

压电式一体化振动传感器

Integration piezoelectric vibration sensor

一体化单路振动传感器

Small inductance type differential pressure sensor

CY-030系列

CEDK-030是内装集成电路式压电加速度计,可用于测量频率范围在10-2000Hz之间不同振级的振动信号。

CEDK-030压电加速度计的敏感振动信号部分采用剪切式压电加速度计结构设计,利用压电元件的压电效应将感受的机械振动信号转换成电荷信号,通过内装电路实现电荷电压转换、滤波及电压信号放大,从而输出0-5V的电压信号。

主要技术指标

电源电压: (151) V.D.C

功耗: +15V, $\leq 27\text{mA}$ -15V, $\leq 16\text{mA}$

输出电压

直流电平: (2.450.15) V

满量程输出交流电压: (4.60.4) V (峰-峰值)

正限幅电压 $\leq +6.5\text{V}$ 负限幅电压 $\geq -0.7\text{V}$

系列产品的动态范围见表1。

敏度校准精度: 3%

最大横向灵敏度比: $\leq 5\%$

幅频特性: 通带内不平度 $\leq 3\text{dB}$;

带外衰减 $\geq 32\text{dB}$ 。

幅值线性度: 20g (含20g) 以内 $\leq 2\%$

20g ~30g $\geq 4\%$

温度性能

压电加速度计在(-253)°C至(+553)°C环境温度下,输出电压灵敏度变化 $\leq 8\%$ 。

输出阻抗: $\leq 1\text{k}$

绝缘电阻: 在常态条件下, 绝缘电阻应大于50M, 在(+40 \pm 3)°C、(933)%R.H条件下, 绝缘电阻应大于2 M。

质量(带50cm电缆): $\leq 0.1\text{kg}$ 。

CEDK - 030 - a integrated circuit type piezoelectric accelerometer, can be used to measure vibration signal of different vibration level between the frequency range of 10-2000 hz.

The sensitive vibration signal of piezoelectric accelerometer is designed in structure of shear type piezoelectric accelerometer, which convert measured mechanical vibration signals into charge signal by using the piezoelectric effect of piezoelectric element, charge voltage conversion, filtering and voltage signal amplification, and 0 to 5 v output voltage signal are realized by the built-in circuit.

Main technical performance index

Voltage: (151) V.D.C

Power: +15V, $\leq 27\text{mA}$ -15V, $\leq 16\text{mA}$

Voltage output

D.C level: (2.450.15) V

Full scale output voltage: (4.60.4) V (peak-peak)

Positive limiting voltage $\leq +6.5\text{V}$ Negative limiting voltage $\geq -0.7\text{V}$

sensitivity calibration accuracy: 3%

Maximum transverse sensitivity ratio: $\leq 5\%$

amplitude-frequency characteristic: irregularity in Passband $\leq 3\text{dB}$;

attenuation out the Passband $\geq 32\text{dB}$ 。

amplitude linearity: 20g (including 20g) 以内 $\leq 2\%$

20g ~30g $\geq 4\%$

temperature performance

Accelerated speed计在(-253)°C--(+553)°C environmental temperature 下, Voltage output sensitivity shift $\leq 8\%$ 。

output impedance: $\leq 1\text{k}$

insulation resistance: in normal condition, insulation resistance should be over 50M, insulation resistance should be over 2 M at (+40 \pm 3)°C、(933)%R.H

weight (with 50cm cable) : $\leq 0.1\text{kg}$ 。

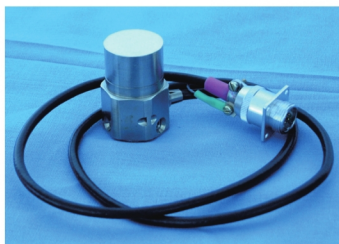


图1 CZ3-39-1/20A压电加速度计外形图
figure 1 Picture of Piezoelectric accelerometer

表table1系列产品的动态范围
Table 1 dynamic range

代号 Code	频率范围 (Hz) frequency range (Hz)	量程 (g) range (g)	灵敏度 (mv/g) sensitivity (mv/g)
CZ3-39-1A	10~500	± 10	23020
CZ3-39-2A	10~500	± 20	11510
CZ3-39-3A	10~500	± 30	777
CZ3-39-4A	10~1000	± 10	23020
CZ3-39-5A	10~1000	± 20	11510
CZ3-39-6A	10~1000	± 30	777
CZ3-39-7A	10~1000	± 10	23020
CZ3-39-8A	5~2000	± 20	11510
CZ3-39-9A	5~2000	± 30	777
CZ3-39-10A	10~2000	± 50	464
CZ3-39-11A	5~2000	± 15	15313
CZ3-39-12A	5~100	± 5	46040
CZ3-39-13A	10~3000	± 30	777
CZ3-39-14A	10~3000	± 40	576
CZ3-39-15A	待定 TBD	待定 TBD	待定 TBD
CZ3-39-16A	待定 TBD	待定 TBD	待定 TBD
CZ3-39-17A	待定 TBD	待定 TBD	待定 TBD
CZ3-39-18A	待定 TBD	待定 TBD	待定 TBD
CZ3-39-19A	待定 TBD	待定 TBD	待定 TBD
CZ3-39-20A	待定 TBD	待定 TBD	待定 TBD