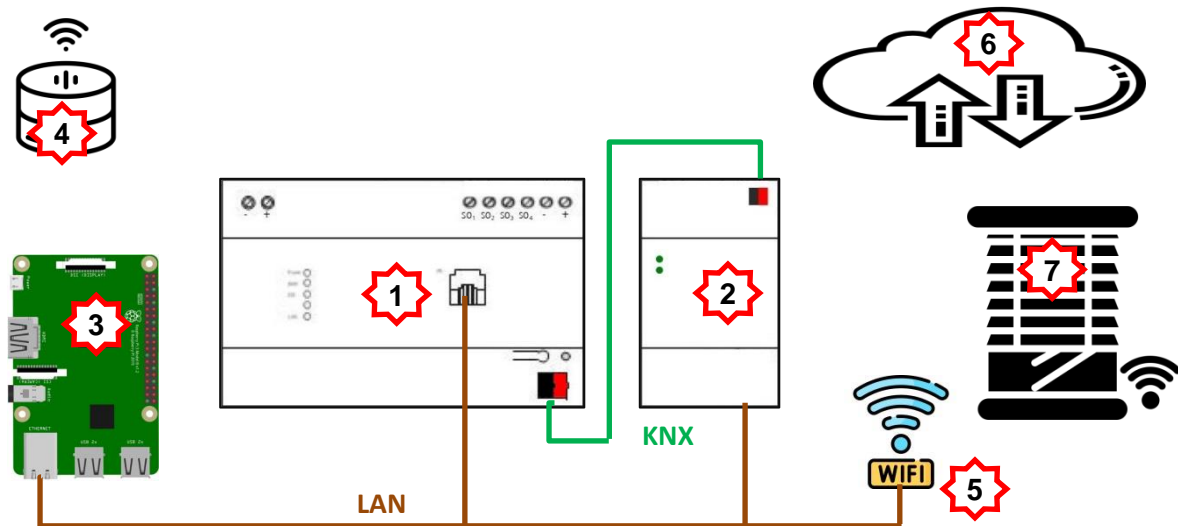


## Comprehensive (All-In-One) smart home integration

### Task

Basic KNX system with visualization, integration of wireless systems (Z-wave, ZigBee, HomeMatic, etc. via HUB or bridge), audio systems with integration modules or via http request to local IP devices or their cloud management.



- (1) **KNX central unit and interface** (visualizations for mobile end devices and stationary operating units/ PC displays, user management, logic editor, IP interface, API integration, voice control interface, database connection/ MariaDB, WEB applications and services such as weather, traffic, maps, news ...)
- (2) **IP-KNX application manager** (integration of AV systems, PV and charging technology, integration of other BUS systems e.g. ModBUS, ZigBee, HomeMatic, Rutenbeck, DigitalSTROM, ELDAT, free@home and many others...)
- (3) **Bridge**, gateways, server, HUB (on Raspberry module) for internal network and access via http (e.g. MQTT, ZigBee, Z-wave)
- (4) **HUB** for voice control (Alexa, Google Home, Siri)
- (5) Network **router** (LAN / WLAN); network management and access to local IP devices (KNX over IP, Shelly, Tasmota, etc.)
- (6) Access to **cloud** applications (voice control, home appliance technology, TUYA, Tasmota, etc.)
- (7) **Wi-Fi devices** (household technology, measurement technology, sensors)

### Notes

Due to the wide variety of devices and functionality, it is hardly possible to fully integrate all SUB systems into the KNX. A selection must therefore be made as to which functions belong in a central control system. The SUB systems must not lose their independence.

Balanced data management must be ensured in order to guarantee the processing of control commands and scenarios.

Due to constant technical developments, a smart home system should have a flexible structure so that it can be further adapted to the needs of the user.

Despite the variety and complexity, the user must be able not only to understand the system intuitively, but also to adapt functions themselves.