



# HTS Current Lead Specifications



Requesting Company: \_\_\_\_\_

Date: \_\_\_\_\_

## I. Operational Parameters

1. DC or AC (specify frequency).....
2. Operating Current-  $I_{Op}$  (A).....
3. Warm End Temperature -  $T_H$  (K).....
4. Cold End Temperature -  $T_L$  (K).....

## II. External Magnetic Field

1. Warm End,  $T_H$   
 $B_x$  (T)\_\_\_\_\_  $B_y$  (T)\_\_\_\_\_  $B_z$  (T)\_\_\_\_\_
2. Cold End,  $T_L$   
 $B_x$  (T)\_\_\_\_\_  $B_y$  (T)\_\_\_\_\_  $B_z$  (T)\_\_\_\_\_

## III. External Forces

1.  $F_{Tension}$  (N)\_\_\_\_\_  $F_{Compression}$  (N)\_\_\_\_\_  $F_{Bend}$  (N)\_\_\_\_\_

## IV. Geometrical Constraints

1. Max. length (cm).....
2. Max Width (mm).....
3. Max thickness (mm).....

## V. Safety Lead/Ballasted (adds heat load to $T_L$ )

1. Yes/No.....
2. Max. burnout time at  $I_{Op}$  (s).....

## VI. Max. Allowable Heat Leak to $T_L$ (mW).....

## VII. Desired Electrical Connection

1. Bolted/Soldered/Screw.....
2. Fixed/Flexible.....

## VIII. Hermetic or Non-Hermetic.....

The number of design parameters necessary for an optimized HTS current lead can be burdensome, and if not designed properly may not end up adequately protecting your valuable cryogenic device. Energy to Power Solutions (e2P) offers engineering support services to help design your HTS current leads so that they operate safely and efficiently within the confines of your cryostat. Please inquire to find out more details.