

Request for quotation

Enquiry number: AE/MIS/2018-2019/03

Enquiry date: 29/05/2018

Closing Date: 12/06/2018

Subject: Purchase of Very High Frequency Pressure transducers and Signal Conditioners for Shock/Expansion Tube Test Facility

Quotation for the item mentioned above is requested in a sealed envelope. The quotation should reach on or before June 12, 2018 to the address given below.

Technical Specification

1. High Frequency Pressure Transducers –10 nos.

Parameter	Specifications
Measurement Range (for $\pm 5V$ output)	5000 psi
Useful Over range (for $\pm 10V$ output)	10000 psi
Sensitivity ($\pm 10\%$)	1.0 mV/psi
Maximum Pressure	15000 psi
Resolution	20 mpsi
Resonant Frequency	≥ 500 kHz
Rise Time	≤ 1.0 μ sec
Low Frequency Response (-5 %)	0.001 Hz
Non-Linearity	$\leq 1.0\%$ FS
Acceleration Sensitivity	≤ 0.002 psi/g
Temperature Range (Operating)	-73 to +135 $^{\circ}C$
Temperature Coefficient of Sensitivity	$\leq 0.054\%$ / $^{\circ}C$
Maximum Flash Temperature	1649 $^{\circ}C$
Maximum Vibration	2000 g pk
Maximum Shock	20000 g pk
Output Polarity (Positive Pressure)	Positive
Discharge Time Constant (at room temp)	≥ 500 sec
Excitation Voltage	20 to 30 VDC
Constant Current Excitation	2 to 20 mA
Output Bias Voltage	8 to 14 VDC
Sensing Element	Quartz
Housing Material	17-4 Stainless Steel
Diaphragm	Invar
Sealing	Welded Hermetic
Electrical Connector	10-32 Coaxial Jack
Weight	6.0 gm

2. High Frequency Pressure Transducers – 5 nos.

Parameter	Specifications
Measurement Range (for $\pm 5V$ output)	1000 psi
Useful Over range (for $\pm 10V$ output)	2000 psi
Sensitivity ($\pm 10\%$)	5.0 mV/psi
Maximum Pressure	10000 psi
Resolution	5 mpsi
Resonant Frequency	≥ 500 kHz
Rise Time	≤ 1.0 μ sec
Low Frequency Response (-5 %)	0.005 Hz
Non-Linearity	$\leq 1.0\%$ FS
Acceleration Sensitivity	≤ 0.002 psi/g
Temperature Range (Operating)	-73 to +135 °C
Temperature Coefficient of Sensitivity	$\leq 0.054\%$ /°C
Maximum Flash Temperature	1649 °C
Maximum Vibration	2000 g pk
Maximum Shock	20000 g pk
Output Polarity (Positive Pressure)	Positive
Discharge Time Constant (at room temp)	≥ 100 sec
Excitation Voltage	20 to 30 VDC
Constant Current Excitation	2 to 20 mA
Output Bias Voltage	8 to 14 VDC
Sensing Element	Quartz
Housing Material	17-4 Stainless Steel
Diaphragm	Invar
Sealing	Welded Hermetic
Electrical Connector	10-32 Coaxial Jack
Weight (with clamp nut)	6.0 gm

3. Pressure Transducer Signal Conditioner – 3 nos.

Parameter	Specs
Channels	4
Sensor Input Type(s)	ICP
Output Range (Maximum)	± 10 V
Low Frequency Response (-5 %)	< 0.1 Hz
High Frequency Response (-5 %)	> 1000 kHz
Phase Response (at 1 kHz)	$\pm 1^\circ$
Cross Talk (maximum)	-72 dB
Fault/Bias Monitor/Meter (LED)	Open/Short/Overload
Temperature Range (Operating)	0 to +50 °C
Power Required (for supplied AC power adaptor)	AC Power
Power Required (direct input to unit)	DC Power
AC Power (47 to 63 Hz)	100 to 240 VAC
AC Power	≤ 0.7 Amps

DC Power	<0.25 Amps
DC Power	+32 to 38 VDC
Excitation Voltage (± 1 VDC) (To Sensor)	+26 VDC
DC Offset	<20 mV
Constant Current Excitation (To Sensor)	2 to 20 mA
Discharge Time Constant (0 to 50 %)	>5 sec
Broadband Electrical Noise (1 to 10000 Hz)	3.5 μ V rms
Spectral Noise (1 Hz)	1.30 μ V/ \sqrt Hz
Spectral Noise (10 Hz)	0.10 μ V/ \sqrt Hz
Spectral Noise (100 Hz)	0.08 μ V/ \sqrt Hz
Spectral Noise (1 kHz)	0.07 μ V/ \sqrt Hz
Spectral Noise (10 kHz)	0.07 μ V/ \sqrt Hz
Overload Threshold (± 1.0 Vpk)	± 10 Vpk
Electrical Connector (Input, sensor)	BNC Jack
Electrical Connector (Output)	BNC Jack
Electrical Connector (DC Power Input)	5-socket DIN (female)
Size - HxWxD	8.1x20x15 cm
Weight	567 gm

4. Suitable Low noise cables pressure transducer to BNC plug 10ft length – 15 nos.
5. Suitable Low Noise BNC to BNC Cables, 10ft length – 15 nos.

Terms and conditions:

- Quotations should have a validity of minimum of 60 days.
- Warranty period should be clearly mentioned.
- The delivery period should be specifically stated.
- Property certificate should be provided if applicable.
- Permissible educational discount should be provided since the equipment will be used for research work of students.
- The equipment shall be used for research purpose only, therefore concessional GST of 5% should be charged. IIT Kanpur shall provide the GST Concessional Certificate at the time of placing the purchase order.
- For suppliers from outside India, the rate offered should be FOB (specify city) or FCA terms.
- IIT Kanpur has its own freight forwarder for shipping from outside India.

Address for the quotation:

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