



**GYLLING**

KVALITET SIDEN 1912

# On Grid - Off Grid

# Off-Grid



# On-Grid

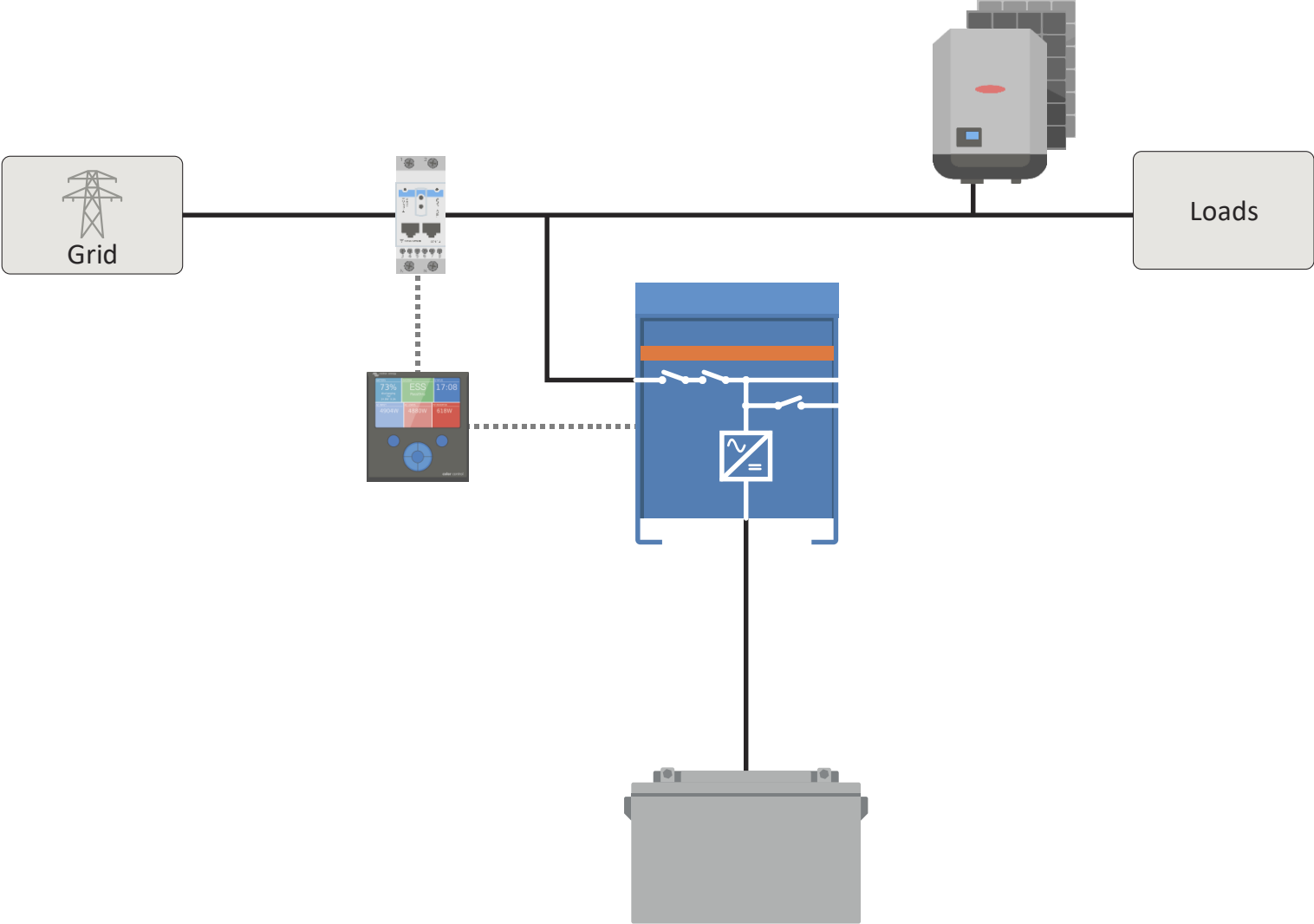


# **Victron ESS System eksempler**

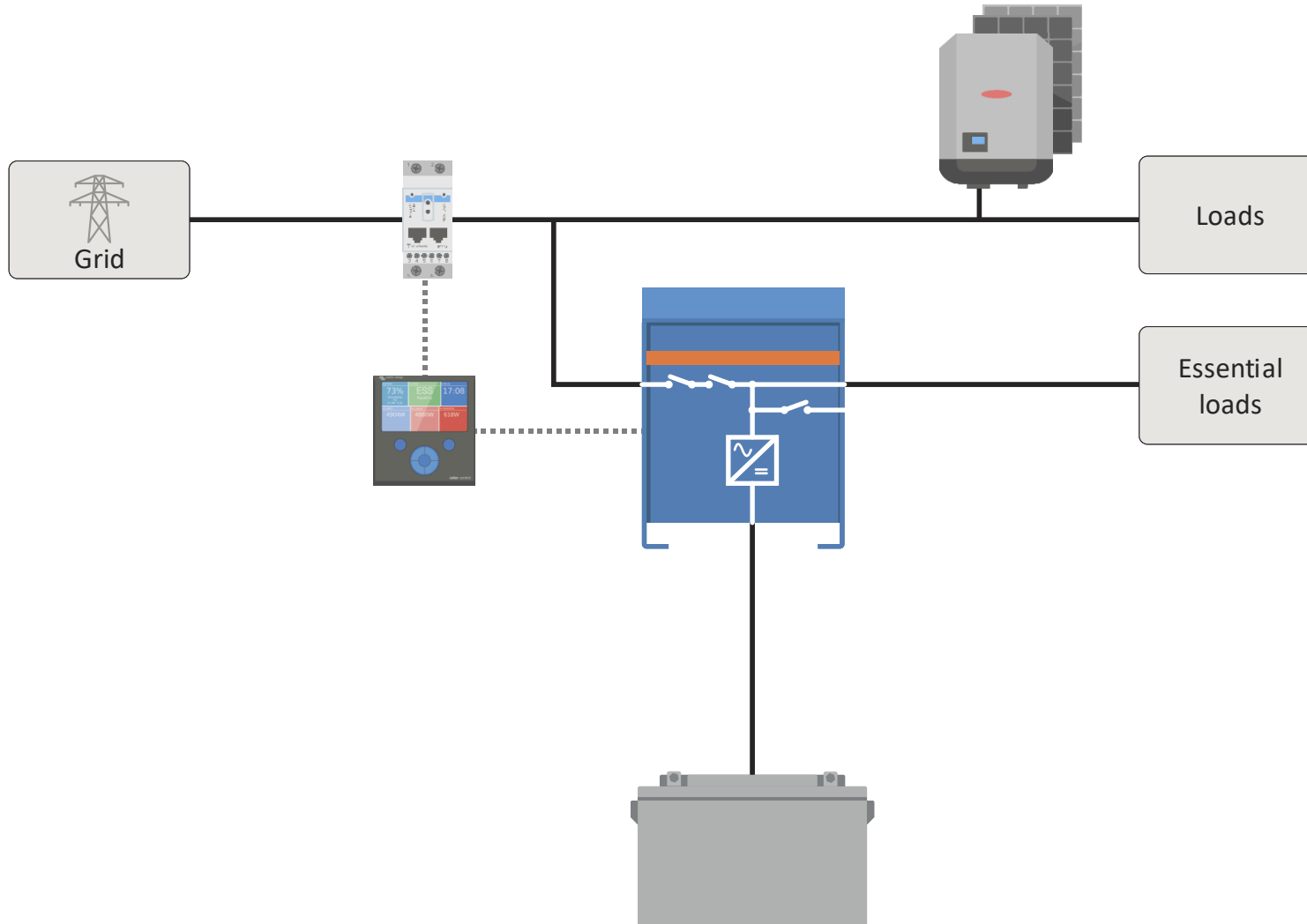
# Typisk anlegg med PV inverter



# Med energilagring

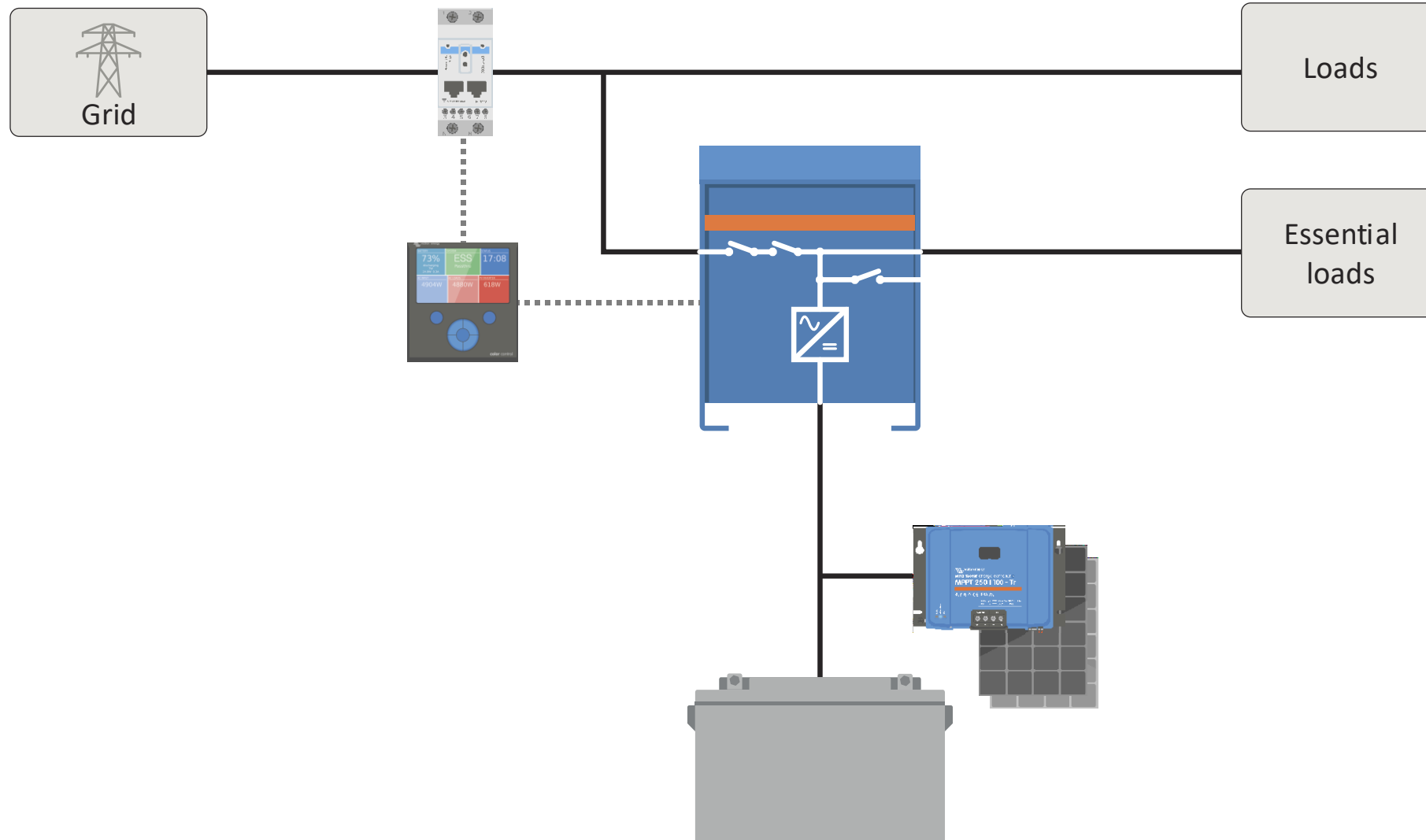


# Batteribackup til kritisk last

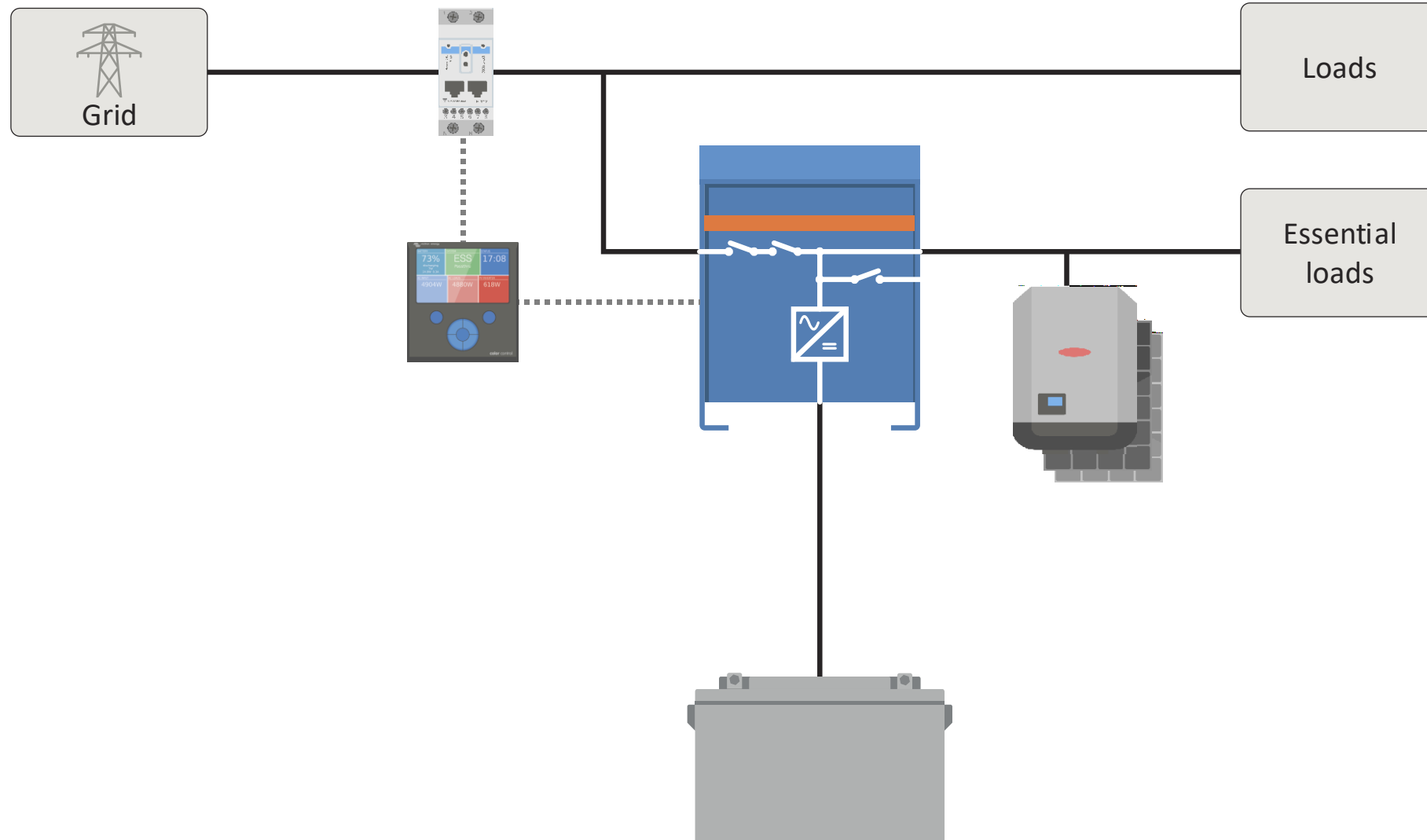




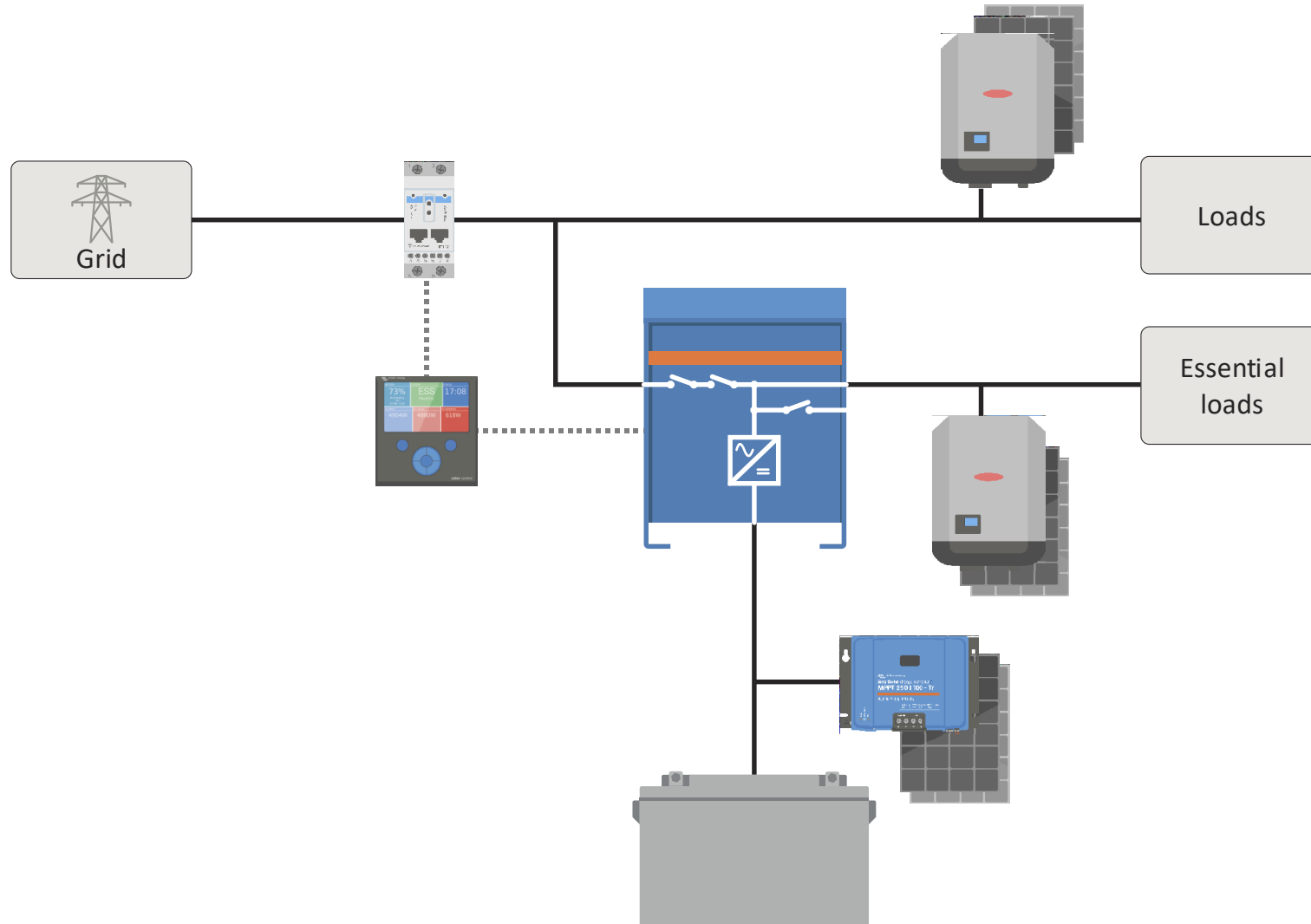
# DC koblet PV



# PV inverter på utgangen



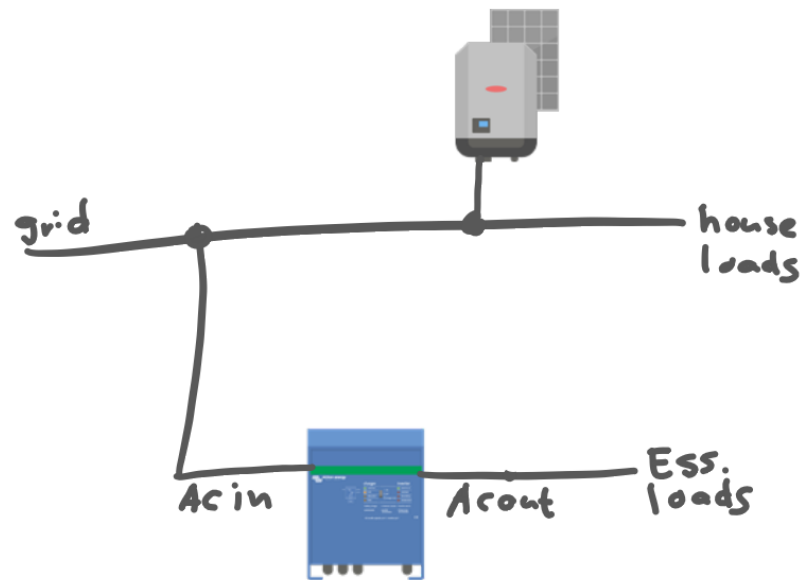
# Kombinasjon



# PV inverter på inngang eller utgang?

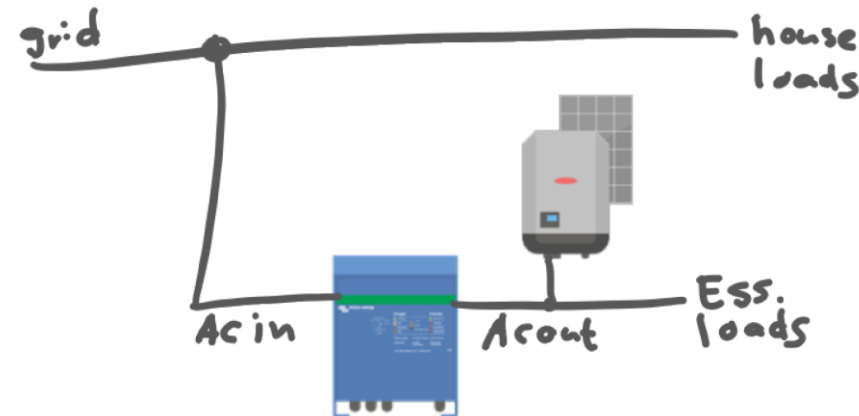
## AC input

- 1.0 regelen gjelder ikke
- Grid inverter stanser hvis grid faller ut



## AC output

- 1.0 regelen gjelder. Grid inverter kan ikke være større enn Victron Multi-enhet
- Kritiske laster vil fortsatt forsynes fra grid inverter hvis grid faller ut
- Grid inverter må kunne detektere frekvens-skift fra Multi



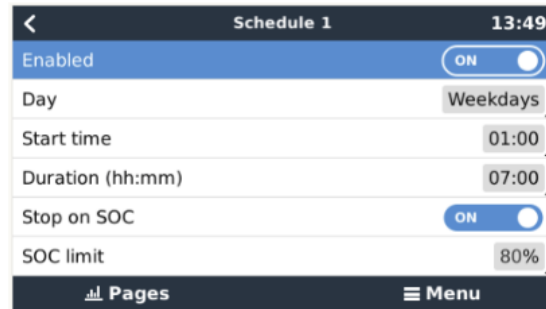
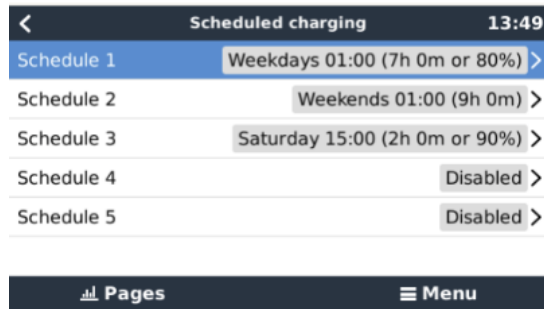


**Styring**

**GYLLING**

# Victron

- Regler for når batteriet vil lades fra grid



# Smarthus Løsninger



Homey

## When...



Victron GX  
The power changed



Victron GX  
Alarm status changed to [[status]] with  
[[alarms]] and [[warnings]]



Victron GX  
Battery status changed to [[status]]



Victron GX  
Battery voltage changed to [[voltage]]



Victron GX  
Grid surplus changed to [[power]] /  
[[single\_phase]] / [[three\_phase]]

## And...



Victron GX  
AC inputs are below



Victron GX  
AC loads are below



Victron GX  
AC outputs are below



Victron GX  
Battery power is below



Victron GX  
Battery SoC is below



Victron GX  
Battery status is

## Then...



Victron GX  
Create charging schedule  for  
 at  with duration



Victron GX  
Disable charging schedule



Victron GX  
Enable charging schedule



Victron GX  
Limit charge current to



Victron GX  
Limit grid feed-in power to



Victron GX  
Limit discharge power to



Victron GX  
Set batteryLife state to



Victron GX  
Switch relay 1 to



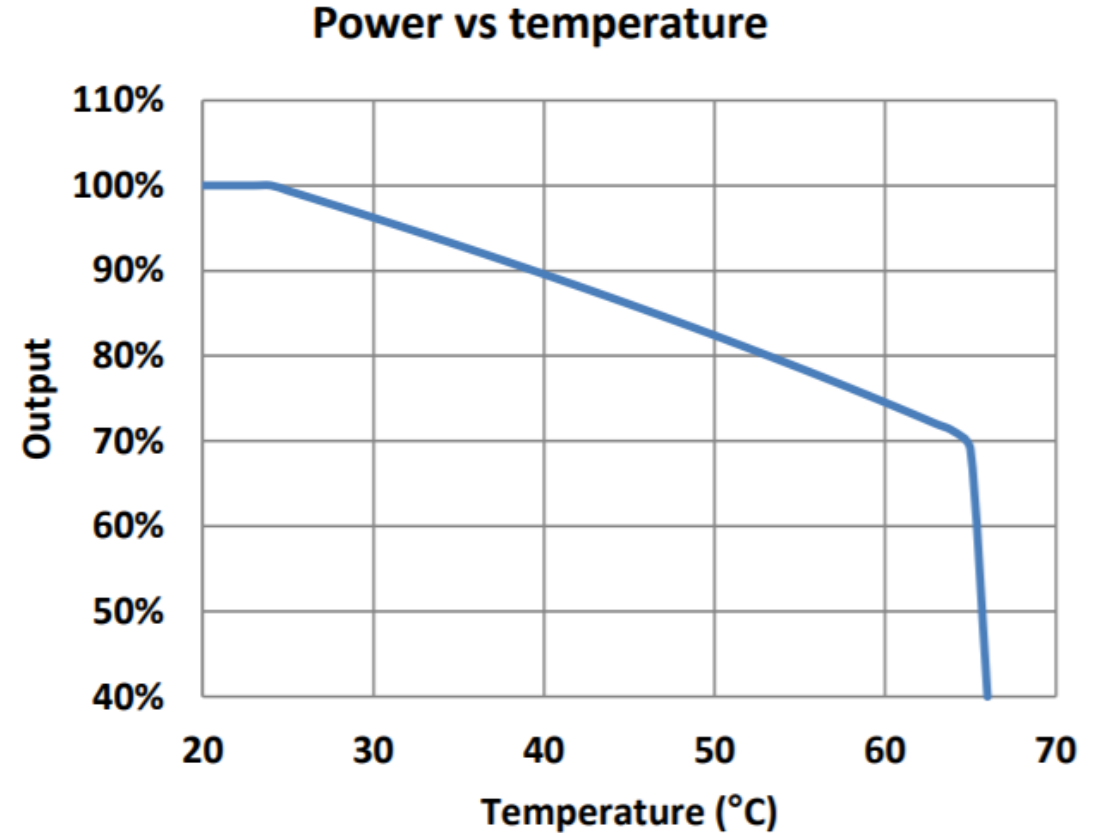
Victron GX  
Switch relay 2 to

# Inverter Dimensjonering



# Temperatur derating

- Redusert effekt ved økt temperatur
- Redusert levetid



# Max effekt

- |   |                                  |                      |
|---|----------------------------------|----------------------|
| 1 | Peak power ( spenning ut faller) | → 30 perioder (50Hz) |
| 2 | Peak power (spenning ut normal ) | → 2 minutter         |
| 3 | 30% overload                     | → 30 minutter*       |

- \*Temperaturavhengig

# Motorlast- Dimensjonering av inverter

- 1-fas motor – 6X Nominell effekt
- 3-fas motor – 3X Nominell effekt



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