



Differential Charge Amplifier for IEPE connection.

Capable of driving long cables.

0.1mV/pC, 1mV/pC & 10mV/pC versions

Wide frequency response.

## FE-077-DCA Differential Charge Amplifier

The FE-077-DCA is intended for application with double ended (differential) accelerometers typically used for machine vibration monitoring.

Calibrated to develop an output voltage proportional to input charge, versions are available with a sensitivity of 0.1mV/pC 1mV/pC or 10mV/pC. Setting accuracy is better than 0.1dB.

Utilising the IEPE technique, the amplifier is able to receive power and transmit the output signal down a single co-axial cable, and is compatible with equipment featuring the popular 4mA IEPE source.

Dynamic range extends from the millivolt range up to 4V pk, with a frequency response from 2Hz to >20kHz.

Standard input connector is the TMW R04; a BNC socket is used for the output. Special connectors are available on request.

## General

The FE-077-DCA is a Differential Charge Amplifier for use with differential piezo accelerometers, which operates using the IEPE principle. Thus the amplifier receives power and outputs an amplified signal down a single coaxial cable which can extend up to 50m without detriment to the signal quality. Alternatively, the amplifier will operate with multicore or twisted pair cables. An led situated next to the output BNC connector indicates connection status.

## **Specification**

Input Type Differential, to suit balanced Piezo transducer

> Capability (1mV / pC version) 5000pC

Filter 1 pole passive 75kHz (-3dB) >35dB (50Hz to 1kHz) CMR

Cable Low noise carbon screened differential type.

Sensitivity essentially independent of cable length.

Connector R04 (alternatives available).

Sensitivity Available settings Med 1mV / pC. High 10mV / pC

Accuracy

Linearity better than ±0.1%.

Noise level 2Hz - 10kHz 100μV pk (equiv. 0.001g pk for 100pC/g transducer.

I P Filter Arrangement / Response type Differential / Butterworth.

> Poles 2 (-12dB / octave in the stop band).

Setting >20kHz (-3dB)

Setting **HP Filter** 2Hz (-3dB), 6Hz (-5%)

Output Type **IEPE** 

Capability Up to 3V RMS (Sinewave) >4V pk. Connector BNC socket (alternatives available) Cable Coax, multicore or twisted pair. Type

> Length Sensitivity essentially independent of cable length.

Capable of operation with 50m of RG174 coax.

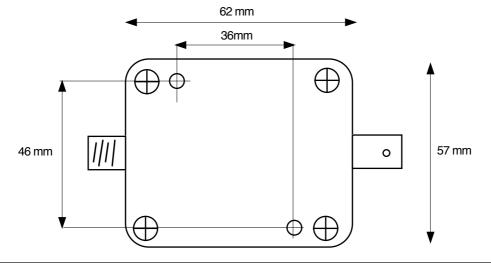
Requirement ICP 18-24VDC @4 - 6mA IEPE compatible. Power supply

Indication Red LED illuminates for IEPE current flow.

Temperature 0 - 50°C operating. Range

Mechanical Dimensions / Weight 62mm (L) x 57mm (W) x 35mm (H) / 180g.

Fixing M4 button head screw 2.5mm Allen key.



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