTANT	OFF	Zone is sealed. Normal state
DELAY & or INSTANT	ON	Zone is not sealed
DELAY & or INSTANT	SLOW FLASH	Zone is manually isolated
DELAY & or INSTANT	RAPID FLASH	Zone is in alarm or alarm memory

Codepad and Key switch Indicators

Red Indicator	Green Indicator	Definition
OFF	OFF	Power fault to remote codepad
OFF	ON	System deactivated,, all zones sealed
OFF	FLASHING	System deactivated,, zone(s) not sealed
ON	OFF	System activated in away mode
FLASHING	OFF	System activated in away mode with previous alarm.

FAST ALTERNATE FLASHING	Code change mode.
SLOW ALTERNATE FLASHING	Manual isolate mode.

System Operation

This section will describe how to use and operate the many different alarm functions. Please see the appropriate section for the device that you are using Example: Codepad or Key switch.

Turning the *Digitalarm 903* ON and OFF

Codepad

To activate the alarm system in the ARMED mode, key in the 4 digit master code, or simply the digit "0" followed by the "EN" key. The RED ON indicator will illuminate, and the exit timer will start. All unsealed zones will be ignored at the end of exit time, however, they will be armed as soon as they are resealed.

To turn the alarm system OFF, key in the 4 digit master code followed by "EN". The RED indicator will then extinguish and the GREEN, OFF indicator will illuminate.

Key switch

The function of the key switch is to activate and deactivate the alarm system.
With the unit deactivated, operating the key switch once activates the unit in the ARMED mode, illuminating the RED indicator.

Activating the key switch once again will deactivate the alarm system and the RED indicator will extinguish.

Note:
A 3 second pause should be given between key operations.

Radio key

By interfacing an optional radio receiver with the K/S input, the system can be ARMED and DISARMED remotely via a hand held radio key.

To turn the system "ON", press the button on your hand held transmitter. All unsealed zones will be ignored at time of turn ON, however, they will be armed as soon as they are resealed.

To disarm the system, repeat the above steps.

Outputs have been provided to drive L.E.D indicators so that the system status can be provided at a convenient location. A suitable current limiting resistor should be placed in series with the L.E.D.

> **Note:**
> When the system has been activated by the radio key there is no exit delay yet the programmed entry time still applies when entering the building.

CREATING A NEW MASTER CODE
(Remote Codepad units only)

When first powered, the ***Digitalarm 903*** responds to the default code 2580. The following procedure is used to create a new unique code. This code replaces any previous code and will stay valid as long as the alarm systems battery voltage is maintained.

1. To enter code change mode, first make sure that the alarm system is deactivated.

2. Enter the current master code, then re-enter the first digit after the fourth digit, then the "EN" key. For example if the code is 2580 then you must key in 2580 + 2 then the "EN" key. The ON indicator on the optionally fitted Codepad will begin to flash rapidly to indicate successful entry to the code change mode.

3. You now have 30 seconds to begin entering the four digits required for your new master code followed by the "EN" key. Each time a key is depressed, the timer is restarted. The system will automatically exit this mode upon time-out of the 30 seconds. If an error is made while entering the code, press the "EN" key and restart from step (1).

4. To validate your new master code, the system must then be turned ON then OFF using this new code. You have 30 seconds to turn the system ON, then another 30 seconds to turn the system OFF. If these requirements are not met the system will throw away the new code and revert back to using the old master code.

MANUALLY ISOLATING BURGLARY ZONES
(Remote Codepad units only)

The procedure required to isolate zones can be divided into 5 steps.
They are;

1. Make sure that the system is deactivated, i.e. the ARMED indicator is off.

2. Press the "IS" key. The ON indicator will flash slowly to indicate entry to the isolate mode, and all previous manually isolated zones will be cleared.

3. Press the numerals that correspond to the zones you wish to isolate. 1 for the DELAY zone and 2 for the INSTANT zone.

4. Press "EN" to exit this mode.

5. The zones will remain isolated until the alarm system is next deactivated or the isolate mode is re-entered.

> **Note:**
> Once isolate mode is entered, a 30 second timer is started. Each time a key is depressed, the timer is extended. If no further keys are pressed, the system will automatically exit isolate mode upon time-out of the 30 seconds, clearing all previously isolated sectors.

PANIC ALARM

Remote Codepad units

Each codepad has the capability of allowing you panic alarm facilities should an emergency arise. This facility can be activated by pressing any two outside keys simultaneously. Once activated, the system goes straight into alarm, irrespective of its present state. Once activated enter your master code to disable the system.

Emergency switches

For added safety, additional emergency switches may be placed throughout the premises. This allows you to have the panic facility without having to have a complete remote codepad. These switches are simply wired into the 24hr / PANIC zone on the alarm system or if a remote key plate is already installed it can be connected directly to it as shown in Fig 2 on page 12.

REPORT MODE

To help installers locate intermittently faulty peripherals, the ***Digitalarm 903*** automatically logs the last 10 events, and can display them back via the zone indicators in reverse chronological order.

For example, you arm the unit in the ARMED mode, and sometime later, while you where out, the instant zone caused an alarm. You return home, switch off the alarm and find that the zone has been violated.

Enter the 4 digit code 9997 followed by the "EN" key to request report of previous events. The panel will beep 4 times to indicate successful entry and all indicators except for the A.C. L.E.D. will turn off. From then on , in intervals of 2.5 seconds, the ***Digitalarm 903*** will repeat the last 10 events.

All changes of zone status can be seen at the control unit, however you will need to look at the remote codepad or key switch indicators in order to see the mode that the system was in when the event occurred.

WALK TEST

This mode will allow you to test the function of the detection devices connected to the ***Digitalarm 903***. This can only be carried out on those units fitted with a remote codepad.

Isolate any zone that is not required to be walk tested as per instructions. To activate walk test mode, key in the code "9998" then the "EN" key. The buzzer will beep three times per second to indicate successful entry to the walk test mode. The alarm relay will change state or toggle for 1 second every time a zone is sealed or violated and thus any connected sounding devices will operate for this period. To exit the walk test mode, simply press the "EN" key.

Installation Information

The following section will describe the various terminals found on the ***Digitalarm 903***. This information is a guide only and is not intended to be a comprehensive installation manual. Your new alarm system is a complex piece of electronic equipment and therefore should only be installed and maintained by a qualified alarm installer.

Delay and Instant Zones **24Hr zone is 24Hr and Panic zone.**	All zones are monitored circuits with 3k3 ohm end of line resistors. An open or short circuit will violate the zone.

Any violation of the DELAY or INSTANT zones will cause an alarm only if the system is armed and the exit time (60 seconds) has elapsed. A violation of the 24hr / panic zone will cause an immediate alarm irrespective of whether the system is armed or not.

+13.8 v D.C. **0V D.C.**	These terminals provide 13.8v D.C. (500 mA Max. Fuse protected.) for external equipment such as detectors. Please note the polarity.
STR	This terminal latches when in alarm and is generally used for driving strobe lights. This terminal is normally open circuit and switches to 0 volts when in alarm. The output is capable of sinking 500mA.
RELAY **N/O-N/C-COM**	These 3 terminals are the 3 contacts of the change over alarm relay. This relay will energise when an alarm condition occurs and will time out after the preset time which is selected using dip switch number 1.

Remote Codepad

ENT	This terminal is normally open circuit and pulses low during entry time. This signal can be used to sound the buzzer in the codepad or to activate another indicating device. (200mA Max)
ST1	This output is used to drive the ON or RED indicator on remote codepads and key switches. This output is activated when the system is in the ARMED mode.
ST2	This output is used to drive the OFF or GREEN indicator on remote codepads and key switches. This output is activated when the system is in the OFF or disarmed state.
SG	This input is the data line from the remote codepads to the ***Digitalarm 903***.
+ 13.8v D.C. **0v D.C.**	These two terminals are to provide power to remote codepads and are also the GND return for the zones.

Remote Key Switches

K/S	The remote key switch should be a normally open, momentary contact switch. Connect one side of the key switch the K/S terminal and any 0V GND terminal.

Power Connections

18-22v A.C.	18-22 v A.C. from transformer. (Part No. TF006)
GND Terminal	Connect to high integrity ground. Eg. earth stake.
BATT	Flying leads for connection to standby lead acid battery (2.5 - 6 A.H. capacity). Fuse protected 3amp.

Multiple Remote Key switch wiring

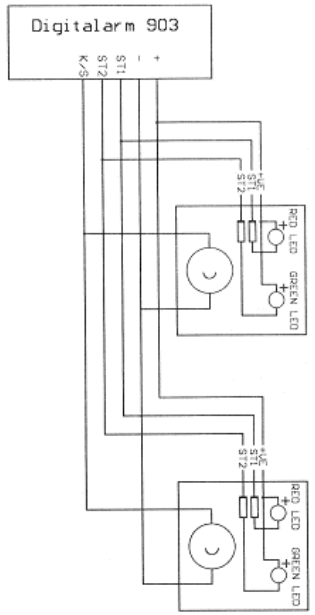

Figure 1

Digitalarm 903 Wiring Diagram

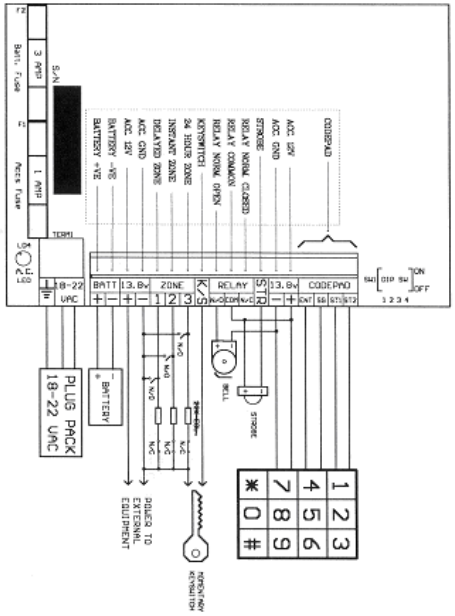

Figure 2

Dip Switch Options

A number of system options can be changed simply and easily via the four Dip switches. These switches should only be set by your installer.

Switch	ON Position	OFF Position
SW1	Alarm relay to operate for 10 minutes	Alarm relay to operate for 3 minutes
SW2	Conditional reset enabled	Zone lockout enabled

Entry time	Switch 3	Switch 4
10 seconds	OFF	OFF
25 seconds	OFF	ON
40 seconds	ON	OFF
55 seconds	ON	ON

Features

* 2 Burglary Zones And One 24hr/panic Zone.
* All Zone Inputs Are Monitored Circuit (3k3 E.O.L.)
* All Zone Inputs Have Digital And Analogue Filters
* Hand Over Delay For DELAY and INSTANT zones
* Adjustable Entry Time 10 To 55 Seconds
* All Burglary Zones Can Be Isolated Via Any Codepad
* 60 Seconds Exit Delay Via All Burglary Zones
* Auto Lockout Or Conditional Reset
* Fused Battery Input
* Multiple Remote Key Switching
* Multiple Remote Codepad Facility
* Power Requirements 18-22v A.C. 20 vA Minimum
* Weight 0.5kg

REMOTE INDICATORS ARE PROVIDED TO SHOW:

* Zone Isolated, Sealed, Violated, Memory
* System Mode ARMED, OFF
* A.C. Connected

PROGRAMMABLE FEATURES

* Zone Lockout Or Conditional Reset
* Alarm Relay Time Out (3 Or 10 Minutes)
* Entry Time (10 To 55 Seconds)

OUTPUTS

* Relay change over 1amp contact.
* Strobe 500ma 12v D.C. Max
* Entry Warning 200ma 12v D.C. Max
* Accessory 12v D.C. 500ma Max (fused)
* Current Limited Charge For Battery Up To 6ah

Warranty Statement

Electronics Design & Manufacturing warrants to be free from defects in material and workmanship for a period of three years from the date of manufacture as indicated by the date stamp and / or the serial number on the product.

Defective units returned by the purchaser at their own expense during this period will be repaired or replaced at the option of the manufacturer.

The repair or replacement will be free of charge provided that the defects were not incurred during shipping or handling, or the damage was not due to causes beyond the control of Electronics Design & Manufacturing, such as lightning, excessive voltage, mechanical shock, or damage arising out of abuse, alteration or improper application of the equipment.

Electronics Design & Manufacturing reserves the right to alter specifications without prior notice in the interest of ongoing product development.

Installation Notes

Installation Company_____

Technician_____

Phone Number_____

Installation Date_____

Warranty Expires_____

Description

Delay _____

Instant _____

24 Hour _____

Entry Time 10 ☐ 25 ☐ 40 ☐ 55 ☐ Seconds

Exit Time Fixed at 60 seconds

Siren Time 3 ☐ 10 ☐ Minutes