Saunum Modbus interface

SPECIFICATION

1. **Brief description of Modbus feature:**
   Modbus TCP communication feature is necessary to integrate the LEIL control system to a building automation system. This document describes briefly the requirements on the LEIL side – configuration menu, configuration parameters, data structure for control parameters.

2. **Installation recommendations**
   Home automation devices that support ModbusTCP protocol are recommended. Otherwise use translation device to integrate with suitable protocol.

3. **Installation steps**

   - Make sure LEIL touch panel software version is v1.1.0 or higher

   - Intesis Modbus master to KNX gateway or similar should be used

   - Make sure the LEIL touch panel is connected to the same router network as Modbus master device

   - Configuration of the Modbus master device must be made according to table given in chapter 7.
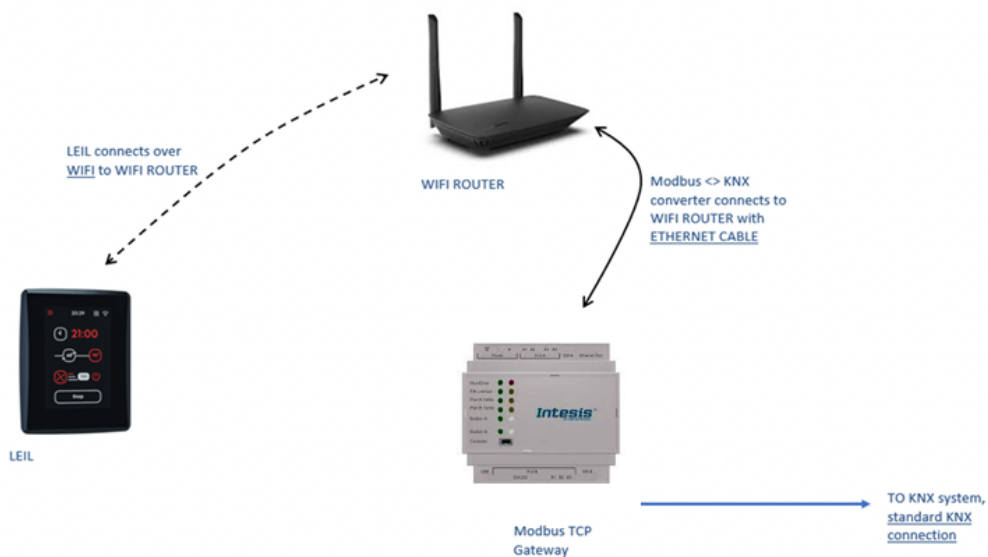
Picture 1 - System setup

4. **Tested devices**
   Intesis Modbus master to KNX gateway

5. **Modbus TCP parameters**

    LEIL touch panel -> Settings -> ModbusTCP

6. **Modbus slave configuration parameters**

    LEIL touch panel IP address

    LEIL touch panel port number

7. **Parameter structure**

    Registers begin with address 0(40001), each register is 16bit integer

Table 1 - Read/Write parameters

Name	Address	Read/Write	Description	Values	Logic
Sauna session active	0	RW	Sauna on/off	Off = 0, Active=1	
Sauna type	1	RW	Stored sauna type Changes have no effect while sauna session is active	0,1,2	
Sauna duration	2	RW	Sauna duration in minutes Changes have no effect while sauna session is active	minutes (0-720)	0 = type defined
Fan duration	3	RW	Fan duration in minutes Changes have no effect while sauna session is active	minutes (0-30)	0 = type defined
Temperature setpoint	4	RW	Temperature setpoint in 1°C resolution	40-100°C	0 = type defined
Fan speed	5	RW	Fan speed	0,1,2,3	0 = off
Light	6	RW	Light on/off	Off = 0, On = 1	
Reserved	7-99				
Current temperature	100	R	Current temperature in 1°C resolution	°C	
On time high	101	R	Sauna on time high bits	32 bit seconds	
On time low	102	R	Sauna on time low bits		
Heatrer status	103	R	Heaters on/off	Number of heating elements active	0 = off
Door status	104	R	Door open/closed	Closed=0, Open=1	
Reserved	105-199				
Alarm Door open	200	R	Door is lef open during heating stage	Clear=0, Active=1	
Alarm Door sensor	201	R	Door is left open for too long	Clear=0, Active=1	
Alarm Thermal cutoff	202	R	Thermal cutoff	Clear=0, Active=1	
Alarm internal temp	203	R	Internal temp overheating	Clear=0, Active=1	
Alarm temp sensor shorted	204	R	Temp sensor shorted	Clear=0, Active=1	
Alarm temp sensor not connected	205	R	Temp sensor not connected	Clear=0, Active=1	