

FD2 PDS ProtoDUNE2-VD Order Status

DUNE FD2 PDS

Last update: October 28, 2022
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Overview

- Here is an attempt at an exhaustive list of the incomplete order status needed for ProtoDUNE2-VD
- Organized from cold to warm

WLS

- Need order status from Carla
- Francesco says Carla has submitted order

Dichroic Filters

PhotonExport: orders placed 28-Oct-22

1. December 1st: 75 units, 143.75 x 143.75 x 1.5 mm³ (2 cathode modules +spares)
2. December 20th: 110 units, 143.75 x 143.75 x 1.5 mm³
3. Spring/Summer: 40 units, Optimal size & filter

ZAOT: order placed 26-Oct-22

1. November 20th: 110 units, 97.5 x 202 x 1.1 mm³ (2 membrane and 2 cathode modules +spares)
2. December 20th: 75 units, 143.75 x 143.75 x 1.1 mm³
3. Spring/summer: 40 units, Optimal size & filter

Order for coating disk for 150x150 filters is being processed as of 28-Oct-22. Lead time is 25 days.

A team will travel to Brazil with PE and ZAOT filters at the end of November or Beginning of December (probably two different days, because ZAOT will be ready earlier).

At least ZAOT filters should be at CERN for December 12th installation. PE could arrive few days later. Goal would be to complete cathode module assembly before Christmas,

such that we have a week after Christmas for testing

SiPMs

- 1200 HPK
 - 6 weeks leadtime
 - 700 HPK order from CERN on DOE Team Account
 - 27-Oct-22 order placed
 - 500 HPK order from INFN-MiB in process
- All other SiPMs are in hand at CIEMAT and INFN (?)
- 60 FBK flex circuits shipped from UCSB to INFN on 27-Oct-22
- 65 HPK flex needed, waiting on vendor delivery at UCSB (expected in next week)

XA Mechanics

- PD Advisory Committee will make draft recommendation Monday 27-Oct-22
 - This should set direction of BOM
- All orders for XA frame assemblies have not yet been placed
- Membrane supports
 - Need estimate from Enrique/CIEMAT
 - Still need to resolve mounting interface
 - Ines says orders have been placed, delivery dates are sensible
- Cathode supports
 - Need to verify interface components are ordered/fabricated
 - Test opportunity in December

Flex-to-Motherboard Cables

- 18 already made by Jon Ameal and shipped to NIU
- UMich placed wire order for hand assembly by Jon Ameal at UMich
 - For 18 more (waiting for quote to FNAL)
 - Other material on hand at UMich
- This would be enough for 4 XA
- Need to scavenge from existing XA for additional depending on rate of XA assembly
- Quantity 100 from vendor ship date is 28-Dec-22 to FNAL

Cathode Cold Electronics

- DCEM v1.2 (Planned to order 01-Nov-22)
 - 10 bare boards/parts + 10 turnkey populated
- Laser Adapter v1.1
 - Need status from APC, targeting 20 in December?
- DCEM v2.0/Laser Adapter v2.0
 - Inhand at FNAL
- SoF Lasers
 - Options from Lasermate
 - Spring lasers, that flood (custom sealing)
 - December laser inhand at FNAL
 - Epoxy filled housing laser inhand at FNAL
 - Perforated housing laser inhand at FNAL
 - Big ball lens PO#693767 ship 11-Nov-22
 - Defocused lasers PO#693983 ship 25-Nov-22
- PICO Bias v3.1
 - Need status from Iowa, targeting 10 in December?
 - 20 PICO components ordered
- INFN Bias
 - Quantity in hand? Need low noise result from Cold Box, targeting 10 in December?
- LBL Bias
 - 10 In hand, need low noise results from Cold Box, targeting 10 in December?
- BNL Bias distribution Balun Box
 - Need status from BNL, targeting 1 in January (no plan to install)
- PoF receivers
 - 200mW GaAs inhand at FNAL
 - 200mW Si for spare inhand at FNAL
 - 500mW GaAs order of (70) in Fermi procurement expected delivery in May 2022

Membrane Cold Electronics

- DMEM v1.0 ordered 20-Oct-22
 - 10 bare boards/parts (expected delivery 01-Nov-22) + 10 turnkey populated (need to place order)

Cathode fibers

- 40m 62.5um fiber inhand at SDSMT
- 1/2" OD Tubing order stuck in Fermilab procurement (for 3 weeks+)
 - SDSMT trying to race order in parallel and have also not placed order yet
 - Need help contacting vendor (need someone to persistently call)
 - No alternatives identified with compatible lead times
- Cold-side pull cord
 - not identified, need to check status with SDSMT
- Bundling mesh
 - not ordered (identified several options), need to check status with SDSMT

Membrane Cables

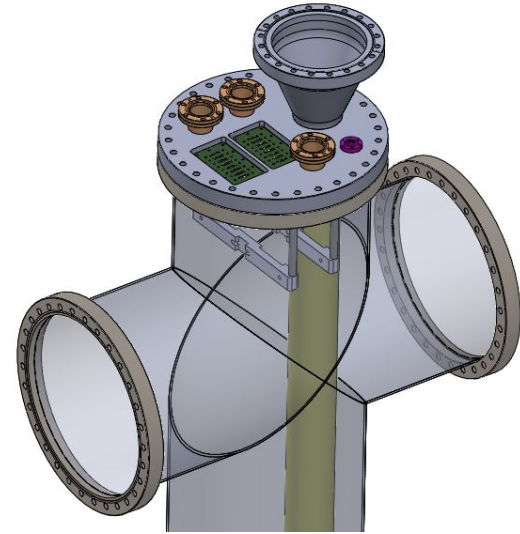
- Length specified to CSU for HD-style cable
 - Need estimate from CSU for 4 cables (2 top and 2 bottom)
- VD-style alternative cold side cable? Coax?

RMS Fibers

- Need estimate from Clara on fiber delivery/orders
 - Minimum already inhand

Flange

- 3" stainless steel Septum (early January)
 - Need estimate from Anselmo
- Temporary support of 3" septum (early January)
 - Need estimate from Anselmo
- 14" primary flange
 - Blanks Inhand at FNAL
 - Need to identify resources for machining
- 3 CF40 chimneys
 - Need to be ordered
 - Need to identify resources for machining
- 2 NIOBE-VD PCBs
 - Inhand at FNAL
- Alternative VD-style feedthrough PCB?
 - Undefined?
- Pressure relief
 - Needs to be ordered
- Secondary flange chimney
 - Needs to be ordered
 - Need to identify resources for machining
- Secondary flange (more time)
 - Needs to be ordered
 - Need to identify resources for machining



Warm side copper cables

- Need to understand distance to PD rack
- Need estimate from CSU for 4 warm side cables compatible with DAPHNE
- VD-style alternative warm side cable? Coax?

Warm side RMS pulser

- Need to understand distance to PD rack
- Need estimate from ANL on transmitter box
- Need estimate from SDSMT on warm side RMS fiber

Warm side fiber conduit

- PoF safety system
 - Need estimate from Bill P and SDSMT
- PVC tubing
 - Not ordered, is there leftover at Cold Box?
 - Need to understand distance to PD rack
- Pull grip
 - One option in hand, SDSMT considering others? Need to check status with SDSMT
- Warm-side pull cord
 - not identified, need to check status with SDSMT

PoF Transmitters

- Need estimate from Bill P and SDSMT
- Expecting to support some Si and GaAs systems.
 - May require rotating through channels, e.g. if one laser box of each

Warm Digitizers

- (2) v2 DAPHNE expected to be available at CERN
 - Should be no problem having DAPHNE available
- Optical-to-electric convertors
 - Need status from APC
- Alternative digitizers?