

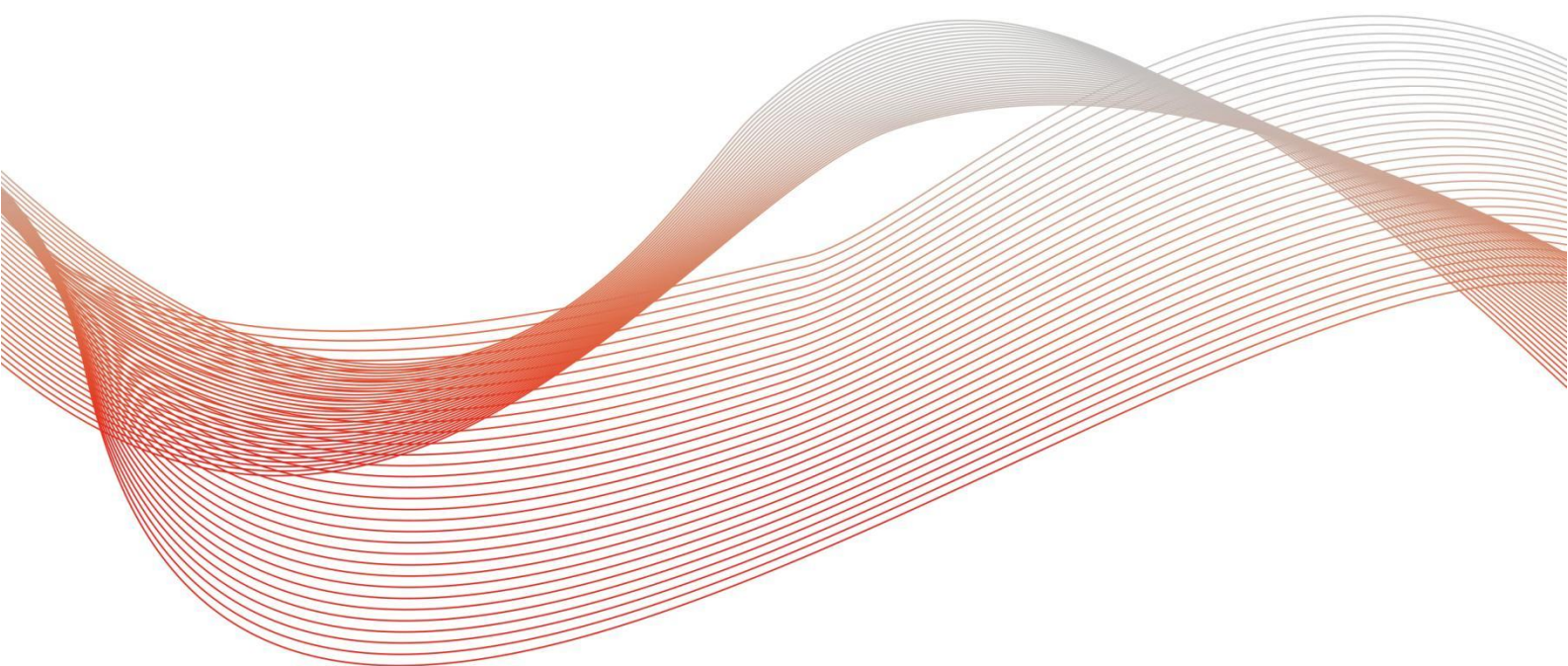


杭州爱华仪器有限公司
HANGZHOU AIHUA INSTRUMENTS CO.,LTD.

AWA14601E Preamplifier Instruction Manual

Hangzhou Aihua Instruments Co., Ltd.

2026



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1. Overview

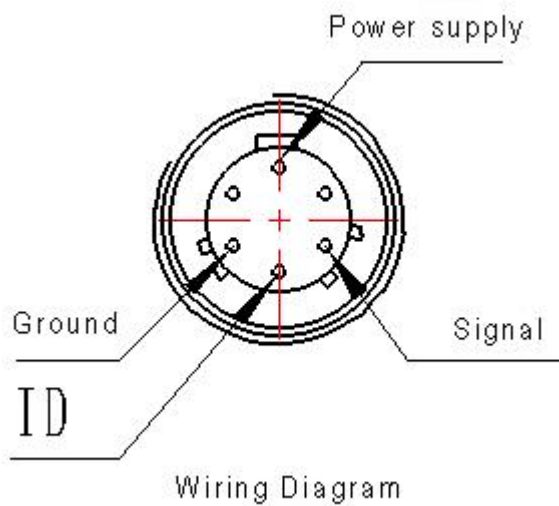
The AWA14601E preamplifier is a pre-stage unit characterized by high input impedance, low output impedance, low noise, and a wide input range. It supports 1/2-inch prepolarized microphones and can be connected directly to standard measuring instruments; it is also suitable for use with multi-channel noise analyzers and handheld noise measurement instruments.

2. Key Technical Specifications:

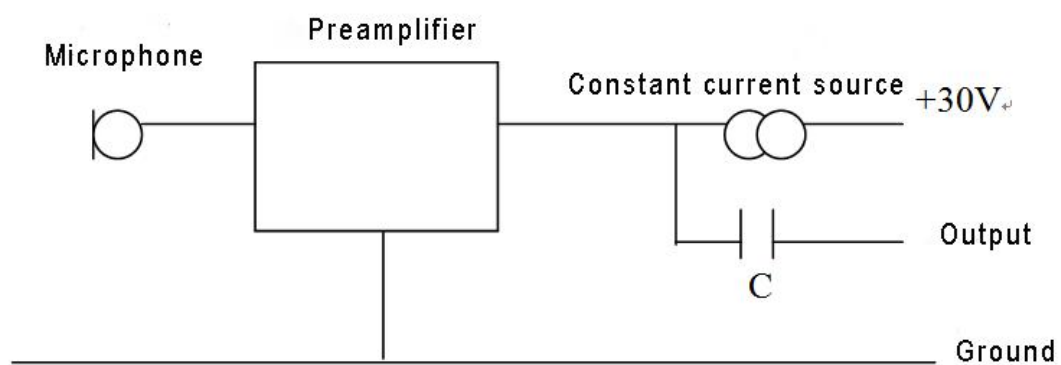
- 1) Dimensions: $\Phi 12.7$ mm (1/2 inch)
- 2) Frequency Range: 20 Hz–20 kHz ± 0.2 dB; 10 Hz–200 kHz ± 0.5 dB
- 3) Gain:
- 4) Input Impedance: ≥ 10 G Ω // 0.5 pF
- 5) Total Harmonic Distortion (THD): $\leq 0.1\%$
- 6) Maximum Output Voltage: ≥ 7 V_{rms}
- 7) Output Impedance: ≤ 50 Ω
- 8) Self-generated Noise (Noise Floor): ≤ 3 μ V (A-weighted), ≤ 7 μ V (20 Hz–20 kHz)
- 9) Power Supply: +9 V to +45 V
- 10) Output Connector: X9-6T2 circular plug
- 11) Microphone Thread: M11.7 mm $\times$ 0.423 mm (60 UNS)
- 12) Operating Temperature Range: -20°C to +60°C

3. Instructions for Use

3.1 Pin Definitions:



3.2 Circuit Connection:



Screw the microphone onto the threaded end of the preamplifier, and connect the other end of the preamplifier to the instrument's input (equipped with an X9-6T2 socket); a supply voltage of 20V is recommended. Once connected, the acoustic signal received by the microphone is converted into an electrical signal, which undergoes impedance transformation via the preamplifier before being transmitted to the instrument's input.

4 TEDS Smart Sensors

An increasing number of analog sensors support the IEEE 1451.4 TEDS standard. Through TEDS, data acquisition equipment can retrieve information such as the sensor model and serial number; more importantly, it can directly

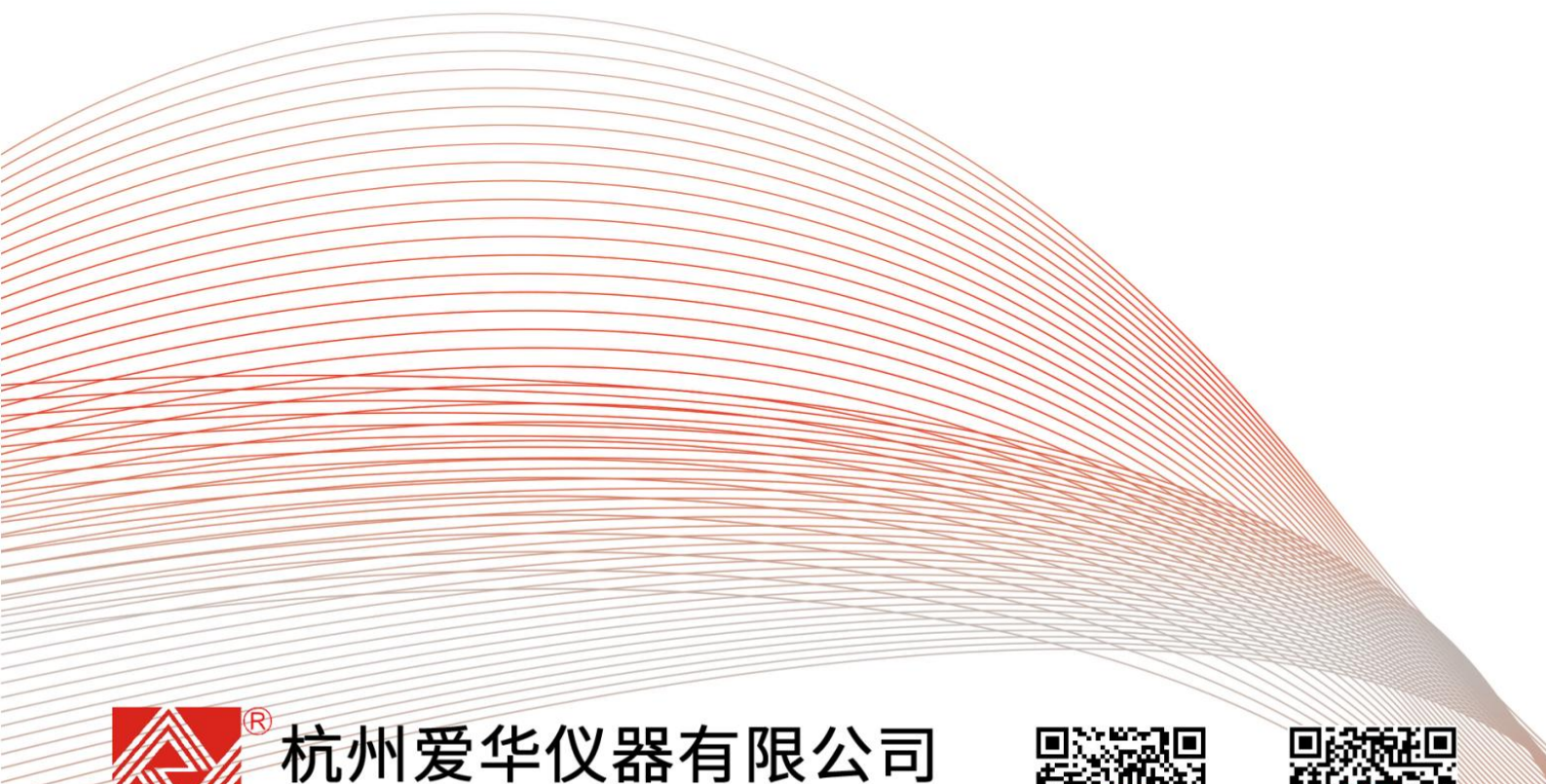
read parameters like sensitivity and power supply requirements, thereby eliminating the need for tedious manual sensitivity settings and power configuration steps.

Hangzhou Aihua's TEDS implementation adheres to the IEEE 1451.4 v1.0 format, which is the latest version. If TEDS devices compliant with other versions are required, please specify this when placing an order. Reading from and writing to TEDS smart devices requires appropriate hardware circuitry and software parsing capabilities. The following outlines the support provided by common instruments for Hangzhou Aihua's TEDS-enabled preamplifiers; please select the appropriate configuration based on the specific instrument's support capabilities.

Model	Main Features	B&K Pulse	AWA62 90L	AWA62 28+
AWA14604 E	1/2" Constant-current source type	Support	Support	Not support
AWA14614	1/4" Constant-current source type	Support	Support	Not support
AWA14600 E	1/2" LEMO connector, supports 200V polarization voltage	Support	Support	Not support
AWA14601 E	1/2" X9 connector	Not support	Support	Support
AWA14611 E	1/4" LEMO connector, supports 200V polarization voltage	Support	Support	Not support
AWA14615	1/4" Constant-current source array microphone	Support	Support	Not support

Appendix: Key Technical Specifications of Optional 1/2-inch Measurement Condenser Microphones

Model	14423	14425
Frequency response	Free field	Free field
Nominal sensitivity (mV/Pa)	50	40
Dynamic range (dB)	15~140	15~140
Frequency range (Hz)	10~20000	10~16000
Polarization voltage (V)	0V	



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