Python-KP

Stainless steel line array element with 3.15" drivers

USER GUIDE

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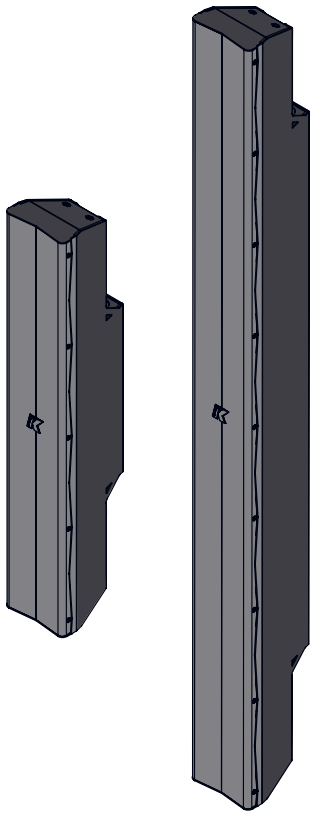

K-ARRAY

Unique Audio Solutions

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IMPORTANT SAFETY INSTRUCTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol alerts the user to the presence of recommendations about the product's use and maintenance.

The lighting flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated, dangerous voltage within the product enclosure that may be of magnitude to constitute a risk of electrical shock.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in this guide.

Operator's manual; operating instructions
This symbol identifies the operator's manual that relates to the operating instructions and indicates that the operating instructions should be considered when operating the device or control close to where the symbol is placed.

For indoor use only
This electrical equipment is designed primarily for indoor use.

WEEE
Please dispose of this product at the end of its operational lifetime by bringing it to your local collection point or recycling center for such equipment.

This device complies with Restriction of Hazardous Substances Directive.

WARNING

Failure to follow these safety instructions could result in fire, shock or other injury or damage to the device or other property.

General heed and warnings

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat
- Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Only use attachments/accessories specified by the manufacturer.
- Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
- Clean the product only with a soft and dry fabric. Never use liquid cleaning products, as this may damage the products cosmetic surfaces.
- Use only with the 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.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Avoid placing the product in a location under direct sunlight or near any appliance that generates UV (Ultra Violet) light, as this may change the product surface finishing and cause a change in color.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
- WARNING: Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery, etc.).
- Before turning the power on or off for all devices, set all volume levels to minimum.

This apparatus is intended for professional use.

Installation and commissioning may only be carried out by qualified and authorized personnel.

- Use only speaker cables for connecting speakers to the speaker terminals. Be sure to observe the amplifier's rated load impedance particularly when connecting speakers in parallel. Connecting an impedance load outside the amplifier's rated range can damage the apparatus.
- K-array cannot be held responsible for damage caused by improper use of the loudspeakers.
- K-array will not shoulder any responsibilities for products modified without prior authorization.

CE Statement

K-array declares that this device is in compliance with applicable CE standards and regulations. Before putting the device into operation, please observe the respective country-specific regulations!

Trademark Notice

Index

Thank you for choosing this K-array product!

To ensure proper operation, please carefully read the owner's manuals and safety instruction before using the products.
After reading this manual, be sure to keep it for future reference.

Should you have any questions about your new device please contact K-array customer service at support@k-array.com or contact the official K-array distributor in your country.

The Python-KP1 are discreet passive line array elements comprised of 3.15" neodymium magnet woofers housed in robust stainless steel frames that make this loudspeakers resistant to corrosion, rust or stain - perfect for a great variety of both indoor and outdoor applications.

The Python-KP1 family contains two passive models: Python-KP521, half meter-long with 8x drivers, and Python-KP1021 one meter-long with 16x drivers, reproducing the whole frequency range with high intelligibility. The integration of subwoofers from Rumble-KU family or Thunder-KS ensures excellent coverage of the entire musical range.

This column loudspeakers are equipped with a selector for two coverage options: SPOT - for very narrow vertical sound dispersion and FLOOD - for wider coverage.
For correct matching with other loudspeakers or amplifiers, a dedicated switch lets the user to choose between two impedance values (8Ω/32Ω for Python-KP521 and 4Ω/16Ω for Python-KP1021) allowing to set the proper load for Kommander-KA amplifiers and maximize performance.

A variety of rigging accessories provide many linking and hanging options to combine any Python-KP1 in vertical and horizontal line array configurations.

Key Features

- High performance in a compact form factor
- Made of highly resistant and durable stainless steel
- Premium finishes and customization
- 3.15" long-excursion full-range cone drivers
- Double voice coil and selectable impedance
- Selectable vertical dispersion pattern (Spot / Flood)
- Wide horizontal coverage
- EN 54-24:2008 compliant
- Marine version available
- More complete water protection with dedicated K-IP65KITA and K-IP65KITB accessory for high IP-Rating demanding applications and outdoor installations.

Python-KP52I / Python-KP52MI

- Compact form factor and lightweight design
- 6x 3.15" neodymium magnet woofers
- Double voice coil and selectable impedance 8 Ω / 32 Ω
- 120 Hz - 18kHz (-6 dB) with dedicated preset for accurate frequency response.
- Full-range preset available - 70 Hz - 18 kHz (-6dB).
- 128 dB (peak)
- Selectable Vertical dispersion pattern V.10° / V-45° Spot/ Flood
- SpeakON NL4 connector
- 2wires cable and gasket in the marine version KP52MI
- (WxHxD) 89 x 520 x 118 mm (3.5 x 20.5 x 4.7 in)

Python-KP102I / Python-KP102MI

- Compact form factor and lightweight design
- 12x 3.15" neodymium magnet woofers
- Double voice coil and selectable impedance 4 Ω / 16 Ω
- 120 Hz - 18kHz (-6 dB) with dedicated preset for accurate frequency response.
- Full-range preset available - 70 Hz - 18 kHz (-6dB).
- 134 dB (peak)
- Selectable Vertical dispersion pattern V.7° / V-30° Spot/ Flood
- 2wires cable and gasket in the marine version KP102MI
- SpeakON NL4 connector
- (WxHxD) 89 x 1000 x 118 mm (3.5 x 39.4 x 4.7)

General applications

The Python-KP family includes line array speakers with pure array carachiteristics - designed for mid/high frequencies, ensuring optimal reproduction in those ranges. To reproduce low frequencies and extend the overall frequency response of the system, it is necessary to pair them with dedicated subwoofers from the Thunder-KS family. This approach allows for the creation of a scalable and adaptable audio system suitable for various applications in the audio industry, ranging from installations to live events. It's important to consider this when approaching the installation of the speaker and the overall system.

Loudspeakers Presets

Natural

Full-Range

Each Python-KP can be used with natural preset, with a dedicated frequency response and crossover frequency when paired with a subwoofer, or in full-range mode. The Full-range preset is designed to extend the speaker's frequency response in the mid-to-low range and is particularly suitable for applications where the use of a subwoofer may be limited due to space constraints, different requirements, or to contribute to low-frequency extension with precision and efficiency.

Quick Start Guide

On-wall mounting installation

Python-KP52I,
Python-KP102I

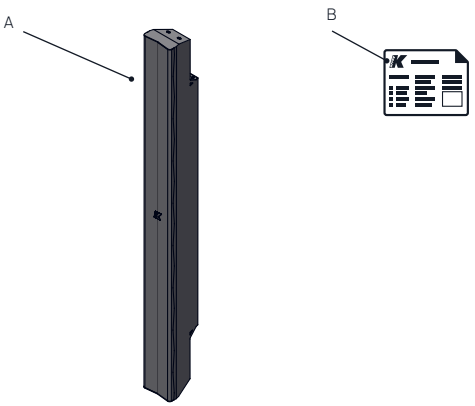
Follow this instructions to properly install the loudspeaker:

1. Unpack the loudspeaker
2. Unpack the corresponding accessories needed for wall mounting: K-WALL2, K-WALL2L (to be purchased separately).
3. Find the proper position on the wall accordingly to the listening area to be covered.
4. Set the proper vertical dispersion using the spot or flood switch on the loudspeaker back panel.
5. Set the proper load impedance using the impedance switch on the loudspeaker back panel, with respect to the amplifier in use.
6. Set the proper speaker cable length for connecting the loudspeaker to the amplifier
7. In application demanding IP65 devices,
   - let the speaker cable passing trough the IP65 connector sealing rubber cover and fastener (IP65KITB accessory).
   - fix the gasket to the connector on the loudspeaker's panel to ensure protection.
8. Plug the NL4 speakON connector to the loudspeaker end and to the amplifier (connecting the terminals taking care to the respect the signal polarity.)
9. Set the dedicated loudspeaker preset on the KA-amplifier in use, particularly in cases of complex system installations that requires subwoofers.
10. Switch on the music and enjoy!

Unpacking

Each K-array product is built to the highest standard and thoroughly inspected before leaving the factory.
Upon arrival, carefully inspect the shipping carton, then examine and test your new device. If you find any damage, immediately notify the shipping company.

A. 1x Python-KP line array element
B. 1x quick guide



Positioning

The Python-KP loudspeakers perform best when positioned on a planar surface such as a wall.

Different accessories can be purchased to mount loudspeakers on walls, providing flexibility to tilt the speakers for optimal coverage of the listening area.
They can also be installed in a standing position, using dedicated joining accessories and a base, always considering the correct coverage of the listening area.

Find the proper installation height, aiming the loudspeaker at the listening position.
We suggest the following configurations:

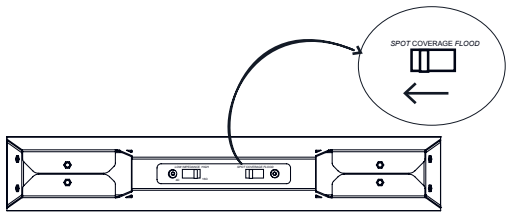
Seated listening area
H: min height 1,5 m (5 ft) / max height 2 m (6.5 ft)

Standing listening area
H: min height 1,7 m (5.6 ft) / max height 2,7 m (9 ft)

Spot & Flood Coverage Switch

To achieve optimal coverage in a specific listening area for diverse applications, the Python-KPI loudspeakers come equipped with a dedicated switch for selecting vertical dispersion:

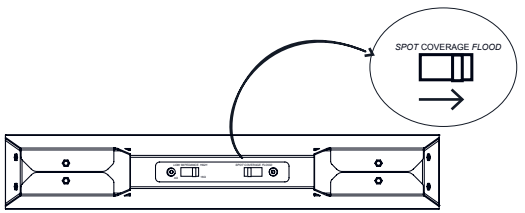
1 Spot coverage - the speaker is set to spot by default.



1.1 Sets a narrower vertical diffusion angle of 10°.

1.2 Spot coverage is recommended for long throw applications.
In array configuration set the coverage to spot.
In multi-speaker applications, set coverage to Spot.

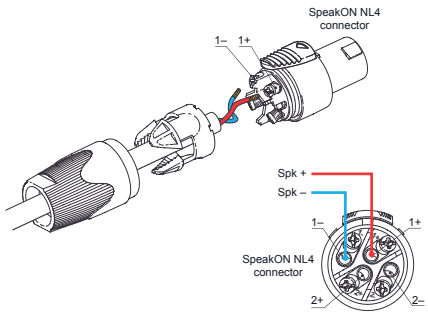
2 Flood coverage
Sets a wide vertical diffusion angle of 45°.



2.1 Flood coverage is suggested for single speakers in diffused short throw applications, to obtain maximum diffusion.

Wiring

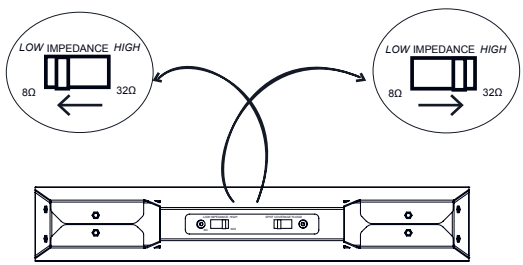
For easy connectivity and link, the Python-KP I Loudspeakers feature a SpeakON NL4 connector. The internal wiring is shown in the picture below:

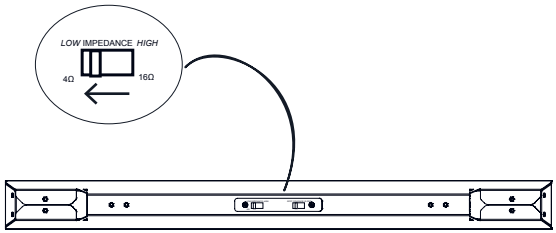


Terminals 1+ 1- are connected. 2+ 2- are passing trough.

Impedance selection

It is possible to set the speaker at high or low impedance using the dedicated switch located on the rear panel.





	LOW-Z	HIGH-Z
Python-KP52 I	8 Ω	32 Ω
Python-KP102 I	4 Ω	16 Ω

Amplifier Channel Matching

The number of Python-KPI that can be connected in parallel to the same amplifier channel depends on the loudspeaker model, loudspeaker impedance and amplifier power.

> Always check the loudspeaker impedance before connecting the amplifier.

The parallel connection lowers the total load impedance: caution must be taken to maintain the load impedance of the paralleled loudspeakers above the amplifier's minimum loading impedance.

Please refer to the Amplifier-to-Speaker matching table available on the K-array website for details about the maximum number of loudspeakers that can be driven by a single amplifier channel.

> Before driving the loudspeakers ensure to load the proper loudspeaker factory preset on Kommander-KA amplifier.

Before connecting the loudspeaker cable to the amplifier:

- ensure the loudspeaker impedance matches the amplifier channel rated load impedance, especially when connecting multiple loudspeakers in parallel;
- load the dedicated loudspeaker factory preset on the amplifier DSP.

Mounting and rigging accessories

K-WALL2 / K-WALL2L

Any Python-KPI can be mounted on-wall and tilted with two dedicated mounting brackets that can be purchased separately, K-WALL2 and K-WALL2L.

K-JOINT3 / K-FLY3

K-JOINT3 and K-FLY3 are two useful rigging hardware to hang more speakers in array configurations with the ease of very few steps.

Detailed information an mounting procedures for Python-KP on wall and in array can be found here: Accessories Assembly For Column Speakers on K-array website.

> Correct and safe rigging procedures for K-array systems are ensured only with dedicated K-array rigging hardware accessories.

> K-array cannot be held responsible for any damage resulting from the use of third-party rigging materials.

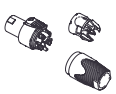
Outdoor applications

Installation

Any Python-KP I can be used in those applications that require an higher IP grade. It is possible to use the IP65 accessories composed of a dedicated plastic waterproof cap (part of IP65KITA) and waterproof rubber protection + gasket (part of IP65KITB) to be installed on the non-wired connector and on the wired one respectively, to effectively seal the inputs port from water. To install IP65 protection please follow the procedure shown below:

A Before proceeding, ensure that you have all the supplied components of the SpeakOn NL4 connector and of IP65 protection (rubber cable cover and gasket) and the waterproof cap.

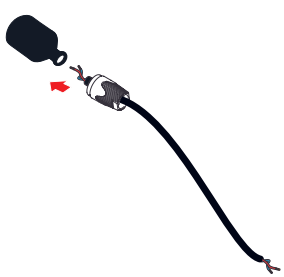
1. SpeakON connector components



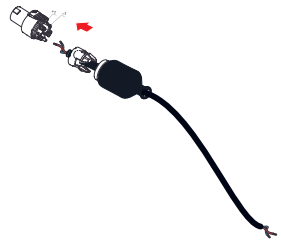
2. rubber cover and gasket (part of IP65KITB)

3.waterproof cap (part of IP65KITA)

B Choose a cable with a sheath for greater insulation and pass it through the rubber cover accessory and trough the cable gland.

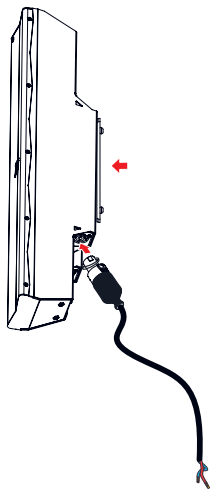


C Connect the wires to 1+ 1- terminals of the NL4 connector

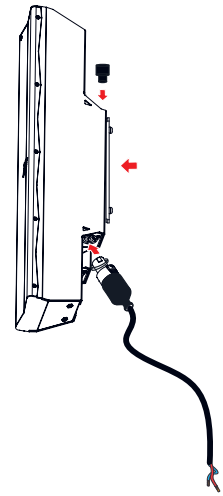


D Ensure that the gasket firmly adheres to the connector on the back panel. To do so, first, pass it around the head of the male connector to be plugged in.

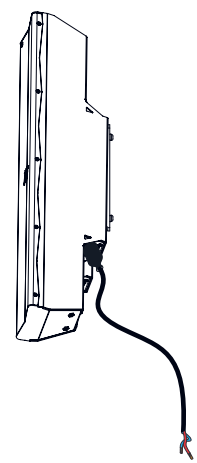
E Plug the connector to the loudspeaker and turn it clockwise together with the gasket to ensure a secure connection. It is also recommended to leave the switch panel closed after selecting the correct impedance to not damage the switches.



F Then use the dedicated waterproof cap to close the non-wired connector to seal it and prevent it from water infiltration.



G The Python-KP1 is finally installed with IP65 protection accessories and sealed against water.

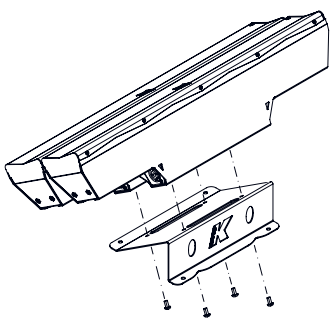


Stage mounting accessory

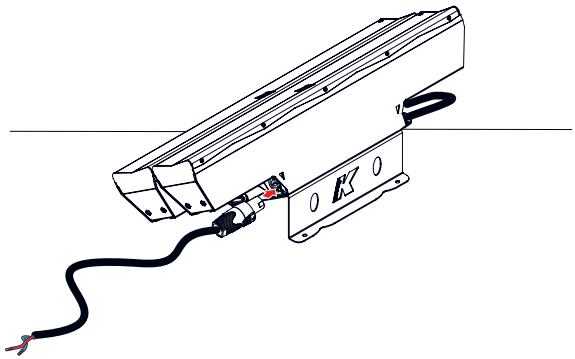
K-STAGE2

The Python-KP can be set on stage for monitoring system configuration, thanks to the new dedicated bracket K-STAGE2. This accessory bracket allows for setting up to 2x Python-KP on the stage to provide a monitoring system. This ensures stability and optimal positioning, allowing for reliable monitoring performance during stage setups.
Thanks to threaded holes, it is possible to fix the bracket to the stage surface with screws, ensuring even more stability.

1 K-STAGE2
Bracket accessory to mount the speaker on stage for monitoring system configuration - with dedicated screws.
Find the proper listening position on the stage - then applique the bracket to the speakers.



2 Connect the audio cable to the speaker and then adjust the proper mix for the monitoring system.



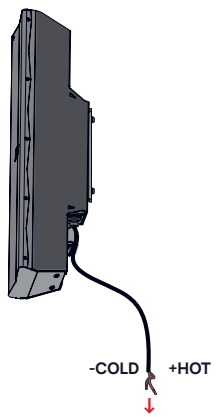
Marine applications

Python-KP-MI

The Python-KPI are available in the marine version, equipped with specialized treatments and finishes designed for marine applications, ensuring the speakers can withstand prolonged exposure to saltwater, thus enhancing their durability and longevity. In addition to these special features, the Python-KP-MI (marine) come equipped with nickel-plated brass cable glands and a cable with sheath with COLD- and HOT+ terminals.

This not only allows for better isolation of the inputs but also allows easier wiring, especially in situations where space is limited, and water ingress could damage the speaker.

a



SIGNAL FROM AMPLIFIER CHANNEL - wiring (COLD) – (HOT) + to the dedicated amplifier channel and match the selected impedance value.

Is it recommended to close the switches compartment with the dedicated panel, any water infiltration can damage the speaker.

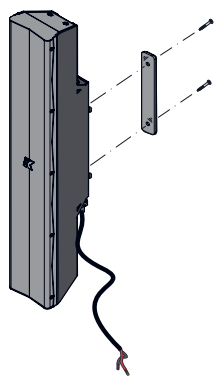
EN 54-24:2008 compliant

Python-KP-54I

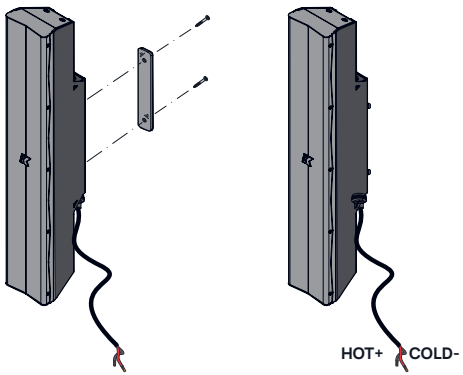
The Python-KPI is available in the EN 54-24 **(Python-KP-54I)** version compliant, it indicates that the speaker is suitable for public address signaling installation and respect this standard requirements. The EN 54-24 standard specifies requirements and performance criteria for loudspeakers used in fire detection and fire alarm systems. The construction criteria employed in the Python-KP-MI (marine), as discussed in the previous chapter, are identical to those of the EN 54-24 version. Moreover, the EN 54-24 version incorporates a distinctive steel protection for the switch compartment, designed to safeguard the internal settings of the enclosure post-installation and provide additional protection.

1 To install Python-KP-54, first find the proper position according to the signaling system configuration requirements.

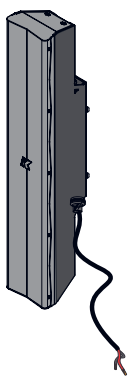
2 Then remove the steel switches protection on the back panel of the speaker and set the proper impedance value .



3 Reposition the panel to close the switch compartment and handle the speaker wiring to the amplifier (+) (-).



4 The speaker is finally installed for the EN:54 system.



Service

To obtain service:

1. Please have the serial number(s) of the unit(s) available for reference.
2. Contact the official K-array distributor in your country: find the Distributors and Dealers list on K-array website. Please describe the problem clearly and completely to the Customer Service.
3. You will be contacted back for on line servicing.
4. If the problem cannot be resolved over the phone, you may be required to send the unit in for service. In this instance, you will be provided with an RA (Return Authorization) number which should be included on all shipping documents and correspondence regarding the repair. Shipping charges are the responsibility of the purchaser.

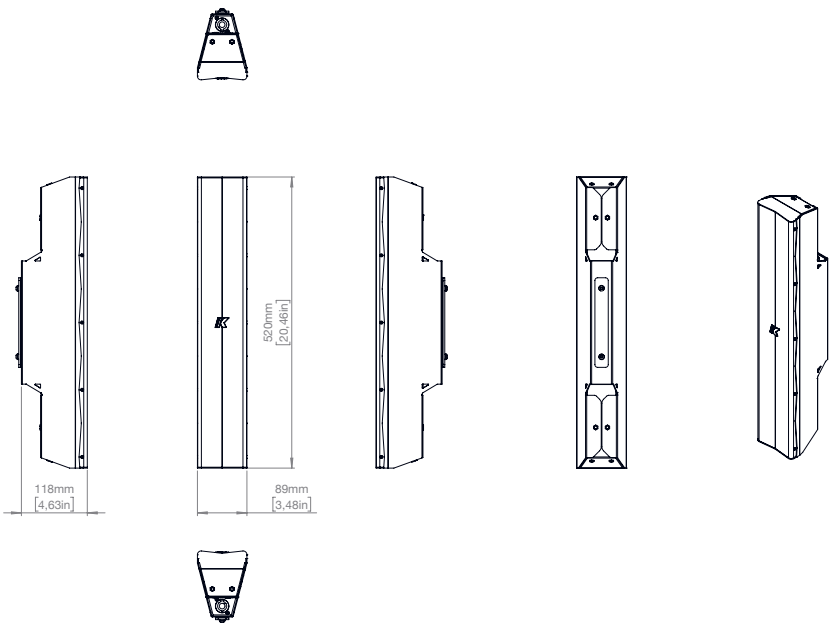
Any attempt to modify or replace components of the device will invalidate your warranty. Service must be performed by an authorized K-array service center.

Cleaning

Use only a soft, dry cloth to clean the housing. Do not use any solvents, chemicals, or cleaning solutions containing alcohol, ammonia, or abrasives. Do not use any sprays near the product or allow liquids to spill into any openings.

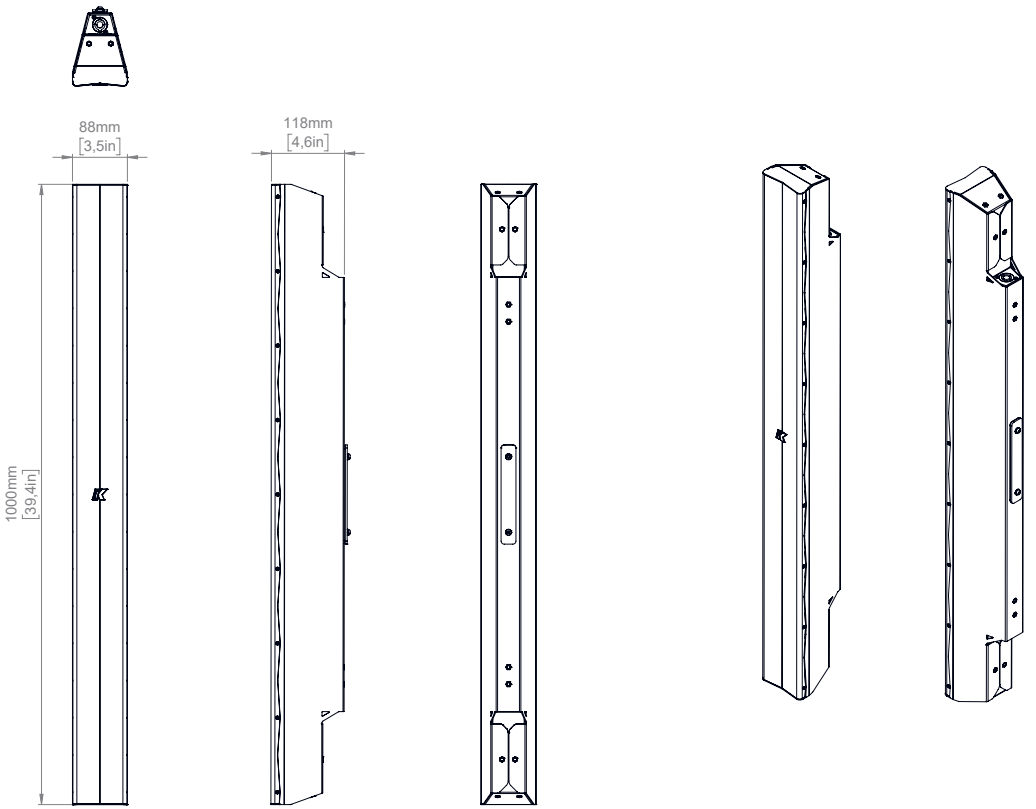
Mechanical Drawings

Python-KP52 I



Mechanical Drawings

Python-KP102 I



Technical Specifications

General - KP52 I	
Type	Passive line array element
Transducers	6x 3.15" neodymium magnet woofers
Frequency Response [1]	120 Hz - 18 kHz (-6 dB)
Frequency Response[1.1]	70 Hz - 18 kHz (-6dB)
Max SPL [2]	128 dB (peak)
Max SPL[2.1]	116 dB (peak)
Rated Power	360 W
Coverage	V. 10° - 45° I H. 90°
Nominal Impedance	8 Ω / 32 Ω selectable
Connectors	SpeakOn NL4 1+ 1- (signal); 2+ 2- (through) Marine grade wiring - terminals red+ black- (signal)

Handling & Finishes	
Material	Stainless Steel
Colors	Black, White, Custom RAL
Finishes	24K Gold, Polished, Brushed
IP Rating [4]	IP64
Dimensions (WxHxD)[3]	89 x 520 x 118 mm (3.5 x 20.5 x 4.7 in)
Weight	5.8 kg (12.78 lb)

[1] With dedicated natural preset.
[1.1] With dedicated full-range preset
[2] Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.
[2.1] Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.
[3] More complete water protection with K-IP65KITA and K-IP65KITB accessories (IP65 compliant)

General - KP102 I	
Type	Passive line array element
Transducers	12" x 3.15" neodymium magnet woofers
Frequency Response [1]	120 Hz - 18 kHz (-6 dB)
Frequency Response [1.1]	70Hz - 18 kHz (-6dB)
Max SPL [2]	134 dB (peak)
Max SPL[3]	122 dB (peak)
Rated Power	720 W
Coverage	V. 7° - 30° I H. 90°
Nominal Impedance	4 Ω / 16 Ω selectable
Connectors	SpeakOn NL4 1+ 1- (signal); 2+ 2- (through) Marine grade wiring - terminals red+ black- (signal)

Handling & Finishes	
Material	Stainless Steel
Colors	Black, White, Custom RAL
Finishes	24K Gold, Polished, Brushed
IP Rating[4]	IP64
Dimensions (WxHxD)[3]	89 x 1000 x 118 mm (3.5 x 39.4 x 4.7)
Weight	18.5 kg (40.8 lb)

[1] With dedicated natural preset.
[1.1] With dedicated full-range preset
[2] Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.
[2.1] Maximum SPL is calculated using a signal with crest factor 4 (12dB) measured at 8 m then scaled at 1 m.
[3] More complete water protection with K-IP65KITA and K-IP65KITB accessories (IP65 compliant)

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Designed and Made in Italy

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