



Custom transducer questionnaire

AMTI has extensive experience creating custom transducers to meet the needs of non-standard applications. From tweaking standard sensors to engineering custom designs, AMTI can provide a transducer that will meet your specific requirements.

The following list of questions will help AMTI determine what multi-component transducer will best suit the requirements of your application. Please answer all of the questions as completely as possible. We realize that you may not yet know all of the conditions and loads, so please just supply your best estimate as all load and positions need to be indicated, even if they are not to be measured. After we receive your form, we will review your answers and contact you to discuss sensor solutions specific to your application.

1.) Please provide a brief description of your application. If possible, please also submit a simple drawing.

2.) Select a representative physical form from the figures below, or enter a description of the transducer's package in the space provided.



Rectangular



Cylindrical



Platform



Flanged

3.) Enter the desired x, y, and z dimensions of the transducer below. Refer to the figure associated with question 4 for the coordinate axes. If your transducer is cylindrical then enter the length (z) and the diameter (d).

x: inches OR centimeters

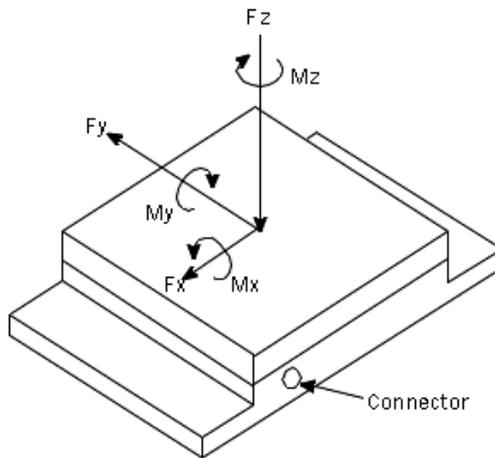
y: inches OR centimeters

z: inches OR centimeters

d: inches OR centimeters

4.) AMTI generally recommends designing every sensor to measure all six force components as it is only under that condition that the crosstalk correction matrix can function. With that in mind, cross off any of the measurement components below that you are interested in disabling. Please also note that the cost of the sensor is not directly proportional to the number of channels.

- Fx (horizontal)
- Fy (horizontal)
- Fz (vertical)
- Mx (rotation about the x-axis)
- My (rotation about the y-axis)
- Mz (rotation about the z-axis)



5.) Enter the maximum load for each of the axes below. If the load is negative (tension), please indicate so with a negative sign (-).

Fx: pounds OR Newtons

Fy: pounds OR Newtons

Fz: pounds OR Newtons

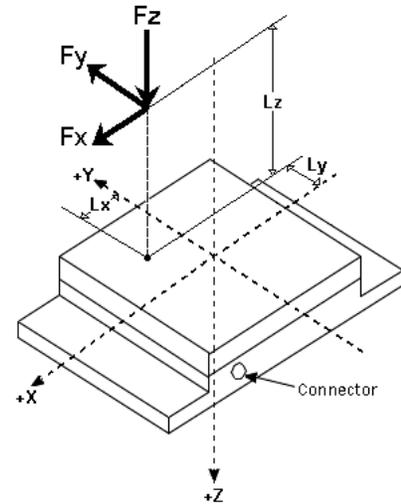
6.) Enter the location of the applied force(s) with respect to the transducer's top surface. Every sensor must be built to withstand the moment forces you will apply to it, even if you do not intend to measure them. The moment forces increase substantially as the location of the applied force is moved away from the center of the transducer. This is especially relevant in applications where there is anything mounted on the transducer that extends off its top surface.

Identify where the force will be applied to the transducer's surface or to the object connected to the transducer. Then describe the location in terms of its distance away from the center of the transducer's top surface.

Lx: inches OR centimeters

Ly: inches OR centimeters

Lz: inches OR centimeters



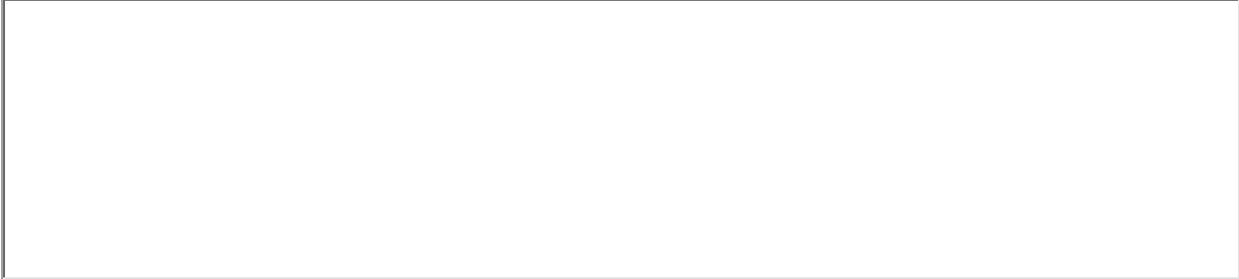
7.) Enter the pure torque applied around each of the axes below. Please note that pure torques are often zero because they have no F_x , F_y , or F_z components.

Tx: inch-pounds OR Newton-meters

Ty: inch-pounds OR Newton-meters

Tz: inch-pounds OR Newton-meters

8.) Describe your top and bottom mounting configuration details. What types of attachment points are required? Indicate if there is a specific bolt pattern that must be followed for mounting. Female threaded holes are the most common and economical; however, other types can be accommodated. If possible, please also submit a simple drawing.



9.) Describe your environmental requirements. Will the transducer be used in a dirty environment, under salt or fresh water, in a vacuum, outdoors, etc.?



10.) Describe your connection needs if you require a special connector (i.e., waterproof, pigtail).



11.) If a specific connector location is required, describe it here. Please note that our coordinate convention requires that the connector or cable is located at the minus (-) y-axis position. (Refer to the figure associated with question 4 for an illustration of our convention orientation.)

12.) Please provide your operating environment's temperatures if they fall outside of the typical ambient range.

Minimum temperature: Fahrenheit OR Celsius

Maximum temperature: Fahrenheit OR Celsius

13.) Please describe any other requirements that may affect the transducer design, such as weight, stiffness, natural frequency, impact loads, hydrostatic pressure, or sensitivity.

14.) Have you identified a standard AMTI model that comes close to meeting your requirements? If so, please indicate the model's name in the space below. To some extent, it is more cost effective to modify standard sensors than design new ones. This is especially true if only a load capacity, connector, or mounting method needs to be modified.

Model number :

15.) Please enter your contact information below.

First name (required) :

Last name (required):

Company name :

Address 1 :

Address 2 :

Address 3 :

City :

State/province :

Postal code :

Country :

E-mail (required):

- Please check here if you do not want to receive occasional updates from AMTI (no more than four per year) that contain product announcements, updates, and other relevant information. AMTI will not use the information provided in the above fields for any purpose other than to supply the requested information to you.

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