

Anti – cryostat pre - design, Gersemi 2025-01-21

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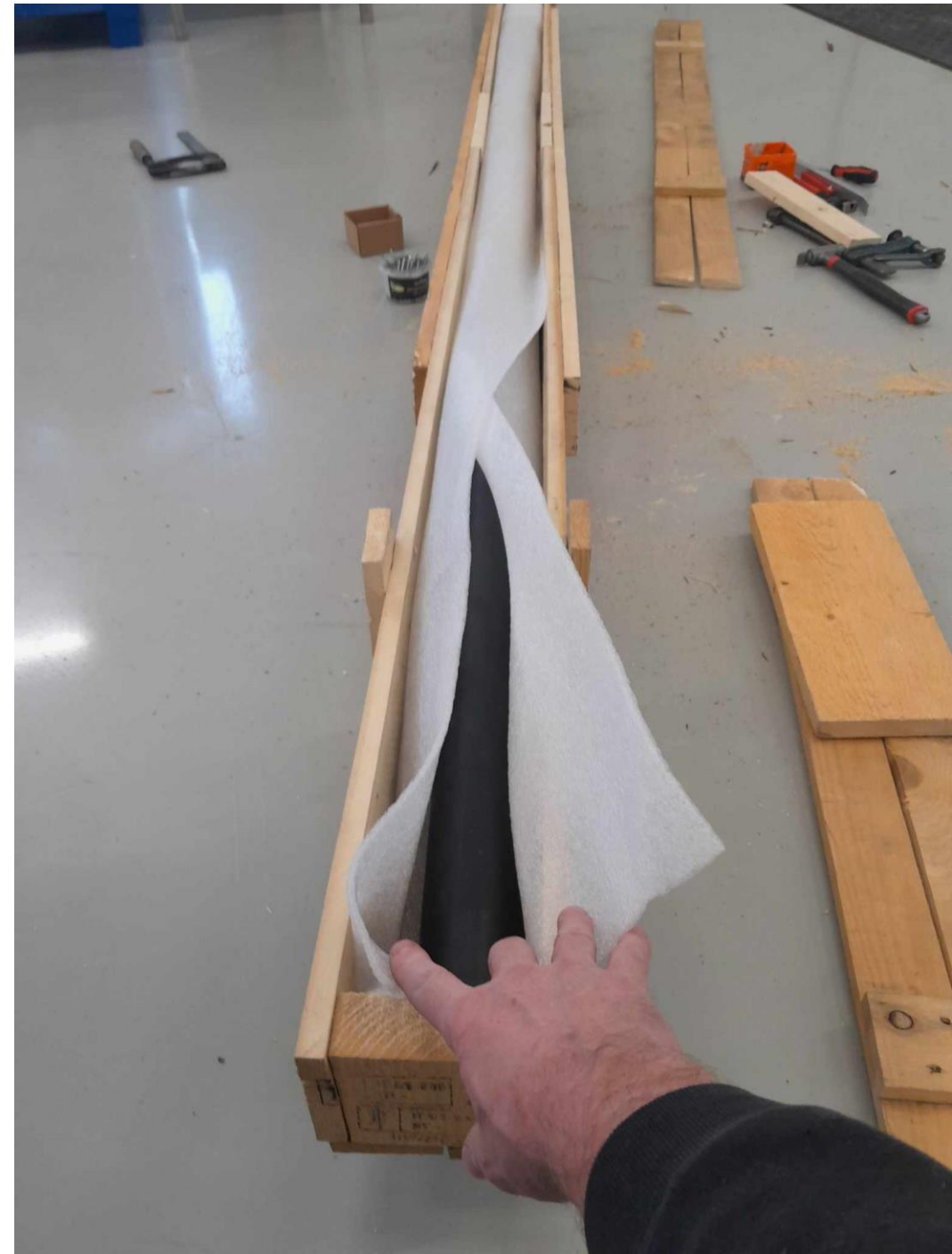
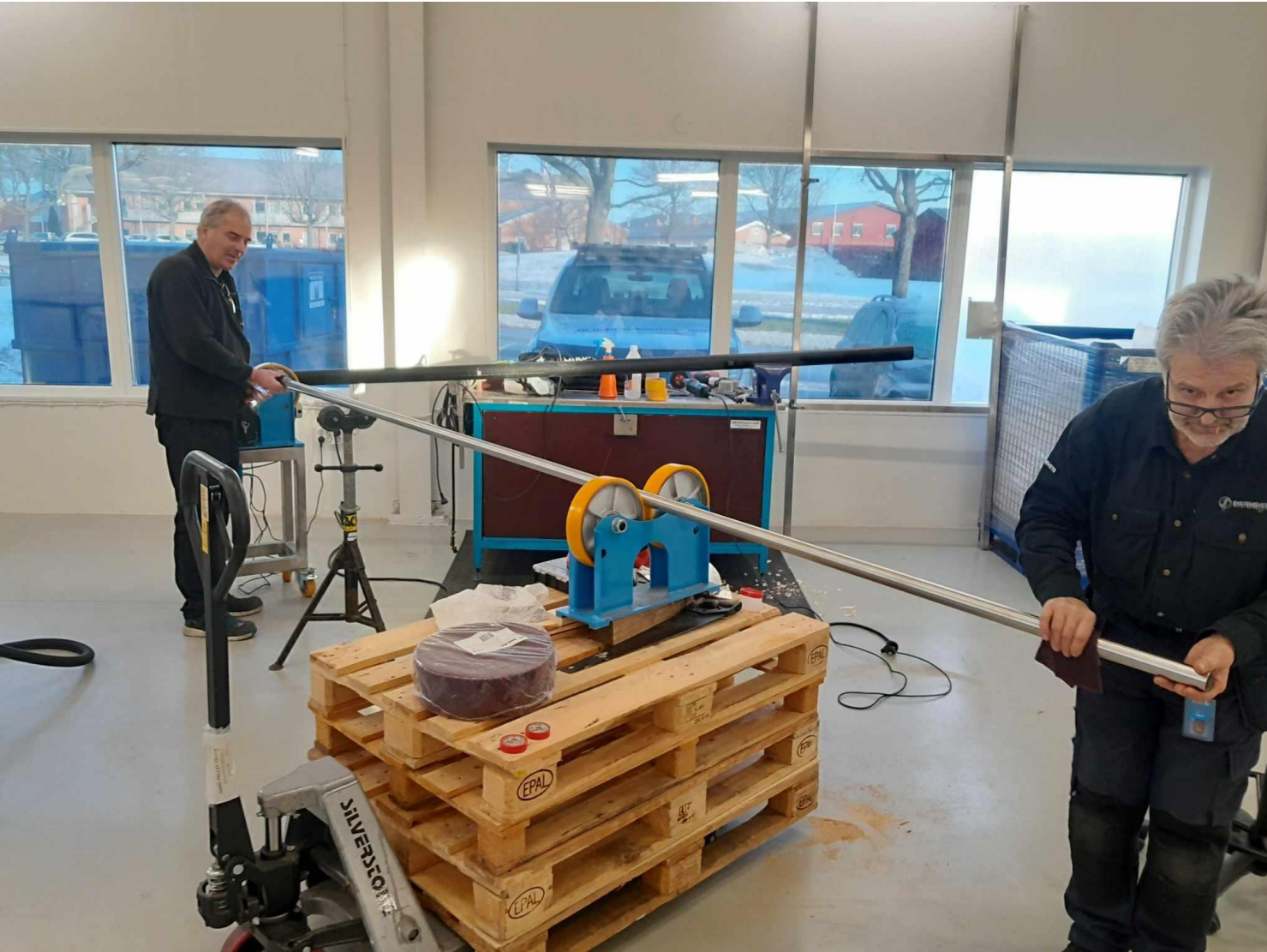
Preparing @ Systemsvets



Tube end preparation



“Test tube 3500 mm” sent to CERN



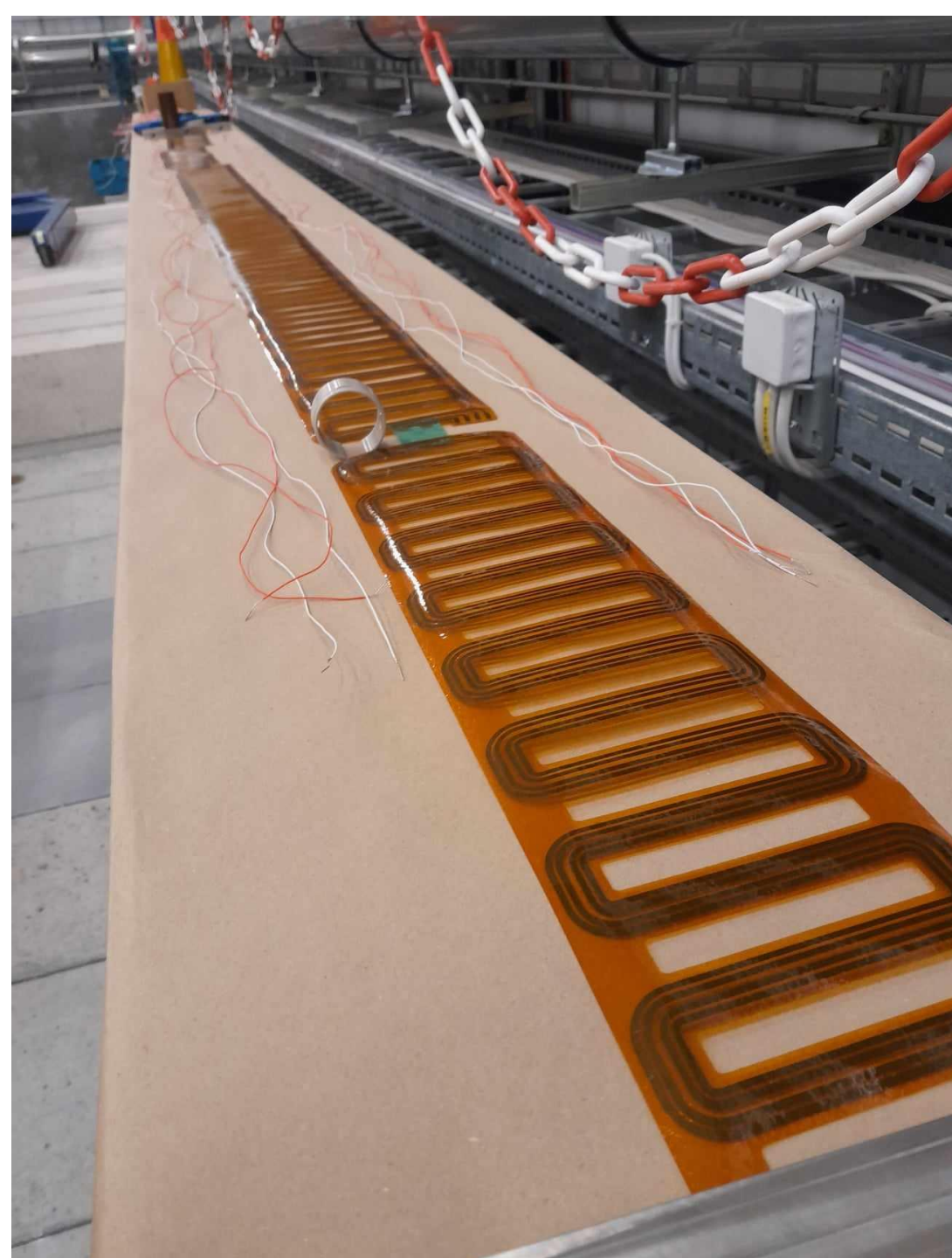
Modified parts for "Single Center Shaft Measurements"





Electronic cabinet are now being upgraded with new touch screen, keyboard, electrical connections with earth fault breaker etc etc.

How to proceed with connections – proposal from Marek Jacewics



Heaters

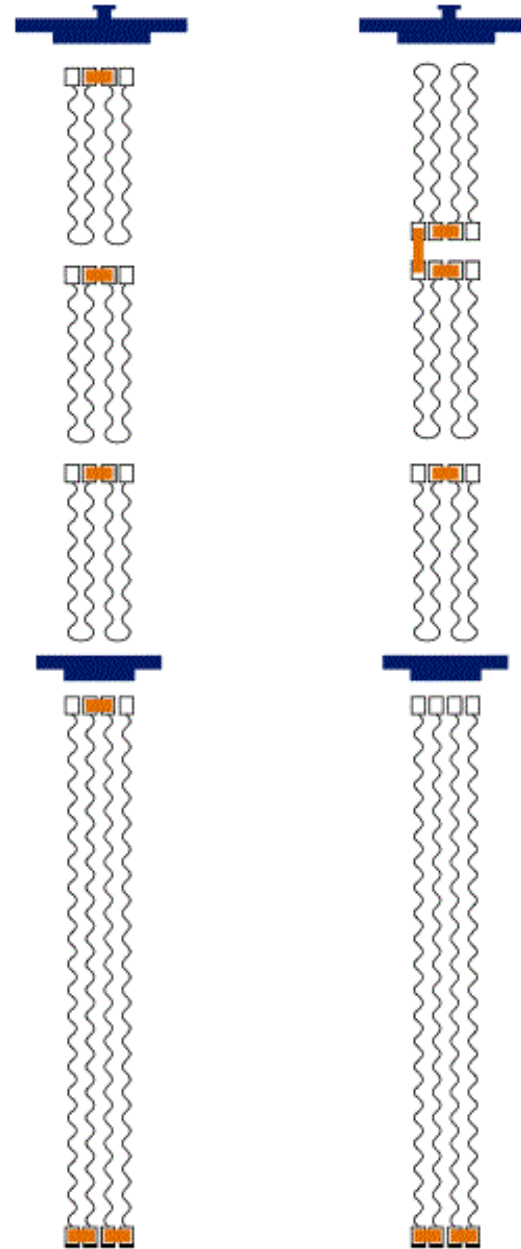
Heater PSU R&S HMP4040

- 4 channels
- 384W, 160W/channel
- 0-32V
- Up to 16V → 10A
- At 32V → 5A

Option 1

3 channels above
9.6 Ohms each

1 channel below,
15.6 Ohms



Option 2

2 channels above

19.2 Ohms

and

9.6 Ohms

2 channels below,
7.8 Ohms each

Heaters - cabling

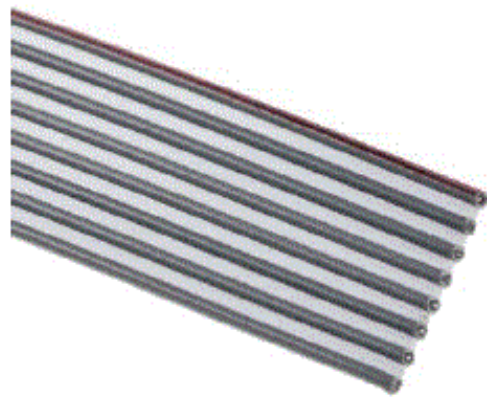
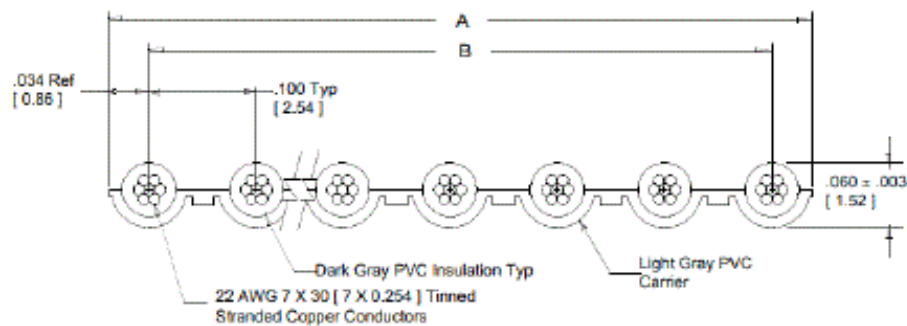
3M 8124/8

22 AWG tinned stranded copper (7), pitch 0.254

0.326 mm², 53 mOhm/m

Voltage Rating: EU: <50V

Dim A: 19.51, dim B: 17.78



1/20/2025

CERN store: 04.01.61.X.X

[DO-33845_Technical_Specification.docx](#)

CONDUCTOR		
Material	Flexible tin-plated copper	
Standard / Class	IEC 60228 / class 5	
Elongation at break	IEC 60189-1	
Conductor resistance	IEC 60189-1	
Cross section (mm ²)	N. of wire braids x Ø (mm)	Resistance (Ω/km at 20°C)
0.25	19 x 0.15	60
0.5	19 x 0.20	39
1	32 x 0.20	19
1.5	30 x 0.25	13
Dielectric strength - 3s	3.5 kV _{ac}	
Min. insulation resistance	20 GΩ/km	

OD 1.7mm (conductor + insulation)

Max. over-all diameter: 1.8 mm

MJ

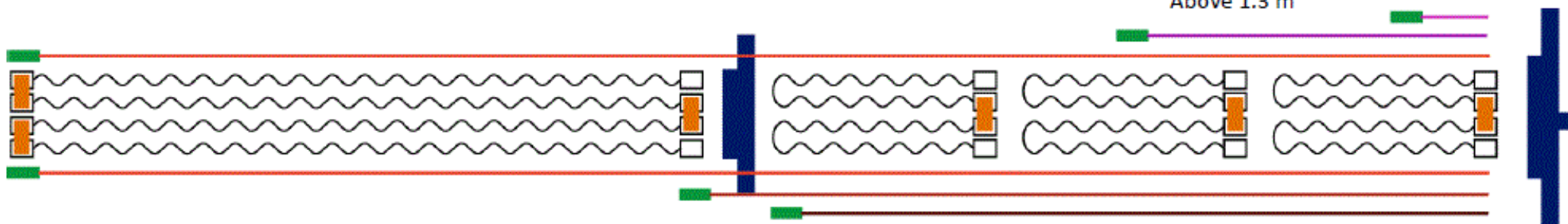
Temperature sensors – Minco, model: S17624PDXT40A

Position low

2 channels for redundancy
~3.5 m

Position high

2 channels, monitoring for
each heater
Above 1.3 m



Position middle (lambda plate)

2 channels, one below, one above
~1.8 m

Cables: 4 wires/lead, AWG#26 (0.129 mm^2)

6 channels in total → 24 leads

Upcoming questions 2025-01-21

- 1; Cad model for Gersemi (JE)
- 2; Cad model for SM18 (JE, LG)
- 3; Drawings for Transport Frame CERN (JE) – confirmed by CERN (?) & KIWA (CE-declaration). Ongoing JE together with UMB
- 4; Drawings for Transport Frame Gersemi (JE). Ongoing JE together with UMB
- 5; Electronic schematic Gersemi (JE, SH) – heaters, temp sensors, connectors (model/ numbers of pins/ brand?) Ongoing JE & Marek
- 6; Electronic schematic SM18 (JE, SH + ?) heaters, tempsensors, connectors (model/ numbers of pins/ brand?) Ongoing JE & Marek
- 7; Pro Forma and Invoice Systemsvets (JE, CP) ongoing
- 8; Nylon "shrinking tape" – missing article info, needs to order this one

Thank you for your time – questions?

