



MV 240

½" microphone preamplifier

with analog-to-digital converter

- USB (4 pin Lemo®)
- microphone power supply: USB
- capsule polarization voltage adjustable 200 V or 0 V
- 1 Hz to 80 kHz
- 7 dB(A) to 160 dB

Delivery	Typ	Order-No.
Microphone preamplifier, stainless steel, in weather protected case	MV 240	311222
Options and Accessories	Typ	Order-No.
Microphone holder 21 mm, turnable	MH 93	202325
Microphone holder 21 mm	MH 93.1	202304
Microphone holder 21 mm	MH 22	302350
Adapter for 1" microphone to ½" preamplifier	A 63.1	302302
Adapter for ¼" microphone to ½" preamplifier	A 67	302305
Angle adapter for ½" microphone to ½" preamplifier	WA 20	302334
Dehumidifier adapter ½"	TA 202 L	302349
Measurement capacitor ½"	K 65	302307
Connection cable, 4 pin Lemo® to USB-A, 1 m	C 24.01	600233
Connection cable, 4 pin Lemo® to USB-A, 1 m	C 24.02	302263
Connection cable, 4 pin Lemo® to USB-A, 1 m	C 24.05	302264

Current consumption	450 mA (at $U_i = 10 V_{rms}$)	
Power supply	5 V ($\pm 5\%$)	
Frequency range	1 Hz to 80 kHz	
Input impedance	20 G Ω ; <0.2 pF	
Maximum input	10 V _{rms}	
Max. SPL	with MK 301	160 dB
Inherent noise	with MKS 225	7 dB(A)
Polarization voltage	200 V or 0 V	
Analog-to-digital converter	Sigma-Delta converter, 32 Bit, 192 kHz 2 level ranges	
Output signal	USB, 1 channel, 32 Bit calibrated sound pressure values	
Sample rate	AD converter	192 kHz
	Output signal	48 kHz, 96 kHz, 192 kHz
Connection to	USB 2.0 / USB 3.0	
Operating system	Windows, MacOS, Linux	
Temperature range, operation	-10°C to +50°C	
Temperature range, storage	-20°C to +70°C	
Humidity limits	non condensing	r.H. $\leq 90\%$
Connector	4 pin Lemo® EGG.1B.304.CLL	
Thread	for microphone	11.7 mm 60 UNS
Diameter	12.7 mm / 21 mm	
Length	184 mm	
Weight	120 g	

The ½" measurement microphone preamplifier type MV 240 USB combines a high-impedance transducer with an analog-to-digital converter. The output signal of the measurement microphone capsule is optimally adjusted to the dynamic range of the analog-to-digital converter by an impedance converter and a preamplifier with a very low noise level and THD. One channel of a 32 bit analog-to-digital converter converts the lower level range of the capsule signal and the other channel the upper level range.

A following processor combines these two level ranges to the one-channel 32 bit output signal, that represents calibrated sound pressure levels. The MV 240 USB converts sound pressure levels from 7 dB to 160 dB – more than the complete dynamic range of a typical ½" measurement microphone capsule. The MV 240 USB is suitable for use with or without the TA 202 L dehumidifier for Class 1 sound level meters in accordance with IEC 61672.

The preamplifier supports the sample frequencies 48 kHz, 96 kHz and 192 kHz. Measurements up to 80 kHz are possible with ¼" measurement microphone capsules.

For the use of the MV 240 USB no special hardware driver is necessary because it is detected automatically by the operating system and can be used with Windows, MacOS and Linux. The MV 240 USB is powered by the USB interface and generates internally 200 V polarisation voltage for the measurement microphone capsule that can be switched off when using electret measurement microphone capsules.

The preamplifier is connected to the USB interface via a lockable LEMO® connector and a special LEMO® to USB adapter cable. Two integrated generators can be used to check the 32 bit processing of the following signal chain and to detect the reference value for a sound pressure of 1 Pascal.