



## MV411 1/4-inch Preamplifier

### Features:

- Suitable for 1/4-inch 200V polarized microphone
- Single or dual power supply preamplifier
- Frequency response: 10 Hz ~ 200 kHz ( $\pm 0.5$  dB)
- Attenuation: 0.3 dB (typ.)
- Connector: 7-pin LEMO
- Optional TEDS (IEEE.1451.4)



### Applications:

- Common acoustic measurement
- Environmental, industrial, traffic and other acoustic measurement
- Sound intensity probes

### Introduction

**MV411** is 1/4-inch preamplifier developed by BSWA, which is suitable for MK series 1/4-inch 200V polarized microphones. It is a low-noise and high-quality preamplifier that can be used in a variety of acoustic applications.

The main function of the preamplifier is impedance change, since the output impedance of the microphone is above  $G\Omega$ , it cannot be directly connected to the common data acquisition equipment. The high input impedance and low output impedance of the preamplifier can reduce the output impedance of the microphone to less than 100  $\Omega$ .

**MV411** can provide polarization voltage to the microphone, so it is suitable for 200V polarized microphones (it can also be used for pre-polarized microphones when the polarization voltage of the power supply is turned off). This kind of preamplifier can be powered by single power supply (28 V ~ 120 V) or dual power supply ( $\pm 14$  V ~  $\pm 60$  V) and the MC7xx series power supply conditioner is required. When using a single power supply, the output signal of the preamplifier has a DC bias voltage, which is approx. 1/2 of the supply voltage. However, when using dual power supply, the output bias voltage is approx. 0 V (with an error of  $\pm 1$  V).

**MV411** is supplied with a 2-metre fixed cable (customizable length) and a LEMO connector as the output. It should be noted that different microphone capacitance can affect the low-frequency response of the preamplifier, while different capacitive output loads can affect the high-frequency response of the preamplifier.

**MV411** can choose to supply with TEDS to support read microphone information directly by data acquisition equipment, including microphone model, serial number, sensitivity, etc. BSWA TEDS microphone supports the IEEE 1451.4 standard. The version of 0.9 is used by default to be compatible with more data acquisition equipment. The version of 1.0 can also be selected according to user's requirements.

### Specifications

Diameter		1/4"
Polarization Voltage Support		Yes
Frequency Response (Hz) ( $\pm 0.5$ dB) <sup>1</sup>		10 ~ 200 k
Attenuation (dB)		0.3 (typ.)
Maximum Output Voltage (Vp) <sup>2</sup>		$\pm 9 \sim \pm 55$
Self-generated	A-weighted	$< 3.5 \mu V$ (3 $\mu V$ typ.)
Noise	20 Hz ~ 20 kHz	$< 14 \mu V$ (8 $\mu V$ typ.)
Input Impedance ( $G\Omega \parallel pF$ )		15 $\parallel$ 0.4



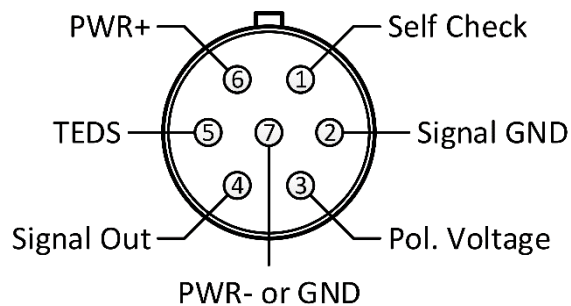
Output Impedance ( $\Omega$ )	<30
Power Supply	Single: 28 V ~ 120 V, Dual: $\pm 14$ V ~ $\pm 60$ V
DC Bias Voltage (V)	Approx. the midpoint voltage of PWR+ plus PWR-
Operating Temperature Range ( $^{\circ}\text{C}$ )	-30 ~ 80
Operating Humidity Range (%RH)	0 ~ 95
Dimensions (mm)	$\varnothing 6.35 \times 85$
Mounting Thread for Microphone	5.7 mm-60 UNS
Output Connector	LEMO FGG.1B.307
Weight (g)	74 (with 2-metre fixed cable and LEMO connector)
TEDS	Optional, IEEE 1451.4 compliant (default v0.9, optional v1.0)

Note 1: Measured using a 15 pF microphone capacitance under small signal conditions (1 Vrms).

Note 2: Measured using a single power supply of 28 V ~ 120 V or a dual power supply of  $\pm 14$  V ~  $\pm 60$  V. The maximum output voltage [Vp] = ("PWR+" - "PWR-" - 10) / 2.

Note: Unless specified otherwise, all values were measured at 23  $^{\circ}\text{C}$ , 101.3 kPa, 50 %RH by using 2 meters cable,  $\pm 15$  V power supply and microphone capacitance of 15 pF.

## Definition of LEMO Connector Pins



(View of see from outside of connector)

## Dimensions

