



9 TROUBLESHOOTING		
Trouble	Possible Reason	Solution
<b>The SpO<sub>2</sub> and Pulse Rate cannot be displayed normally</b>	1. The finger is not properly positioned. 2. The user's SpO <sub>2</sub> is too low to be detected.	1. Place the finger properly and try again. 2. Go to a hospital for a diagnosis if you are sure the oximeter is working correctly.
<b>The SpO<sub>2</sub> and Pulse Rate are not displayed stably</b>	1. The finger is not placed inside deep enough. 2. The finger is shaking or the user is moving	1. Place the finger properly and try again. 2. Remain still while taking the measurement
<b>The oximeter cannot be turned on</b>	1. The batteries are drained or almost drained. 2. The batteries are not inserted properly. 3. Malfunction of the oximeter.	1. Change batteries. 2. Reinstall batteries. 3. Please contact customer support.
<b>The display is off suddenly</b>	1. The product will enter standby mode when no signal is in the product within 5 seconds. 2. The batteries are almost drained.	1. Normal. 2. Change batteries.

10 KEY OF SYMBOLS			
Symbol	Description	Symbol	Description
	Type BF		WEEE (2002/96/EC)
	Refer to instruction manual		Ingress of liquids rank
	The pulse oxygen saturation (%)		Manufacturer
	Pulse rate (bpm)		Manufacture Date
	Full-voltage		Storage and Transport Temperature limitation
	The battery voltage indication is deficient (change the battery in time avoiding the inexact measure)		Storage and Transport Humidity limitation
	1. No finger inserted 2. An indicator of signal inadequacy		Storage and Transport Atmospheric pressure limitation
	Battery positive electrode		This side UP
	Battery cathode		Fragile, handle with care
	1. Exit standby mode. 2. Change brightness of the screen.		Keep dry
	Serial number		Recyclable
	Alarm inhibit		

11 FUNCTION SPECIFICATION	
Display Information	Display Mode
The Pulse Oxygen Saturation (SpO <sub>2</sub> )	LCD
Pulse Rate (PR)	LCD
Pulse Intensity (bar-graph)	LCD bar-graph display
Pulse Wave	LCD
SpO <sub>2</sub> Parameter Specification	
Measuring Range	0% ~ 100%, (the resolution is 1%).
Accuracy	70% ~ 100%: ±2% ,Below 70% unspecified.
Optical Sensor	Red light (wavelength is 660 nm) Infrared (wavelength is 880 nm)
Pulse Parameter Specification	
Measuring Range	30 bpm ~ 250 bpm (the resolution is 1 bpm)
Accuracy	±2 bpm or ±2% select larger
Pulse Intensity	
Range	Continuous bar-graph display, the higher display indicate the stronger pulse.
Battery Requirement	
1.5V (AAA size) alkaline batteries × 2 or rechargeable battery	
Battery Useful Life	
Two batteries can work continually for 24 hours	
Dimensions and Weight	
Dimensions	2.3 (L) x 1.3 (W) x 1.3 (H) inch / 59(L) × 33(W) × 32(H) mm
Weight	~ 2 oz / 57 g (with the batteries)

12 APPENDIX			
Guidance and manufacture's declaration – electromagnetic emissions for all EQUIPMENT and SYSTEMS			
Guidance and Manufacture's Declaration – Electromagnetic Emission			
The <i>UP-200CN Pulse Oximeter</i> is intended for use in the electromagnetic environment specified below. The customer of the user of the <i>UP-200CN Pulse Oximeter</i> should assure that it is used in such an environment.			
Emission test	Compliance	Electromagnetic Environment – Guidance	
RF emission CISPR 11	Group 1	The <i>UP-200CN Pulse Oximeter</i> uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.	
RF emission CISPR 11	Class 3	The <i>UP-200CN Pulse Oximeter</i> is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.	
Harmonic emissions IEC 61000-3-2	N/A		
Voltage fluctuations/ flicker emissions IEC 61000-3-3	N/A		

Guidance and manufacture's declaration – electromagnetic immunity for all EQUIPMENT and SYSTEMS			
Guidance and Manufacture's Declaration – Electromagnetic Immunity			
The <i>UP-200CN Pulse Oximeter</i> is intended for use in the electromagnetic environment specified below. The customer or the user of <i>UP-200CN Pulse Oximeter</i> should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment – Guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor is covered with synthetic material, the relative humidity should be at least 30%.
Power frequency (50/60Hz) Magnetic field IEC-61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Guidance and manufacture's declaration – electromagnetic immunity for EQUIPMENT and SYSTEMS that are not LIFE-SUPPORTING			
Guidance and manufacture's declaration – electromagnetic immunity			
The <i>UP-200CN Pulse Oximeter</i> is intended for use in the electromagnetic environment specified below. The customer or the user of <i>UP-200CN Pulse Oximeter</i> should assure that it is used in such an environment.			
Immunity Test	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	Portable and mobile RF communications equipment should be used no closer to any part of the <i>UP-200CN Pulse Oximeter</i> , including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.  <b>Recommended separation distance</b> $d = \left[ \frac{3.5}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = \left[ \frac{7}{E_1} \right] \sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$ Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup> Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the <i>UP-200CN Pulse Oximeter</i> is used exceeds the applicable RF compliance level above, the <i>UP-200CN Pulse Oximeter</i> should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the <i>UP-200CN Pulse Oximeter</i> . <sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Recommended separation distances between portable and mobile RF communications equipment and the EQUIPMENT or SYSTEM for EQUIPMENT or SYSTEM that are not LIFE-SUPPORTING			
Recommended separation distances between portable and mobile RF communications equipment and the UP-100CN			
The <i>UP-200CN Pulse Oximeter</i> is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the <i>UP-200CN Pulse Oximeter</i> can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the <i>UP-200CN Pulse Oximeter</i> as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$	$d = \left[ \frac{3.5}{E_1} \right] \sqrt{P}$	$d = \left[ \frac{7}{E_1} \right] \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.39	0.37	0.74
1	1.17	1.17	2.33
10	3.69	3.69	7.38
100	11.67	11.67	23.33
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

13 WARRANTY	
2 Year Limited Warranty: A&D Medical ("A&D") warrants to the first purchaser ("You") that the A&D product You purchased (the "Product") will be free from defects in material, workmanship and design for the applicable Warranty Term stated above from the date You purchased the Product under normal use. This Limited Warranty is personal to You and is not transferable. If the Product is defective, then You return the Product to A&D in accordance with the procedure set forth below. A&D's warranty obligation is limited to the repair or replacement, at A&D's option, of the defective Product that has been returned by You within the warranty period. Such repair or replacement will be at no charge to You. The repaired or replacement Product is warranted here-under for the longer of the remainder of the original warranty period or 90 days from the date of shipment of the repaired or replacement Product. To obtain a warranty service, contact us in <b>US at 1-888-726-9966</b> or in <b>Canada at 1-800-461-0991</b> for return address, shipping and handling fee, and other instructions for processing warranty. Please ensure you have satisfactory proof of the date of Your purchase and a description of the defect. Returns will not be accepted unless a Return Material Authorization (RMA) Number has been issued from A&D Customer Service Representative.	

**In Latin America**  
Please return to your local dealer.

CONTACT INFORMATION	
<b>Manufacturer:</b> <b>A&amp;D Engineering, Inc.</b> 4622 Runway Boulevard Ann Arbor, MI 48108 USA andmedical.com 1-888-726-9966	<b>Distributed in Canada by:</b> <b>Auto Control Médical an A&amp;D Company / une compagnie A&amp;D</b> 6695 Millcreek Drive, Unit 6 Mississauga, Ontario L5N 5R8 Canada lifesourcecanada.com 1-800-461-0991
Made in China	

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