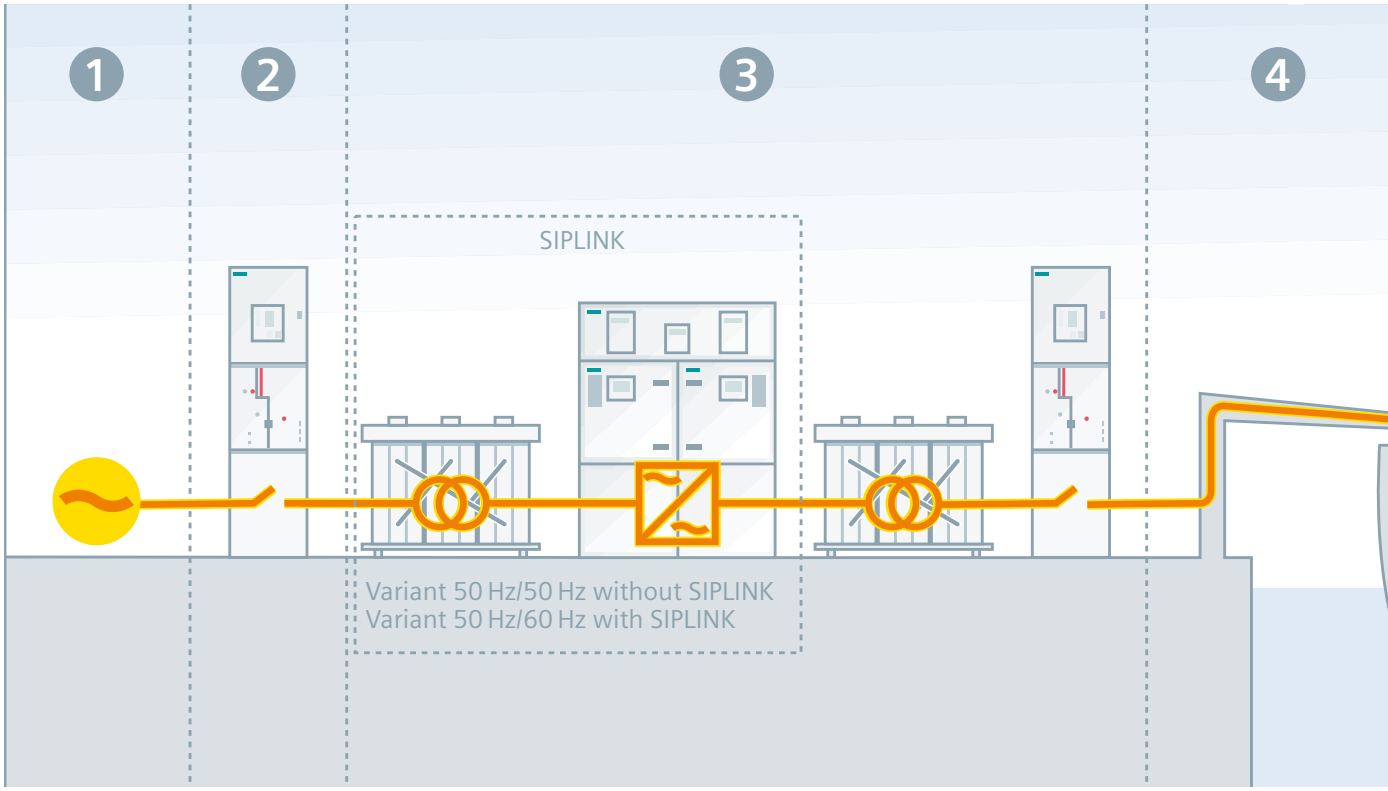


Planning the onshore power supply

When planning a solution for a shoreside power supply, there are a number of various crucial aspects that must be taken into consideration. Right from the planning stage, the power supply requirements should be specified as comprehensively and precisely as possible.

❶ Port infeed

Can the local utility provide the required total power for the planned shoreside connection?

Does the grid dimensioning fullfill the SIHARBOR / SIPLINK requirements?

❷ Port grid

What is the nominal voltage?

What is the nominal frequency?

What grid voltage fluctuations exist (in percent)?

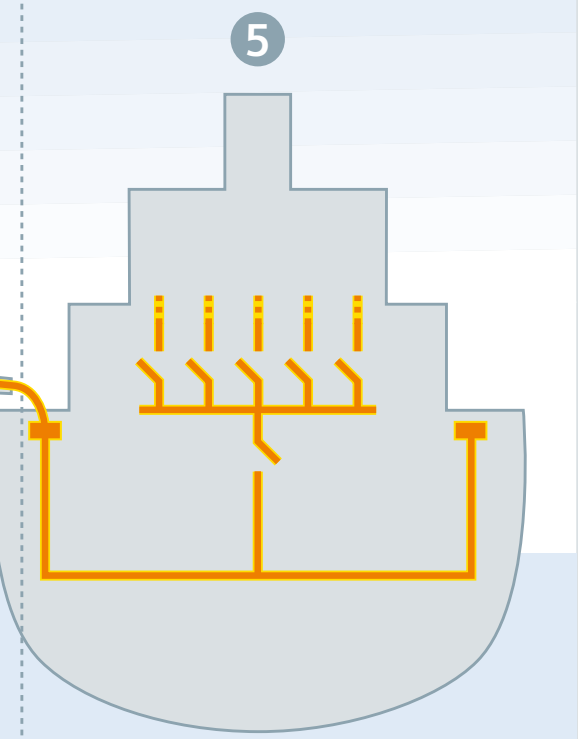
How is the SIHARBOR / SIPLINK system to be fed in?

☐ Existing switchgear systems?
☐ Additional switchgear systems?
☐ New switchgear?

What is the distance from the port grid to the berth (cable length)?

Is power consumption metering required?

☐ Yes ☐ No



1 Port infeed

2 Port grid

3 SIPLINK and distribution with voltage and frequency matching

4 Shoreside ship connection

5 On-board ship connection

3 SIPLINK and distribution

Is there an existing building available for installation of the SIPLINK system?
☐ Yes ☐ No

The following items must be taken into account for installation in a building:

- Will the building support the weight (statics)*?
  ☐ Yes ☐ No
- Is there sufficient space available for the components*?
  ☐ Yes ☐ No
- Are the rooms air-conditioned?
  ☐ Yes ☐ No
- Are the rooms dust-protected?
  ☐ Yes ☐ No
- How far is the distance between converter and heat exchanger?
  _____ meters (heat exchanger has to be outside)

Is the SIPLINK system to be installed in an outdoor container?
☐ Yes ☐ No

Are there requirements with respect to limiting noise?

_____ dB(A) at a distance of _____ meters

How high are the outside temperatures?

Minimum _____ Maximum _____

4 Shoreside ship connection

How many berths are to be supplied?

_____

How many connection points per berth are feasible?

_____

Shall the system be able to connect to different types of ships (container, RoRo, ferries ...) at berth?

_____

What total power output is necessary for each berth?

_____

What is the maximum permissible distance between ship and SIPLINK (for laying the cable)?

_____

5 Shipside connection

Which on-board voltages are to be taken into account?

_____

Which on-board frequencies are to be taken into account?

_____

What is the power requirement of each expected type of vessel?

_____

What total power consumption is expected?

_____

*Example on next page