

NPS

LV cables proposal

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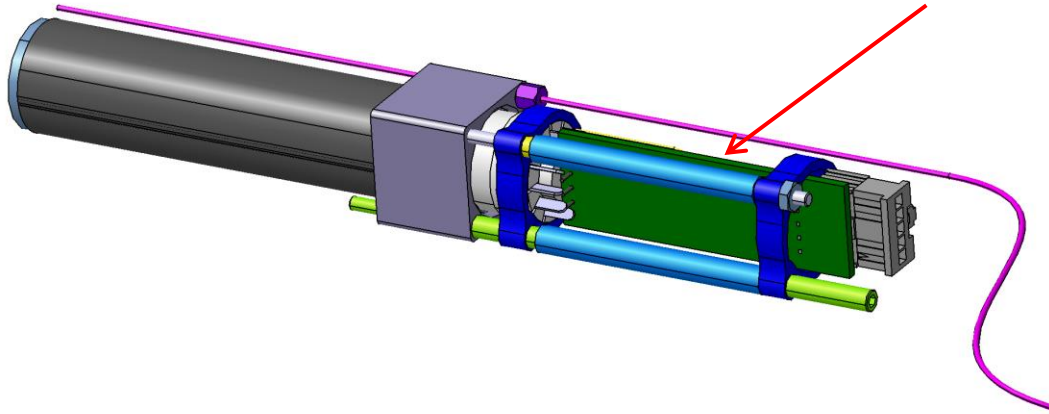
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Voltage divider PCB option 1



current PCB

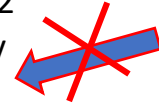


2 options have been studied for modifications:

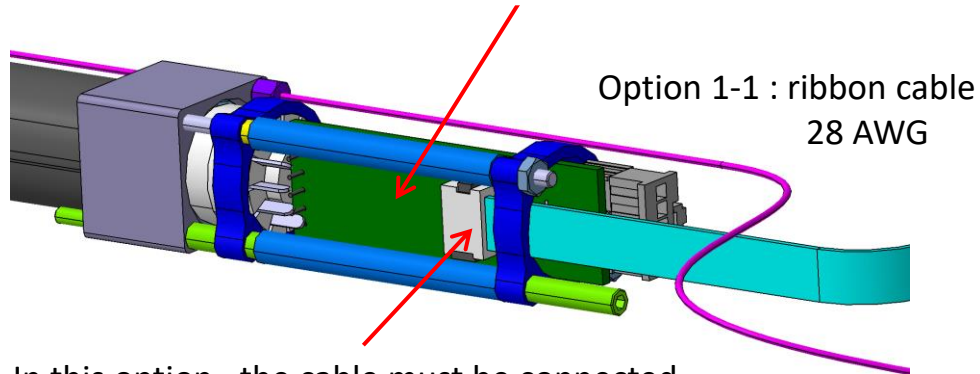
First option: Same dimension for pcb (pictures below)

Option not selected because :

- a) Not enough space for connector placement
- b) Difficulties for sliding the PMT+ pcb with 2 connectors and cable in the block assembly



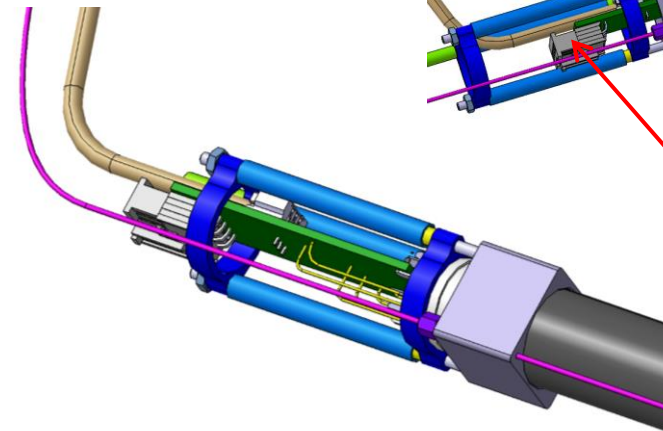
current dimension PCB with additional Molex 90327-3306 connector and « picoflex » ribbon cable



Option 1-1 : ribbon cable 28 AWG

In this option , the cable must be connected before insertion in the support assembly

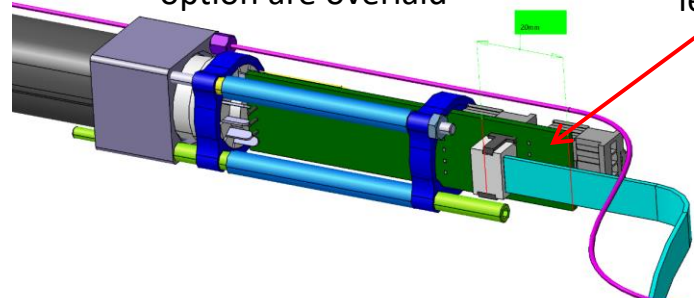
Option 1-2 : circular cable



current dimension PCB with additional Molex SD-35505-001 connector and cable diameter 4 mm

In this picture the 2 pcb option are overlaid

New dimension PCB :
length 20 mm more



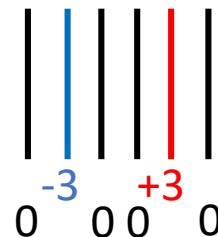
2 options have been studied for modifications:

Second option: New dimension for pcb :length 20mm more
Option proposed

Now ,we have to choose between
flat or circular cable and make the
choice for the cabling : what way?
(next slide)

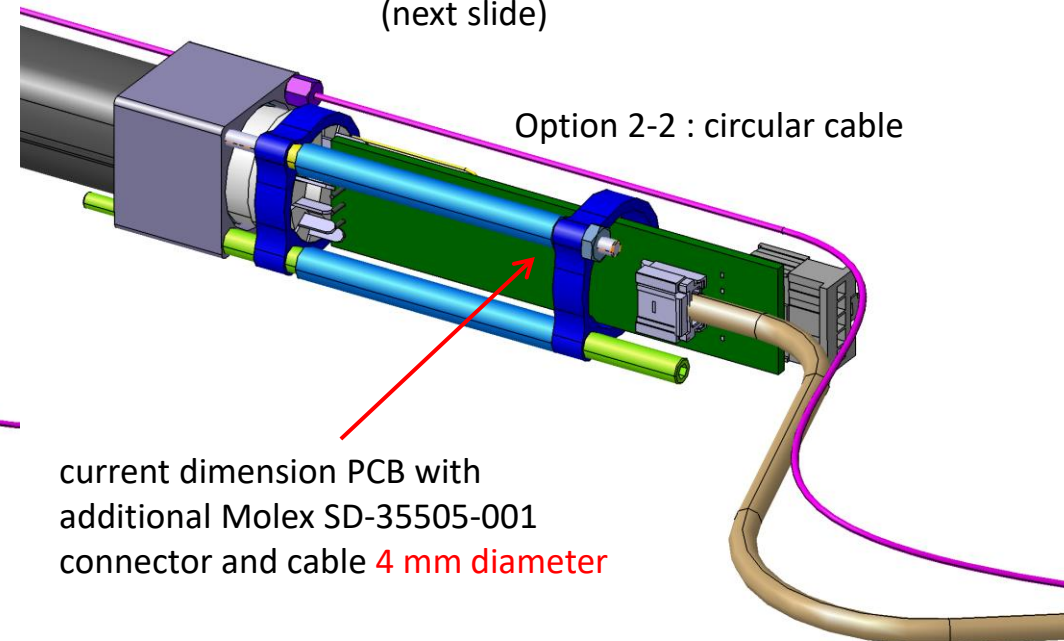
Option 2-1 : Picoflex
ribbon cable (28 AWG)

In this option , the cable can be connected
after insertion in the support assembly



Option 2-2 : circular cable

current dimension PCB with
additional Molex SD-35505-001
connector and cable **4 mm diameter**

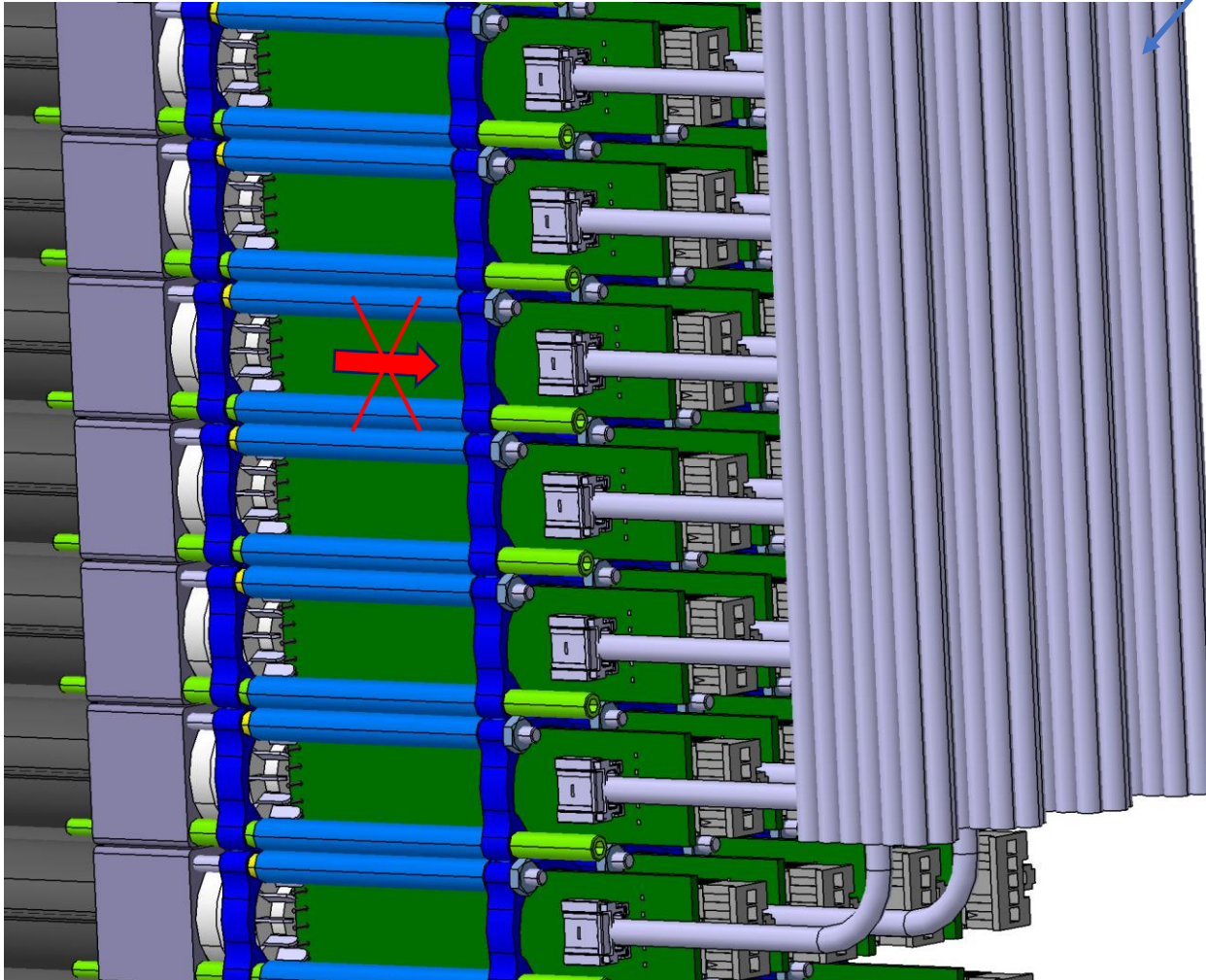


Alpha wire
882403 SL005

LV cable route ?



Simplified representation
of the cables bundles

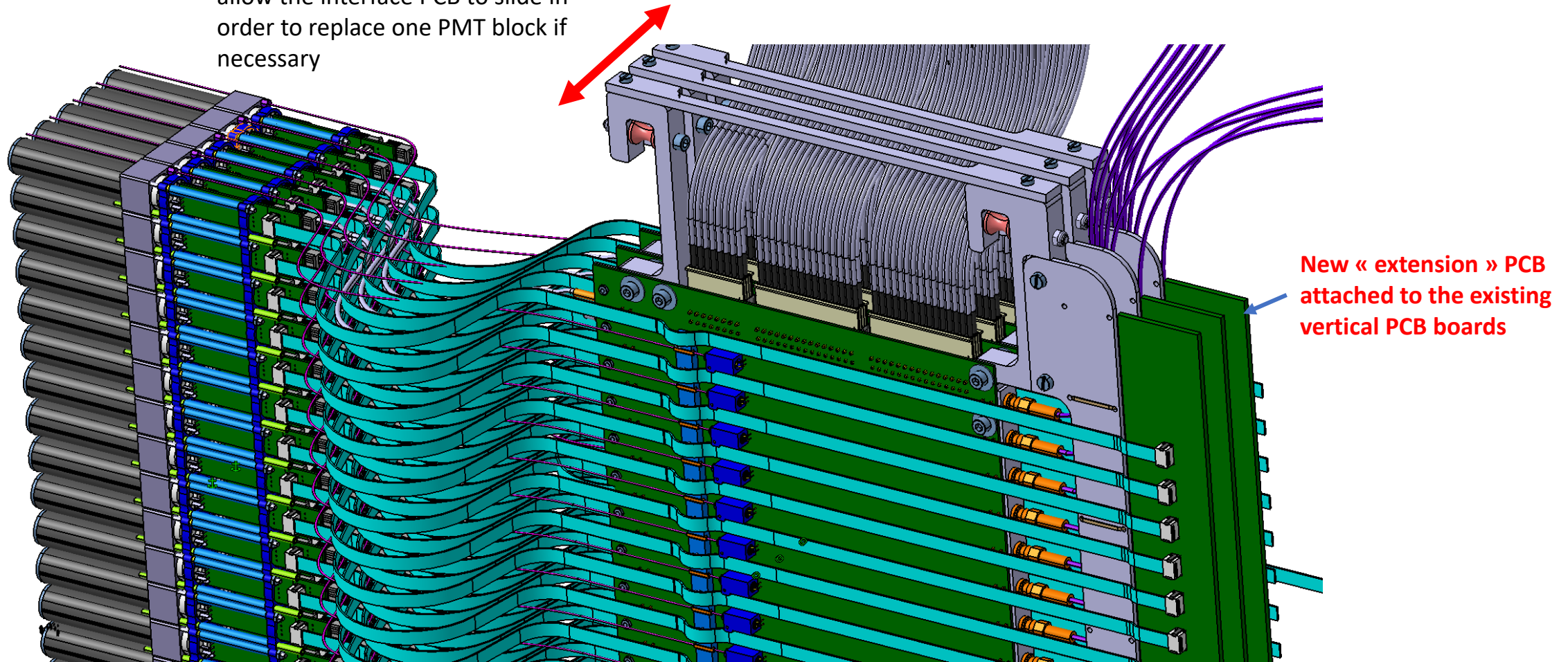


One solution was to bend the cable toward the Top of the box just after the voltage divider and connect the cables on a patch pannel at the top

Solution not validated because if we want to replace a PMT block we can't get it out due to the cable bundle

So the best solution is to route the cables toward the back of the interface PCB (next slide)

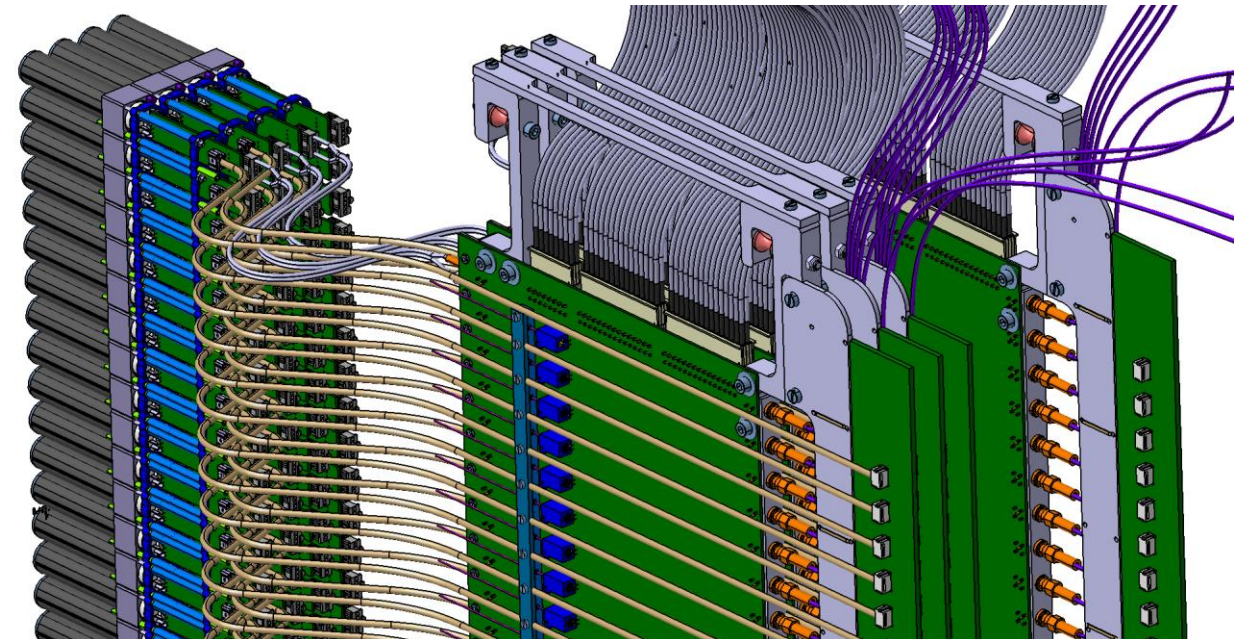
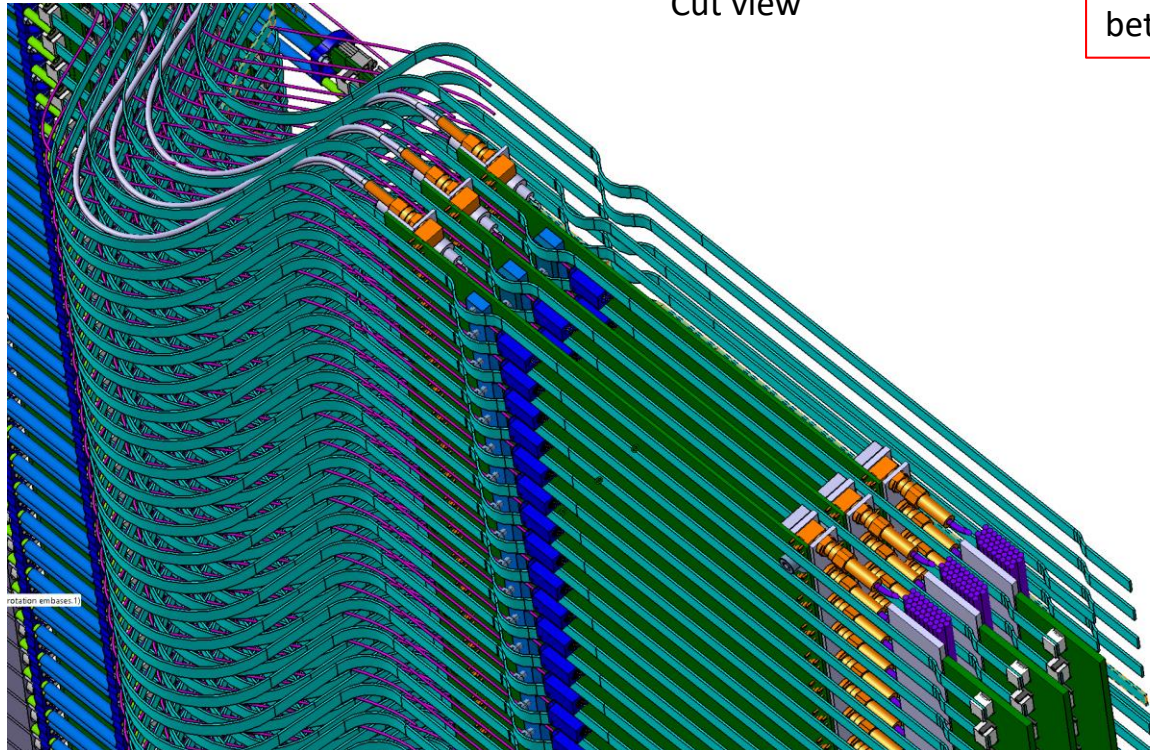
These flat cables are long enough to allow the interface PCB to slide in order to replace one PMT block if necessary



What cables ?

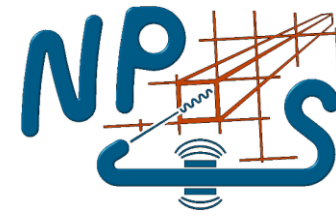
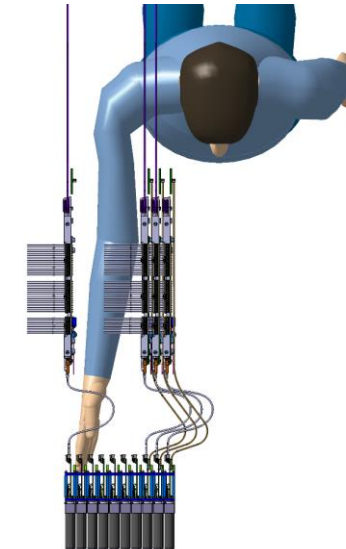
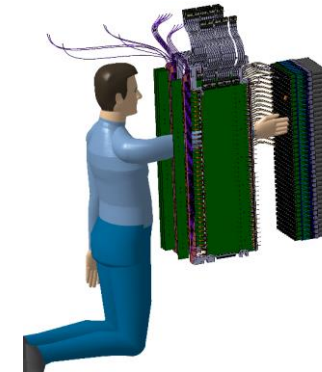
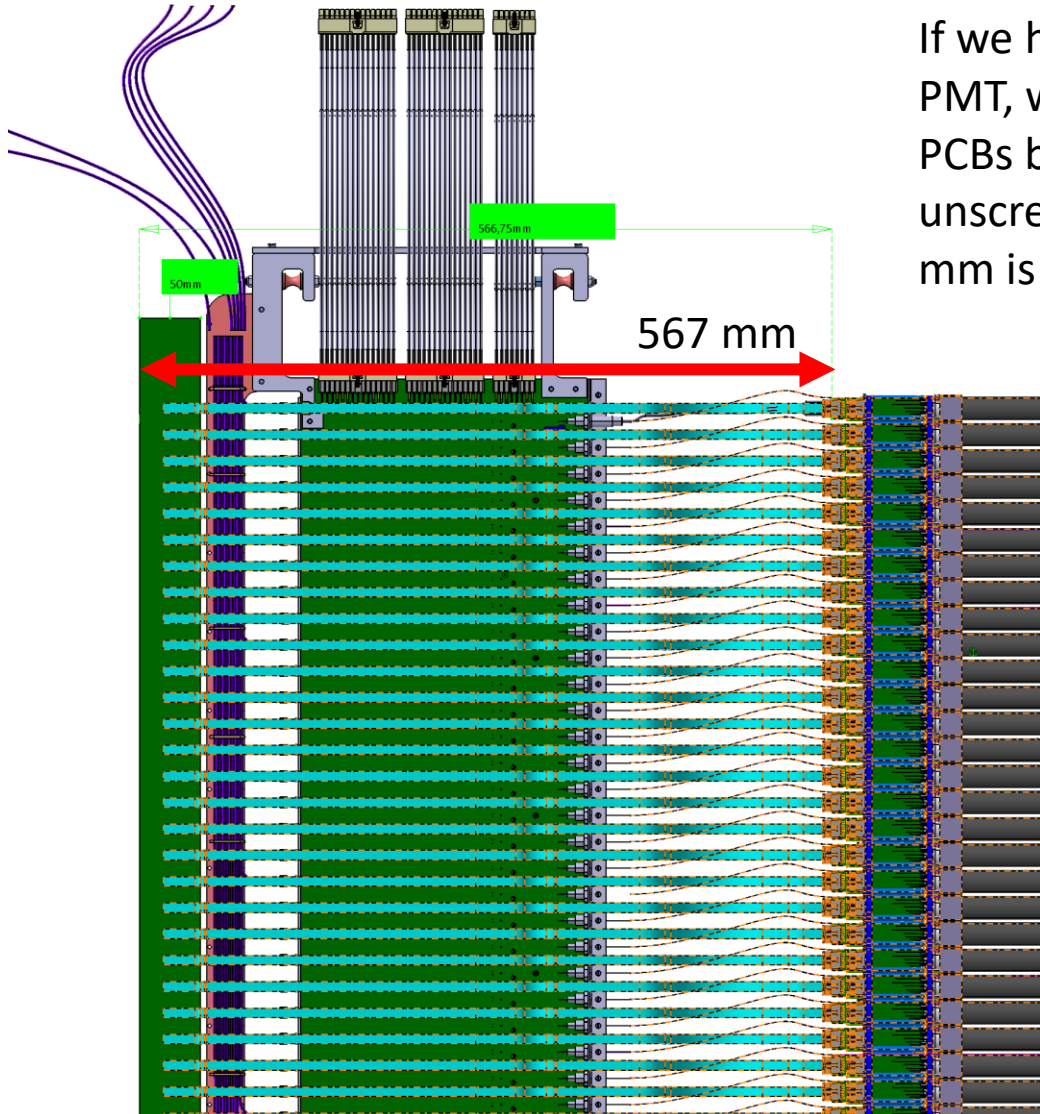
Cut view

Even if circular cables can fit ,
 the flat cables are better for
 flexibility and reduced gap
 between interface PCB

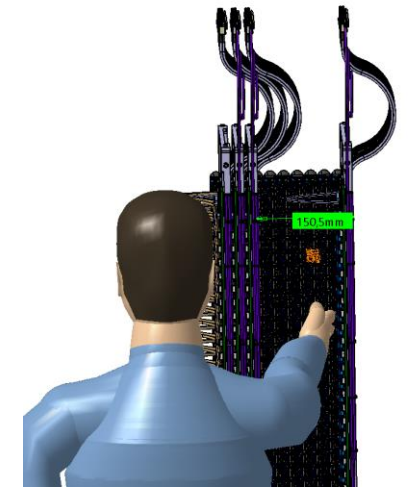


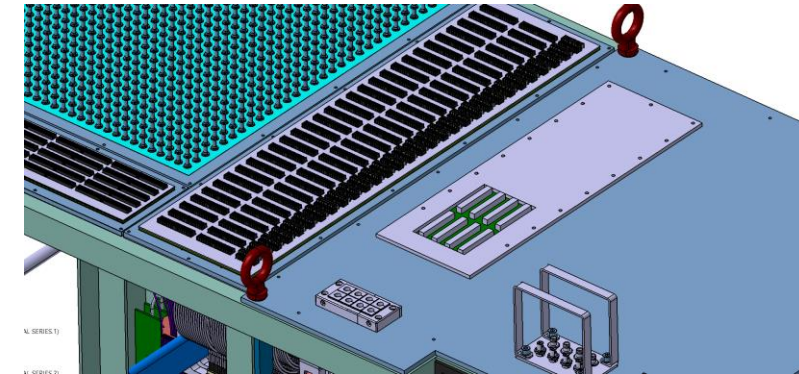
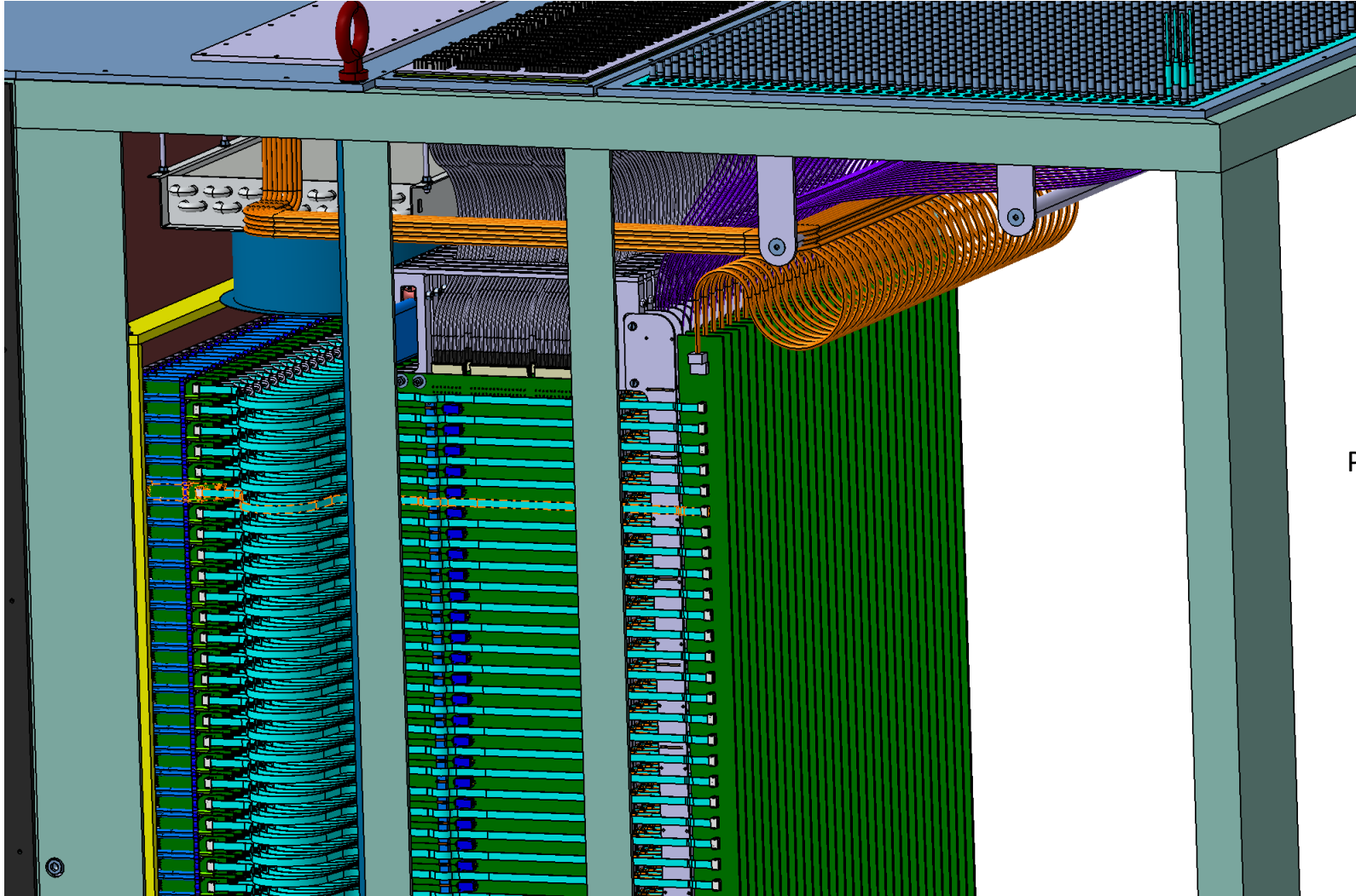
Accessibility for dismounting

If we have to replace a PMT, we slide the vertical PCBs by 15cm and unscrew PMT block : 567 mm is enough for access

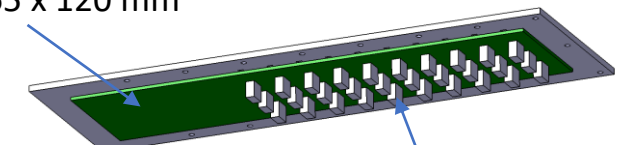


150 mm

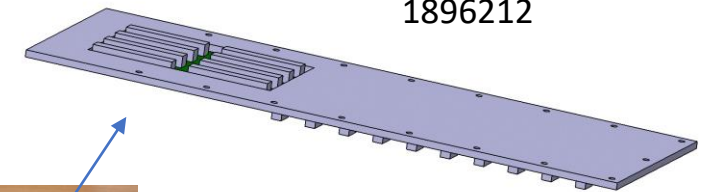




PCB : 465 x 120 mm



30 connectors Molex
1896212



8 connectors 18 pins

Points to validate:

1. 20-mm extension of voltage divider PCB
2. Ribbon cable between divider and extension PCB
3. LV connectors on the outer side of the NPS box

Additional parts to manufacture:

1. New voltage dividers (JLab)
2. Extension PCBs
3. Patch panel PCB (top of the box)
4. 1080 ribbon cables (crimping of the connectors)
5. 30 coax cables (PCB to top of the box)

This document was generated on 09/30/2020

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: [0923150650](#)
Status: **Active**
Overview: Picoflex Ribbon-Cable Connectors
Description: Picoflex PF-50 IDT-to-Picoflex PF-50 IDT Off-the-Shelf (OTS) Cable Assembly, 500.000mm Length, Tin (Sn) Plating, 6 Circuits

Documents:
[3D Model](#) [Datasheet \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)
[Product Specification PS-99020-0011-001 \(PDF\)](#)

Application tooling part link
[Application Tooling Part Link](#) 62100-6000
[Application Tooling Part Link](#) 62100-6010

General
Product Family Cable Assemblies
Series [92315](#)
Assembly Configuration Dual Ended Connectors
Connector to Connector Picoflex IDT-to-IDT
Overview [Picoflex Ribbon-Cable Connectors](#)
Product Name Picoflex
Type Ribbon Cable Assembly
UPC 800756453804

Physical
Cable Length 500.00mm
Circuits (Loaded) 6
Color - Resin Natural
Gender Female-Female
Lock to Mating Part None
Material - Metal Phosphor Bronze
Material - Plating Mating Tin
Material - Plating Termination Tin
Material - Resin Polyester
Net Weight 6.300/g
Number of Rows 2
Packaging Type Bag
Pitch - Mating Interface 1.27mm
Plating min - Mating 2.032µm
Plating min - Termination 2.032µm
Single Ended No
Termination Interface: Style IDT or Pierce
Waterproof / Dustproof No
Wire Insulation Diameter N/A
Wire Size AWG 28
Wire/Cable Type PVC, Ribbon Cable

Electrical
Current - Maximum per Contact 1.2A
Shielded No
Voltage - Maximum 250V

Material Info

Reference - Drawing Numbers
Product Specification PS-99020-0011-001
Sales Drawing SD-92315-001



Series image - Reference only

EU ELV
Not Relevant

EU RoHS **China RoHS**
Compliant
REACH SVHC
Not Contained Per - D(2020)4578-DC (25 June 2020)
Halogen-Free
Status
Not Low-Halogen
For more information, please visit [Contact US](#)

China ROHS Green Image
ELV Not Relevant
RoHS Phthalates Not Contained

Search Parts in this Series
[92315 Series](#)

Mates With
Picoflex PF-50 Header [90325](#) , [90800](#) , [90779](#) , [90715](#) , [90814](#)

Application Tooling | FAQ
Tooling specifications and manuals are found by selecting the products below. Crimp Height Specifications are then contained in the Application Tooling Specification document.
Global

Description	Product #
Extractor Tool for Connectors	621006000