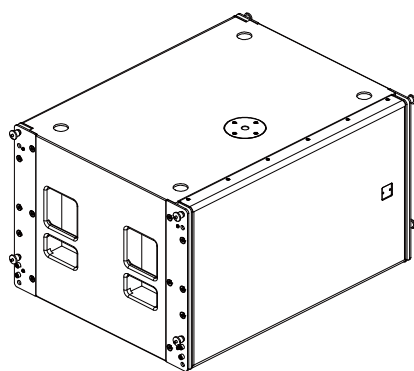


IHOS

Professional Audio

PAXOS
PAXOS SUB

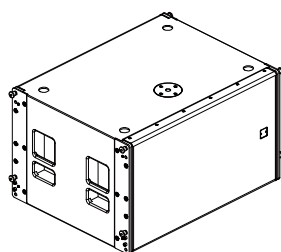
USER MANUAL

1 - SAFETY

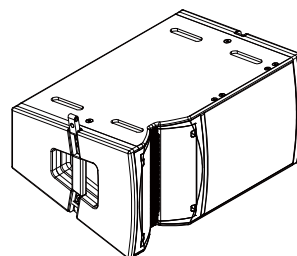
1.1 SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not expose the product to direct rain or sea spray.
6. Clean only with a dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
8. Only use attachments/accessories specified by the manufacturer.
9. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as if liquid has been spilled or objects have fallen into the apparatus, or if the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
11. CAUTION - DO NOT PERFORM ANY SERVICING UNLESS YOU ARE QUALIFIED TO DO SO.
12. Prolonged exposure to excessive SPL can cause hearing damage. The loudspeaker is easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew, and audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.

2 - SYSTEM COMPONENTS



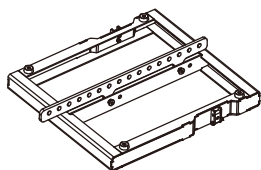
PAXOS SUB



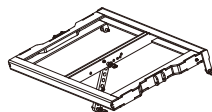
PAXOS

3 - COMPATIBLE ACCESSORIES

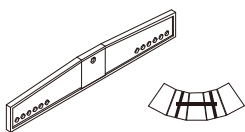
PAXOS



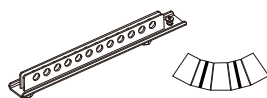
PAXOS Horizontal Flybar
Steel
Black Powder coating



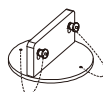
Base for array
Steel
Black Powder coating



Flybar orizzontale Acciaio
Steel
Black Powder coating

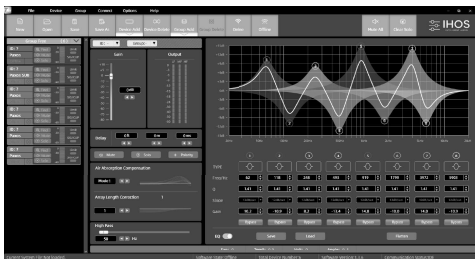


PAXOS Flybar
Steel
Black Powder coating



Stand base-C
Steel
Black Powder coating

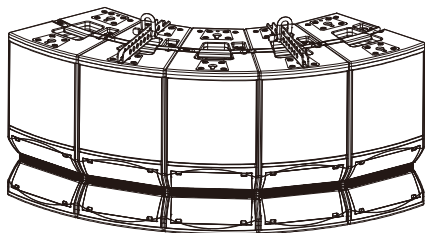
4 - SOFTWARE OVERVIEW



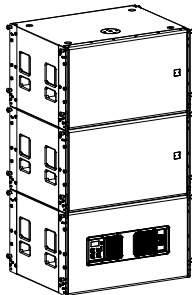
T-Net Manager is the software designed for this line array systems.
As well as flown and ground-stacked subwoofer arrays. Subwoofer delay values can be generated for electronic delay steering using the built-in coverage calculator.

5 - line array SERIES

PAXOS

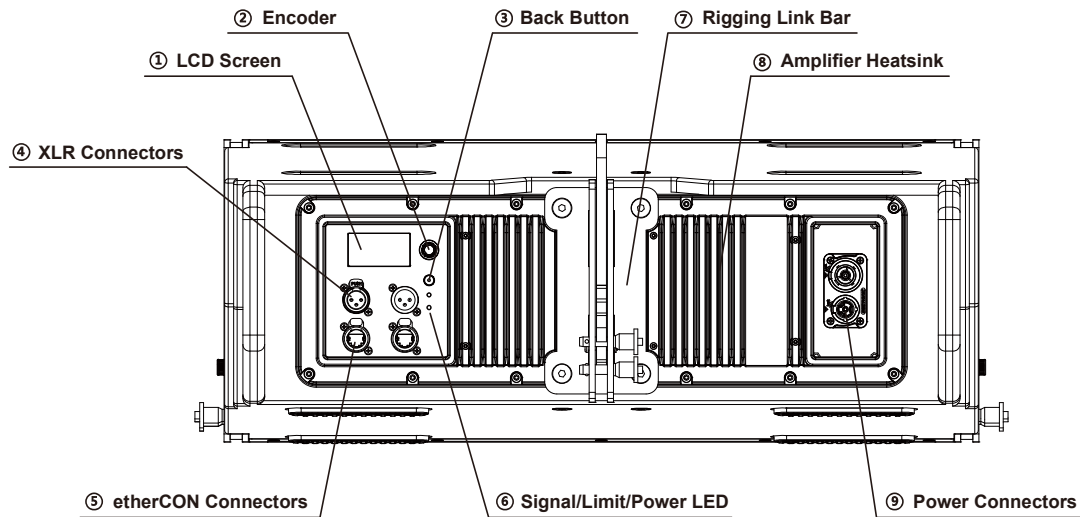


PAXOS SUB



6 - AMPLIFIER MODULES

The products include a Class-D amplifier with built-in DSP providing optimum performance and a plug and play, easy-to-use experience. All speaker processing is performed using the internal processing, which includes the advanced Level Max limiter suite, ensuring proper, reliable operation under any conditions. The Series DSP also offers a user-adjustable input section for equalization, time alignment, and level adjustments. An LCD screen allows easy access to critical functions, including selecting operating modes.



①**LCD Screen:** Allows users to access speaker operating modes, DSP parameters, networking settings, and much more. Controlled with the **Encoder** and the **Back** button.

②**Encoder:** Controls the LCD menus and the master volume of the unit. Turn the knob to navigate through the menus. Press the encoder to confirm an action or enter a menu.

③**Back Button:** Used in conjunction with the encoder to control the LCD screen. **Press and hold for 5 seconds to send frequency sweep signal.**

④**XLR Connectors:** Input and output balanced XLR connectors for audio connectivity. The input connector passes signal directly from the input to the output, bypassing DSP for zero latency. The output connector continues to function even under power loss.

⑤**etherCON Connectors:** Allow use of standard Ethernet cable to network multiple units and control the system. Either connector can be used as the input or output. For more information on the connectors.

⑥**Signal/Limit/Power LED:** These two LEDs provide visual feedback for critical speaker parameters, including power state, signal, and limiting and fault conditions.

⑦**Rigging Link Bar:** Adjustable central rigging bar for connecting cabinets together and selecting angles.

⑧**Amplifier Heatsink:** Aluminum fins for cooling the line array internal amplifier. No external fans are used for cooling the amplifiers.

⑨**Power Connectors:** powerCON TRUE1 connectors for power connectivity. The input connector is used to supply power but also serves as the mains ON/OFF switch. The output connector can be used to connect multiple units together.

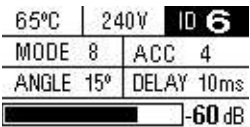
7、LCD

The LCD screen on the rear panel is a powerful tool for accessing speaker parameters, including operating modes (speaker presets) and network settings. Navigating the menus and changing selected parameters is done with the **Encoder**. Rotate the **Encoder** to move through menus and parameters. When the setting you want to edit is highlighted, press the **Encoder** to enable editing of the value, rotate the **Encoder** to set the desired value, then press the **Encoder** again to apply the value. Pressing the **Encoder** acts as an enter button. The **Back** button returns to the previous menu. In a confirmation dialog, the **Back** button acts to cancel the operation.

LCD Functions Overview:

- DSP Parameters
- Network Settings
- Device Settings
- Device Information
- System Reset

7.1 OVERVIEW SCREENS

	The Home Screen
	This screen is displayed after the amplifier completes its powerup routine. It can also be accessed by pressing the Back button from the main menu.
	amplifier temp; ID number; angle ;delay;gain;mode;ACC(air absorption compensation); Gain
	The system input gain can be changed in real time by turning the encoder.

<table border="1"> <tr><td>HPF</td><td>120Hz</td></tr> <tr><td>MODE</td><td>8</td></tr> <tr><td>AAC(HF)</td><td>OFF</td></tr> <tr><td>MUTE</td><td>OFF</td></tr> <tr><td>DELAY</td><td>20ms</td></tr> <tr><td>POLARITY</td><td>0°</td></tr> <tr><td>RESET</td><td></td></tr> <tr><td>INFO</td><td>1.0.0</td></tr> <tr><td>ID</td><td>1</td></tr> <tr><td>AOD</td><td>30min</td></tr> </table>	HPF	120Hz	MODE	8	AAC(HF)	OFF	MUTE	OFF	DELAY	20ms	POLARITY	0°	RESET		INFO	1.0.0	ID	1	AOD	30min	<div>Main Menu</div> <div>Pressing the encoder from the Home screen opens the main menu. The main menu provides access to all sub menus.</div> <div>Current menu position highlighted by the white bar</div>
HPF	120Hz																				
MODE	8																				
AAC(HF)	OFF																				
MUTE	OFF																				
DELAY	20ms																				
POLARITY	0°																				
RESET																					
INFO	1.0.0																				
ID	1																				
AOD	30min																				
<table border="1"> <tr><td>HPF</td><td>120Hz</td></tr> <tr><td>MODE</td><td>8</td></tr> <tr><td>AAC(HF)</td><td>OFF</td></tr> <tr><td>MUTE</td><td>OFF</td></tr> </table>	HPF	120Hz	MODE	8	AAC(HF)	OFF	MUTE	OFF	<div>MODE</div> <div>The mode works on all the array's objects. There is also a new advanced feature regarding the Cluster Size Correction: The Bass Shaper functionality.</div>												
HPF	120Hz																				
MODE	8																				
AAC(HF)	OFF																				
MUTE	OFF																				
<table border="1"> <tr><td>HPF</td><td>120Hz</td></tr> <tr><td>MODE</td><td>8</td></tr> <tr><td>AAC(HF)</td><td>OFF</td></tr> <tr><td>MUTE</td><td>OFF</td></tr> </table>	HPF	120Hz	MODE	8	AAC(HF)	OFF	MUTE	OFF	<div>AAC(Full-range systems only)</div> <div>The High Frequency Correction (Air Absorption Compensation) works on all the array' s objects in an incremental way.</div>												
HPF	120Hz																				
MODE	8																				
AAC(HF)	OFF																				
MUTE	OFF																				
<table border="1"> <tr><td>HPF</td><td>120Hz</td></tr> <tr><td>MODE</td><td>8</td></tr> <tr><td>AAC(HF)</td><td>OFF</td></tr> <tr><td>MUTE</td><td>OFF</td></tr> </table>	HPF	120Hz	MODE	8	AAC(HF)	OFF	MUTE	OFF	<div>MUTE</div> <div>To change the Mute setting, use the encoder to select the desired state. Press the encoder to apply the parameter, and the display will return to the main menu.Pressing the Back button exits the menu without applying a change.</div>												
HPF	120Hz																				
MODE	8																				
AAC(HF)	OFF																				
MUTE	OFF																				
<table border="1"> <tr><td>DELAY</td><td>20ms</td></tr> <tr><td>POLARITY</td><td>0°</td></tr> <tr><td>RESET</td><td></td></tr> <tr><td>INFO</td><td>1.0.0</td></tr> </table>	DELAY	20ms	POLARITY	0°	RESET		INFO	1.0.0	<div>DELAY</div> <div>Delay can be enabled or disabled, and the delay time can be set from 0ms to 170ms.</div>												
DELAY	20ms																				
POLARITY	0°																				
RESET																					
INFO	1.0.0																				
<table border="1"> <tr><td>DELAY</td><td>20ms</td></tr> <tr><td>POLARITY</td><td>0°</td></tr> <tr><td>RESET</td><td></td></tr> <tr><td>INFO</td><td>1.0.0</td></tr> </table>	DELAY	20ms	POLARITY	0°	RESET		INFO	1.0.0	<div>POLARITY</div> <div>To change the polarity setting,use the encoder to select the desired state. Press the encoder to apply the parameter, and the display will return to the main menu.Pressing the Back button exits the menu without applying a change.</div>												
DELAY	20ms																				
POLARITY	0°																				
RESET																					
INFO	1.0.0																				
<table border="1"> <tr><td>ID</td><td>1</td></tr> <tr><td>AOD</td><td>30min</td></tr> </table>	ID	1	AOD	30min	<div>AOD</div> <div>The Auto-Dim Time can be changed in real time by turning the encoder. Pressing the Back button exits to the main menu.</div>																
ID	1																				
AOD	30min																				
	<div>RESET</div>																				

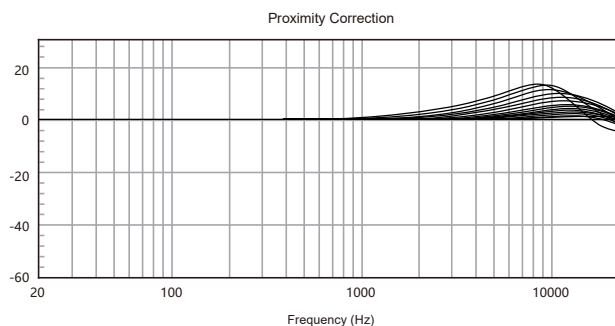
<p>ARE YOU SURE ! Return the device to its factory default condition</p> <p>NO YES</p>	<p>The User section can be returned to factory default values by entering this screen, selecting the yes button with the encoder, and pressing it.</p>
<p>DELAY 20ms POLARITY 0° RESET INFO 1.0.0</p>	<p>INFO</p> <p>This screen displays the hardware revision of the amplifier module</p>
<p>ID 1 AOD 30min</p>	<p>ID</p> <p>Device logical ID (address),The ID number can be changed in real time by turning the encoder.</p>

ARRAY CALIBRATION

Full-range speakers have two dedicated, user-adjustable filters designed to quickly tailor the tonal response of an array. Each filter serves a specific intended purpose to accelerate the tuning process. Both filters can be applied quickly to all elements in an array from T-Net Manager, or to array elements one at a time from the LCD on the rear of the cabinets.

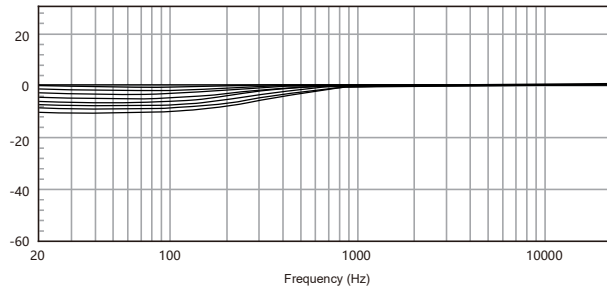
FILTER 1- Air Absorption Compensation(AAC)

The Air Absorption Compensation (AAC) filter provides a linear phase, EQ and per-cabinet gain adjustment to optimize each array element for the air absorption effects of distance. AAC is typically applied on a per-cabinet basis, depending on the desired outcome, with the cabinets throwing further distances typically needing an HF boost, and cabinets throwing short distances needing HF reduction.



FILTER 2- MODE(Cluster Size Correction)

The Cluster Size Correction filter is designed to work in conjunction with the array presets and it can be used to reduce the energy created by the coupling effects of arrays in the mid and low frequencies, and bring the array closer to the desired tonal response. LF adjustments should be applied equally to all cabinets within the array. Its values can depend on the shape of the array, the acoustics of a room, or preference. Adjust Cluster Size Correction up or down to achieve the desired tonal result.



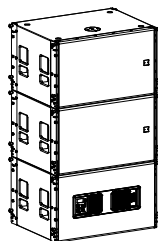
SUBWOOFERS

CARDIOID

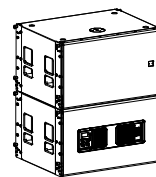
In some situations, the omnidirectional nature of subwoofer is desirable, but in others, directional coverage is required. The most common use case for directional subwoofer involves preventing excessive low frequency energy from reaching the stage. Cardioid coverage can be achieved with an array of subwoofer in which the physical orientation of some cabinets is reversed and the Rear speaker mode selected. The Rear speaker mode sets the DSP parameters to optimize the system to provide the maximum amount of cancellation possible for most standard configurations without the need for any user DSP changes.

RECOMMENDED CARDIOID

Cardioid configurations are typically differentiated by the ratio of front-facing to rear-facing cabinets, the spacing between stacks, and the position of rear-facing subwoofer within the stacks. Lower ratios produce higher rejection, higher ratios result in lower rejection. The Lx18SA factory presets were engineered to work with blocks having 2:1 and 3:1 ratios, with 2:1 delivering the greatest rear rejection. Subwoofer arrays designed around a 2:1 ratio can easily generate broadband rejection of 20 to 30 dB. It is NOT advised to go below 2:1 or above 3:1 ratios. If larger arrays are desired, combining cardioid blocks into bigger arrays is possible. Using T-Net Manager to predict the expected coverage of complex arrays is suggested to ensure the intended coverage suits the desired application.



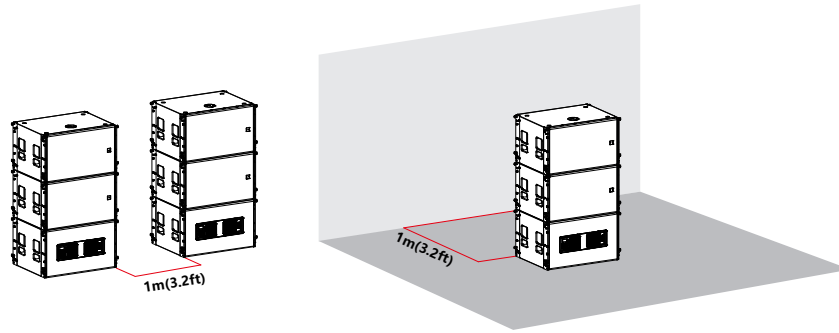
Example 1: 2:1 horizontal stack



Example 2: 1:1:1 horizontal stack

MINIMUM SPACE BETWEEN CARDIOID STACKS

When creating subwoofer arrays using cardioid blocks of subwoofer, a distance of at least 1 meter (3.2 feet) should be allowed between stacks and high-mass structures, like a concrete wall or stage, to avoid disrupting rear radiation patterns.



8、PRODUCT SPECIFICATIONS

PAXOS SUB

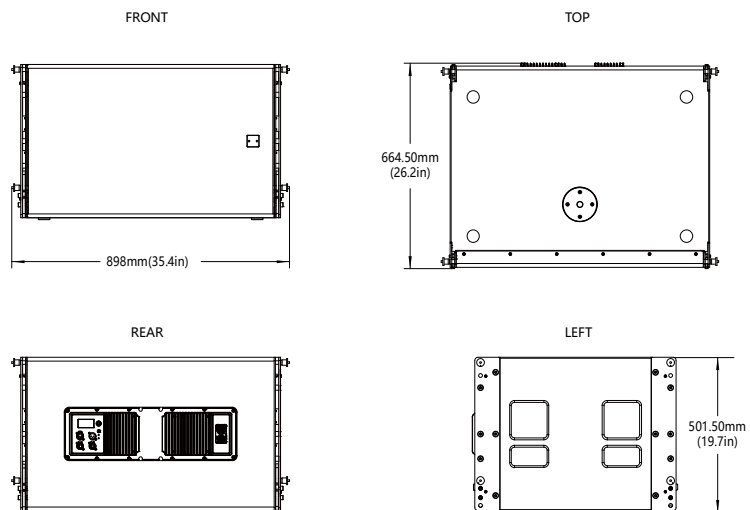
<i>Speaker Type</i>	Active Line Array Subwoofer
<i>Frequency Response</i>	34Hz -150Hz(-10dB)
<i>Max SPL</i>	138dB(Half Space)
<i>HF</i>	/
<i>MF</i>	/
<i>LF</i>	4" VC,NEO;
<i>Horizontal Directivity</i>	/
<i>Vertical Directivity</i>	/
<i>Amplifier</i>	2400W
<i>Cooling</i>	Convection
<i>Power Supply</i>	100V -240V~, 50 -60Hz
<i>Controller</i>	DSP 32 bit
<i>Indicator</i>	Input signal, voltage limit, communication
<i>Volume</i>	Total volume control
<i>Phase</i>	Input power supply voltage display, temperature display, 485 communication
<i>Signal Input</i>	1x XLR female, balanced
<i>Signal Output</i>	1x XLR male, balanced
<i>Power Socket</i>	1x PowerCON TRUE1 In 1x PowerCON TRUE1 Out
<i>Housing</i>	Multiplex plywood - Polyurea painting
<i>Handles</i>	4 x handles
<i>Rigging Points</i>	4 points rigging hardware
<i>Width x Height x Depth</i>	898*501.5*664.5 (mm)
<i>Weight</i>	70.8kg

PAXOS

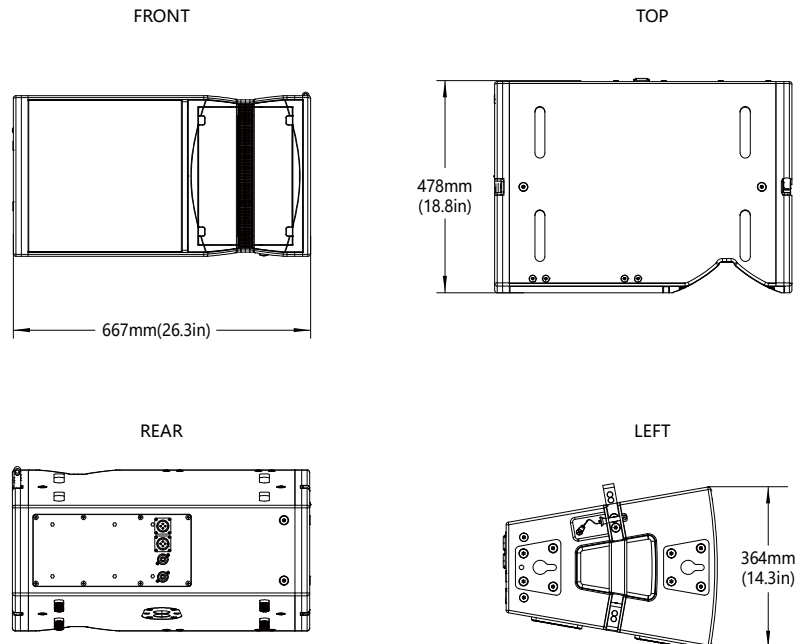
<i>Speaker Type</i>	3-Way Active Line Array Speaker
<i>Frequency Response</i>	55Hz-20KHz(-10dB)
<i>Max SPL</i>	133dB
<i>HF</i>	2.5";NEO;8Ω
<i>MF</i>	4";NEO;8Ω
<i>LF</i>	VC3";NEO;8Ω
<i>Horizontal Directivity</i>	70-100°
<i>Vertical Directivity</i>	20°
<i>Amplifier</i>	4*500W
<i>Cooling</i>	Convection
<i>Power Supply</i>	100V~-240V~, 50-60Hz
<i>Controller</i>	DSP 32 bit
<i>Indicator</i>	Input signal, voltage limit, communication
<i>Volume</i>	Total volume control
<i>Phase</i>	Input power supply voltage display, temperature display, 485 communication
<i>Signal Input</i>	1x XLR female, balanced
<i>Signal Output</i>	1x XLR male, balanced
<i>Power Socket</i>	1x PowerCON TRUE1 In 1x PowerCON TRUE1 Out
<i>Housing</i>	Multiplex plywood - Polyurea painting
<i>Handles</i>	2 x handles
<i>Width x Height x Depth</i>	667*364*478 (mm)
<i>Weight</i>	33kg

9、 DIMENSIONS

PAXOS SUB



PAXOS



10、 REGULATORY SPECIFICATIONS

Operating Temperature Range :0-40° C (32-104° F)

Maximum Operating Altitude :2000 m (6561.6 ft.)

Safety Voltage Range :110-240 V~, 50/60 Hz