

Samsung WindFree air-conditioner & Grenton

This tutorial presents the integration of WindFree air-conditioners series from Samsung with Grenton Smart Home system.

To integrate Samsung's WindFree air conditioners via Modbus RTU protocol, an additional interface is required to enable communication. The following instruction uses the interface - `Modbus Interface Module MIM-B19N`.

The following manual is based on the information provided [here](#).

This integration allows, i.e.:

- reading the status of the device and its switching on/off,
- reading and setting the operation mode,
- reading and setting the target temperature,
- reading and setting of room temperature,
- reading and setting the fan speed.

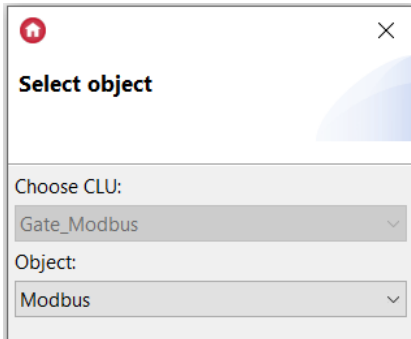
The presented configuration was performed on:

- Object Manager v.1.5.1 (build 214101),
- Gate Modbus v1.1.0 (build 2034C) - `Gate_Modbus`
- WindFree series air-conditioner from Samsung

To integrate Grenton system with Samsung's air-conditioner, please follow the steps described below.

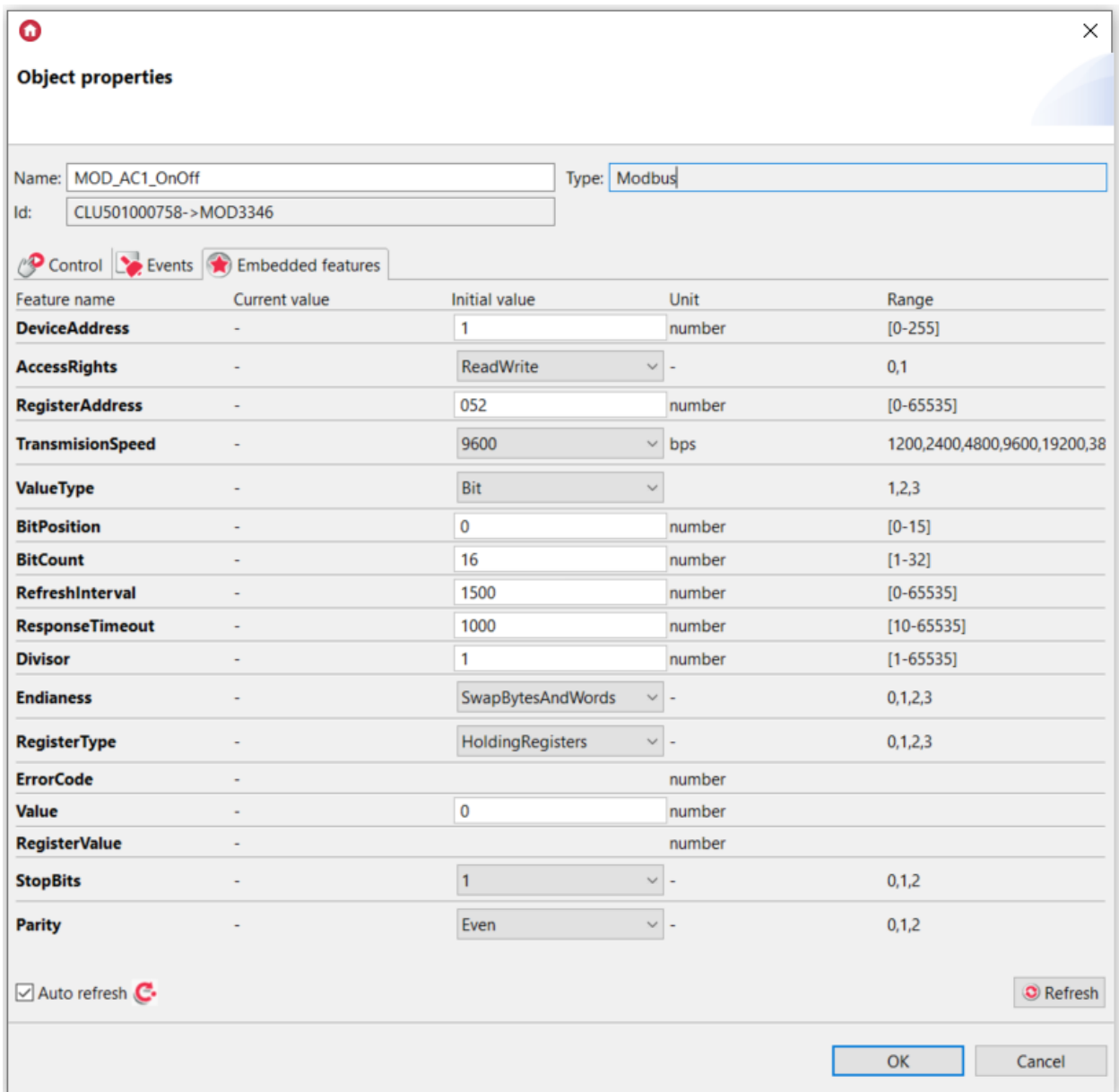
Configuration of Modbus virtual objects

1. Add Modbus virtual objects of Gate_Modbus module.



2. Enter values of Embedded features of Modbus virtual objects as follows:

- reading the status of the device and its switching on/off



- reading and setting the operation mode

Object properties

Name: Type:

Id:

Control
 Events
 Embedded features

Feature name	Current value	Initial value	Unit	Range
DeviceAddress	-	<input type="text" value="1"/>	number	[0-255]
AccessRights	-	<input type="text" value="ReadWrite"/>	-	0,1
RegisterAddress	-	<input type="text" value="053"/>	number	[0-65535]
TransmissionSpeed	-	<input type="text" value="9600"/>	bps	1200,2400,4800,9600,19200,38
ValueType	-	<input type="text" value="Bit"/>	-	1,2,3
BitPosition	-	<input type="text" value="0"/>	number	[0-15]
BitCount	-	<input type="text" value="16"/>	number	[1-32]
RefreshInterval	-	<input type="text" value="1500"/>	number	[0-65535]
ResponseTimeout	-	<input type="text" value="1000"/>	number	[10-65535]
Divisor	-	<input type="text" value="1"/>	number	[1-65535]
Endianess	-	<input type="text" value="SwapBytesAndWords"/>	-	0,1,2,3
RegisterType	-	<input type="text" value="HoldingRegisters"/>	-	0,1,2,3
ErrorCode	-		number	
Value	-	<input type="text" value="0"/>	number	
RegisterValue	-		number	
StopBits	-	<input type="text" value="1"/>	-	0,1,2
Parity	-	<input type="text" value="Even"/>	-	0,1,2

Auto refresh

- reading and setting the target temperature

Object properties
✕

Name: Type:

Id:

Control
 Events
 Embedded features

Feature name	Current value	Initial value	Unit	Range
DeviceAddress	-	<input type="text" value="1"/>	number	[0-255]
AccessRights	-	ReadWrite <input type="button" value="v"/>	-	0,1
RegisterAddress	-	<input type="text" value="058"/>	number	[0-65535]
TransmissionSpeed	-	9600 <input type="button" value="v"/>	bps	1200,2400,4800,9600,19200,38
ValueType	-	Bit <input type="button" value="v"/>		1,2,3
BitPosition	-	<input type="text" value="0"/>	number	[0-15]
BitCount	-	<input type="text" value="16"/>	number	[1-32]
RefreshInterval	-	<input type="text" value="1500"/>	number	[0-65535]
ResponseTimeout	-	<input type="text" value="1000"/>	number	[10-65535]
Divisor	-	<input type="text" value="1"/>	number	[1-65535]
Endianness	-	SwapBytesAndWords <input type="button" value="v"/>	-	0,1,2,3
RegisterType	-	HoldingRegisters <input type="button" value="v"/>	-	0,1,2,3
ErrorCode	-		number	
Value	-	<input type="text" value="0"/>	number	
RegisterValue	-		number	
StopBits	-	1 <input type="button" value="v"/>	-	0,1,2
Parity	-	Even <input type="button" value="v"/>	-	0,1,2

Auto refresh

- reading and setting of room temperature

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Object properties

Name: Type:

Id:

Control
 Events
 Embedded features

Feature name	Current value	Initial value	Unit	Range
DeviceAddress	-	<input type="text" value="1"/>	number	[0-255]
AccessRights	-	<input type="text" value="Read"/>	-	0,1
RegisterAddress	-	<input type="text" value="059"/>	number	[0-65535]
TransmissionSpeed	-	<input type="text" value="9600"/>	bps	1200,2400,4800,9600,19200,38
ValueType	-	<input type="text" value="Bit"/>	-	1,2,3
BitPosition	-	<input type="text" value="0"/>	number	[0-15]
BitCount	-	<input type="text" value="16"/>	number	[1-32]
RefreshInterval	-	<input type="text" value="1500"/>	number	[0-65535]
ResponseTimeout	-	<input type="text" value="1000"/>	number	[10-65535]
Divisor	-	<input type="text" value="1"/>	number	[1-65535]
Endianess	-	<input type="text" value="SwapBytesAndWords"/>	-	0,1,2,3
RegisterType	-	<input type="text" value="HoldingRegisters"/>	-	0,1,2,3
ErrorCode	-		number	
Value	-	<input type="text" value="0"/>	number	
RegisterValue	-		number	
StopBits	-	<input type="text" value="1"/>	-	0,1,2
Parity	-	<input type="text" value="Even"/>	-	0,1,2

Auto refresh

- reading and setting the fan speed

Object properties
✕

Name: Type:

Id:

Control
 Events
 Embedded features

Feature name	Current value	Initial value	Unit	Range
DeviceAddress	-	<input type="text" value="1"/>	number	[0-255]
AccessRights	-	<input type="text" value="ReadWrite"/>	-	0,1
RegisterAddress	-	<input type="text" value="054"/>	number	[0-65535]
TransmissionSpeed	-	<input type="text" value="9600"/>	bps	1200,2400,4800,9600,19200,...
ValueType	-	<input type="text" value="Bit"/>	-	1,2,3
BitPosition	-	<input type="text" value="0"/>	number	[0-15]
BitCount	-	<input type="text" value="16"/>	number	[1-32]
RefreshInterval	-	<input type="text" value="1500"/>	number	[0-65535]
ResponseTimeout	-	<input type="text" value="1000"/>	number	[10-65535]
Divisor	-	<input type="text" value="1"/>	number	[1-65535]
Endianess	-	<input type="text" value="SwapBytesAndWords"/>	-	0,1,2,3
RegisterType	-	<input type="text" value="HoldingRegisters"/>	-	0,1,2,3
ErrorCode	-		number	
Value	-	<input type="text" value="0"/>	number	
RegisterValue	-		number	
StopBits	-	<input type="text" value="1"/>	-	0,1,2
Parity	-	<input type="text" value="Even"/>	-	0,1,2

Auto refresh

Note! The Modbus interface address is set using the DIP-Switches and the Rotary-Switch. Please, refer to the documentation for a detailed description. In this manual, device's address is set to 1.

Note! Number of register (`RegisterAddress`) is related to the address of indoor unit. Please, refer to the documentation for a detailed description (`Modbus Register Table`). In this manual, indoor unit's address is set to 0.

3. Send the created configuration to the `Gate_Modbus` module.

The unit can be controlled via the Smart Panel or the myGrenton mobile app.

