

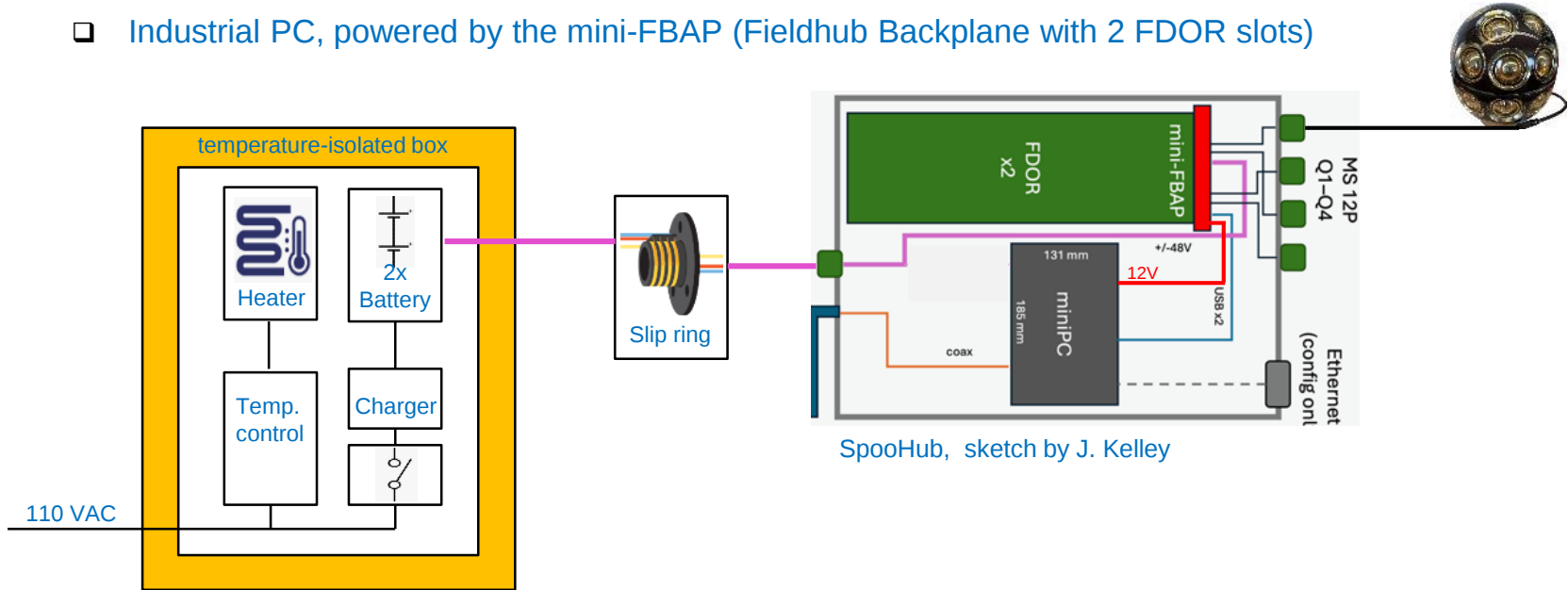


2025 / 26 Season, In-Water Operations using a

SpoolHub

Overall Schema

- ❑ SpoolHub, fully decoupled from the EMI generating spool-drive
- ❑ Powered by two 48V battery power (only) over the slip ring
- ❑ Industrial PC, powered by the mini-FBAP (Fieldhub Backplane with 2 FDOR slots)



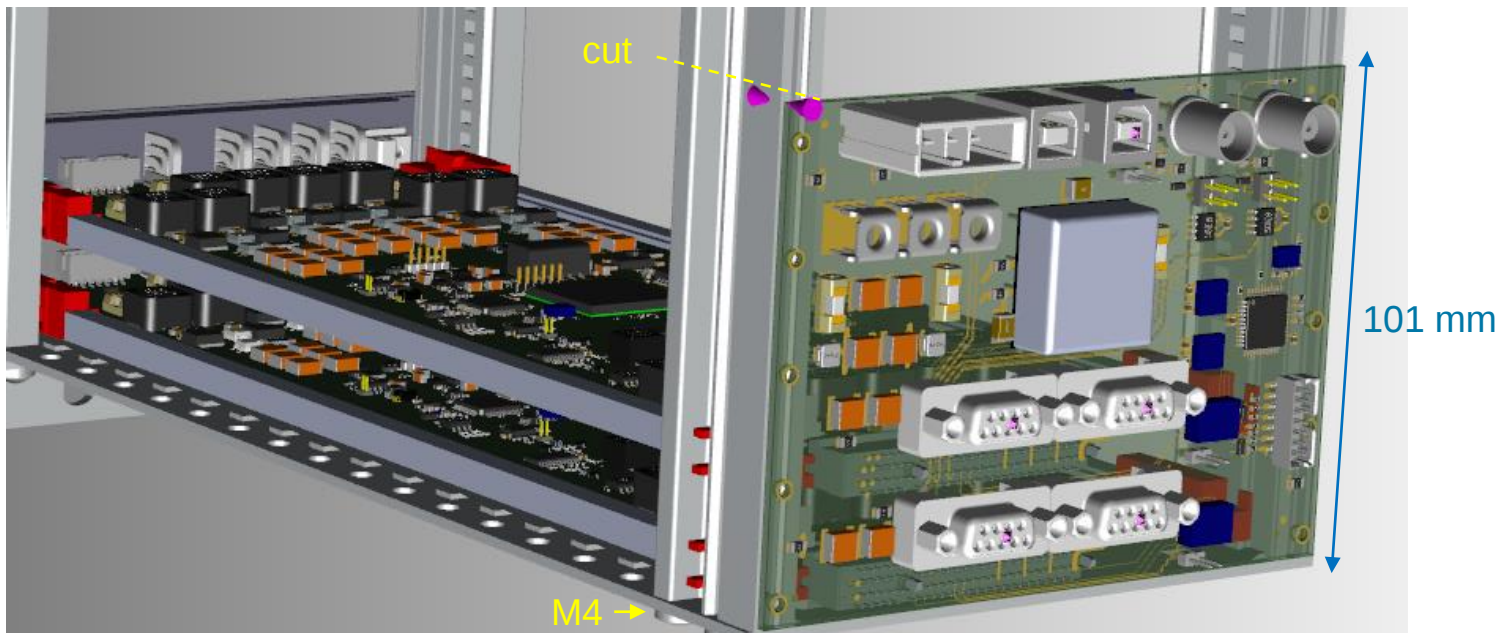
LiFePO4 Battery

- more than 4000 cycles and retains 80% of its capacity after 4000 deep cycles. Operating temperature range:
charging 0~55°C,
discharge: -20~55°C;
temperature protection:
high temperature 100°C protection
- Advanced BMS(Battery Management System) Protection



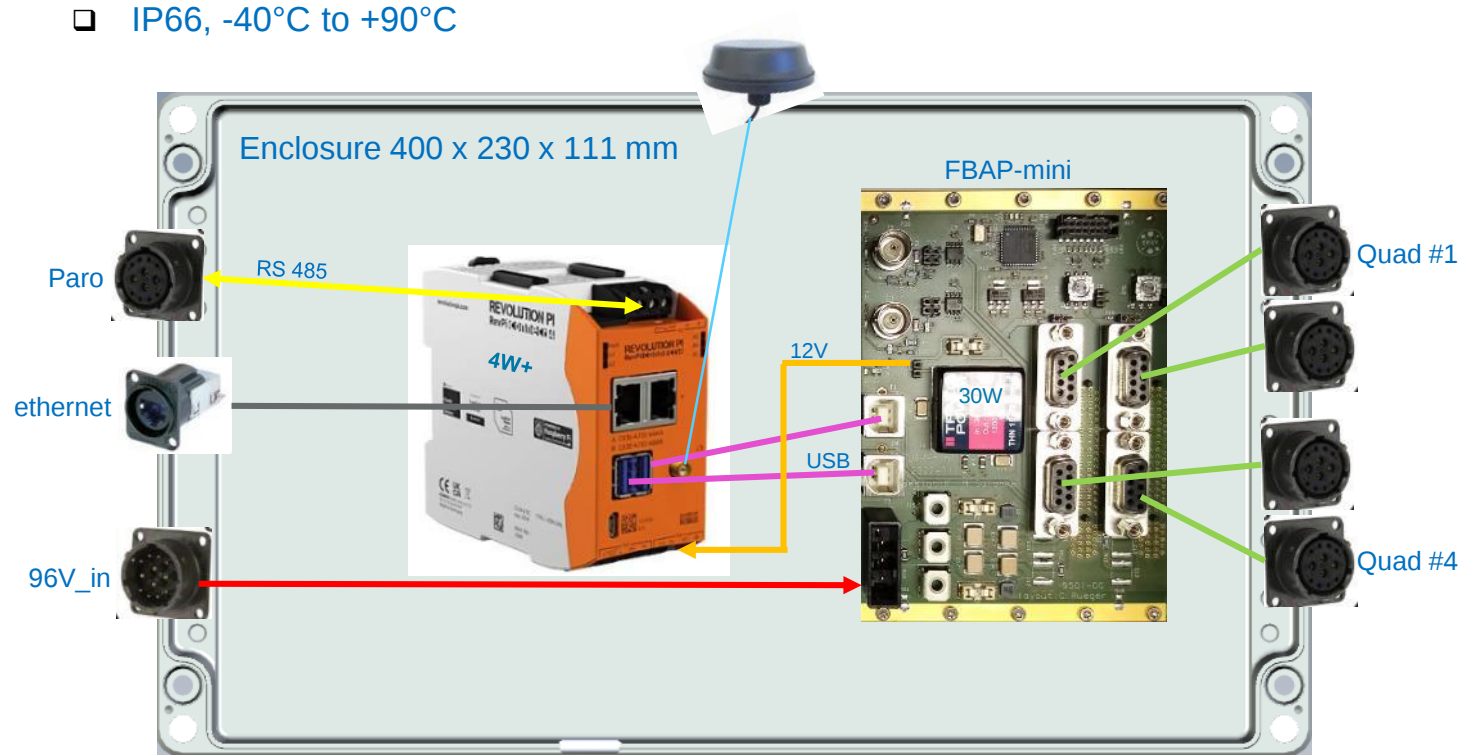
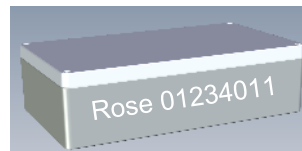
FBAP-mini with two FDOR Cards

- ❑ Shrink the 19" crate to 101mm width, by cutting the rails and using M4 countersunk screws

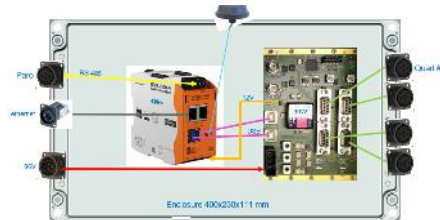


SpoolHub

- ❑ Robust Aluminum housing, 5.5mm walls
- ❑ IP66, -40°C to +90°C

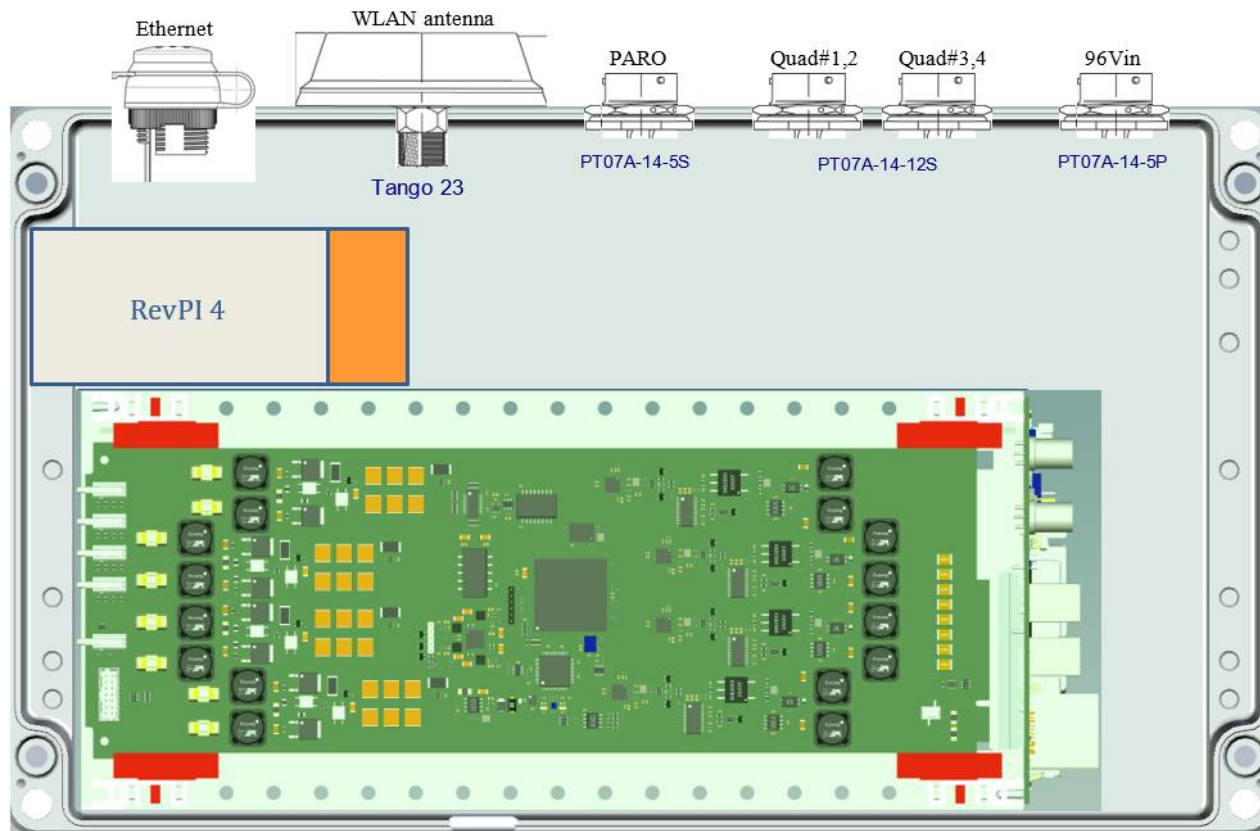


Spoolhub, Cables & Conns



Item	Conn. #1	Conn. #2	Cable type	Length	Comment
Paro to RevPI 4	PT07A-14-5S	Cable end sleeve	969M101-22-2TPS-025	0.5m	Cable type / length is variable
Mini-FBAP to quad-conn.	DSUB9-male, Norcomp 772-E09-103R001 or Phoenix VS-09-ST-DSUB-EG or TE 5-747904-2 (or -5)	PT07A-14-12S	969M101-22-2TPS-025	0.5m	Cable type / length is variable, DSUB9 housing: Molex 173111-0496, -35°C to 125°C
96V power input to FBAP-mini	PT07A-14-5P	1-178128-3	969M101-14-3-050	0.5m	Crimp pins 1-917511-2 14AWG, cable type / length is variable
Ethernet connection	Weidmuller 1018790000 incl. protection cap	RevPI 4 built-in	Telegaertner TG 100007966	0.5m	Cat6A, -40°C to +75°C, see Weidmuller spec., reduce (milling) the wall thickness down to 3mm
USB-A to USB-B cable	USB-A male	USB-B male, right angle, down (!) pointing	DeLock 84809	0,5m	Temperature range?
RevPI 4 power cable	Molex 22-01-3027 Crimp pins 08550102	Cable end sleeve	Silicon, stranded, twisted, flex 22AWG,	0.5m	FBAP-mini, J19, Molex 22-29-2021
WLAN-Antenna TANGO23/0.5M/SMAM/S/RP/19	n.a.	SMA plug (is part of the antenna)	50ohm coaxial	0.5m	Antenna Through Hole Mount, WiFi, WLAN, 2.4 GHz to 5.9 GHz, 5 dBi,

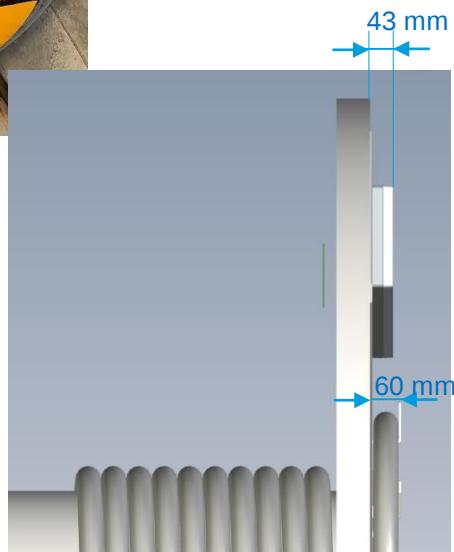
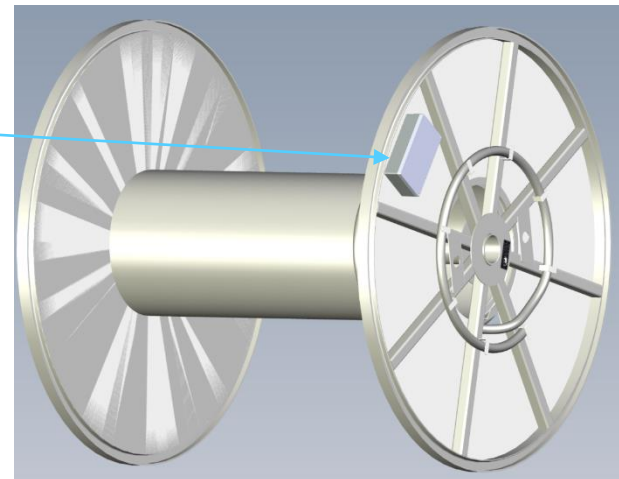
SpoolHub, Connector Arrangement, Scaled View



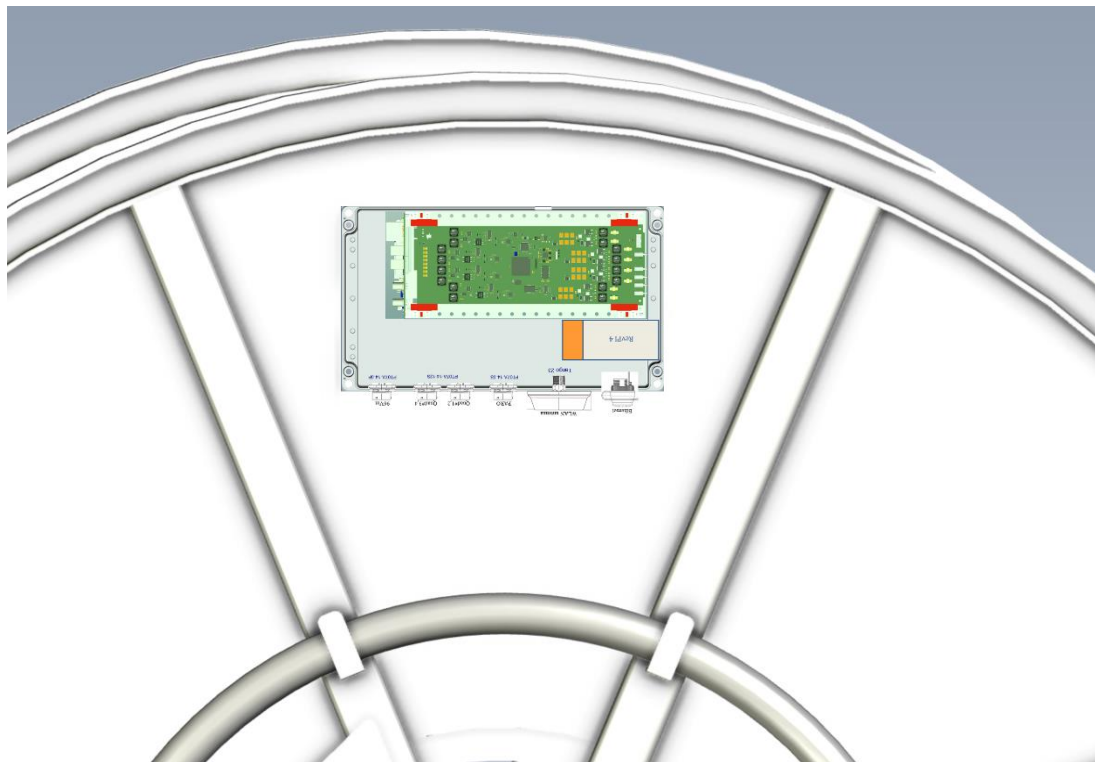
SpoolHub on the Spool



SpoolHub-
Position

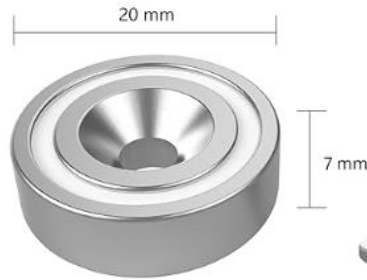


SpoolHub Connector Orientation, E.g.

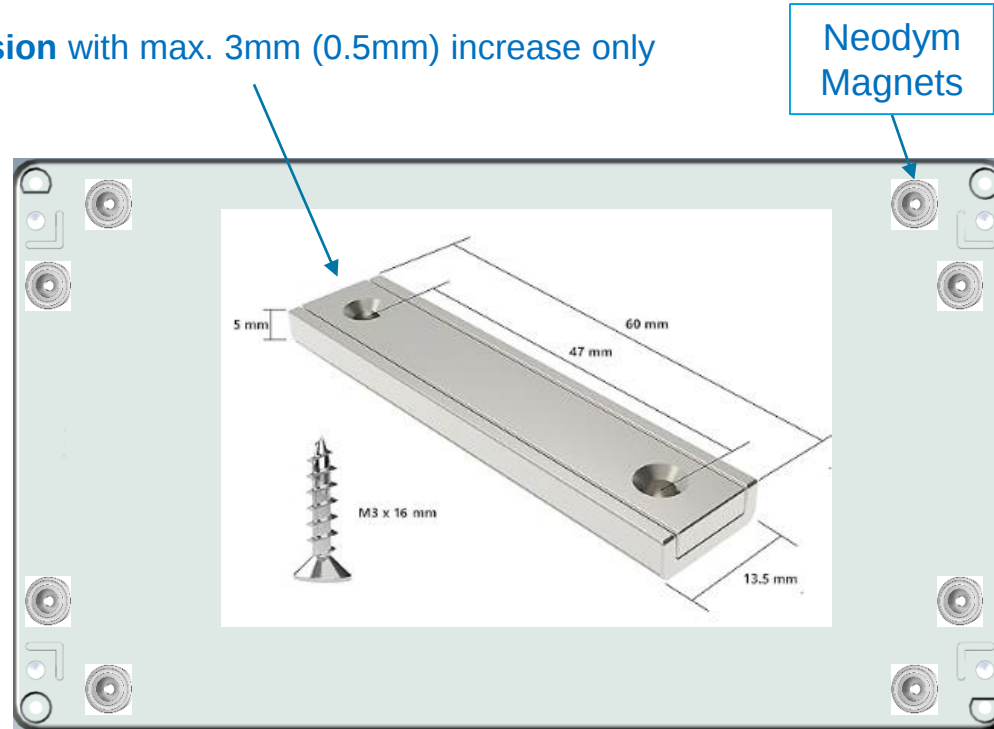


SpoolHub Fixing, e.g. using Neodym Magnets

- ❑ Easy to instal, but increase the height of the SpoolHub a bit
- ❑ better, the **flat version** with max. 3mm (0.5mm) increase only



Magnetpro Countersunk
Pot Magnet, 10 kg Force,
20 x 7 mm with 4mm
Hole



Spoolhub, Status

- ❑ Available
 - ❑ enclosure
 - ❑ FBAP-mini (incl. new 30W DC/DC, THN 30-7212WIR)
 - ❑ FDOR cards
 - ❑ MS connectors (in DESY stock?)
 - ❑ Industry PC „RevPI connect 4“, WLAN | 8GB | 32GB
 - ❑ USB cabling
- ❑ Ordered
 - ❑ Mini-crate parts by nVent | Schroff
- ❑ Still open
 - ❑ Mini-crate adaption / assembly
 - ❑ Cable (-conn.) details
 - ❑ Enclosure milling, connectors holes ...

Battery Box, Status

- ❑ Available
 - ❑ Zarges aluminum box, 600x400x340 mm
 - ❑ 2x LiFePO4 battery, 48V 50Ah, with built-in BMS (Battery Management System)
 - ❑ 2x battery charger
 - ❑ 2x heating mats, 50W
 - ❑ Charger on/off switch
- ❑ Open items
 - ❑ Internal cabling
 - ❑ External cabling