



# Oxygen Monitor

Model: PM5900

**R<sub>x</sub>** ONLY



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## Receiving/Inspection

Remove the DRW Medical Oxygen Monitor from the packaging and inspect for damage. If there is any damage, **DO NOT USE** and contact your Provider.

## Intended Use

DRW Medical, LLC Oxygen Monitor provides continuous, direct monitoring of oxygen mixtures in a wide variety of medical applications such as anesthesiology (e.g., anesthesia machines), respiratory devices (e.g., respirators, ventilators, pediatric incubators), and oxygen therapy (e.g., oxygen tents).




## Operator Profile



The oxygen monitor is to be used by trained healthcare professionals under the supervision, or on the order, of a physician in a hospital (or other clinical setting). The DRW Medical, LLC Oxygen Monitor is not intended for transport use. This device is not an oxygen supply source.














## Read All Instructions Before Using

This manual instructs a Professional to install and operate the Oxygen Monitor. This is provided for your safety and to prevent damage to the Oxygen Monitor. If you do not understand this manual, **DO NOT USE** the Oxygen Monitor and contact your Provider.

## Safety Information - Warnings and Cautions

 <b>DANGER</b>	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
 <b>WARNING</b>	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 <b>CAUTION</b>	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
<b>CAUTION</b>	Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

	Direct current.
	PM5900 WITH RESPECT TO ELECTRICAL SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL60601-1, IEC60601-1, CAN/CSA C22.2 No. 601.1

	<p>Follow instructions for use</p>
	<p>General Mandatory Action Sign</p>
	<p>Calibration</p>
	<p>Calibration Failed</p>
	<p>Audio Alarm Paused</p>
	<p>Low Battery</p>
	<p>Check</p>
	<p>Locked</p>
	<p>Oxygen Sensor</p>
	<p>Pass</p>
	<p>This device may contain electrical components that are hazardous to the environment. DO NOT dispose device into standard trash. Contact your local waste management for disposal of Electronic Equipment.</p>
	<p>Caution! U.S. Federal Law restricts this device to sale by or on the order of a physician.</p>
	<p>Liquid ingress protection - Dripping water (vertically falling drops) shall have no harmful effect on the device when mounted in an upright position.</p>

 **DANGER**

This product is not intended as a life-sustaining or life-supporting device.

 **WARNING**

Only trained, qualified medical personnel under the direct supervision of a licensed physician should operate the Oxygen Monitor.

Use this Oxygen Monitor only for its intended use as described in this manual.

Medical Oxygen should meet the requirements of USP.

Always follow ANSI and CGA standards for Medical Gas Products, Flowmeters, and Oxygen Handling.

The Oxygen Monitor should be serviced by a qualified hospital/dealer service technician, or by DRW Medical, LLC.

DO NOT obstruct the alarm grill on the back of the Oxygen Monitor.

DO NOT use near any type of flame or flammable/ explosive substances, vapors or atmosphere.

DO NOT allow an excess length of cable near the patient's head or neck, this could result in strangulation. Secure excess cable to bed rail or suitable object.

DO NOT use Oxygen Monitor with a cable that appears worn, cracked or has damaged insulation.

Never install the sensor in a location that will expose the sensor to patient's exhaled breath or secretions, unless you intend to dispose of the sensor, flow diverter and tee adapter.

Improper use of this device can cause inaccurate oxygen measurements

Device intended for use with dry gas only.

Before use, all individuals who will be using the Oxygen Monitor must become thoroughly familiar with the information contained in this Operation Manual. Strict adherence to the operating instructions is necessary for safe, effective product performance. This product will perform only as designed if installed and operated in accordance with the manufacturer's operating instructions.

Use only genuine Precision Medical Inc. accessories and replacement parts. Failure to do so may seriously impair the analyzer's performance. Repair of this equipment must be performed by a qualified service technician.

Calibrate the Oxygen Monitor weekly when in operation, or if environmental conditions change significantly. (i.e., Elevation, Temperature, Pressure, Humidity).

Use of the Oxygen Monitor near devices that generate electrical fields may cause erratic readings.

Although the sensor of this device has been tested with various anesthesia gases including nitrous oxide, Halothane, Isoflurane, Enflurane, Sevoflurane and Desflurane and found to have acceptably low interference, the device in entirety (including electronics) is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide. Only the threaded sensor face, flow diverter, and "T" adapter may be allowed to contact such a gas mixture.

No modification of this equipment is allowed.

## CAUTION

The Oxygen Monitor contains magnetic, ferrous material that may affect the results of an MRI.

Store the Oxygen Monitor in a clean, dry area when not in use.

DO NOT use if dirt or contaminants are present on or around this Oxygen Monitor or connecting devices.

DO NOT smoke in an area where oxygen is being administered.

DO NOT clean with aromatic hydrocarbons.

DO NOT steam autoclave.

DO NOT gas sterilize with (EtO) Ethylene Oxide.

DO NOT immerse Oxygen Monitor or Sensor in liquid.

## Specifications

### Base Device Specifications

#### Dimensions (Monitor without cable and sensor attached):

Length:	1.72" (4.36 cm)
Width:	3.56" (9.04 cm)
Height:	5.44" (13.82 cm)
Cable Length:	10 ft. (3.05m) (fully extended)

#### Weight:

Device Weight:	1.11 lbs (0.50 kg) (includes: monitor, sensor, batteries and cable)
Shipping Weight:	1.64 lbs (0.75 kg)

#### Operating Conditions:

Temperature:	50°F- 113°F (10°C - 45°C)
Altitude:	Sea Level to 8000 feet

#### Storage Conditions:

Temperature:	5°F - 122°F (-15°C- 50°C)
Humidity:	0 - 95% non-condensing

#### Power Requirements:

4, AA Alkaline Batteries (4 x 1.5 Volts) 6 VDC

#### Battery Life:

approximately 2000 hours  
(continuous use non-alarm condition)

#### Diverter Fitting:

fits industry standard, 15 mm "T" adapter

#### Measurement Range:

0.0 - 100%

#### Resolution:

0.1 Increments

#### Accuracy & Linearity:

± 1% of full scale at constant temperature, R.H. and pressure when calibrated at full scale

#### Total Accuracy:

± 3.0% Actual Oxygen Level over full operating temperature range

#### Response Time:

90% of final value in less than 12 seconds at 77°F (25°C)


#### Warm-up Time:

none required

## Classifications

Protection against electric shock:	Internally powered equipment
Protection against water:	IPX1 (Drip Proof)
Mode of Operation:	Continuous
Sterilization:	Non-Sterile Device
Flammable anesthetic mixture:	Not suitable for use in presence of a flammable anesthetic mixture

## Low Battery Indication:

Low battery icon  displayed on graphics screen, and audible alarm

## Alarm System:

High/low alarms, respective flashing red LEDs and graphics, 68db audible alarm @ 1 meter

## Low Alarm Range:

\*15% - 99% Oxygen  
(\*Requires extra action to set below 18%)

## High Alarm Range:

18% - 100% Oxygen

## High Alarm De-Activation Setting:

Above 100% ("---" will appear )

## Alarm Accuracy:

Displayed value +/- 0.1

## Patient Contact:

Indirect contact via gas passing through sensor sampling site.

## Sensor Specifications

### Sensor Type

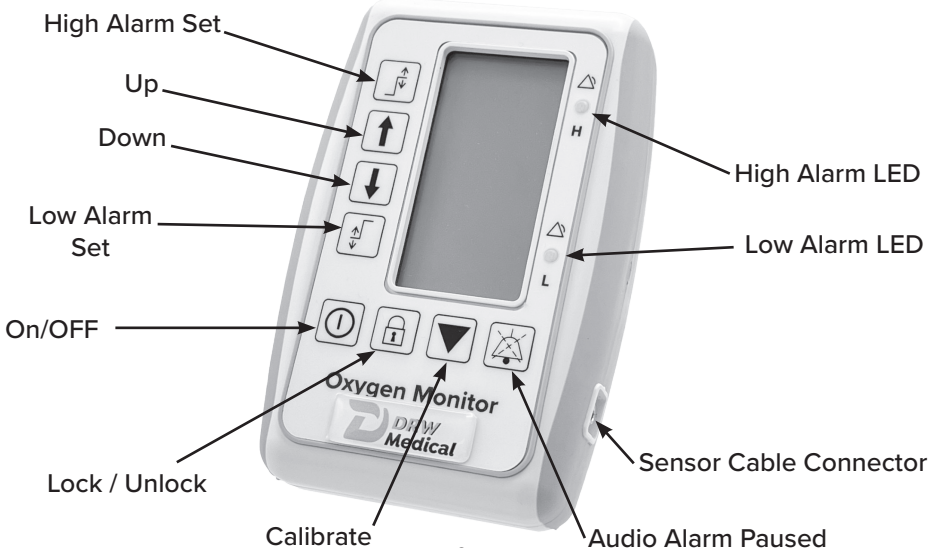
Precision Medical 504877 galvanic oxygen sensor (fuel cell)











### Expected Sensor Life

> 1,000,000 O<sub>2</sub> % Hours








Specifications are subject to change without notice.

## Component Description Oxygen Monitor Identification

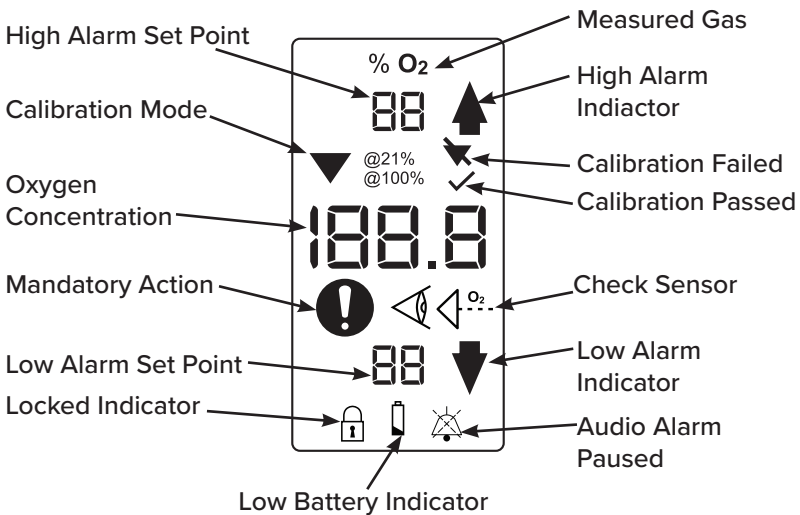


ITEM NAME	DESCRIPTION
<p><b>Power Key</b></p> 	<p>The Power Key turns the Oxygen Monitor ON and OFF. The Lock/Unlock Key must be pressed to unlock the Oxygen Monitor, before being powered OFF.</p>
<p><b>Lock/Unlocck Key</b></p> 	<p>Pressing the Lock/Unlock Key will “Unlock” the keypad, so changes in the stored settings can be made. When pressing the key to “Lock” the Oxygen Monitor disables the key pad, and no changes can be made.</p>
<p><b>Alarm Silence Key</b></p> 	<p>In alarm condition, pressing the Audio Alarm Paused Key will deactivate the audible alarm for 120 seconds. The visual alarm will continue to display.</p>
	<p>General Alarm</p>
<p><b>Calibration Key</b></p> 	<p>Pressing the Calibration Key calibrates the Oxygen Monitor with air or oxygen.</p>
<p><b>Low Alarm Key</b></p> 	<p>Pressing  Low Alarm Key when the keypad is unlocked, the Low Alarm set point will flash. The Low Alarm setting can be adjusted with the   UP/DOWN keys. When the Low Alarm value is changed, pressing  the key will save the setting. The Oxygen Monitor will also save the setting and revert to normal operation if no keys are pressed within 10 seconds. The Low Alarm Set is adjustable down to 18% Oxygen. NOTE: Factory Preset = 18% Oxygen.</p>
<p><b>Low Alarm LED</b></p>	<p>During a Low Alarm condition, the red LED will flash accompanied by the triple pulse audible alarm.</p>

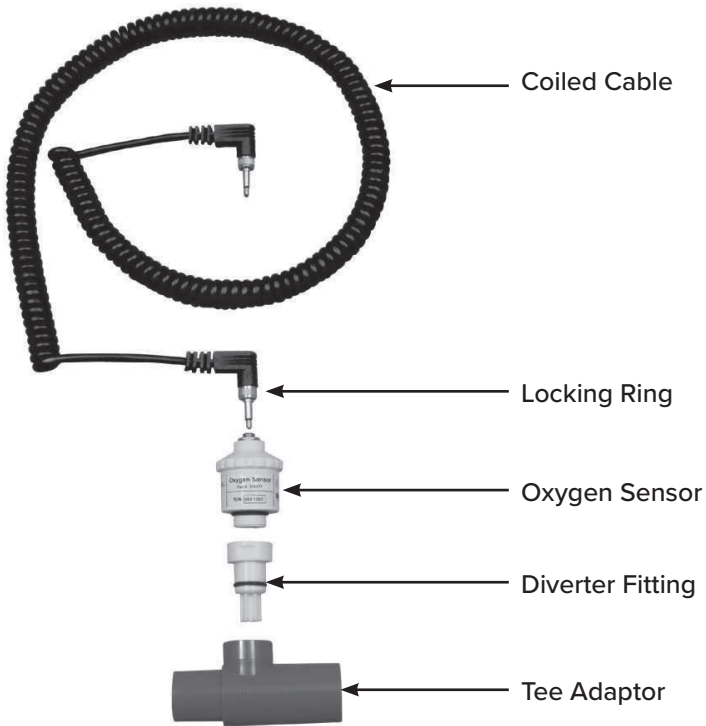



ITEM NAME	DESCRIPTION
<p><b>High Alarm Key</b></p> 	<p>Pressing the  High Alarm Key when the keypad is unlocked, the high alarm set point will flash. The high alarm setting can be adjusted with the  UP/DOWN keys. When the high alarm value is changed, pressing the  key will save the setting. The Oxygen Monitor will also save the setting and revert to normal operation if no keys are pressed within 10 seconds. The High Alarm Set is adjustable up to 100% Oxygen. To disable the HIGH Alarm, raise the HIGH Alarm setting above 100%. Dashes (---) will be displayed next to the  UP key on the LCD display.</p> <p>NOTE: When the High alarm is disabled dashes (---) will appear next to the  UP key on the LCD display, the Low alarm will still function.</p> <p>NOTE: Factory Preset = 50% Oxygen.</p>
<p><b>High Alarm LED</b></p>	<p>During a High Alarm condition, the red LED will flash accompanied by the triple pulse audible alarm.</p>
<p><b>Up/Down Keys</b></p> 	<p>The Up/Down Keys are used in conjunction with the alarm set keys. Pressing either of these keys will change the alarms set points by 1% increments or 5% if held down continuously.</p>
<p><b>Sensor Cable Connector</b></p>	<p>Cable Interface connection between Oxygen Monitor and Oxygen Sensor Cable.</p>

## Oxygen Monitor LCD Display Identification



# Oxygen Sensor Component Identification



ITEM NAME	DESCRIPTION
<b>Coiled Cable with Male Plugs</b>	The Coiled Cable allows the Sensor to be positioned up to 10 ft from the side of the Oxygen Monitor. There are Male Plugs at each end of the Coiled Cable.
<b>Locking Ring</b>	Male Plugs have Locking Rings and must be engaged when in use.
<b>Oxygen Sensor</b>	Galvanic Oxygen Sensor
<b>Diverter Fitting</b>	Fitting used to connect to the Oxygen Source.
<b>Tee Adaptor</b>	<p>The Tee Adaptor is used to connect the Oxygen Sensor and Diverter Fitting to an oxygen pathway circuit.</p> <p> Note: The Tee Adaptor is intended for single patient use only.</p>

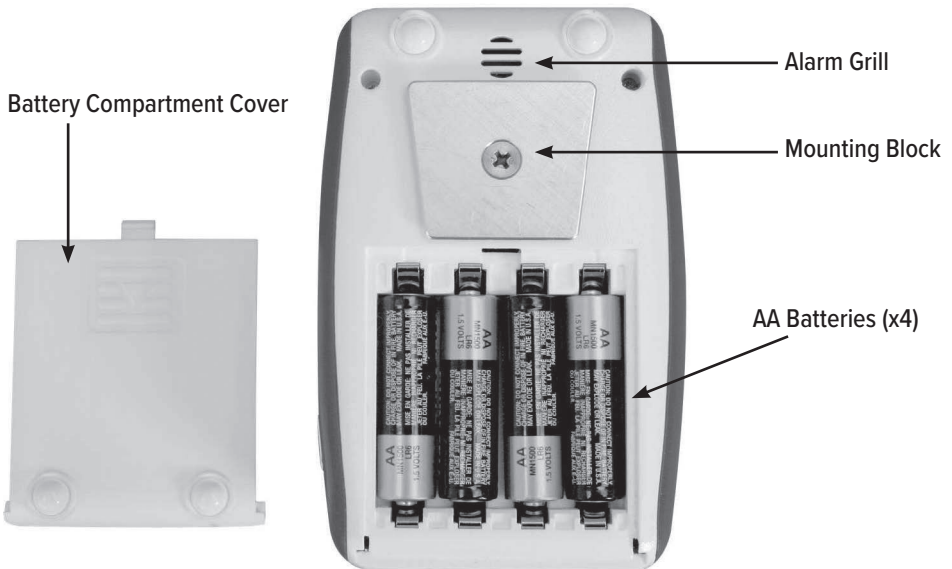
## Battery Installation

### ⚠ CAUTION

Use ONLY AA Alkaline Batteries.

1. Press down the center, top edge of the battery cover and slide down.
2. Remove old batteries, if applicable.
3. Install 4 AA Alkaline Batteries, and follow the diagram stamped in the bottom of the battery compartment.
4. Slide the battery cover back into position until the cover snaps on to the Monitor.

## Battery Installation Diagram



## Operating Instructions

### ⚠ CAUTION

Inspect the Oxygen Monitor, Sensor and Cable for visual damage before use, DO NOT USE if damaged.

### ⚠ WARNING

Read this User Manual before installing or operating the Oxygen Monitor.

## Quick Setup Guide

1. Install 4 AA Alkaline Batteries.
2. Connect the Oxygen Sensor and Diverter Fitting.
3. Connect the Coiled Cable.
4. Calibrate the Oxygen Monitor.
5. Set the High/Low Alarms.

## Sensor Installation

### CAUTION

Inspect the Oxygen Sensor and Diverter Fitting for visual damage or electrolyte leakage before use. DO NOT USE if damaged.

Use ONLY an Oxygen Sensor specified by DRW Medical, LLC.

The Oxygen Sensor should not be used in the presence of flammable anesthetics such as Diethyl Ether or Cyclopropane

### WARNING

DO NOT attempt to open or repair the Oxygen Sensor.

The Sensor electrolyte is corrosive, and contains lead.

DO NOT let it come in contact with the skin. If it does, flush affected area with water.

Check the Sensor regularly for leaks. If the Sensor is leaking, replace with NEW Sensor. Leaking or used Sensors should be handled and disposed of in accordance with local regulations.

An MSDS is available from DRW Medical, LLC.

If the Oxygen Sensor is used in breathing circuits, the Diverter must be attached to the Sensor and must be used with the Tee Adapter.




The Oxygen Sensor must be installed before the Oxygen Monitor can be operated.

1. Screw the Diverter to the bottom of the Oxygen Sensor, tighten until snug.
2. If using the Tee Adapter, attach to the Diverter.
3. Insert the one end of the Coiled Cable into the top of the Sensor, and secure by tightening the Locking Ring, until snug.
4. Insert the other end of the Coiled Cable into the Sensor Cable Connection located on the right side of the Oxygen Monitor. Secure it in place by tightening the Locking Ring, until snug.
5. Wait approximately 20 minutes for the NEW Sensor to stabilize to the environment.
6. Calibrate the Oxygen Monitor with the NEW Sensor.

## CAUTION

1. Calibrate the Oxygen Monitor before each use, and when replacing the Oxygen Sensor or the batteries.
2. The DRW Medical Oxygen Monitor can only be calibrated accurately using 100% Oxygen or 20.9% Oxygen (Room Air). Using any other concentration will result in inaccurate readings.
3. Air calibration is not recommended unless the Sensor can be exposed to a known source of clean air. Hospital room air is often enriched with excess oxygen.
4. Calibrate the Oxygen Monitor at a pressure and flow similar to your clinical application.
5. Before calibrating the Oxygen Monitor, the oxygen concentration readout should be stable and not drifting more than 0.2%.
6. DO NOT calibrate the Oxygen Monitor in humidified gas, as water vapor makes the oxygen concentration appear lower than the actual value.

## Calibration

1. Place the Sensor with Diverter and Plastic Tee attached into the gas stream of 100% USP Oxygen or room air. The highest accuracy is achieved when using 100% USP Oxygen at a constant pressure and flow.
2. Wait at least 20 seconds or more for the oxygen to purge the line.
3. Turn the Oxygen Monitor “ON” by pressing the POWER key.
4. Let the oxygen concentration display stabilize, the readout should not drift more than 0.2%.
5. Press the  key to UNLOCK the keys.
6. Press the  CAL key. The display will show “@ 21%” or “@ 100%” oxygen. When “DONE” appears, the calibration is complete. The Oxygen Concentration will be displayed in a gas percent value. Press  LOCK/ UNLOCK to save the calibration data. If no keys are pressed within 3 seconds, the setting will be saved, and the keypad will be locked.
7. Remove the Oxygen Sensor from the oxygen supply and confirm that the display reads between 19-22% Oxygen in room air.

## Effects of Temperature

To minimize temperature effects:

1. In a breathing circuit, place the Oxygen Sensor upstream of the heater.
2. Allow time for the Oxygen Sensor to stabilize to its new room temperature.
3. Perform the calibration procedure at a temperature close to or similar to your clinical application

## Effects of Elevation/Barometric Pressure Changes

This device does not automatically compensate for changes in barometric pressure. Calibration of the Monitor shall be performed when elevation at which the device is being used changes more than 500 feet.

## Effects of Humidity

High Moisture levels will dilute the oxygen concentration, decreasing the concentration of oxygen being monitored by the Oxygen Sensor.

High humidity can cause condensation to collect on the Oxygen Sensor, obstructing the passages and reducing the effectiveness of the Oxygen Sensor.

### CAUTION

**To reduce the effects of humidity on the Sensor:**

DO NOT USE the Oxygen Sensor in environments with greater than 95% humidity.  
Place the Oxygen Sensor upstream from the humidifier in a breathing circuit.

## Effect of Pressure

### CAUTION

The Oxygen Monitor is not equipped with automatic barometric pressure compensation.

When the Oxygen Sensor is placed in a breathing circuit, the alternating “breathing” pressure cycles will be sensed as an increase in oxygen concentration. The concentration is not actually changing, but it appears to be due to the change in pressure.

The following recommendation is provided to reduce the chances of pressure causing false readings.

Calibrate the DRW Medical Oxygen Monitor using 100% Oxygen or room air at the same pressure and flow as the gas to be monitored.

## Effects of Anesthetic Gases

Anesthetic Agent	Test Concentration	Oxygen Concentration Error
Helium	50%, Balance Oxygen	0%
Nitrous Oxide	80%, Balance Oxygen	0%
Carbon Dioxide	10%, Balance Oxygen	0%
Halothane	4%	<1.5% Oxygen*
Enflurane	5%	<1.5% Oxygen*
Isoflurane	5%	<1.5% Oxygen*
Sevoflurane	5%	<1.5% Oxygen*
Desflurane	15%	<1.5% Oxygen*

Test mixture = 30% O<sub>2</sub>, balance 70% N<sub>2</sub>O except where noted.

\* Errors may vary based on concentrations and exposure times.

These results meet or exceed the requirements of ISO 7767 and DIN EN 12598.

### CAUTION

The Oxygen Sensor should not be used in the presence of flammable anesthetics such as Diethyl Ether or Cyclopropane.

## Alarms

The DRW Medical Oxygen Monitor will store the HIGH/LOW alarm settings in memory after the Oxygen Monitor is turned “OFF”.

The Oxygen Monitor is designed to prevent crossing of the HIGH/LOW alarm settings. The LOW alarm cannot be set above the HIGH alarm and the High alarm cannot be set below than the LOW alarm.








Operator’s Position - Visual alarms are best viewed at a distance of 3 feet (1m) or less from the Oxygen Monitor along with the following conditions:


- the Operator has a visual acuity of 0 on the logMAR scale or 6-6 (20/20) vision(corrected if necessary),
- the viewpoint is at the Operator’s Position or at any point within an angle of 30° to the axis horizontal to the center of the plane of the monitoring display, and
- the ambient luminance in the range of 100 lx to 1 500 lx.






## To Set Alarms


### **WARNING**

Do Not set alarm limits to extreme values that can render the alarm system useless.

1. With the  Power key ON.
2. Press the  LOCK/UNLOCK key.
3. To set the HIGH Alarm: Press the  HIGH ALARM SET key once. Press the  UP and DOWN arrow keys until the desired value is displayed next to the Up arrow in the upper right corner of the display. Continuously pressing the arrow keys will move the value in increments of 5. Press the  HIGH ALARM SET key to save the setting. Flashing Number indicates the Number can be changed. If no keys are pressed for 10 seconds, the setting will be saved and the Oxygen Monitor will revert to locked mode.
4. To set the LOW Alarm: Press the  LOW ALARM SET key once. Press the  UP and DOWN arrow keys until the desired value is displayed next to the Down arrow in the lower right corner of the display.



Continuously pressing the arrow keys will move the value in increments of 5. Press the  LOW ALARM SET key to save the setting. Flashing Number indicates the Number can be changed. If no keys are pressed for 10 seconds, the setting will be saved and the Oxygen Monitor will revert to locked mode.


To set the LOW Alarm below 18%: Press the  LOW ALARM SET key once. Press the  DOWN arrow key until 18% is displayed. Press and hold the  LOCK/UNLOCK key down and press the  DOWN arrow key to set the lower limit and then release  LOCK/UNLOCK key.

5. Lock the display by pressing the  LOCK/UNLOCK key.
6. To disable the HIGH Alarm, raise the HIGH Alarm setting above 100%. “---” will be displayed next to the Up arrow on the display. The LOW alarm will still function while the HIGH alarm is disabled.

## Alarm Situation

During a HIGH or LOW alarm.

1. Triple pulse alarm sounds.
2. LED will flash.
3. Alarm Low/High set point will flash.
4. UP  or DOWN  Arrow will turn dark.

Pressing the  Alarm Silent key will deactivate the audible alarm for 120 seconds. If the alarm exists after 120 seconds, the alarm will sound again.

## Cleaning

### CAUTION

**DO NOT** steam autoclave.

**DO NOT** immerse the Oxygen Monitor into any liquid.

**DO NOT** use any strong solvent or abrasive cleaners.

**DO NOT** allow any liquid to enter the Oxygen Monitor or the Oxygen Sensor; this will damage the Oxygen Monitor or Oxygen Sensor and will void the Warranty.

1. Disconnect all connections before cleaning.
2. Clean exterior surfaces of the Oxygen Monitor and Coiled Cable with a cloth dampened with mild detergent and water.
3. Wipe dry with a clean cloth.



# Maintenance

## Sensor Replacement

Reference “SENSOR INSTALLATION”

<b>⚠ CAUTION</b>
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Sensor Replacement must be performed by a Qualified Medical Personnel.
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## Battery Replacement

Replace batteries when  (Low Battery) is displayed.

Reference “BATTERY INSTALLATION”.

## Returns

Returned products require a Returned Goods Authorization (RGA) number, contact DRW Medical, LLC. All returns must be packaged in sealed containers to prevent damage. DRW Medical, LLC will not be responsible for goods damaged in transit. Refer to DRW Medical, LLC Return Policy available on the Internet, [www.precisionmedical.com](http://www.precisionmedical.com).

## Disposal Instructions

The Oxygen Monitor may contain electrical components that are hazardous to the environment. DO NOT dispose device into standard trash.

The Oxygen Monitor contains internal batteries. Batteries contain materials which can contaminate the environment when improperly disposed of.

The Oxygen Sensor contains lead. DO NOT dispose sensor into standard trash. Dispose in accordance with the local regulations.

Contact your local waste management for disposal of Electronic Equipment.



# Troubleshooting

If the oxygen monitor fails to function, consult the Troubleshooting Guide. If the problem cannot be solved by using Troubleshooting Guide, consult your Provider.

<b>Problem</b>	<b>Probable Causes</b>	<b>Remedy</b>
Low Battery Indicator is displayed with a 30 second chirp alarm	1. Battery voltage too low	1. Replace with 4 New AA alkaline batteries
Check Sensor appears on display with a continuing pulsing alarm	1. Cable connections are not secure 2. Oxygen Sensor not functioning 3. Using Oxygen Sensor other than DRW Medical Oxygen Sensor	1. Make sure cable connections are secure and locking rings are tight 2. Replace with New DRW Medical Oxygen Sensor 3. Attach New DRW Medical Oxygen Sensor
New Oxygen Sensor responds slowly or seems to drift	1. Oxygen Sensor has NOT temperature stabilized	1. Wait approximately 20 minutes for Oxygen Sensor to stabilize with the environment, and then recalibrate the Oxygen Monitor
Oxygen Sensor does not react to changes in oxygen concentration	1. Condensation on the Oxygen Sensor 2. Non functioning Oxygen Sensor	1. Remove Condensation 2. Replace with New DRW Medical Oxygen Sensor
Triple Pulse Alarm and flashing LED	1. Oxygen readings are outside the High/Low Alarm limits 2. Loss of Air or Oxygen Supply	1. Adjust the High/Low Alarm setting to be above/below the oxygen value being displayed 2. Reconnect the Air or Oxygen Supply
Keys inoperable (Power ON)	1. The keypad is locked	1. Unlock the keypad
No Display / LCD screen will not power ON	1. Dead Batteries 2. Battery installed incorrectly	1. Check and replace with 4 New AA alkaline batteries 2. Check that batteries are installed in the proper position (+/-)
“SERVICE NEED” appears on the display	1. Electronic malfunction	1. Oxygen Monitor must be serviced
“CAL FAIL” appears on the display	1. Improper or wrong Oxygen Sensor 2. Improper Air / Oxygen source 3. Non functioning Oxygen Sensor	1. Recalibrate the Oxygen Monitor 2. Check the Air / Oxygen source 3. Replace with New DRW Medical Oxygen Sensor

## ALARM CONDITIONS

Alarm Condition	Alarm Meaning	Corrective Action
High alarm LED flashing and audible beep	Measured O2 concentration is higher than the high alarm set point	Adjust O2 concentration source to prescribed dose Set high alarm to prescribed limit
Low alarm LED flashing and audible beep	Measured O2 concentration is lower than the low alarm set point	Adjust O2 concentration source to prescribed dose Set low alarm to prescribed limit
Low Battery symbol on and O2 displays "--" instead of a value	The voltage output of the installed batteries is low and will require replacement soon	Replace all batteries with new batteries
Oxygen Sensor symbol on	Oxygen Sensor failure	Replace O2 sensor Recalibrate O2 Monitor

## Replacement Parts

Description	Part #
User Manual	505127
DRW Medical Oxygen Sensor with Diverter	504877
Tee Adaptor	505126
Extendible Cable	504937
AA Alkaline Battery (4 Pack)	505124-4
Rubber Feet (4)	505122-4
Battery Cover	504909
V Block	505010
Diverter	505344

## Accessories

Description	Part #
Monitor Wall Mount Bracket	505189
Monitor Vertical Pole Mount Clamp	505013
Monitor Horizontal Pole Mount Clamp	505014
Dove tail Bracket	505012
Dove tail Bracket Screw	505712

Orders for replacement parts should include the part number, if available and the model and serial number of the instrument for which the parts are intended.

# Limited Warranty and Limitation of Liability

*DRW Medical, LLC warrants that the Oxygen Monitor, (the Product), will be free of defects in workmanship and/or material for the following period:*

*Two (2) years from shipment.*

*DRW Medical, LLC is NOT responsible for normal wear and tear, or any neglect or abuse of the product.*

*The customer is responsible for the shipping costs of repairs back to DRW Medical, LLC*

*DRW Medical, LLC will have in its sole and absolute discretion, the final determination if your product is covered under this limited warranty.*

Should any failure to conform to this warranty appear within the applicable period, DRW Medical, LLC shall, upon written notification thereof (received by DRW Medical, LLC within 30 days of the customer's discovery of the alleged defect), along with return of the Product at the customer's expense and substantiation that the goods have been stored, installed, maintained and operated in accordance with DRW Medical, LLC's instructions and standard industry practice, and that no modifications, substitutions, or alterations have been made to the goods, correct such defect by repair or replacement (at DRW Medical, LLC's option) at its own expense.

DRW Medical, LLC warrants the 504877 Oxygen Sensor included with the PM5900 Oxygen Monitor to be free from defects in material and workmanship for a period of sixteen (16) months, from date of shipment. Should any failure to conform to this warranty appear within the applicable period, DRW Medical, LLC shall, upon written notification thereof (received by DRW Medical, LLC within 30 days of the customer's discovery of the alleged defect), along with return of the sensor at the customer's expense and substantiation that the sensor has been stored, installed, maintained and operated in accordance with DRW Medical, LLC's instructions and standard industry practice, and that no modifications, substitutions, or alterations have been made to the sensor, correct such defect by repair or replacement (at DRW Medical, LLC's option) at its own expense. Should a sensor require repair or replacement due to said defects, the sensor is warranted only for the remainder of the original sensor warranty period. A sensor shall not be considered defective for failure to function beyond its normal estimated consumption capacity/rates, and this warranty does not cover normal wear due to consumption beyond the sensor's estimated O2% hours.

## ORAL STATEMENTS DO NOT CONSTITUTE WARRANTIES.

The representatives of DRW Medical, LLC or any retailers are not authorized to make oral warranties about the merchandise described in this warranty, and any such statements shall not be relied upon and are not part of the contract for sale.

Thus, this writing is a final, complete and exclusive statement of the terms of the warranty for the products covered by the applicable contract.

**THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, WHETHER EXPRESS OR IMPLIED.**

DRW Medical, LLC shall not under any circumstances be liable for special, incidental or consequential damages including but not limited to lost profits, lost sales, or injury to person or property. Correction of non-conformities as provided above shall constitute fulfillment of all liabilities of DRW Medical, LLC whether based on contract, negligence, strict tort or otherwise. DRW Medical, LLC reserves the right to discontinue manufacture of any product or change product materials, designs, or specifications without notice.

DRW Medical, LLC reserves the right to correct clerical or typographical errors without penalty.

Manufactured for DRW by:



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Northampton PA 18067, USA

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**ISO 13485 Certified**