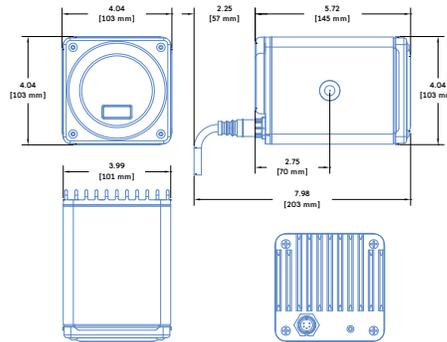


# MM-4XP : Miniature Loudspeaker



**Dimensions** 4.04" w x 4.04" h x 5.72" d (7.98" d with connector)  
 (103 mm x 103 mm x 145 mm / 203 mm with connector)

**Weight** 4.2 lbs (1.9 kg)

**Enclosure** Extruded aluminum

**Finish** Black anodized or standard white paint

**Protective Grille** Perforated steel

**Mounting** Two 3/8"-16 side inserts; optional MUB-MM4XP U-bracket

The MM-4XP self-powered miniature loudspeaker, with IntelligentDC technology, was designed for high-quality distributed systems. Housed in a compact aluminum enclosure, the MM-4XP is especially suitable for installations involving space limitations and visibility concerns, such as fill and spot coverage, and hidden locations like chancel steps in houses of worship. Its flexible and easy-to-configure mounting options, as well as its ability to effortlessly reproduce both speech and music, make it an excellent choice for fixed applications, theatrical presentations (stage lip frontfill), and small portable systems for corporate AV.

The MM-4XP meets the same exceptional performance standards established by its predecessor, the MM-4, and adds the advantages of self-powered systems with onboard amplification and signal processing.

The MM-4XP's proprietary 4-inch cone transducer, manufactured at Meyer Sound's Berkeley, California factory, delivers an impressive maximum peak SPL of 113 dB and a wide operating frequency range of 120 Hz to 18 kHz with very low distortion. The MM-4XP exhibits the same high intelligibility and flat frequency and phase responses for which Meyer

Sound loudspeakers are known. Peak and rms limiters regulate loudspeaker temperatures and excursion, ensuring the MM-4XP performs exceedingly well even when driven into overload.

With IntelligentDC technology, the MM-4XP receives power and balanced audio from a SwitchCraft® EN3™ 5-pin male input connector on its rear panel. The sealed EN3 connector provides protection against harsh environmental conditions when the MM-4XP is installed outdoors. The MM-4XP's amplifier and signal-processing circuits were designed to store DC power and tolerate voltage drops, thereby accommodating light-gauge cables and long cable runs.

MM-4XP loudspeakers require a Meyer Sound external power supply. The compact MPS-481 powers a single loudspeaker and includes a 10-foot composite cable that routes both DC power and balanced audio, received from its XLR input connector, to the MM-4XP. The MPS-488HP IntelligentDC power supply is ideal for larger installations with multiple loudspeakers; the single-space 19-inch rack unit distributes DC power and balanced audio to up to eight MM-4XP loudspeakers or other Meyer Sound low-voltage loudspeakers. Meyer

Sound's RMS remote monitoring system is available as an option for the MPS-488HP.

The Meyer Sound power supplies can deliver DC power to MM-4XP loudspeakers at cable lengths up to 300 feet with just 1 dB of loss in peak SPL using 18 AWG wire. The use of composite multiconductor cables (such as Belden® 1502 or equivalent) allows a single cable to carry both DC power and balanced audio to the MM-4XP. Longer cable lengths are possible for moderate applications that don't drive the loudspeakers to maximum output, or for installations with heavier wire gauges. Powering the MM-4XP from a unipolar external power source reduces induced noise significantly and eliminates the need for wiring conduits. For information and specifications for the Meyer Sound power supplies, refer to their respective datasheets.

The MM-4XP's extruded aluminum enclosure acts as a heat sink to dissipate heat from the driver's voice coil. The enclosure is available in a black anodized or standard white painted finish and includes a perforated steel grille frame. The enclosure can also be custom painted to match specific color schemes. The optional MUB-MM4XP U-bracket mounts the loudspeaker on walls and ceilings at adjustable angles.

## FEATURES & BENEFITS

- Extremely compact enclosure
- Self-powered
- Wide-range frequency response
- Ultra-low distortion
- Effortlessly reproduces both speech and music
- Exceptional SPL to size ratio
- Supports long cable runs with light-gauge cables

## APPLICATIONS

- Fill and spot coverage for systems with space limitations and visibility concerns
- High-quality distributed systems in clubs and restaurants for paging and music
- Small, portable systems for corporate AV
- Sound installations for gallery exhibits and museum displays

## MM-4XP SPECIFICATIONS

<b>ACOUSTICAL</b>		<b>Operating Frequency Range</b> <sup>1</sup> 120 Hz – 18 kHz <b>Frequency Response</b> <sup>2</sup> 135 Hz – 17 kHz $\pm 4$ dB <b>Phase Response</b> 400 Hz – 20 kHz $\pm 45^\circ$ <b>Maximum Peak SPL</b> <sup>3</sup> 113 dB <b>Dynamic Range</b> 100 dB
<b>COVERAGE</b>		<b>Horizontal</b> 80° (3 kHz – 14 kHz $\pm 10^\circ$ ); 120° (below 2 kHz) <b>Vertical</b> 80° (3 kHz – 14 kHz $\pm 10^\circ$ ); 120° (below 2 kHz)
<b>TRANSDUCER</b>		<b>Type</b> One 4" cone driver <b>Nominal Impedance</b> 4 $\Omega$
<b>REAR PANEL</b>		<b>Audio/Power Connector</b> SwitchCraft EN3 5-pin male (two pins for 48 V DC power, three pins for balanced audio) <b>Power Wiring</b> Pin 1: DC power (-) Pin 2: DC power (+) <b>Audio Wiring</b> Pin 3: Audio shield, chassis/earth Pin 4: Audio (-) Pin 5: Audio (+) <b>LED</b> Displays loudspeaker status
<b>AUDIO INPUT</b>		<b>Type</b> Differential, electronically balanced <b>Maximum Common Mode Range</b> $\pm 5$ V DC <b>Input Impedance</b> 10 k $\Omega$ electronically balanced <b>DC Blocking</b> 4.8 Hz high pass <b>CMRR</b> $\leq -60$ dB, typically $\leq -72$ dB (200 Hz – 3 kHz) <b>RF Filter</b> Common mode: 616 kHz Differential mode: 616 kHz <b>Nominal Input Sensitivity</b> $-2.5$ dBV (0.75 V rms, 1.00 V peak) continuous average is typically the onset of limiting for noise and music <b>Input Level</b> Audio source must be capable of producing $+16$ dBV (6.3 V rms, 9.0 V peak) into 600 $\Omega$ to produce the maximum peak SPL over the operating bandwidth of the loudspeaker
<b>AMPLIFIER</b>		<b>Type</b> Class-D <b>Output Power</b> <sup>4</sup> 220 W (440 W peak) <b>THD, IM, TIM</b> $\leq 0.02\%$ <b>Load</b> 4 $\Omega$ <b>Cooling</b> Convection
<b>DC POWER</b>		<b>Safety Agency Rated Operating Range</b> <sup>5</sup> 48 V DC <b>Current Draw:</b> <b>Idle Current</b> 0.16 A rms <b>Maximum Long-Term Continuous Current (&gt;10 sec)</b> 0.7 A rms <b>Burst Current (&lt;1 sec)</b> 2.2 A rms <b>Maximum Instantaneous Peak Current</b> 2.35 A peak <b>Inrush Current</b> $\leq 7.0$ A peak
		<b>Meyer Sound Power Supply Required</b> For information and specifications for the Meyer Sound MPS-481 and MPS-488HP IntelligentDC external power supplies, refer to their datasheets.

### NOTES:

1. Recommended maximum operating frequency range. Response depends on loading conditions and room acoustics.
2. Free field, measured with 1/3 octave frequency resolution at 4 meters.
3. Measured with music referred to 1 meter.
4. Amplifier wattage rating based on the maximum unclipped burst sine-wave rms voltage the amplifier will produce for at least 0.5 seconds into the nominal load impedance: 30 V rms (42 V peak).
5. Tolerates voltage drops up to 30 percent due to long cable runs.



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## ARCHITECT SPECIFICATIONS

The loudspeaker shall be self-powered and include a single 4-inch (103 mm) diameter cone transducer with a 4-ohm, long-excursion voice coil.

The loudspeaker shall incorporate a class-D power amplifier with a burst capability of 220 W total (440 W peak) into a nominal load of 4 ohms. Distortion (THD, IM, TIM) shall not exceed 0.02 percent.

Performance specifications for a typical production unit shall be as follows, measured at 1/3-octave resolution: operating frequency range, 120 Hz to 18 kHz; phase response, 400 Hz to 20 kHz  $\pm 45$  degrees; maximum peak SPL, 113 dB at 1 meter. Coverage shall be 80 degrees horizontal and 80 degrees vertical at

3 kHz to 14 kHz  $\pm 10$  degrees.

The loudspeaker shall be equipped with a single SwitchCraft EN3 5-pin connector (two pins for DC power, three pins for balanced audio). The audio input shall be electronically balanced with a 10-kOhm impedance and accept a nominal  $-2.5$  dBV (0.75 V rms, 1.00 V peak) input signal. DC blocking and RF filtering shall be provided, and CMRR shall be less than  $-60$  dB and typically less than  $-72$  dB (200 Hz to 3 kHz).

Power requirements for the loudspeaker shall be an external Meyer Sound power supply, either the MPS-488HP IntelligentDC or MPS-481. Current draw

for the loudspeaker during burst ( $\leq 1$  sec) shall be 2.2 A rms at 48 V. Current inrush during turn-on shall not exceed 7.0 A peak at 48 V.

Loudspeaker components shall be housed in a sealed, extruded aluminum enclosure with a black anodized finish. Standard white and custom colors shall also be available. Dimensions with grille frame shall be 4.04 inches wide by 4.04 inches high by 5.72 inches deep (103 mm x 103 mm x 145 mm). Weight shall be 4.2 lbs (1.9 kg). 3/8"-16 inserts on each side of the enclosure shall accommodate Meyer Sound mounting and rigging options.

The loudspeaker shall be the Meyer Sound MM-4XP.