

STECA PF 166-H | STECA PF 240-H

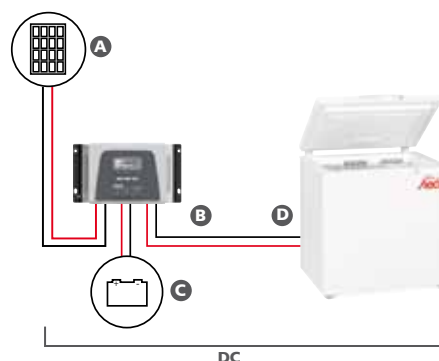
The most cost efficient solution for refrigeration/freezing.

DC versus AC Comparison:

DC versus AC Comparison:			Steca PF 166-H (DC)	AC freezer (A++/A+++) with Solarix PI 500-12
Consumption at 25°C ambient, -20°C inside temperature	Wh/day		525	525
Equivalent on-hours with 70W compressor	Hours/day		7,5	7,5
Inverter consumption when on without load	Watts		0	6
Inverter efficiency				93 %
Inverter losses total	Wh/day			139
Total energy consumption per day	Wh/day		525	664
Insolation Cape Town South Africa, 41° Module angle, June	kWh/m²/day		4,5	4,5
Necessary PV array (30% losses due to dirt, cables, battery, etc.)	Wp		152	192
Necessary 12V battery capacity (at approx. 30% DOD average)	Ah		146	184

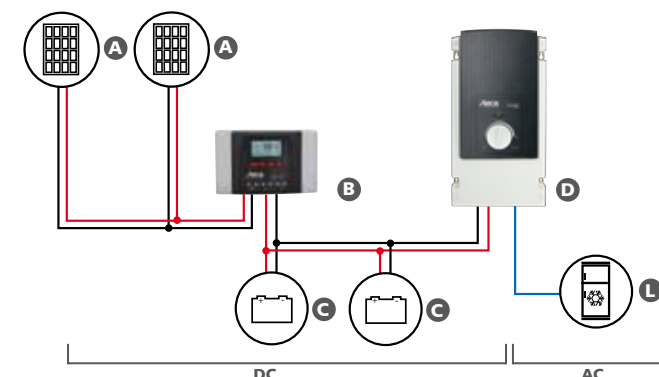
Result:

The AC freezer requires a more than **26%** larger PV array and battery than the Steca PF 166-H, plus the inverter cost!



Key:

- A Solar modules
- B Solar charge controller Steca Solarix MPPT 3020
- C Battery
- D Steca PF 166-H or Steca PF 240-H



Key:

- A Solar modules
- B Solar charge controller Steca Tarom 4545
- C Battery
- D Sine wave inverter
- L Load AC

STECA PF 166-H | STECA PF 240-H

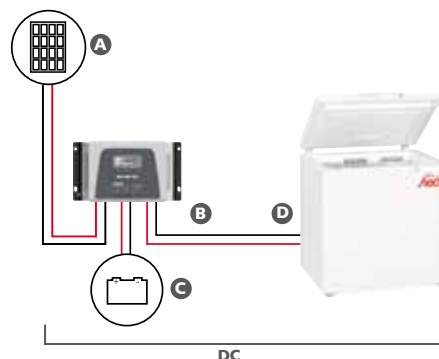
The most cost efficient solution for refrigeration/freezing.

DC versus AC Comparison:

DC versus AC Comparison:			Steca PF 166-H (DC)	AC freezer (A++/A+++ with cheap inverter
Consumption at 25°C ambient, -20°C inside temperature	Wh/day		525	525
Equivalent on-hours with 70W compressor	Hours/day		7,5	7,5
Inverter consumption when on without load	Watts		0	20
Inverter efficiency				85 %
Inverter losses total	Wh/day			423
Total energy consumption per day	Wh/day		525	948
Insolation Cape Town South Africa, 41° Module angle, June	kWh/m²/day		4,5	4,5
Necessary PV array (30% losses due to dirt, cables, battery, etc.)	Wp		152	274
Necessary 12V battery capacity (at approx. 30% DOD average)	Ah		146	263

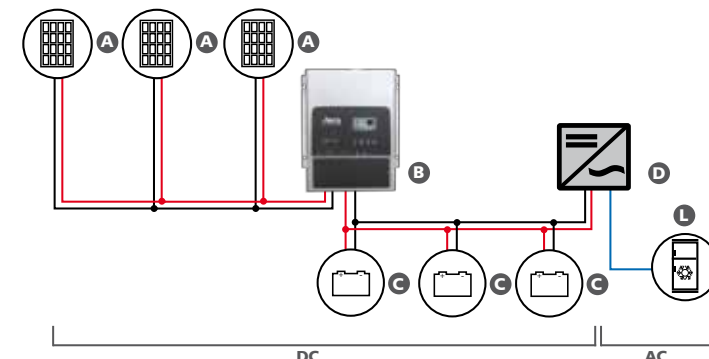
Result:

The AC freezer requires nearly **2x** as large a PV array and battery than the Steca PF 166-H, plus the inverter cost!



Key:

- A Solar modules
- B Solar charge controller Steca Solarix MPPT 3020
- C Battery
- D Steca PF 166-H or Steca PF 240-H



Key:

- A Solar modules
- B Solar charge controller Steca Tarom MPPT 6000-M
- C Battery
- D Cheap inverter
- L Load AC