

## Description

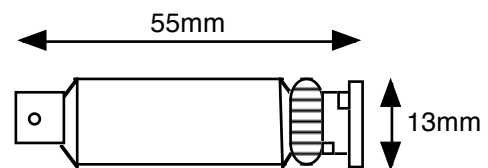
The FE-074-HA/C is an inline Charge head amplifier operating on the IEPE principle. The amplifier delivers its signal down a single coax which also serves to provide power for the amplifier from the (nominally) 2-6mA source situated in the receiving amplifier. It is ideal for applications with low signals in noise and vibration measurements originating in piezoelectric transducers.

## Specification

<b>Input</b>	Sensitivity		1mV/pC, 5mV/pC & 10mV/pC available (See separate spec. for 0.1mV/pC).
	Accuracy		± 0.5% typ. ±1% max.
	Cable		Low noise cable - see text below.
	Connector		BNC socket (Microdot adaptor available).
<b>Output</b>	Supply		standard 4mA IEPE (2 - 6mA).
	Bias Level		13V DC ±1V.
	Protection		against reverse or over-voltage.
	Range		5V RMS (15V pk-pk) typ.
	Cable		10,000pF maximum (100m coaxial cable).
	Connector		BNC plug.
<b>Frequency response</b>		(1mV/pC)	<0.7Hz to >100kHz -3dB.
		(5mV/pC)	<1Hz to >100kHz -3dB.
		(10mV/pC)	<1.25Hz to >100kHz -3dB.
<b>Harmonic distortion</b>			< 0.05%
<b>Noise</b>	Referred to O/P	(1mV/pC)	14µV RMS 1Hz - 60kHz measurement.
		(5mV/pC)	35µV RMS 1Hz - 60kHz measurement.
		(10mV/pC)	70µV RMS 1Hz - 60kHz measurement.
	Referred to I/P	(1mV/pC)	0.014pC RMS (0.00014g RMS for a 100pC/g transducer).
		(5 & 10mV/pC)	0.007pC RMS (0.00007g RMS for a 100pC/g transducer).
<b>Physical</b>	Temperature		0°C to 70°C max operating.

## General Arrangement

The amplifier is presented as an aluminium tube of external dimensions 13mm x 55mm including BNC socket input and BNC plug output. An optional input BNC to Microdot adaptor is available.



## Connection

The input should be connected to the piezoelectric transducer using low noise coaxial cable, having a special treatment to eliminate triboelectric induced noise. On cost grounds alone, the input cable length should be minimised, although up to 20m will cause no deterioration in performance. FYLDE are able to supply suitable input cables to order. An optional BNC to Microdot adaptor is available. The output may be connected using any convenient screened cable up to 100m long, though the use of lower capacity cables will result in better frequency response when cables are long.

## Verification

On connection to an IEPE source, the output should assume the specified bias voltage within 30s.

**Note 1:** Noise and Frequency response figures typical for 1n source.