

**COMMAND PROCESSOR
MODEL 1812
INSTALLATION GUIDE**

Digital **M**onitoring **P**roducts

LT-0082 (1/90)

2841 E. Industrial Drive Springfield, MO 65802-6310 417-831-9362

COMMAND PROCESSOR MODEL 1812 INSTALLATION GUIDE

FCC NOTICE

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the installer is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna

- Relocate the computer with respect to the receiver

- Move the computer away from the receiver

- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the installer should consult the dealer or an experienced radio/television technician for additional suggestions. The installer may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.
Stock No. 004-000-00345-4.

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1 - PRODUCT SPECIFICATIONS

1.1 Description

The COMMAND PROCESSOR series 1812 is a 12 volt Alarm Control Panel. The Control provides eight or sixteen class B grounded protection loops and two to eight dry contact SPDT (form C contact) relay outputs. It is available in five different models.

Model 1812A	8 Loops	2 Relays
Model 1812B	16 Loops	2 Relays
Model 1812C	16 Loops	4 Relays
Model 1812D	16 Loops	8 Relays
Model 1812E	16 Loops	16 Relays

All controls provide a two amp alarm output and a one amp auxiliary output. Communication to a central station receiver is accomplished by addition of a series 984 Communication Module.

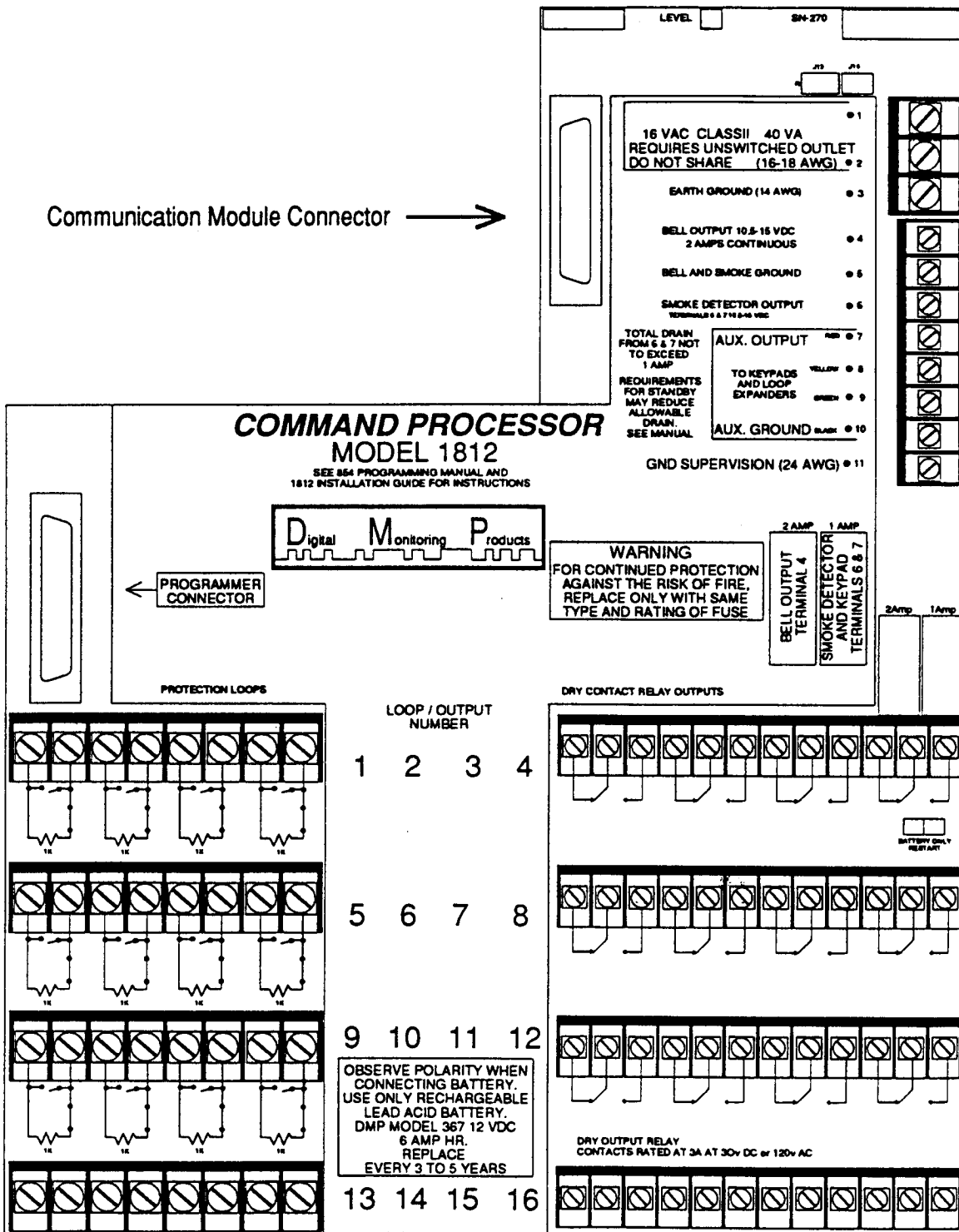
1.2 Enclosure Specifications

The 1812 is shipped installed in its enclosure. The transformer, end of line resistors, battery leads, installation guide and programming sheets are also included.

Size:	14.85" x 12.75" x 4.80"
Weight:	12 lbs.
Color:	Beige
Construction:	18 gauge cold rolled steel
Knockouts:	Four .875" knockouts (2 on top, 2 on back) Two 1.125" knockouts on back of box
Slots:	Three .5" x 7.0" slots on back

1.3 Circuit Board and Coverplate

The 1812 coverplate labels the locations of the installation points described in this manual. A short specification is provided where appropriate. For complete specifications refer to this manual.



1.4 Lightning Protection

Metal Oxide Varistors and Transient Voltage Suppressors help protect against voltage surges on input and output circuits of the 1812. Additional surge protection is available by installing the DMP Model 370 or 370RJ Lightning Suppressor.

2 - COMMUNICATION MODULE CONNECTOR

2.1 Description

One 25 pin connector is provided for connection of a DMP series 984 Communication Module. The module should always be in place **before** power is applied to the control panel.

**NEVER INSTALL OR REMOVE A COMMUNICATION MODULE WHILE
POWER IS APPLIED TO THE CONTROL PANEL**

Refer to the appropriate installation guide supplied with the 984 Communication Module for installation and wiring instructions.

2.2 FCC Registration

The Model 1812 and 984 comply with FCC part 68 and are registered with the FCC.

Registration number: CCK8GW-68626-AL-R Ringer Equivalence: 0.0B

2.3 Notification

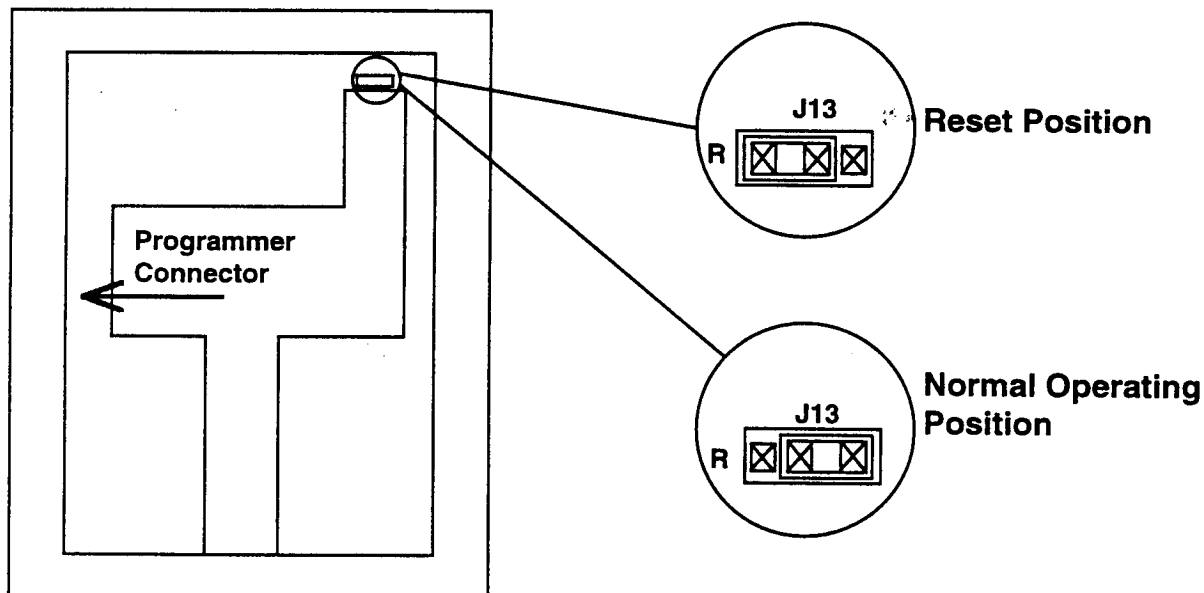
Registered terminal equipment must not be repaired by the user. In case of trouble, the device must be immediately unplugged from the telephone jack. The factory warranty provides for repairs. Registered terminal equipment may not be used on party lines or in connection with coin telephones. Notification must be given to the telephone company of:

- a. The particular line(s) to which the service is connected
- b. The FCC registration number
- c. The ringer equivalence
- d. The make, model and serial number of the device

3 - RESET JUMPER J13

3.1 Description

The reset jumper is located at the top right hand side of the 1812 as shown in the figure below. It is used to reset the microprocessor of the 1812. The jumper should be placed in the reset (R) position when power is applied and removed from the control. The jumper should be placed in the normal operating position, after power is applied, for system operation.



4 - SYSTEM GROUND

4.1 Terminal 3

Terminal 3 of the Model 1812 must be connected to earth ground. A cold water pipe or ground rod is recommended. An electrical conduit ground is not recommended. A 14 gauge wire should be used for grounding.

5 - GROUND SUPERVISION

5.1 Terminal 11

The system ground connected to Terminal 3 can be monitored by Terminal 11, Ground Supervision. A 24 gauge wire should be connected from Terminal 11 to a second ground clamp on the ground source. A break in either the ground wire or the ground supervision wire will then be detected by the 1812.

6 - PRIMARY POWER SUPPLY

6.1 Terminals 1 & 2

The transformer for the 1812 should be connected to Terminals 1 and 2 at the top right hand side of the circuit board. A 16 to 18 gauge wire should be used between the transformer and the 1812.

6.2 Transformer

The 1812 is supplied with one 16 VAC 40 VA transformer, (DMP Model 321). The transformer must be plugged into a 120 VAC 60 Hz commercial power outlet when system installation is complete. The outlet should not be controlled by a wall switch. **Never share the transformer output with any other equipment.**

7 - SECONDARY POWER SUPPLY

7.1 Battery

A 12 VDC 6AH sealed lead-acid rechargeable battery, (DMP Model 367) should be connected to the battery leads located at the lower right side of the circuit board. Observe polarity when connecting battery. The negative terminal of the battery is connected to the case ground internally. A second battery may be connected by adding a dual battery harness, (DMP Model 318). A third or fourth battery may be added to the Model 1812 by adding a battery harness for each. If more than two batteries are used, a 16VAC100 VA wire in transformer, (DMP Model 322) **MUST** be used in place of the standard 16 VAC 40 VA transformer. Use sealed lead-acid rechargeable batteries supplied by DMP or manufactured by Eagle Picher or Yuasa to insure proper charging. **DO NOT USE GEL CELL BATTERIES.**

7.2 Battery Only Restart

When powering up the 1812 control without AC power it is necessary to short the Battery Only Restart pads together to pull in the battery cutoff relay. The Battery Only Restart pads are located on the right side of the circuit board just below the relay four terminals. The pads need a momentary short only. Once the relay has pulled in, the battery power will hold it in that condition. If the 1812 control is powered up with the AC transformer, the battery cutoff relay is pulled in automatically.

7.3 Replacement period

The battery manufacturer recommends that the battery be replaced every 3 to 5 years under normal use.

7.4 Discharge/Recharge

The 1812 battery charging circuit is a float charge at 13.8 VDC at a maximum current of 1.2 amps. The total current available will be reduced by the total auxiliary power draw from Terminals 6 & 7. The various battery voltage levels are listed below.

Battery Trouble	11.9 VDC
Battery Cutoff	10.0 VDC
Battery Restored	12.6 VDC

7.5 Battery Supervision

The 1812 will test the battery once every hour when AC power is still present. The test is done at 15 minutes past the hour and lasts five seconds. A load is placed on the battery and if the battery voltage falls below 11.9 VDC a low battery is detected. If AC power has failed a low battery will be detected **any time** the battery voltage falls below 11.9 VDC.

If a low battery is detected with AC power still present the test will be repeated every two minutes until the battery reaches 12.6 VDC; the battery restored voltage. If a faulty battery is replaced with a fully recharged battery the restored battery will not be detected until the next two minute test is done.

7.6 Battery Cutoff

The battery will be disconnected from the 1812 any time the voltage of the battery drops to 10.0VDC. This is to prevent deep discharge damage to the battery.

7.7 1812 Power Requirements

When AC power has failed the 1812 control and all auxiliary devices connected to the 1812 draw their power from the battery. All devices must be taken into consideration when calculating the desired power from the battery capacity. Below is a list of the power requirements of the 1812 control and 984 Communication Module. Add the additional current draw of SECURITY COMMAND keypads, loop expanders and any other auxiliary devices used in the system for the total current required.

1812 control	180 ma
Relay output on	25 ma
1K Protection Loop	2 ma
984 Communicator	35 ma

8 - BELL OUTPUT**8.1 Terminal 4**

10.5 to 15 VDC is supplied at Terminal 4 to power an alarm bell or horn. This output can be steady or pulsed depending upon the Bell Action specified in Output Options with the 854 Programmer. Terminal 5 is the ground reference for the bell circuit. Devices connected to this terminal must operate over a range of 10.5 to 15 VDC.

The bell circuit detects 1000 ohms or less on the bell circuit as normal. This resistance is normally supplied by the alarm bell. If using a horn or siren, a 1000 ohm resistor may need to be added to the bell circuit. A low current supply will be present on Terminal 4 for supervision.

8.2 2 Amp Fuse

The Bell Output is current limited with a 2 Amp fuse. It is the left fuse located at the middle right hand side of the circuit board. The 2 amp fuse is a Type SFE 1/4" x 5/8" fast blow, (DMP Model 315).

9 - SMOKE DETECTOR OUTPUT**9.1 Terminal 6**

10.5 to 15 VDC is supplied at Terminal 6 to power smoke detectors. This output can be turned off for 3 seconds to reset smoke detectors. It is turned off by the user from the Fire Reset Menu Option. Terminal 5 is the ground reference for the smoke detector circuit. Devices connected to this terminal must operate over a range of 10.5 to 15 VDC.

9.2 1 Amp Fuse

The Smoke Detector Output is current limited with a 1 Amp fuse. It is the right fuse located at the middle right hand side of the circuit board. This is the same fuse that limits the auxiliary and keypad power output on Terminal 7. **The smoke detector power is shared with Terminal 7, therefore the total drain from Terminals 6 and 7 cannot exceed 1 Amp.** The 1 amp fuse is a Type SFE 1/4" x 5/8" fast blow, (DMP Model 314).

10 - KEYPAD, LOOP EXPANDER INSTALLATION

10.1 Description

The SECURITY COMMAND keypads and loop expanders used with the 1812 control are connected via four conductors to Terminals 7,8,9 and 10. The maximum length of wire used to connect all keypads and loop expanders to the 1812 is rated at 500 feet. Use at least 24 gauge wire for all runs. Any combination of keypads and loop expanders may be used up to a maximum of eight. The four wires to each device can be home runs or connected together at any point in the installation.

10.2 Terminal 7 - RED

10.5 to 15 VDC is supplied at Terminal 7 to power SECURITY COMMAND keypads and loop expanders. This is also where power for any auxiliary device is supplied. Devices connected to this terminal must operate over a range of 10.5 to 15 VDC. The ground reference for Terminal 7 is Terminal 10. The output is current limited with a 1 Amp fuse. It is right fuse located at the middle right hand side of the circuit board. This is the same fuse that limits the Smoke Detector Output on Terminal 6. **Since the power output on Terminals 6 and 7 is shared the total drain from Terminals 6 and 7 cannot exceed 1 Amp.** The 1 Amp fuse is a Type SFE 1/4" x 5/8" fast blow, (DMP Model 314).

10.3 Terminal 8 - YELLOW

Terminal 8 is data receive from SECURITY COMMAND keypads and loop expanders. It cannot be used for any other purpose.

10.4 Terminal 9 - GREEN

Terminal 9 is data transmit to SECURITY COMMAND keypads and loop expanders. It cannot be used for any other purpose.

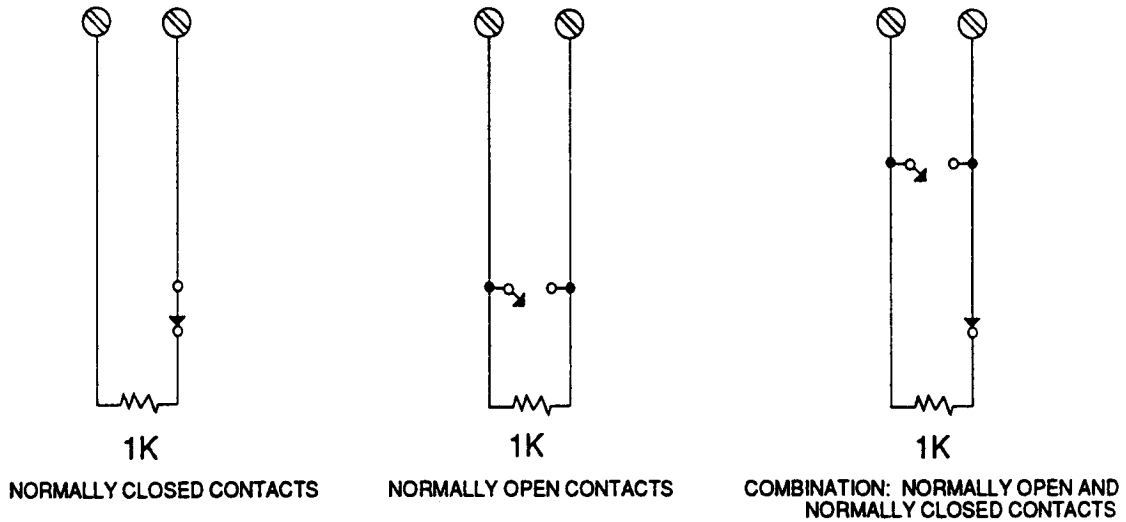
10.5 Terminal 10 - BLACK

Terminal 10 is the ground reference for SECURITY COMMAND keypads, loop expanders and any auxiliary devices that are being powered by Terminal 7.

11 - PROTECTION LOOPS

11.1 Description

The 8 or 16 protection loops provided on the 1812 control are all class B grounded loops. For programming purposes the loops on the control are always 1 through 16. Loops on SECURITY COMMAND keypads and loop expanders are always 17 through 48. There are two terminals provided for each loop. The right hand terminal of each loop is the voltage sensing side of the loop. This terminal will measure the voltage flowing through a 1000 ohm end-of-line resistor to ground. The ground reference for each loop is the left hand terminals. Dry contact sensing devices can be used in series (normally-closed) or in parallel (normally-open) with any of the protection loops.



11.2 Operational Parameters

Each protection loop will detect three conditions; open, normal and short. The parameters for each are listed below:

<u>Condition</u>	<u>Resistance on loop</u>	<u>Voltage on right terminal</u>
Open	over 1300 ohms	over 2.0 VDC
Normal	600 to 1300 ohms	1.2 to 2.0 VDC
Short	under 600 ohms	under 1.2 VDC

11.3 Loop Response Time

A condition must be present on a loop for 200 milliseconds before it will be detected by the 1812. Ensure that detection devices used on the protection loops are rated for use with this delay.

12 - DRY CONTACT RELAY OUTPUTS

12.1 Description

The 2, 4, 8 or 16 Dry Contact Relay Outputs of the 1812 are all single pole double throw (form C) contacts. All relays can be operated by a variety of functions.

- 1) Activation by loop condition
 - Latching
 - Pulsing
 - Momentary
 - Follow
- 2) Activation by 24 hour 7 day schedule
 - One on and one off time per day per relay
- 3) Manually from the SECURITY COMMAND keypad
- 4) Communication failure output
- 5) Armed area annunciation
- 6) Fire Alarm or Fire Trouble

12.2 Contact Rating

All Dry Contact Relay Outputs are contact rated at 3 amps at 30 VDC or 120 VAC.

13 - PROGRAMMER CONNECTION

13.1 Description

One 25 pin connector is provided for connection of a DMP Model 854 Programmer. The connector is located in the middle left hand side of the circuit board. Do not confuse the programmer connector with the communication module connector.

DO NOT PLUG THE PROGRAMMER ONTO THE COMMUNICATION MODULE CONNECTOR!
DAMAGE WILL RESULT!

The Model 854/854A Programming Manual gives complete instructions on the operation of the Model 854 or 854A Programmer.

14 - J16 TAMPER CONNECTOR

14.1 Description

J16 is used for connection of the tamper circuit when using the 16 gauge Grade A enclosure. (DMP Model 348A) See the Model 348A installation instructions for details. J16 is not used when the Model 1812 is used in the standard enclosure. Both pins should be left open.

