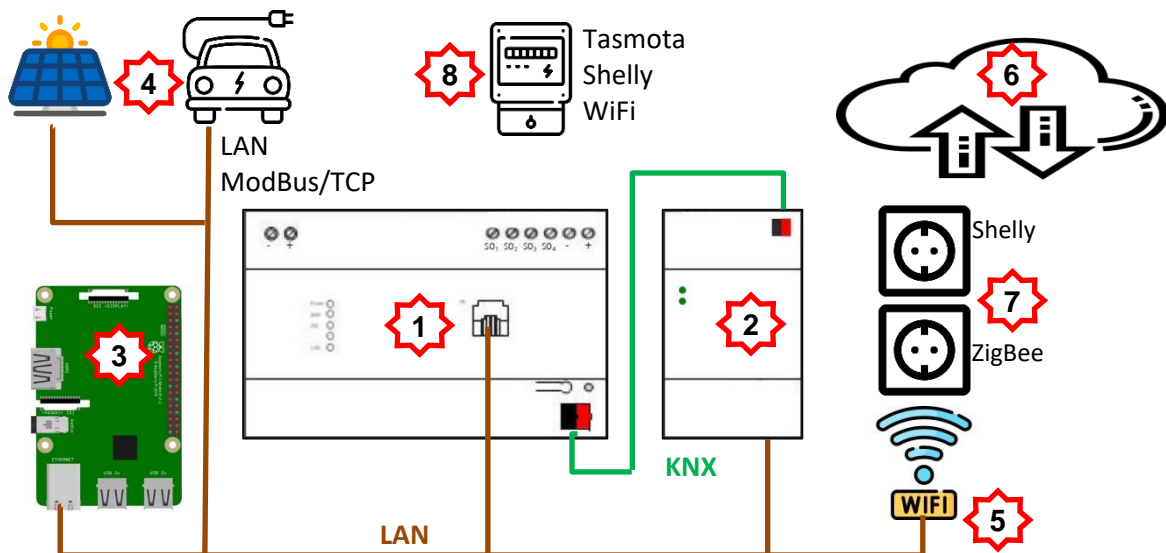


PV Energy monitoring / management system integration

Task

Basic KNX system with energy management and visualisation, integration of wireless plugs for energy recording and switching (via HUB or bridge), reading and control of PV/charging technology (ModBus, cloud), reading of meter values from the house central e.meter as a control basis, integration in the local IP network or its cloud management.



- (1) **KNX central unit and interface** (energy management visualisations for mobile end devices and stationary operating units/ PC displays, user administration, logic editor, IP interface, API integration e.g. Shelly and Tasmota, database connection/ MariaDB, WEB applications and services such as weather, PV forecast ...)
- (2) **IP-KNX application manager** (integration of PV and charging technology ModBUS, integration of other BUS systems energy sockets e.g. ZigBee, HomeMatic, Rutenbeck, DigitalSTROM, ELDAT, free@home and many others...)
- (3) **Bridge**, gateways, server, HUB (on Raspberry module) for internal network and access via https (e.g. MQTT, ZigBee, Z-wave)
- (4) **PV and charging technology** value recording in clouds and/or e.g. via IP ModBus
- (5) Network **router** (LAN / WLAN); network management and access to local IP devices (KNX over IP, ModBus TCP, Shelly, Tasmota, etc.)
- (6) Access to **cloud** applications (e.g. inverters, Shelly, etc.)
- (7) **Energy plug** (Shelly, ZigBee, HomeMatic, Z-wave, etc.)
- (8) House **central e.meter** of the energy supplier, reading meter values e.g. with Tasmota, transmission to KNX

Note

If the manufacturers of the inverters and charging technology offer comprehensive analyses, these should continue to be used. Only values required for energy management should be transferred to your own system in order to prevent system overload. Balanced data management must be ensured in order to guarantee the processing of control commands and scenarios.