Monad Electronics

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Introduction

Winner of National Award for year 2009-2010 in R&D

Monad Electronics is An ISO 9001:2015 certified company, which has over the last 13 years been involved in the business of Exporting, designing and manufacturing, Electronics Industrial products, Testing equipments, sensors and related indicating and controlling devices and allied products related to Data logging & Acquisition.

We are specialized in providing consultancy for itemized engineering Test ring and Projects.
We are also interested in taking-up project development, recommending and mfg. sensing and related components, service providing in installation & commissioning.

We are in this field from last 15 years and also Exporting our products to USA, Germany, Belgium, Turkey, Australia, UAE and African countries.
We have good track record of import substitute high end equipment development and supplying to leading industries and government institutes.

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

Monad manufactures Piezo electric force transduces for measurements of dynamic, short-duration static and impact forces in applications having high tensile forces or excessive compressive forces. These are also ideal for high-temperature applications like environmental tests due to these transducers' wide temperature range.
Their durability is due to their rigid construction and high stiffness.

The Transducers are corrosion-resistant with use of high garde stainless steel cover and protected against spray water and cutting fluid (IP 67sealing).

The sensors are thermally isolated with a special thermal insulation layer which makes them largely insensitive to temperature influences.

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

Applications:

* For measuring forces, Load, impact
* Reliable force measurement system
* Automobile testing
* Over load cprotection
* Precision machining
* High Precision Hard Turning
* Wafer Cutting

Features:-

Low Thermal Error
High Rigidity
High natural frequencies
Low Threshold
Low Profile Design

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

Technical Data:-

1. MEASURING COMPONENTS	Multi components (Six components, 3 Forces: Fx, Fy, Fz & 3 Moments Mx, My, Mz)	
2. MEASURING RANGE	Fx	From -5 to +5 kN
	Fy	From -5 to +5 kN
	Fz	From -5 to +10 kN
	Mx	From -2.5 to +2.5 Nm
	My	From -2.5 to +2.5 Nm
	Mz	From -1 to +1 Nm
4. SENSIVITY	Fx: -6 to -9 pC/N, Fy: -6 to -9 pC/N, Fy: -2 to -4 pC/N	
5. SAMPLING RATE	10KHz or high	
6. LINEARITY	<+0.5	
7. HYSTERESIS	<0.5	
8. CROSS SENSIVITY	<+2	
9. RIGIDITY: Cx,Cy,Cz	0.6 to 0.9 , 0.6 to 0.9, 2 to 3 kn/ µohm	
10 CAPICITANCES	400-600 (pf)	
11 OPERATING TEMPERATURE	0 to 60 degree C	
12 INSULATION RESISTANCES	>10 13 (ohm)	
13 GROUND INSULATIONS	>10 8 (ohm)	

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

Technical Data:-

1. MEASURING COMPONENTS	Single components
2. MEASURING RANGE	± 500 KN
4. SENSIVITY	6-18 pC/N,
5. SAMPLING RATE	10KHz or high
6. Maximum Static Force	120% of Rated Capacity
6. LINEARITY	<+0.5
7. HYSTERESIS	<0.5
8. CROSS SENSIVITY	<+2
9. RIGIDITY:	0.6 to 0.9 kn/ µohm
10 CAPICITANCES	100-600 (pf)
11 OPERATING TEMPERATURE	0 to 60/-20-120 ° C
12 INSULATION RESISTANCES	>10 13 (ohm)
13 GROUND INSULATIONS	>10 8 (ohm)

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

Accessories Included

- Cover
- Mounting screw
- Connector
- Connecting cable

Optional Accessories
- Tool holder

* Charge amplifier
* Data logger

PIEZO-ELECTRIC BASED FORCE TRANSDUCER

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Charge Amplifier

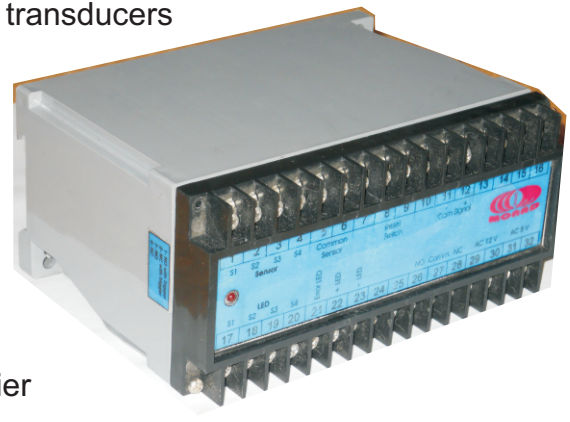
Monad`s Charge Amplifier is a very robust construction and is ideal for use in conditions where the pre amplifier must be sited near to the transducer, in order to avoid noise pick -up in long transducer cables due to electromagnetic noise and tri-boelectric noise.
Power Supply and output signal can be obtained from the 5 pin Connector on the Amplifier.
Both differential (balanced) type and normal, single ended type piezoelectric accelerometers may be used with it. The differential types will be used especially in conditions of severe electromagnetic interference. With differential transducers, where both poles of the piezoelectric element are isolated from the case, and therefore from the machine frame, ground loop interference problems are largely eliminated.
When the Monad`s Amplifier is used with normal, single ended transducers, the micro plug adaptor supplied allows the use of normal, low-noise coaxial cables; this adaptor automatically grounds one of the input poles. The input amplifieris a differential charge amplifier consisting of a dual, low noise FET and two, high-gain IC operational amplifiers

The lower limiting frequency of 1Hz is determined by a filter network around the input amplifier which provides a 40 dB/decade fall-off in response over the decade1Hz to 0.1Hz. This eliminates the influence of low frequency noise on the measured signal, for example due to the pyro-electric effects of some transducers in fluctuating temperature conditions

The output amplifier has a low output impedance which is suitable for driving long cables .
By means of an internal 1turn potentiometer ,the gain of the amplifier can be adjusted between and 2dB .
The Power Input and Signal Output of the Amplifier is supplied with a 3m. long cable fitted with matching connector .Wherever possible power should be provided by a dual polarity supply with voltage between -15 and +15 This ensures that the output signal is centered at ground potential with negligible DC offset and that power supply noise and common mode signals are more effectively suppressed .When the amplifier is used with normal ,single ended transducers ,the micro plug adaptor supplied is employed .
With single polarity power supplies ,the output signal is DC offset to approximately +V6.Voltages of + V12 to + V18 may be used . measuring amplifier or frequency analyzer ,it is convenient to use the + V12 power supply provided at the pin pre-amplifier input socket on these instruments . This may be applied to the amplifier using the power and signal cable which is available .

FEATURES:-

- ❍ Small, rugged construction
- ❍ Suitable for both differential and single-ended output type transducers
- ❍ Sensitivity adjustable from 1 to 10 mV/pC
- ❍ Built-in high-pass filter
- ❍ Single or dual polarity power supply



USES

- ❍ Vibration measurements in industrial environments
- ❍ Permanent vibration monitoring on industrial machinery
- ❍ Airborne vibration monitoring on aircraft engines
- ❍ General vibration measurements with a measuring amplifier