

## 1.0 RESPONSIBLE PARTY

- 1.1 Any and all questions or correspondence regarding this document and specifications herein shall be directed to:

Code Blue Corporation  
92 East 64th Street  
Holland, MI 49423  
616-392-8296  
[aespecs@codeblue.com](mailto:aespecs@codeblue.com)

## 2.0 SCOPE

- 2.1 This document is intended to provide complete and accurate specifications of the CB1w product offering by Code Blue Corporation for the purpose of inclusion in project specifications, requirements and recommendations required by potential users of Code Blue products and services.
- 2.2 The CB1w will be referred to as “unit” throughout this document.
- 2.3 Code Blue Corporation will be referred to as “manufacturer” throughout this document.

## 3.0 PRODUCT DESCRIPTION

- 3.1 The unit shall be an easily identifiable, vandal resistant communications device that is Americans with Disabilities Act (ADA) compliant, multi-functional, freestanding, and constructed of heavy steel. The unit shall be aesthetically pleasing and virtually impervious to damage, and shall include a high quality, vandal resistant, hands-free communications device illuminated by a high intensity faceplate light, a powerful strobe light, and a vivid blue beacon that serves to identify the unit from a great distance.

## 4.0 CONSTRUCTION

- 4.1 The unit shall be a cylinder constructed of ASTM A500 seamless carbon steel structural tube, schedule 20, 12.75” OD x 0.25” thick wall and a height of not less than 9 feet.
- 4.2 The unit shall have a solar array mounted on top of the unit at a 15° to 60° angle.
- 4.3 Tamper resistant proprietary fasteners manufactured for Code Blue Corporation shall be used. It shall not be possible to acquire the custom designed bit from any source other than Code Blue Corporation. It shall not be possible to enter nor remove any component without this bit. All other types of fasteners shall not be acceptable under any circumstance.

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## Architectural & Engineering Specifications

- 4.4 The unit shall have an internal anchor base plate that is MIG welded to the unit 2" above its base. The base plate shall be fabricated with a minimum of .50" thick A-36 grade steel plate and shall have a 5" diameter center hole for electrical conduit access. The base plate shall have four (4) oblong holes on an 8" circular bolt pattern for the attachment to anchor bolts.
- 4.5 The unit shall have an access opening near the base of the unit which provides access for mounting to the anchor bolts and connectivity to electrical facilities. The access opening shall have a cover plate which mounts flush with the unit. This cover plate shall be the same steel and radius as the unit. The cover plate shall fit precisely into the opening and have a weather resistant gasket to prevent water and other elements from entering the unit. The cover plate shall be held in place by two (2) ¼" x 20 x 1" counter sunk proprietary fasteners supplied only by manufacturer.
- 4.6 There shall be two lens openings each 10 inches high and 17" wide with 153° of arc. The openings shall be cut into the face of the unit 180° apart, with the bottom of the openings to be approximately 14" from the top of the unit. The corners of the cuts shall be uniformly rounded, and the edges of the cuts shall be straight and free of burrs and other visual imperfections. The four edges of each opening shall form a square when viewed in elevation from the front or rear of the unit.
- 4.7 A heavy cylindrical lens made of clear, Lexan XL-type polycarbonate shall be inserted into the bollard and mechanically and chemically fastened to the bollard interior. The lens shall be fully sealed with silicon around its entire edge to render the installed lens water, insect, and vandal resistant. The lens shall be treated so that it will be virtually impervious to damage from ultra-violet radiation, aging, cracking, yellowing or breaking.
- 4.8 A solar assembly shall enclose the top of the bollard, and shall consist of a cover plate, a solar panel mount and a solar array.
- 4.8.1 The solar mount shall be aluminum with stainless steel hardware and be adjustable to accommodate the required position of the solar array.
- 4.9 A second opening shall be cut into the face of the unit at a point beginning 38.5" above the bottom of the bollard. The opening shall be 14.5" high at the forward edge, and 12.25" high at the rear edge. The lower edge of the opening shall be sloped from the rear to the front at an angle 35° from the horizontal. The upper horizontal edge of the opening shall constitute an arc of 160° in the face of the unit, and the sides of the opening shall be parallel and the same length.
- 4.9.1 The opening shall be totally enclosed by a 7 gauge steel plate that shall have an opening to allow for a communications device. The plate shall be seal welded to the bollard so that the faceplate and the bollard appear to be one unit.

## 5.0 MOUNTING

- 5.1 The freestanding unit shall be mounted onto four bolts that are set in concrete. Standard ¾" x 24" galvanized anchor bolts with galvanized nuts and washers shall be used as supplied. Unit shall mount one-half inch above the concrete to allow air movement.

## 6.0 ELECTRICAL

- 6.1 All electrical components shall have a modular plug for easy service and replacement. All electrical wiring shall be concealed within the unit and shall not be visible from the outside of the unit.
- 6.2 All electrical components in the unit shall be equipped with a fuse for protection from transient voltage conditions.
- 6.3 The unit shall be equipped with a 130 Watt solar array with the following specifications:

Electrical Characteristics	
STC Power Rating $P_{mp}$ (W)	130
Open Circuit Voltage $V_{oc}$ (V)	22.0
Short Circuit Current $I_{sc}$ (A)	8.20
Voltage at Maximim Power $V_{mp}$ (V)	17.4
Current at Maximim Power $I_{mp}$ (A)	7.50
Panel Efficiency	12.8%
Fill Factor	72.1%
Power Tolerance	-3.00% ~ 3.00%
Maximum System Voltage $V_{max}$ (V)	1000
Maximum Series Fuse Rating (A)	20

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Temperature Coefficients	
Temperature Coefficiency of I <sub>sc</sub>	0.065 %/°C
Temperature Coefficiency of V <sub>oc</sub>	-0.61 %/°C
Temperature Coefficiency of P <sub>mp</sub>	-0.50 %/°C
Mechanical Characteristics	
Cell Type	Polycrystalline Cell
Cell Size(mm)	156 × 156
Cells	4 × 9
Dimensions	1510.0 × 674.0 × 50.0mm (26.5 × 59.4 × 2.0 inch)
Weight	12.0Kg (26.5 lbs)
Junction Box (Safety Rating, Bypass Diodes)	standard J-Box, J-Version junction box with 6-terminal connection block; IP 65, accepts PG 13.5, M20, ½ inch conduit, or cable fittings accepting 6-12mm diameter cable. Terminals accept 2.5 to 10mm <sup>2</sup> (8 to 14 AWG) wire. IntegraBus™ technology includes Schottky by-pass diodes integrated into the printed circuit board bus
Positive Cable (Length, Cable Cross-Section)	800mm
Negative Cable (Length, Cable Cross-Section)	900mm
Plug Connector (Type, Safety)	Multicontact connectors;
Front Cover (Thickness,Material)	High-transmission 3mm (1/8th inch) tempered glass;
Backsheet Cover (Color, Thickness, Material)	Polyester
Encapsulation Materials	EVA

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Frame Material	Clear anodized aluminum alloy type 6063T6 Universal frame; Color: silver
<b>Operation Conditions</b>	
Nominal Operating Cell Temperature (NOCT)	47.0°C
Operating Temperature	-40.0°C to 85.0°C
<b>Certification</b>	
Certificates	<ul style="list-style-type: none"> <li>○ UL 1703</li> <li>○ CEC California</li> <li>○ IEC 61215 Ed.2</li> <li>○ IEC 61730 Ed.2</li> </ul>

6.4 The unit shall be equipped with a solar controller with the following specifications:

<b>Electrical Characteristics</b>	
Rated Solar Input	10 A
Rated Load	10 A
25% Current Overload	5 min.
Regulation Voltage	
Sealed Battery	14.1 V
Flooded Battery	14.4 V
Load Disconnect	11.7 V
LVD Reconnect	12.8 V
Temp. Comp. (mV/°C)	-27
Self-consumption	8 mA
<b>Mechanical Characteristics</b>	
Wire Size	#10 AWG (5.2mm <sup>2</sup> )
Case	Anodized aluminum
Terminals	Marine rated

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**Architectural & Engineering Specifications**

Electronics	Epoxy encapsulated
Weight	12.0Kg (26.5 lbs)
<b>Operation Conditions</b>	
Operating Temperature	-40.0°C to 85.0°C

6.5 The unit shall be equipped with (2) batteries with the following specifications:

<b>Electrical Characteristics</b>	
Nominal Voltage	12 V
Capacity at 100°C	63 Ah
Capacity at 20°C	55 Ah
<b>Mechanical Characteristics</b>	
Plate Alloy	Lead Calcium
Size	9.72"l x 5.47"w x 9.24"h
Weight	39 lbs
Posts	Forged Terminals & Bushings
Container/Cover	Polypropylene
Vent	Self-sealing

## 7.0 ELECTRICAL OPTIONS

7.1 The unit shall have the option to be equipped with a Wind Assist unit with the following specifications:

<b>Electrical Characteristics</b>	
Rated Power	200 Watts @ 28 mph (12.5 m/s)
Voltage	12 and 24 VDC
Monthly Energy Production	38 kWh/mo @ 12 mph (5.4 m/s)
Turbine Controller	Microprocessor-based smart internal regulator with peak power tracking
Over speed protection	Patented electronic torque control

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Start-up wind speed	6 mph (2.68 m/s)
Survival wind speed	110 mph (49.2 m/s)
<b>Mechanical Characteristics</b>	
Rotor Diameter	46 in (1.17 m)
Weight	13 lbs (5.9 kg)
Mount	1.5 in schedule 40 1.9 in (48 mm) OD pipe
Body	Cast Aluminum
Blades	Injection-molded composite (3)

## 8.0 LIGHTS

- 8.1 LED Beacon/Strobe: An LED Beacon/Strobe shall be located in the assembly and have a Lumen rating of no less than 14.5. The LED Beacon/Strobe shall have a factory set flash rate of no less than 60 flashes per minute and be programmable. A deep blue UV rated polycarbonate prismatic refractor shall surround the LED Beacon/Strobe and shall be used to distribute the light in a horizontal pattern for maximum brightness and visibility at a distance.
- 8.1.1 The communication device shall be factory programmed to activate the LED Beacon/Strobe for the duration of a button 1 (“Red Button”, “Emergency” or “Push for Help”) call. The LED Beacon/Strobe cannot be deactivated at the unit.
- 8.2 Faceplate Light: A LED Faceplate Light shall be mounted within the unit above the recessed opening which houses the communications device. This fixture will direct light onto the communications device and shall be vandal resistant.

## 9.0 COMMUNICATIONS

- 9.1 The unit shall have a high quality vandal resistant and ADA compliant speakerphone communication device.
- 9.1.1 IP5000 - VoIP: Refer to the IP5000 Architect and Engineering Specification for further information.
- 9.2 The unit shall be capable of communicating through an integrated 802.11g, 2.4 GHz IP wireless system. Refer to the IP Wireless Architect and Engineering Specifications.
- 9.3 The unit shall be capable of communicating through an integrated Secure Mesh wireless system operating at 2.4 – 5.9 GHz. Refer to the Secure Mesh Wireless Architect and Engineering Specifications.

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- 9.4 The unit shall be capable of communicating through an integrated cellular device and SIP trunk account.

### 10.0 FINISH

- 10.1 The unit shall be finished with a highly graffiti and UV resistant coating process.
- 10.2 Substrate preparation shall be as required to comply with applicable ASTM impact and adhesion standards:

- D2794 Direct and Reverse Impact
- D523 Gloss @ 60 Degrees
- D3359B Cross hatch Adhesion
- D1654 Corrosion Creep
- D714 Scribe Blisters
- D714 Field Blisters

- 10.3 The polyurethane finish shall be a multi coat system available in 10 standard colors:

- Safety Blue
- Safety Red
- Safety Yellow
- Midnight Blue
- Gloss White
- Gloss Black
- Medium Bronze
- Dark Bronze
- British Racing Green
- Cardinal Red

- 10.4 Custom colors shall be available as specified by the user and approved by the manufacturer.

- 10.5 The primer coat and finish coat shall each have a minimum coverage thickness of 2.0 mils.

- 10.6 No other types of finishes are acceptable.

## 11.0 GRAPHICS

11.1 The graphics shall be a durable Nikkalite engineering grade reflective vinyl for high visibility and legibility.

11.2 Standard 30" length graphics text offering shall be:

- EMERGENCY
- ASSISTANCE
- SECURITY
- COURTESY
- POLICE

11.3 Standard graphics color offering shall be:

- Reflective White
- Reflective Blue
- Reflective Black
- Reflective Green
- Reflective Red
- Reflective Yellow

11.4 Custom graphics text, length and color shall be available by the manufacturer.

## 12.0 WARRANTY

12.1 The unit shall be warranted for a period of two (2) years. Reference manufacturer's warranty for further details.

## 13.0 MANUFACTURER

13.1 The manufacturer shall be Code Blue Corporation of Holland, Michigan. There are no known equivalents.

13.2 Code Blue Corporation manufactures its products according to the most recent revision of our product specifications and shall not be held responsible for obsolete or outdated specifications. For the latest revision please refer to [www.codeblue.com](http://www.codeblue.com) or contact Code Blue Corporation directly.