

Nord Cryo Inc.

Brochure

Minitherma (2024)

Connector housing with RC filter

NORD CRYO INC.

Minitherma



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Minitherma

Connector housing with RC filter

Aivon Minitherma is a connector housing for 25-pin D-microminiature connectors. The housing protects solder contacts when customer-specified cryogenic cable or loom is soldered to connector pins. It comes with a small printed circuit board that makes it possible to add RC filter between the connector and customer wiring.

Minitherma housing can be used as such with both male and female connectors but the gender is needed if pcb is used. Enclosure can be easily opened if one wants to replace components or apply epoxy for e.g. potting or rf suppression. The printed circuit board inside the filter has four layers of which the two inner layers form a perfect ground plane for better grounding and thermalization. This ground plane makes contact to enclosure in sides of the board.

Minitherma DIY kit (Nord Cryo Product Nr: 500401)

This do-it-yourself kit contains copper enclosure and separate pcb without components (for either female or male micro-D connector). No connector is provided. Customer can decide whether or not to use the pcb between micro-D connector and custom wiring. Pcb has RC filter with respect to common pcb ground i.e. housing body. If pcb is used, the customer wiring is soldered to thru hole pads of the pcb and the pcb is connected to micro-D using short solid wires.

Housing halves are attached together using four brass screws (included in DIY kit). These halves are pressing the pcb and provide thermal and galvanic contact. Pcb can also be separately attached to the halves using a separate screw. These separate middle holes can also be used for mounting the Minitherma.

On the opposite side to the microD connector there is a rectangular opening for customer cable or loom. Customer can surely modify the opening to make it fit better the used cable.



Figure 1: Minitherma DIY kit.

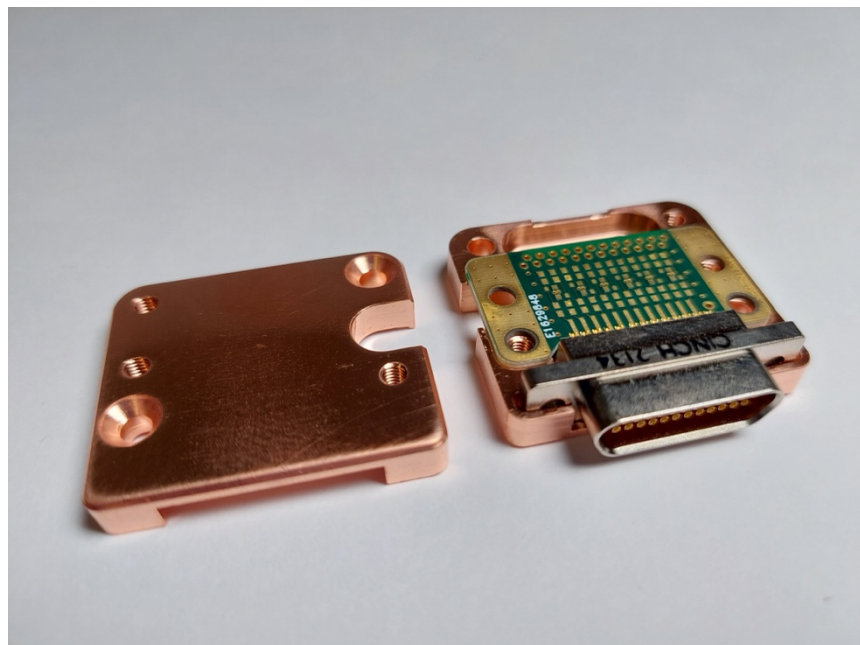


Figure 2: Minitherma opened with pcb. Connector not included in DIY kit.

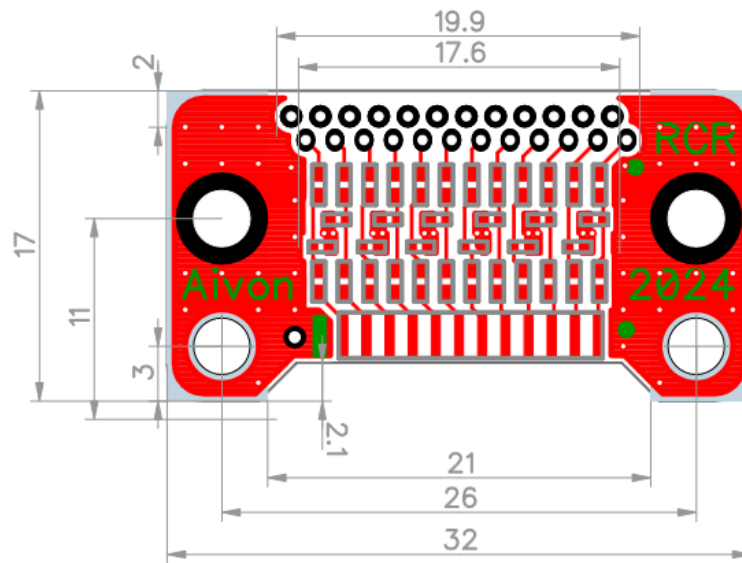


Figure 3: Minitherma pcb. There are R and C sites on both sides of the board for customer-specific filtering.

The body size without connectors is 30 mm x 34 mm x 10 mm.

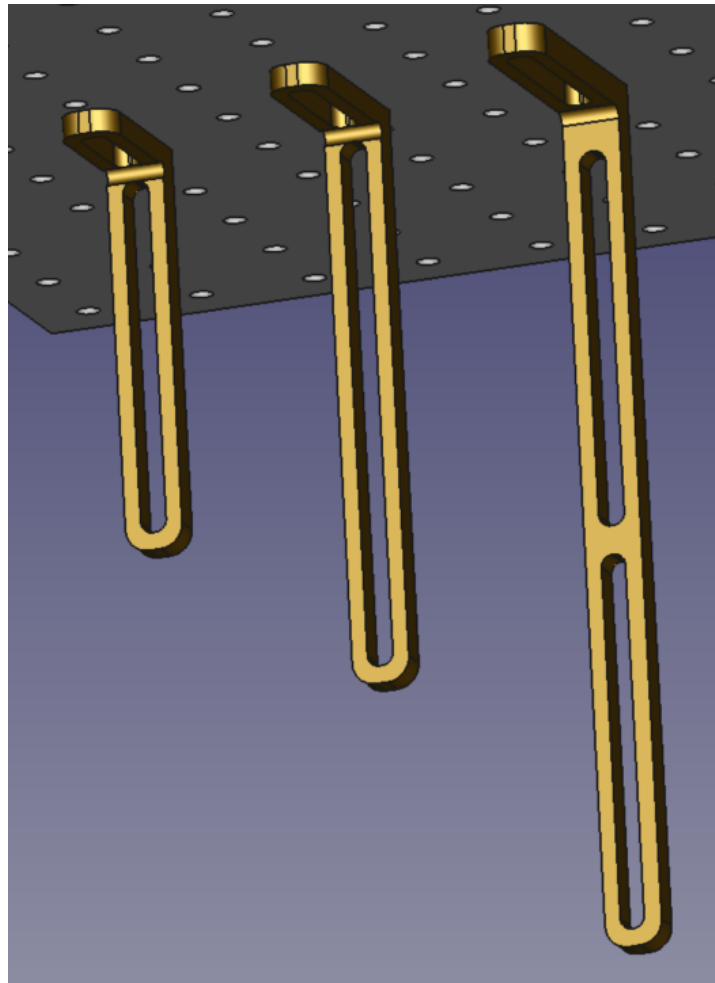
Product summary

Product code	Product name	Description
500401	Minitherma DIY Kit	Minitherma copper housing (pair of halves), one pcb, four brass screws (M3 x 10 mm) for housing assembly

Customization options

The following custom options are available for Minitherma:

- assembly of customer-specified components and connectors readily in Minitherma
- manufacture of housing from aluminum or Au-plated copper
- manufacture of additional mounting bracket for Minitherma
- modification of housing or pcb or both



Specifications

Data for the components is following:

- All size 0402 resistors
 - TE Holsworthy RN73 series, values 49R9 – 59k
 - Specs at room temperature:
 - $\pm 10\text{ppm}/^{\circ}\text{C}$
 - $\pm 0.1\%$
 - 63 mW
- All size 0402 capacitors
 - COG / NP0, 50V or better up to 8.2 nF
 - COG / NP0, 35V, 10 nF
 - Specs at room temperature:
 - 5% (or better upon request)

Enclosure

Material	Raw aluminum, copper C101 or Au-plated copper C101
Male connector plug	Cinch M83513/01-DN
Female connector socket	Cinch M83513/02-DN

Document revision history

Date	Version	Description	Author
23.9.2024	1.0	Initial draft	JSP
6.7.2026	1.1	Logo + company update	HM