

DETECTO®



APSWIFI

Enterprise WIFI Option

Installation and Setup Manual

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DISCLAIMER

While every precaution has been taken in the preparation of this manual, the Seller assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from use of the information contained herein. All instructions and diagrams have been checked for accuracy and ease of application; however, success and safety in working with tools depend to a great extent upon the individual accuracy, skill and caution. For this reason, the Seller is not able to guarantee the result of any procedure contained herein. Nor can they assume responsibility for any damage to property or injury to persons occasioned from the procedures. Persons engaging the procedures do so entirely at their own risk.




FCC COMPLIANCE STATEMENT

This equipment generates uses and can radiate radio frequency and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area may cause interference in which case the user will be responsible to take whatever measures necessary to correct the interference.

You may find the booklet "How to Identify and Resolve Radio TV Interference Problems" prepared by the Federal Communications Commission helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No. 001-000-00315-4.

PRECAUTIONS

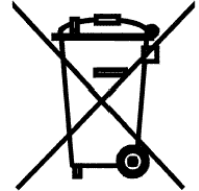
Before using this device, read this manual and pay special attention to all NOTIFICATION symbols:

	IMPORTANT		ELECTRICAL WARNING		STATIC SENSITIVE
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PROPER DISPOSAL

When this device reaches the end of its useful life, it must be properly disposed of. It must not be disposed of as unsorted municipal waste. Within the European Union, this device should be returned to the distributor from where it was purchased for proper disposal. This is in accordance with EU Directive 2002/96/EC. Within North America, the device should be disposed of in accordance with the local laws regarding the disposal of waste electrical and electronic equipment.

It is everyone's responsibility to help maintain the environment and to reduce the effects of hazardous substances contained in electrical and electronic equipment on human health. Please do your part by making certain that this device is properly disposed of. The symbol shown to the right indicates that this device must not be disposed of in unsorted municipal waste programs.



INTRODUCTION

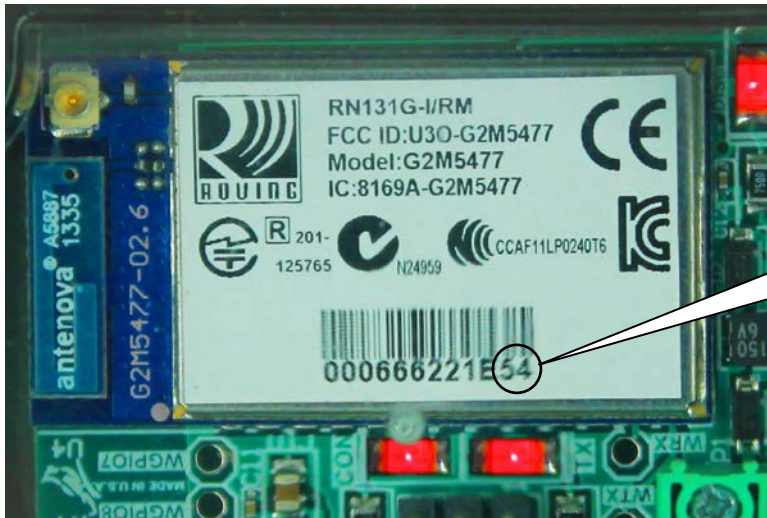
Thank you for purchasing our Detecto APSWIFI Enterprise WIFI option. This option for the APS Enterprise Scale was built with quality and reliability at our factory in Webb City, MO USA.

The APSWIFI option is used to connect the APS scale to an IEEE 802.11b/g wireless local area networks (wireless LAN). When the scale is powered on, the APSWIFI will connect to a wireless LAN matching the configuration stored in the APSWIFI module.

The purpose of this manual is to provide you with a guide through installation and setup of the APSWIFI Enterprise Option. Please read it thoroughly before attempting to install the module and keep it handy for future reference.

SPECIFICATIONS

Wireless Network Type:	Soft AP
Service Set Identifier (SSID):	CardinalS2W-##*
Wireless Channel:	6
Security:	None
LAN IP Address:	192.168.0.100
LAN Subnet Mask:	255.255.255.0



* **NOTE:** ## is the last 2 digits of the MAC address of the module.

INSTALLATION

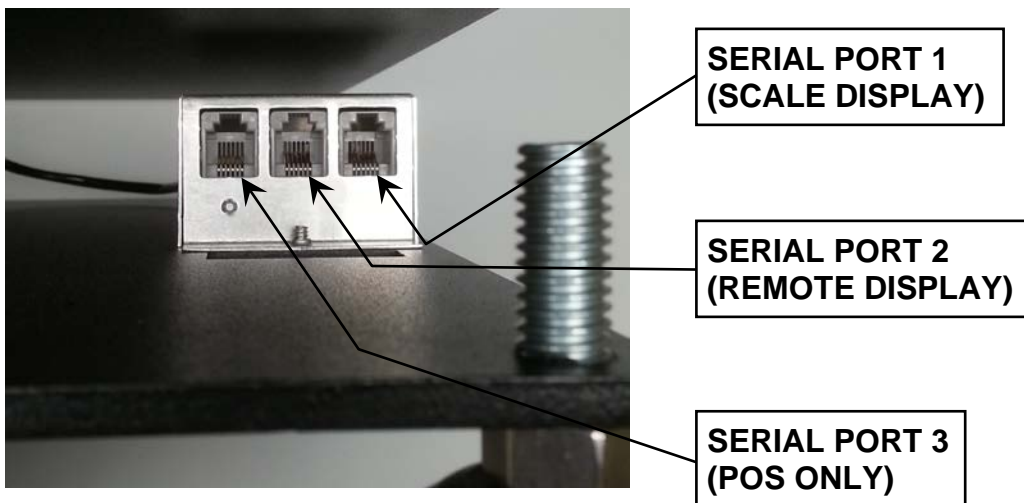
Connecting the APSWIFI Option



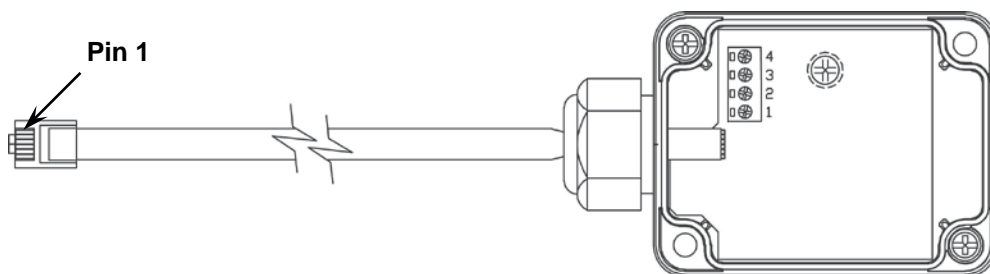
MAKE SURE THE POWER TO THE APS SCALE HAS BEEN REMOVED!

Connection to the APS Enterprise scale is made internally to the main board inside the scale. The APSWIFI uses an RJ11 snap-in modular connector and can be connected to either Serial Port 1 or Serial Port 2. Note that if the APSWIFI is connected to Serial Port 2, the Remote Display cannot be used.

NOTE: If a Remote Display is required, the APSWIFI can be connected to the scale by unplugging the Scale Display cable and plugging the APSWIFI into Serial Port 1.



NOTE: Serial Port 3 is for a POS device only and can not be used for the APSWIFI, Remote Display or Scale Display.



WIRE COLOR CHART

BLUE — VCC	PIN 1
BLACK — GND	PIN 2
RED — TX	PIN 3
GREEN — RX	PIN 4

NETWORK CONFIGURATION

Connecting to APSWIFI Access Point (Ad Hoc)

From the initial factory settings, the APSWIFI will appear as a wireless access point with the name "CardinalS2W. In order to connect to the APSWIFI for initial setup, you will need to connect to it as a wireless access point using a wireless device such as a laptop, PC, tablet or smart phone. Once connected you can make use of the full functionality described in the Operation section below.

Connecting to an Existing Network

In order to set up the APSWIFI to connect to an existing network:

1. Power on the scale with the APSWIFI installed.
2. Connect to the APSWIFI access point.
3. With a PC or laptop, use HyperTerminal or another terminal client to connect to the wireless module IP address and port 10001. The default IP address is 192.168.0.100.
4. Once connected, send three '\$' characters and press enter. The module should reply with "CMD" and is now in command mode.
5. To launch the web configuration utility, type "**run web_app**" into the terminal console window and press Enter. This will cause the APSWIFI to reboot in the web configuration mode where you can set it to connect to an existing network.
6. Since the module rebooted, you will need to reconnect to the APSWIFI access point. Once you have reconnected to the WIFI module, launch a web browser and navigate to

<http://config>

If your attempt to browse to this page is unsuccessful, you may need to disable any other Ethernet adapters besides the wireless adapter being used to connect to the APSWIFI module. Make sure to start the web configuration app by briefly applying the DEFAULTS jumper before connecting to the APSWIFI access point.

You should then be presented with a new page which contains a form that can be used to set up the network configuration to either connect to an existing network, or act as a wireless access point. On the next page is an image of how this screen will appear as well as functional descriptions of each of the settings.

NETWORK CONFIGURATION, CONT.

Reset to Defaults



ATTENTION! OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC SENSITIVE DEVICES.

In the event that you change the network settings in such a way that you can no longer access the APSWIFI or the APSWIFI configuration web page, a jumper has been provided (J1 DEFAULT) to reset the network configuration to the initial factory defaults.

To reset the APSWIFI to defaults, set the jumper in the shorted position and apply power to the scale. You should see the DEFAULT LED (D3) light up while the APSWIFI is in the process of resetting the configuration. When the reset to defaults is complete you should see the LED flash 5 times and then go out when it is complete.

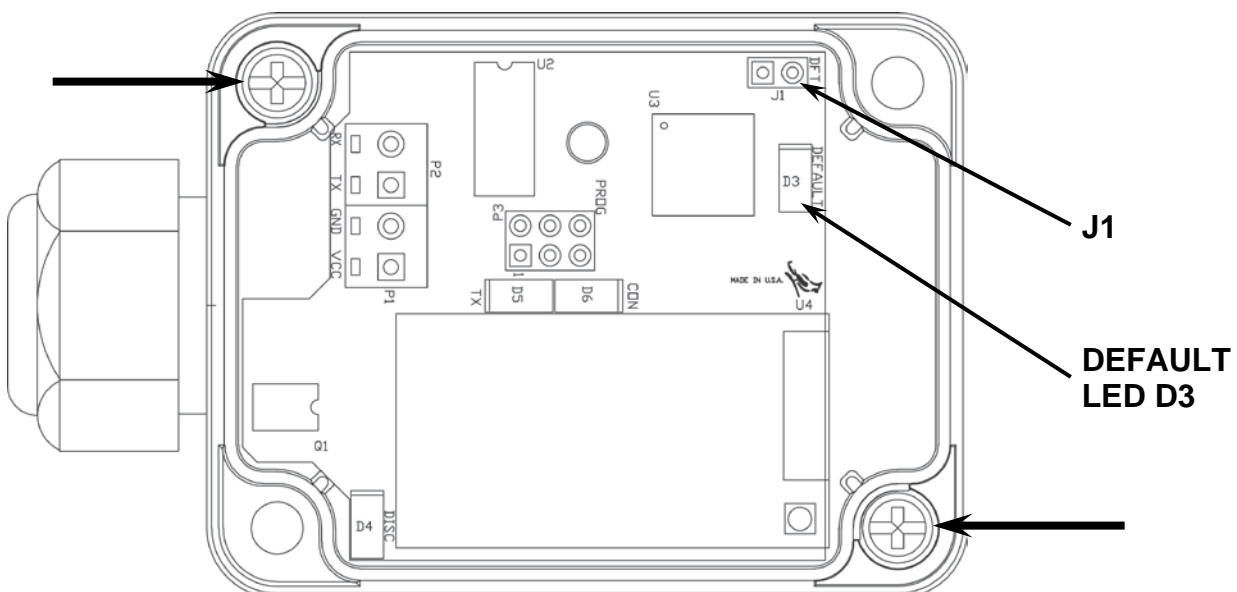
NOTE: To gain access to the DEFAULTS jumper, loosen the 2 screws shown and remove the lid.

It is necessary to completely remove power and re-apply power to ensure that the default settings have taken effect.

This means that it is very important that the DEFAULTS jumper NOT be left in place on the board for normal operation and should only be used if trying to recover a module with incorrect settings.

At this point, the APSWIFI should continue with normal operation using the default configuration.


NOTE: The DEFAULTS jumper will launch the configuration web page if set briefly after power up.



NETWORK CONFIGURATION, CONT.

Web Configuration Parameter Descriptions – Access Point

The configuration web page in the APSWIFI module allows the module to be configured as either an access point, or to connect to an existing network. In order to accomplish this, a new parameter has been added on the web page “Network Mode”.

 **MICROCHIP**

Network Configuration **Information**

Network Mode
Server (SoftAP) ▼

Access Point SSID
CardinalS2W

Security Mode
Open ▼

IP Address
192.168.0.100

Network Mask
255.255.255.0

Gateway IP Address
192.168.0.100

Enable DHCP Server (recommended)

Save & Reboot **Cancel**

NETWORK CONFIGURATION, CONT.

Web Configuration Parameter Descriptions – Access Point, Cont.

Network Mode – This parameter allows the APSWIFI module to be configured as either an access point, or to connect to an existing network.

In order to set up the APSWIFI module as an access point, set the mode to “Server (SoftAP).”

Access Point SSID – Enter the SSID of the access point you wish to connect to here. If no access point exists with the SSID that is entered, then the APSWIFI module will attempt to start an access point with the entered SSID.

Security Mode – When the “Network Mode” is set to “Server (SoftAP)” mode, then this sets the security type that will be used in order to connect to the module acting as an access point. The password used by the connecting device must match the password set on the configuration web page in order to connect to the module.

IP Address – Enter the static IP address of the APSWIFI module here.

Network Mask – Enter the desired net mask here.

Gateway IP Address – Enter the default gateway IP address here.

Enable DHCP Server (recommended) – When “Server (SoftAP)” mode is active, the “Enable DHCP Server” checkbox will enable the DHCP server to assign addresses automatically to connecting devices.

NOTE: If this check box is unchecked in this mode, it will be important to set static IP addresses in the devices connecting to the WIFI module that are compatible with the settings that are set in the module itself.

Once all settings have been entered, click “Save & Reboot” at the bottom of the webpage in order to save the parameters.



NOTE: It is very important not to press “Enter” before all of the configuration settings have been properly entered. Pressing “Enter” prior to entering in all of the appropriate settings will submit the information and may put the device into a state where it cannot be connected to. If this happens, it may be necessary to isolate the APSWIFI module from wireless signals and use the DEFAULT jumper to restore the network to a known configuration.

NETWORK CONFIGURATION, CONT.

Web Configuration Parameter Descriptions – Client (Infrastructure)

The configuration web page in the APSWIFI module allows the module to be configured as either an access point, or to connect to an existing network. In order to accomplish this, a new parameter has been added on the web page “Network Mode”.



Network Configuration **Information**

Network Mode
Client (Infrastructure) ▼

Available Access Points:

HP03480E
BLUEROOM
Dynex617

Access Point SSID
BLUEROOM

Security Mode
Open ▼

Use DHCP (recommended)

NETWORK CONFIGURATION, CONT.

Web Configuration Parameter Descriptions – Client (Infrastructure), Cont.

Network Mode – This parameter allows the APSWIFI module to be configured as either an access point, or to connect to an existing network.

In order to set the module to connect to an existing network, change the “Network Mode” to “Client (Infrastructure)”.

Available Access Points – Click the “Refresh List” button in order to scan for available access points that the APSWIFI module can connect to. You can select an AP by clicking on its name in the list.

Access Point SSID – Enter the SSID of the access point you wish to connect to here. If no access point exists with the SSID that is entered, then the APSWIFI module will attempt to start an access point with the entered SSID.

Security Mode – When the “Network Mode” is set to “Client (Infrastructure)” mode, this sets the security type that the module will use to attempt to connect to the existing network. This will be beneficial when attempting to connect to certain secured networks that the older firmware was having issues in properly detecting the security type.

Use DHCP (recommended) – When “Client (Infrastructure)” mode is active, the “Use DHCP” will cause the module to try and obtain an IP address automatically when it connects to an existing network.

NOTE: Having this box checked may make the module difficult to locate on an existing network unless the existing network has been configured to always assign the same IP address to the WIFI module.

When set to connect to an existing network, it is recommended to use static IP addressing in order to make connecting to the module easier.

Once all settings have been entered, click “Save & Reboot” at the bottom of the webpage in order to save the parameters.

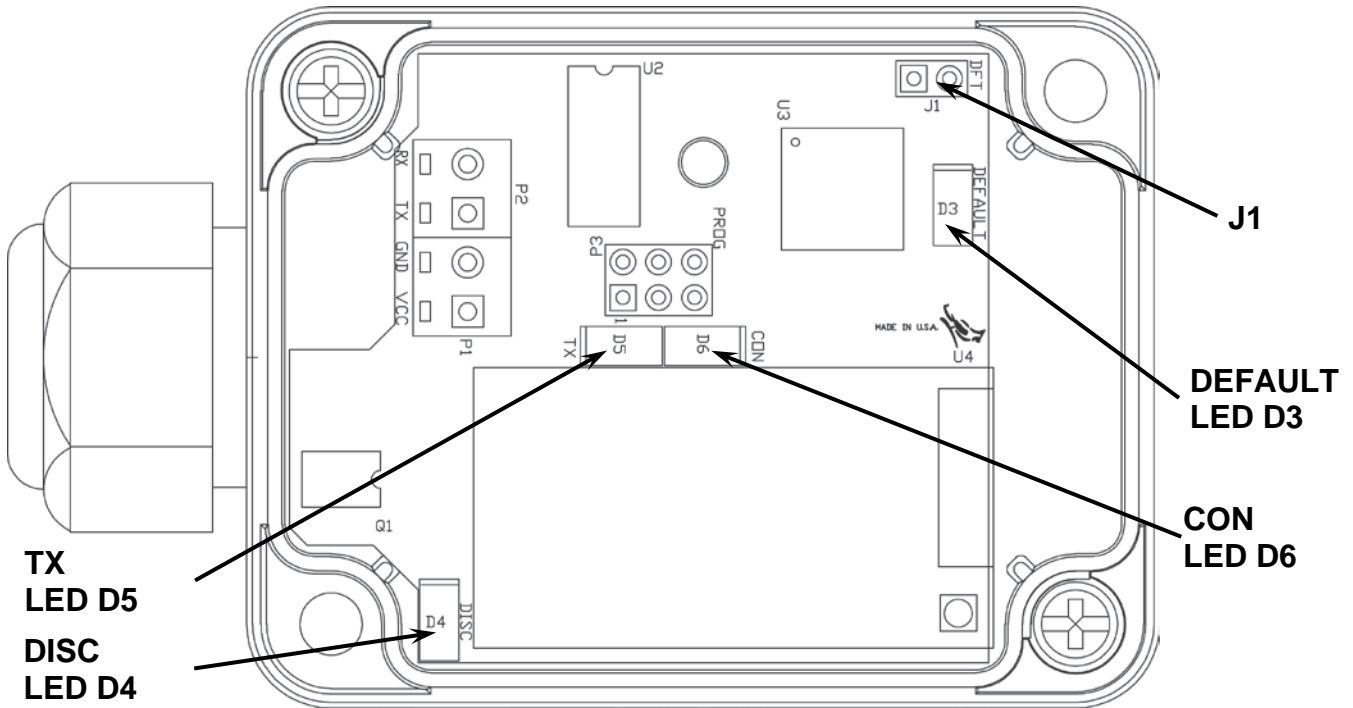


NOTE: It is very important not to press “Enter” before all of the configuration settings have been properly entered. Pressing “Enter” prior to entering in all of the appropriate settings will submit the information and may put the device into a state where it cannot be connected to. If this happens, it may be necessary to isolate the APSWIFI module from wireless signals and use the DEFAULT jumper to restore the network to a known configuration.

TROUBLESHOOTING

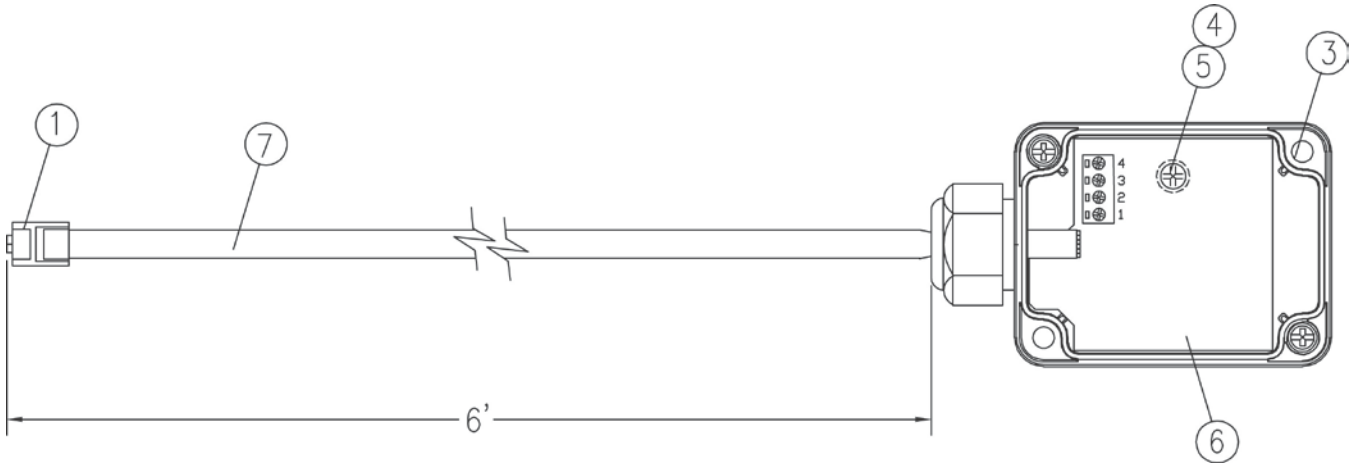
Status LED's

The APSWIFI has four (4) LED's to indicate the communication status of the wireless connection.



LED	Indication	Description
D3	DEFAULT	This LED will illuminate to indicate the APSWIFI is in the process of resetting the configuration. When the reset to defaults is complete you should see the LED flash 5 times and then go out when it is complete.
D4	DISC	This LED indicates that Discovery Mode is active on the APSWIFI. Discovery Mode affects whether the APSWIFI can see (find) computers and devices on the network and whether other computers on the network can see the APSWIFI.
D5	TX	This LED will illuminate when the APSWIFI has been successfully connected to a network and will flicker when there is data activity over the wireless network.
D6	CON	This LED displays the communication status. It will be ON or flashing rapidly when communications between the APSWIFI and the wireless network is established.

PARTS IDENTIFICATION



ITEM	PART NO.	QTY	DESCRIPTION
1	6610-1152	1	CONNECTOR, 6-PIN MODULAR
3	6540-0150	1	ENCLOSURE, POLYCARBONATE
4	6680-1015	1	SPACER, #4 X .375 SELF RETAINING
5	6021-1100	1	SCREW, PAN HD. #4-40 X .69
6	8527-C511-0A	1	PC BOARD
7	6980-1046	1	CABLE, 6 COND. 26 GA. MODULAR, 74" LONG

STATEMENT OF LIMITED WARRANTY

DETECTO warrants its equipment to be free from defects in material and workmanship as follows: DETECTO warrants to the original purchaser only that it will repair or replace any part of equipment which is defective in material or workmanship for a period of **two (2) years from date of shipment**. Detecto shall be the sole judge of what constitutes a defect.

During the **first ninety (90) days** DETECTO may choose to replace the product at no charge to the buyer upon inspection of the returned item.

After the first ninety (90) days, upon inspection of the returned item, DETECTO will repair or replace it with a remanufactured product. The customer is responsible for paying for the freight both ways.

This warranty does not apply to peripheral equipment not manufactured by DETECTO; this equipment will be covered by certain manufacturer's warranty only.

This warranty does not include replacement of expendable or consumable parts. This does not apply to any item which has deteriorated or damaged due to wear, accident, misuse, abuse, improper line voltage, overloading, theft, lightning, fire, water or acts of God, or due to extended storage or exposure while in purchaser's possession. This warranty does not apply to maintenance service. Purchased parts will have a ninety (90) day repair or replacement warranty only.

DETECTO may require the product to be returned to the factory; item(s) must be properly packed and shipping charges prepaid. A return authorization number must be obtained for all returns and marked on the outside of all returned packages. DETECTO accepts no responsibility for items lost or damaged in transit.

Conditions Which Void Limited Warranty

This warranty shall not apply to equipment which:

- A.) Has been tampered with, defaced, mishandled or has had repairs and modifications not authorized by DETECTO.
- B.) Has had serial number altered, defaced, or removed.
- C.) Has not been properly grounded according to Detecto's recommended procedure.

Freight Carrier Damage

Claims for equipment damaged in transit must be referred to the freight carrier in accordance with freight carrier regulations.

This warranty sets forth the extent of our liability for breach of any warranty or deficiency in connection with the sale or use of the product. DETECTO will not be liable for consequential damages of any nature, including but not limited to, loss of profit, delays or expenses, whether based on tort or contract. Detecto reserves the right to incorporate improvements in material and design without notice and is not obligated to incorporate improvements in equipment previously manufactured.

The foregoing is in lieu of all other warranties, express or implied including any warranty that extends beyond the description of the product including any warranty of merchantability or fitness for a particular purpose. This warranty covers only those DETECTO products installed in the forty-eight (48) contiguous continental United States.



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