Shenzhen Vkinging Electronic Co. Ltd

VK10P IEPE Adapter

VK10P-4/8 multichannel IEPE Constant current drive receiving amplifier adapter
——Precision, Accurate， Reliable

Description：

*VK10P-4/8 is a low-noise IEPE amplifier with constant current drive, reception and amplification.*This product adopts low-noise amplification unit, low-noise power supply optimization, etc,This product has the advantages of high precision, ultra-low noise, high rejection ratio, wide measurement range and low temperature drift, and is suitable for various occasions of weak signal measurement.

VK10P-4/8 amplifier adopts all metal shielding, and the internal core unit is specially anti-interference. The power supply unit is designed with wide input range and high reliability. This product can be used in the occasion with strong industrial interference, and has the advantages of moisture-proof and shockproof.

characteristic：

- **High precision, low noise, low frequency response error**
- **Precision device, high stability**
- **Metal shielding shell, strong anti-interference ability**
- **Adjustable gain, four gain settings**
- **Wide voltage input range**
- **BNC input and output, can connect various instruments**

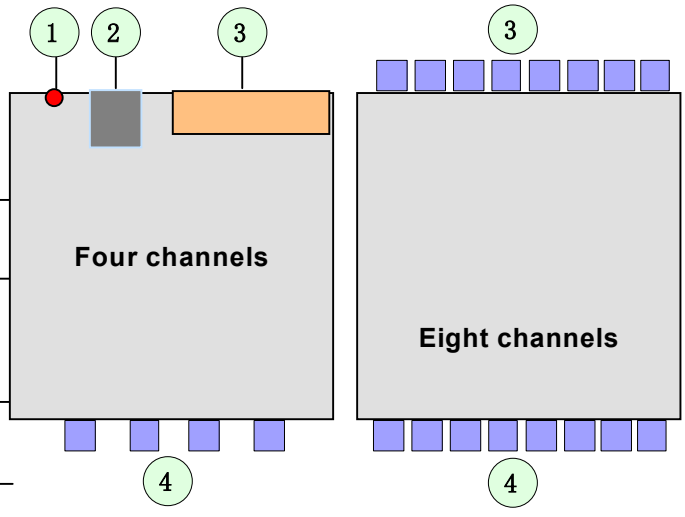
Application：

- IEPE / ICP Constant current reception
- IEPE / ICP Signal reception amplification

Basic parameters

Optional gain range	1,2,10,25,101x switchable
Supply voltage	DC 8~30V
frequency response	L-type：0.5Hz~100Khz H-type：0.5Hz~1Mhz
measuring accuracy	<1%
Input impedance	100Ω
noise	<1mV

DAQ Port diagram



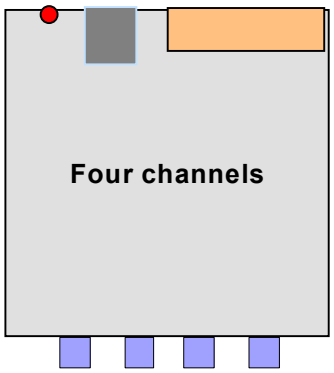
1 **Power indicator**
2 **Power input**
3 **signal output**
4 **Charge signal input**

Port functions

VK10P IEPE Adapter

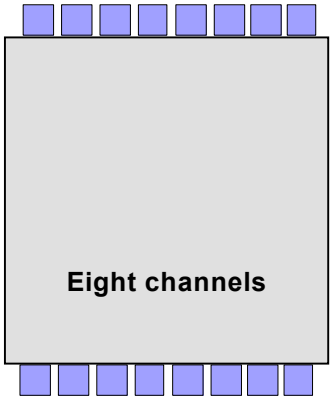
1	TRIG	Comparator output
2	GND	Output signal ground
3	OUT1	Channel 1 output
4	OUT2	Channel 2 output
5	OUT3	Channel 3 output
6	OUT4	Channel 4 output
7	GND	Output signal ground
8	OUT-5V	spare
9	GND	Power supply ground
10	OUT+5V	Internal 5V output，100mA

Power terminal: internal positive
external negative



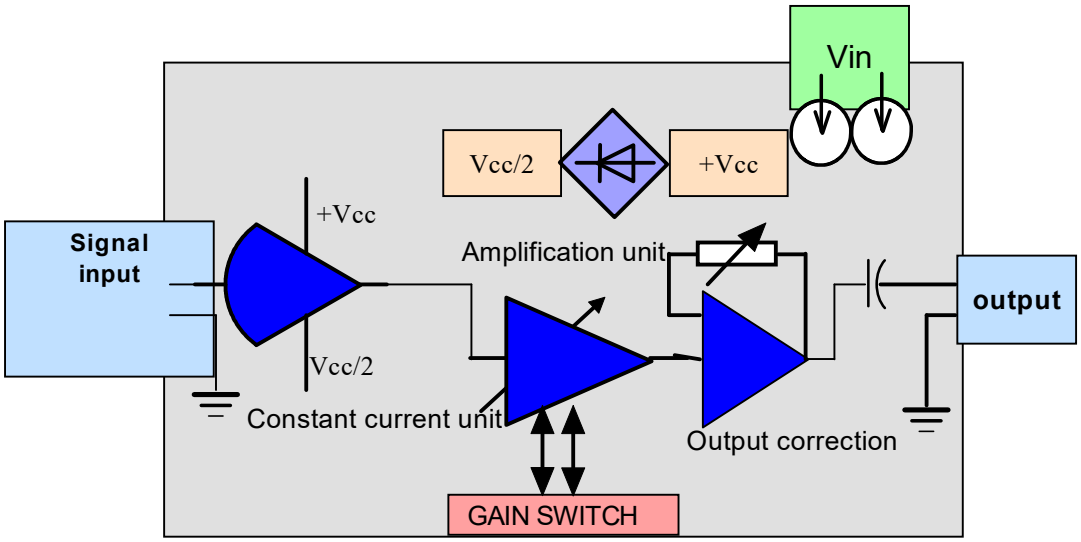
BNC charge signal input：Internal core charge
external ground wire

BNC voltage signal output： Inner core IEPE signal, external ground wire

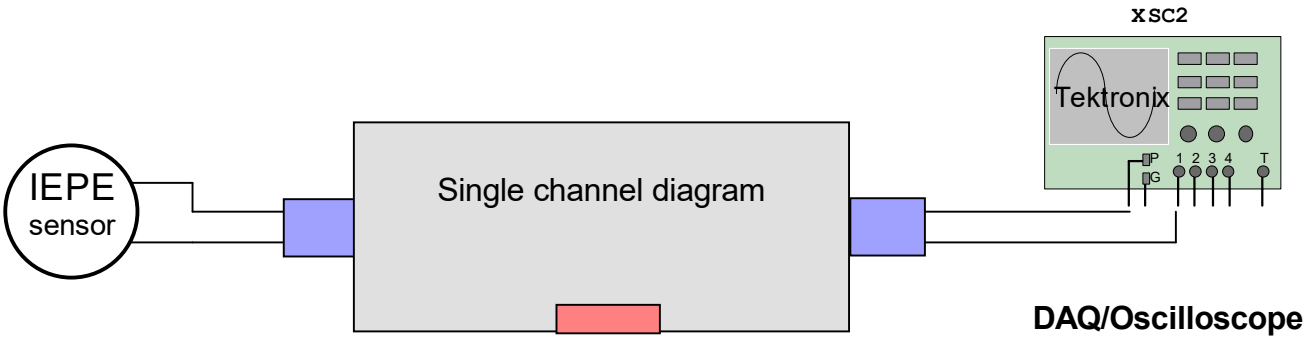


BNC charge signal input：Internal core IEPE signal, external ground wire

Single channel system block diagram



Typical wiring application diagram



VK10P IEPE Adapter

VK10P IEPE Adapter

Comprehensive electrical parameters

Item	unit	typical	Range
Supply voltage	V	8~30	5~35
Power supply current	mA	4-channel： 40 8-channel： 80	4-channel： 30~70 8-channel： 50~120
Input mode		BNC Single ended input	
Input range		0~30V	
Frequency response range		L-type：0.5Hz~100Khz H-type：0.5Hz~1Mhz	
Input impedance	Ω	100	
Output mode		BNC Single ended out	
Output impedance	Ω	75	
Output voltage range	V	0~±5V	
Output bias voltage	mV	<1	
Shift switch gain accuracy		<1%	
Shift switch gain range		L-type 1~101 H-type 1~11	
temperature drift		<100ppm/C	
working temperature	℃		-40~ 85
Storage temperature	℃		-60~ 105
Dimensions (excluding connectors)	mm	4-channel：120*108*26 8-channel: 165*160*40	
weight	g	150(x 4CH) 350(x 8CH)	

Absolute maximum value for safe use

Item	unit		
Supply voltage	V	-1 ~ +35	*If the absolute maximum value is exceeded, the device may be damaged and irrecoverable damage may be caused
Input port	V	35V（Internal protection circuit)	
Output port	V	-1 ~ +35V（Internal protection circuit)	
Static input of all ports（ESD）	V	4000	

Shenzhen Vkinging Electronic Co. Ltd
TEL： (+86) 0755-36932986
www.vkinging.com

Gain switching selection

The amplifier is equipped with a fixed amplifier stage and an adjustable amplifier stage. When the output voltage is low, the amplifier gain can be used for re amplification

Secondary gain corresponding to dial switch

-L-type

gain	dial 1	dial 2	dial 3	dial 4
1x	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
10	OFF	OFF	ON	OFF
25	OFF	OFF	OFF	ON
101	OFF	OFF	OFF	OFF

-H-type

gain	dial 1	dial 2	dial 3	dial 4
1x	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
4	OFF	OFF	ON	OFF
8	OFF	OFF	OFF	ON
11	OFF	OFF	OFF	OFF

dial 1
dial 2
dial 3
dial 4

Relationship between adjustable gain and output

If the first and signal of the amplifier are V1, the second stage gain is Gain

SO: `Vout = V1 * Gain`

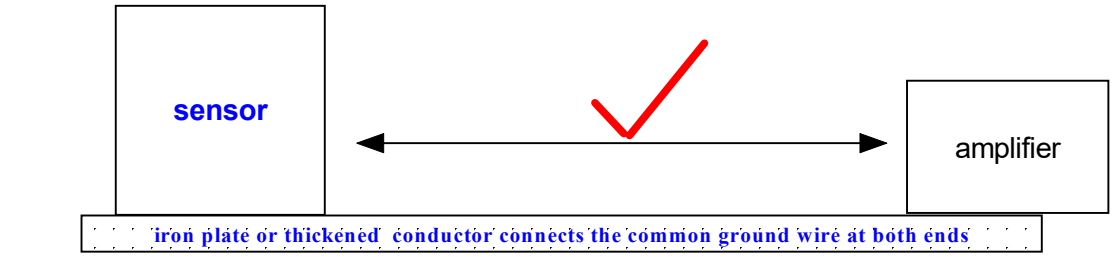
If the maximum sisignal-to-noise ratio is desired, the sensitivity of IEPE should be as high as possible. The second stage cannot . change the signal-to-noise ratio, and usually just.The noise and signal of the first stage are amplified at the same time.

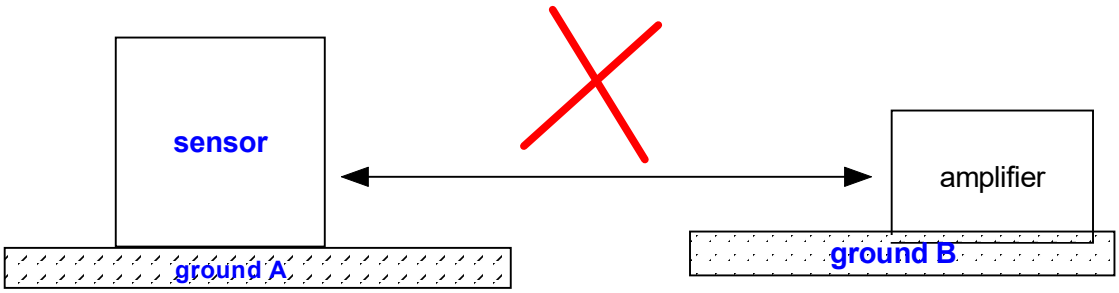
Precautions for use

Ground wire treatment

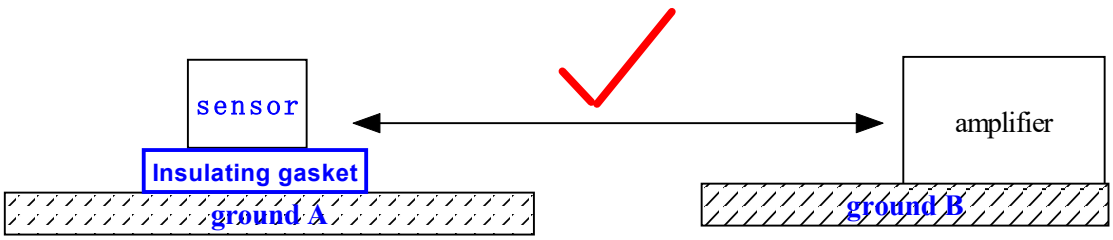
If the ground wire between the measured signal and the amplifier is not very firm, there will be a weak potential difference. In high-precision measurement, the weak potential difference will lead to test error.

Method 1,
Therefore, if the distance between the measurement source and the amplifier is far or the common ground is not good, try to improve the common ground conditions to achieve the best effect





Method 2,
If the measurement source is far from the amplifier, the side end can be suspended directly without grounding



Dimensional Drawing

Four channels

Eight channels