-Calculation for current from PV: Watt/Voltage
-AWG = AWG Gauge (https://www.powerstream.com/Wire_Size.htm)
-A = Maximum power transmission over a line; and size of fuse or more likely DC-breaker (should at least be 1.25*{A})
-{A} = Actual maximum power transmission

Notes:
-Grounding, e.g. solar panels does not work, because I am connected using a "scheidingstransformator"/isolation transformer, because of having an aluminium boat. You cannot run a ground wire!
-I have been taught to have all lines/cables of the same current, to be in the same colour. I resented that rule, and will not follow it!

Power Source(s)

Power Sorage

Power Consumption

Cabin PV panels 200 W

Arch PV panels 1080 W

100W 100W

360W 360W 360W

10 AWG 15A (4)

7 AWG 30A (15)

BMS - ElectroDacus

Generator

DC System

Main Battery 24V

LiFePo4 [1] 272Ah @ 3.2v

LiFePo4 [2] 272Ah @ 3.2v

LiFePo4 [3] 272Ah @ 3.2v

LiFePo4 [4] 272Ah @ 3.2v

LiFePo4 [5] 272Ah @ 3.2v

LiFePo4 [6] 272Ah @ 3.2v

LiFePo4 [7] 272Ah @ 3.2v

LiFePo4 [8] 272Ah @ 3.2v

MultiPlus-II 24/ 3000/70-32

817 opto-coupler

DSSR20

DSSR20

6 AWG 37A (8)

4 AWG 60A (45)

300 A (53A)

Orion-Tr Smart 24 I 12 - 30 Isolated DC-DC charger

DC-DC Victron Orion-Tr Smart 12/24-30A (720W) Isolated *or if 15A enough?*

Alternator

Sole Diesel

Loc System

Battery Charger

Existing

6 AWG 36A (30A)

Starter Battery AMG 120 aH

Bow Battery AMG 44 aH

Shunt

Bus Bar [3] Negative

Bus Bar [4] Positive

Bus Bar [5] Negative

Bus Bar [6] Positive

Key - Ignition

Start Motor

Bow Thruster

Windlass

3 AWG 75A (53)

2 AWG (70A never DCDC and MP load)

Pro 400A

00 AWG

2 AWG

3 AWG

Shunt 300A 50mV

Shunt 100A 50mV

80A

Bus Bar [1] Negative

Bus Bar [2] Positive

10 AWG

30A

Victron Battery Protect 12/24V-220A

24V DC Distribution Box

10 AWG

9 AWG 20A

9 AWG

12V DC Distribution Box

Orion-Tr DC/DC Conv. 24/12-20 (240W)

Essentials

Non-essentials

SPB1Z-125-C100A

Legend:

MPPT

SmartSolar charge controller MPPT 100 I 30

bluesolar charge controller MPPT 75 I 15

Battery

Fuse

Circuit Breaker

DC-DC Charger

Orion-Tr Smart 12 I 12 - 30 isolated DC-DC charger

NIEUW!

Inverter/Charger

Victron Blue Smart Charger 12v/15a IP22

Shunt

DC Distribution Box

Bus Bar [1] Negative

Alternator