Water Heater

Condenser with Fan

Compressor

Heatpump Controller

Outside Unit

Ice Thermal Storage

Temperature Controller

Evaporator with Fan

Inside Unit

Refrigerator Module

Condenser with Fan

Compressor

Temperature Controller

Ice Thermal Storage

Refrigerated Compartment

Refrigerator Unit

Water Tank

Well Pump Controller

Washing Machine

Lamp

DC DC | USB PD Interface

Induction Cooktop

Microwave

Kettle

E27

DC DC | PV Module

DC DC | LED
DC DC | BMS | Battery Module
BMS | Battery Extension

DC DC | PV Mini

DC DC | LED
DC DC | BMS | Battery Mini
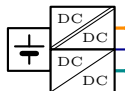BMS

DC DC | LED
DC DC | BMS | Battery Micro
BMS

Smart Home IF

Legend

Electrical Power (MPPT)

Electrical Power (HiPwr)

Electrical Power (ELV)

Rosef CAN Bus

Rosef Serial Interface

Refrigerant Heat Transfer

Secondary Heat Transfer Loop

Component Powered by ELV

Rosef Designed Assembly / PCB

HiPwr Socket / Plug

ELV Socket / Plug

Legend

- Electrical Power (MPPT)
- Electrical Power (ELV)
- Rosef CAN Bus
- Rosef Serial Interface
- Refrigerant Heat Transfer
- Secondary Heat Transfer Loop
- Component Powered by ELV
- Rosef Designed Assembly / PCB
- ELV Socket / Plug

Radiator with Fan

Compressor

Temperature Controller

Ice Thermal Storage

Refrigerated Compartment

Refrigerator Unit

DC/DC USB PD Interface

Lamp

E27

PV Mini

Battery Mini

LED

BMS

BMS

DC/DC

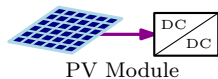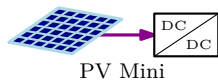PV Module

Battery Extension

LED

BMS

BMS

Battery Module

AC Module

Grid

→ Electrical Power (MPPT)
→ Electrical Power (HiPwr)
→ Electrical Power (ELV)
— Rosef CAN Bus
→ Electrical Power (AC)
☐ Rosef Designed Assembly / PCB

PV Module

AC Module

Battery
Extension

Battery Module

Grid

DC/DC

LED

BMS

DC/AC

Electrical Power (MPPT)
Electrical Power (HiPwr)
Electrical Power (ELV)
Rosef CAN Bus
Electrical Power (AC)
Rosef Designed Assembly / PCB

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
□ Component Powered by ELV
□ Rosef Designed Assembly / PCB

Water Tank

LED

Pump Controller

PV Mini

DC / DC

"Solar street lighting"

"Hybrid street lighting"
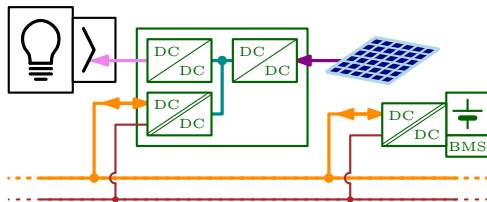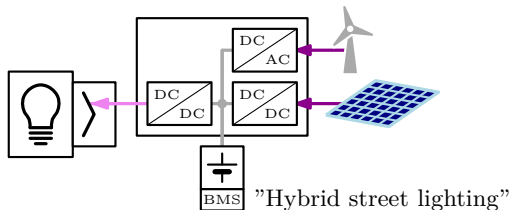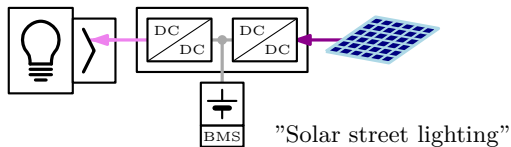
Legend

➤ Electrical Power (MPPT)
➤ Electrical Power (CC)
➤ Electrical Power (ELV)
➤ Electrical Power (HiPwr)
— Ethernet TCP/IP
▢ Rosef Designed Assembly / PCB

SOURCES
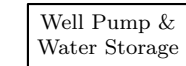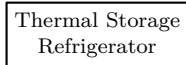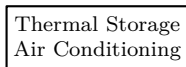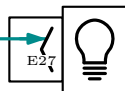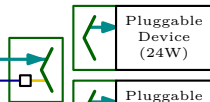
PV Mini

PV Module

STORAGE

Battery Module

Battery Mini

CONTROLABLE LOADS
(Direct Storage)

Thermal Storage
Air Conditioning

Thermal Storage
Refrigerator

Well Pump &
Water Storage

DC
DC

DC
DC

DC
DC

DC
DC

DC
DC

E27

INDEPENDENT LOADS

Pluggable
Device
(24W)

Pluggable
Device
(280W)

Pluggable
Device
(3.4kW)

Legend
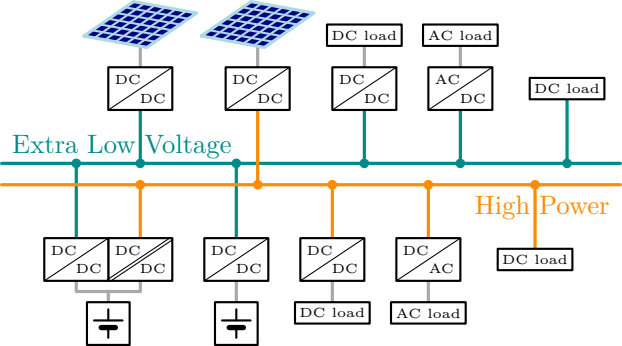
→ Electrical Power (MPPT)

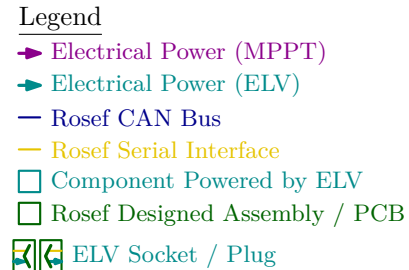→ Electrical Power (HiPwr)

→ Electrical Power (ELV)

— Rosef CAN Bus

— Rosef Serial Interface

HiPwr Socket / Plug

ELV Socket / Plug

Extra Low Voltage

High Power

DC load
AC load
DC load

DC/DC
DC/DC
DC/DC
AC/DC
DC load

DC/DC
DC/DC
DC/DC
DC/DC
DC/AC
DC load

DC load
AC load

STAGE I

ELV Meter

Ventilation

Interior Lighting

E27

E27

Personal Device Charging

DC/DC

Generic Motor Drive

DC/AC

M 3~

PV Mini

Battery Mini

ELV Socket

DC/DC

DC/DC

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
— Rosef Serial Interface
□ Component Powered by ELV
□ Rosef Designed Assembly / PCB
ELV Socket / Plug

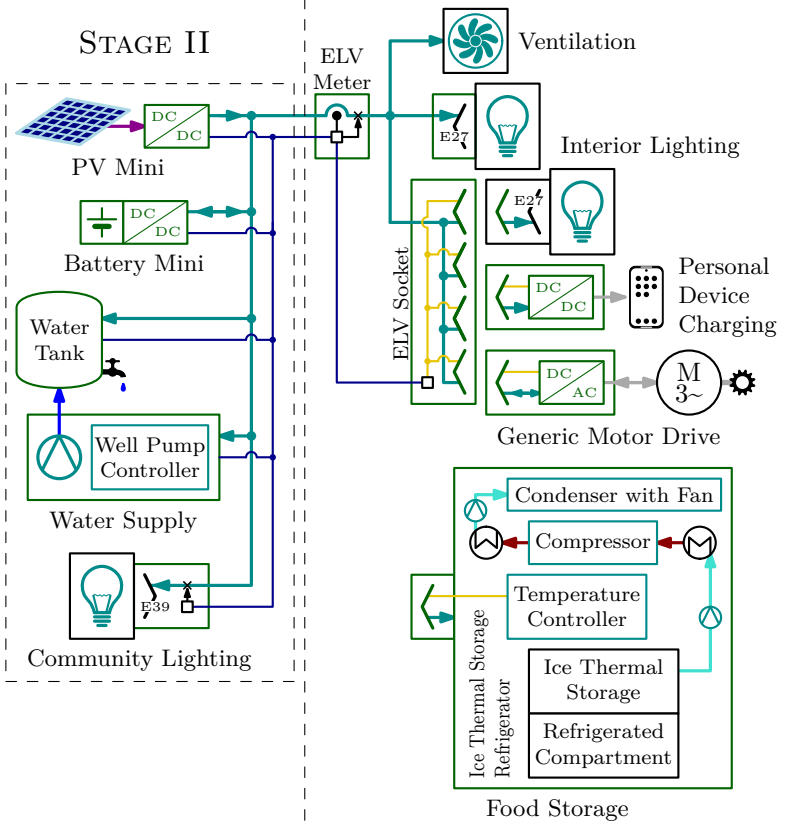STAGE II

PV Mini

Battery Mini

Water Tank

Water Supply
Well Pump Controller

Community Lighting
E39

ELV Meter

Ventilation

Interior Lighting
E27

ELV Socket
E27

Personal Device Charging
DC/DC

Generic Motor Drive
DC/AC
M 3~

Food Storage
Condenser with Fan
Compressor
Temperature Controller
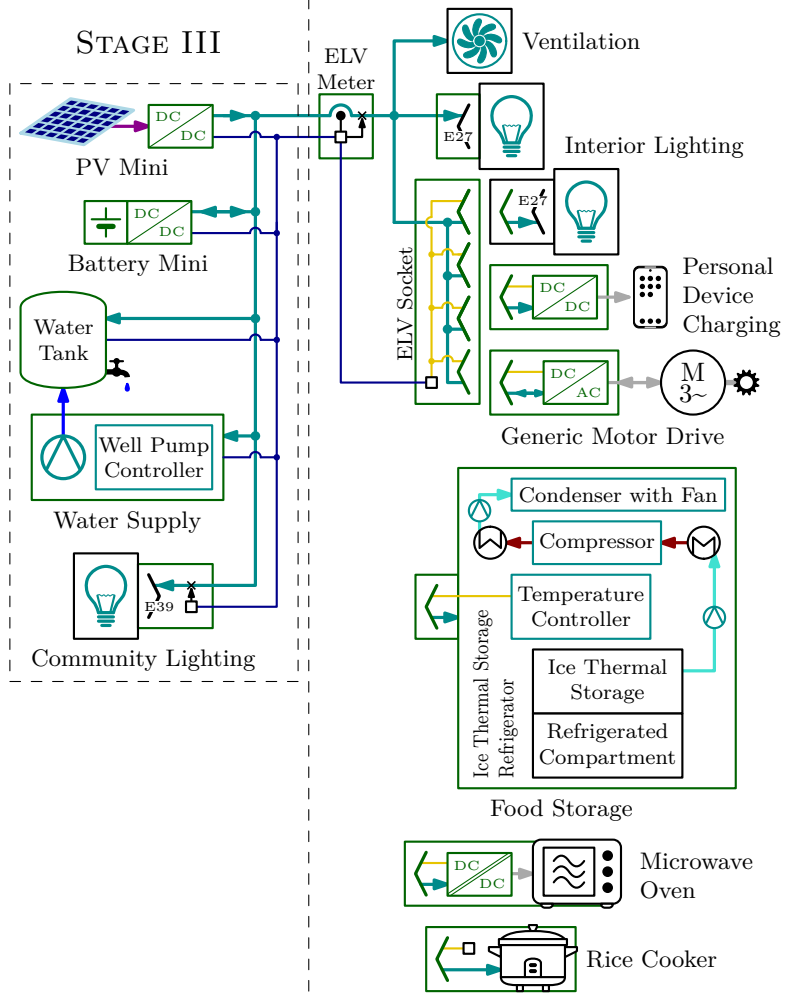Ice Thermal Storage
Refrigerated Compartment
Ice Thermal Storage Refrigerator

Legend

Electrical Power (MPPT)
Electrical Power (ELV)
Rosef CAN Bus
Rosef Serial Interface
Component Powered by ELV
Rosef Designed Assembly / PCB
ELV Socket / Plug

STAGE III

PV Mini

Battery Mini

Water Tank

Well Pump Controller

Water Supply

Community Lighting

ELV Meter

Ventilation

Interior Lighting

ELV Socket

Personal Device Charging

Generic Motor Drive

M 3~

Condenser with Fan

Compressor

Temperature Controller

Ice Thermal Storage

Refrigerated Compartment

Ice Thermal Storage Refrigerator

Food Storage

Microwave Oven

Rice Cooker

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
— Rosef Serial Interface
□ Component Powered by ELV
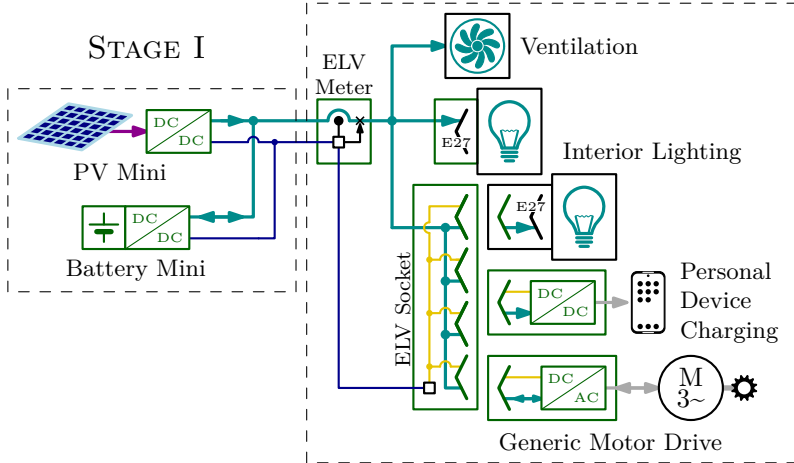□ Rosef Designed Assembly / PCB
⟨ ⟨ ELV Socket / Plug

STAGE I

PV Mini

Battery Mini

ELV Meter

Ventilation

Interior Lighting

ELV Socket

Personal Device Charging

Generic Motor Drive

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
— Rosef Serial Interface
□ Component Powered by ELV
□ Rosef Designed Assembly / PCB
ELV Socket / Plug

STAGE II
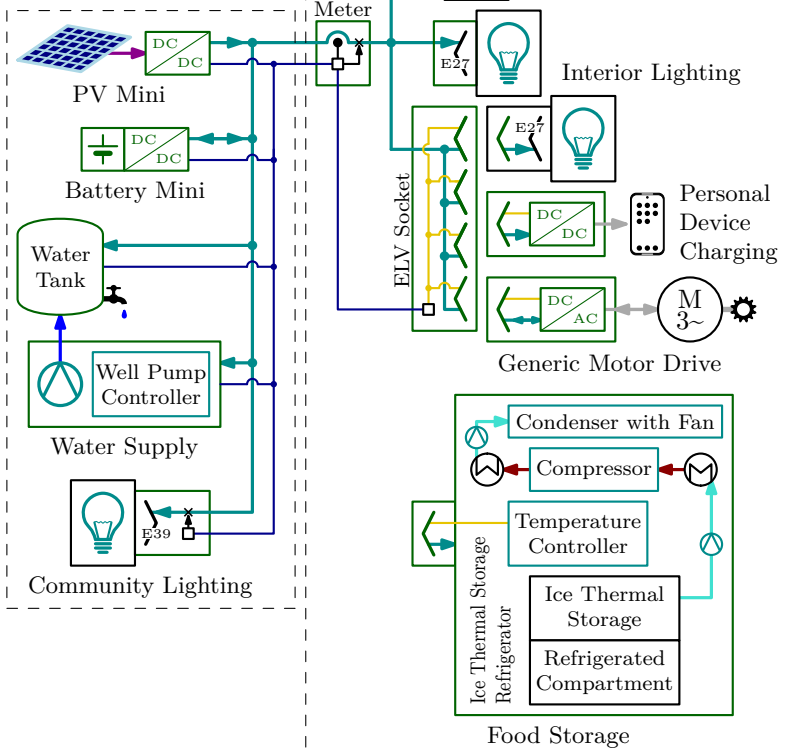
PV Mini

Battery Mini

Water Tank

Water Supply

Well Pump Controller

Community Lighting

ELV Meter

Ventilation

Interior Lighting

ELV Socket

Personal Device Charging

Generic Motor Drive

Condenser with Fan

Compressor

Temperature Controller

Ice Thermal Storage

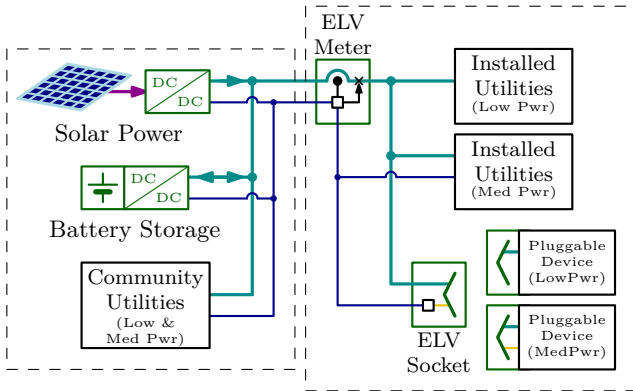Refrigerated Compartment

Ice Thermal Storage Refrigerator

Food Storage

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
— Rosef Serial Interface
□ Component Powered by ELV
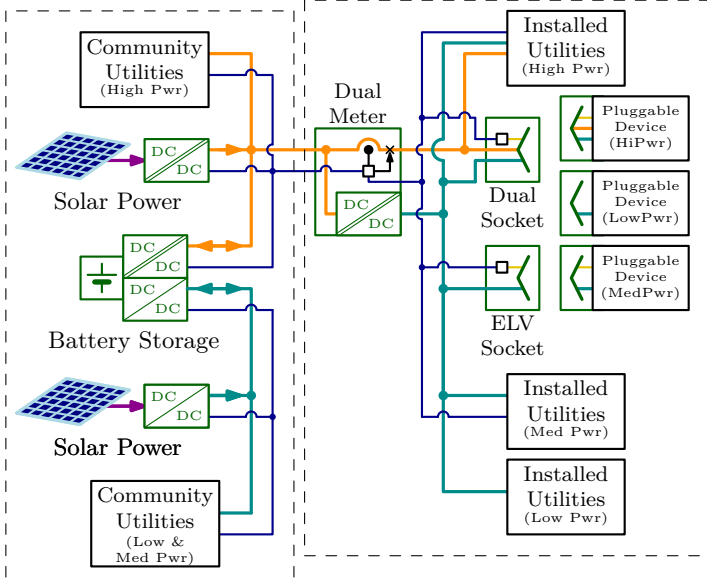□ Rosef Designed Assembly / PCB
◁ ◁ ELV Socket / Plug

ELV CONCEPT

Legend

→ Electrical Power (MPPT)
→ Electrical Power (ELV)
— Rosef CAN Bus
— Rosef Serial Interface
□ Component Powered by ELV
□ Rosef Designed Assembly / PCB
⟨| |⟩ ELV Socket / Plug

DUAL CONCEPT

Legend

- → Electrical Power (MPPT)
- → Electrical Power (ELV)
- → Electrical Power (HiPwr)
- ── Rosef CAN Bus
- ── Rosef Serial Interface
- □ Component Powered by ELV
- □ Rosef Designed Assembly / PCB
- ⧨ ⧨ ELV Socket / Plug
- ⧨ ⧨ Dual Socket / Plug

Community Utilities (High Pwr)

Solar Power

DC/DC

Battery Storage

DC/DC
DC/DC

Solar Power

DC/DC

Community Utilities (Low & Med Pwr)

Dual Meter

DC/DC

Installed Utilities (High Pwr)

Dual Socket

ELV Socket

Pluggable Device (HiPwr)

Pluggable Device (LowPwr)

Pluggable Device (MedPwr)

Installed Utilities (Med Pwr)

Installed Utilities (Low Pwr)