

# Eta 100 Ultra

optical microphone



**xarion**  
laser acoustics

moving sounds without moving parts

## Acoustic

Transducer type	Membrane-free, optical
Frequency range	10 Hz - 1 MHz
Dynamic range	100 dB
Self-noise	1.5 mPa (BW: 1 Hz, measured @ 1 kHz)
Self-noise, full bandwidth	1.5 Pa
Max. sound pressure for THD < 3%	12 kPa
Max. sound pressure level for THD < 3%	176 dB rel. 20 $\mu$ Pa
Damage threshold	> 194 dB rel. 20 $\mu$ Pa
Sensitivity	0.35 mV/Pa @ 1 kHz (0 dB gain, 50 $\Omega$ )
Polar pattern	Omnidirectional
Sound field optimization	Free field and pressure field
Calibration	Yes, standard calibrators (with adapter)

## General

Sensor output	$\pm 15$ V (high impedance), $\pm 7.5$ V (50 $\Omega$ )
Sensor output voltage connector	BNC
Size of sensor head	diameter: 5 mm; length: 38 mm
Weight of sensor head	ca. 10 g
Fiber cable length	5 m (other upon request)
Size of control unit	220 mm x 334 mm; height: 93 mm
Weight of control unit	8 kg
Power supply (signal conditioning unit)	120/230V $\pm 5\%$ ; 50/60 Hz
Power consumption	< 50 W
Operating temperature of sensor head	-20 $^{\circ}$ C to 100 $^{\circ}$ C (0 $^{\circ}$ F to 210 $^{\circ}$ F)

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