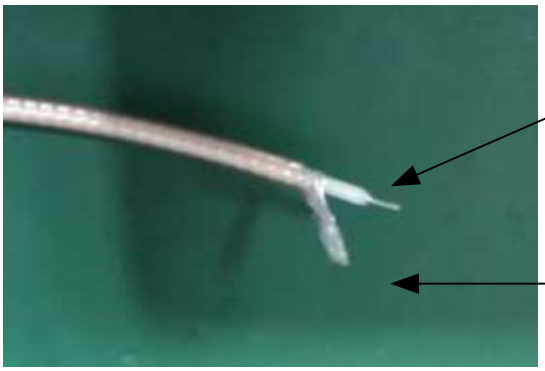
50 / 60Hz power frequency anti-interference measures of PVDF

50HZ interference?

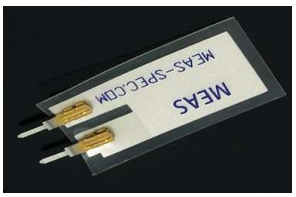
If isolated in an environment without ac 220V,the amplifier output must be a straight line without interference.However,since it is a charge signal input,it will inevitably be interfered by the surrounding power frequency 50HZ signal (the charge interference emitted by the surrounding 220V).But this interference signal is coming in from the sensor,not the circuit board line.As long as the signal-to-noise ratio meets the resolution requirements.If you want to completely solve the interference problem,the sensor shielding, and the shielding shell grounding processing.

Step 1：



PVDF Positive signal

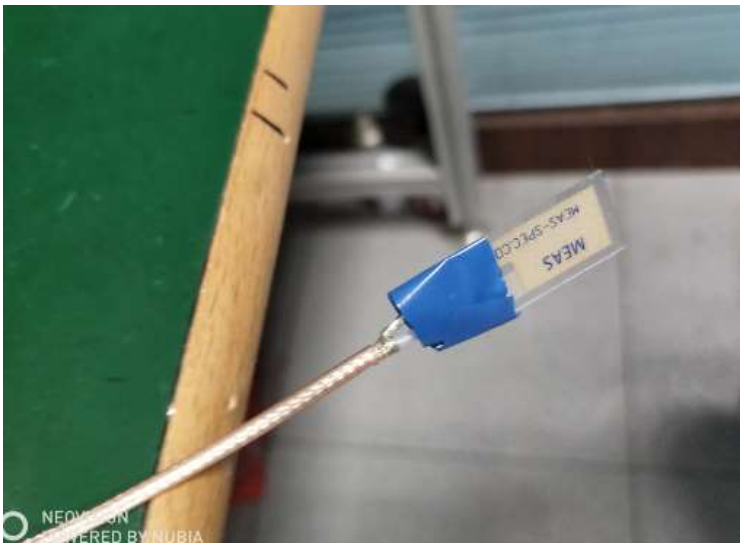
Connected to each other



Shielding layer，and PVDF signals negative

***Note: PVDF does not strictly distinguish positive and negative**

Step 2:Insulation processing



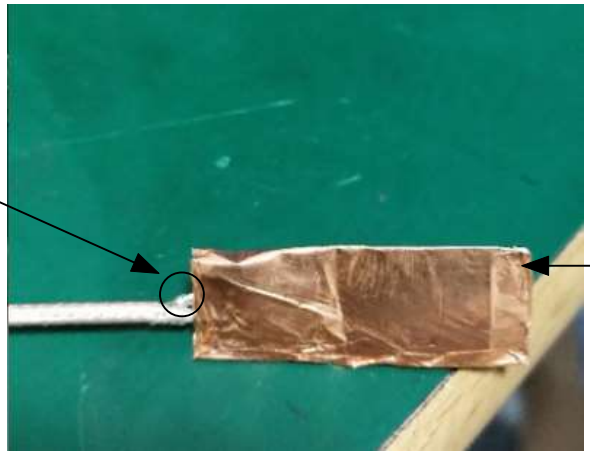
Insulate the electrode with an insulating tape.

Note:The adhesive surface must be outward,otherwise the adhesive will cause leakage.

***If the sensor is of the non-shielded long wire type, the whole wire should be shielded as well.**

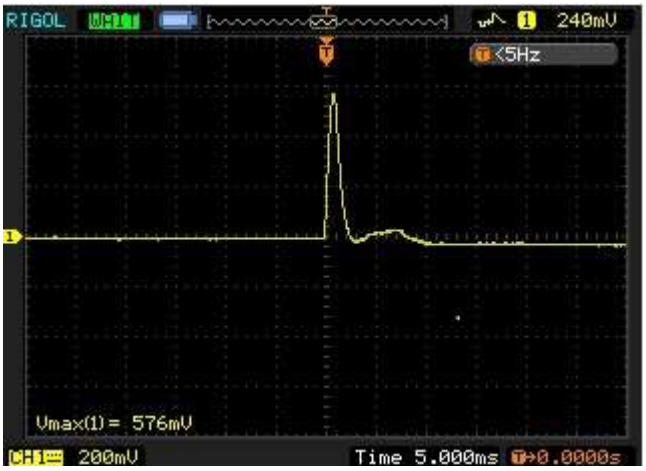
Step 3:Wrap the shield and weld to the signal ground

*Copper sheet and shield wire, outer layer to be welded.



Cover the entire sensor with a copper sheet or tin foil and solder the tin point to the shielded copper sheet or tin foil to the conductor shield.

Test results:



The measured results show that the power frequency interference is very small

This application matches best with the VK10X/ICA10X series of charge amplifiers.The amplifier is a metal package, and the input connector USES coaxial shielding lines to shield the interference source from the entire signal stream.If other amplifiers are used, the power frequency interference can be reduced obviously.

VK10x Charge amplifier

ICA10x Charge amplifier module