

Modbus RTU Master	
Com Port	xx
Baud rate	9600
Data Bits	8
Parity	none
Stop Bits	1
Flow Control	none

1. Clever ansluts enbart mot BMS via Modbus via port RTU2. (Observera att RTU1 ej får användas)
2. Modbus slingan som Clever ansluts mot, måste ha ett motstånd installerat vid slingans första och sista punkt.
3. Via Modbus kan BMS övervaka Clever, genom att läsa av larm, driftstatus samt aktuella temperaturer.
4. Via Modbus kan BMS också styra Clever on/off, samt ändra börvärde.
5. Om ni vill styra lufridåns funktioner helt via BMS - kontakta Curant för rådgivning.

Modbus Command	Observations	Digits
Node	xx	Modbus adress, ex: 02
Function	03 or 04	To read parameters
	6	To write 1 parameter
	10	To write multiple paramters of functions with bits
Starting Address	xx	First adress we read/write
Number of points	xx	When reading = quantity of parameters
Data	xx	When writing = parameter value

Modbus characteristics: Databits (8), Parity (None), Stop Bits (1), Flow Control (None)  
Assembled and Send Command in Binary  
Clever PCB is 0 based addressing, meaning that the Modbus table start from address 0.

### Reading

Node	Function	Starting address Hexadecimal	Starting address Decimal	Number of points	Concept	Answer (Hexadecimal)
01	03	300C	12300	0001	ON/OFF	ON=1, OFF=0
01	03	1016	4118	0001	Fan Speed	0,1,2,3,4,5
01	03	1017	4119	0001	Heating	ON=1, OFF=0
01	03	3028	12328	0001	Heating (proportional)	Water 0-10000 Hundredth Volts in Decimal converted to Hexadecimal
01	03	300D	12301	0001	Set Point Temperature	Hexadecimal
01	03	1007	4103	0001	Temperature (TFT by default, if activated)	Hexadecimal
01	03	1008	4104	0001	Temperature sensor TS1 (if connected)	Hexadecimal
01	03	1009	4105	0001	Temperature sensor TS2 (if connected)	Hexadecimal
01	03	100A	4106	0001	Temperature sensor TS3 (if connected)	Hexadecimal
01	03	200C	8204	0012	Device Name	Hexadecimal 0000 if default (Unit xx)
01	03	2035	8245	0001	Energy Saving Mode	0=Comfort, 1=Medium, 2=Eco
01	03	3000	12288	0002	Door State	BIT 3,4 00= Door Closed 01= Closing Door 10= Opening Door 11= Door Open
01	03	3000	12288	0002	Filter State	BIT 21,22 00= Filter Clean 01= Filter Getting Dirty 10= Filter Dirty
01	03	3000	12288	0002	Heating Bloqued (by program)	BIT 16 = 1
01	03	3000	12288	0002	Ventilation Bloqued (by program)	BIT 17 = 1
01	03	3002	12290	0002	Alarm: General	BIT 0 = 1
01	03	3002	12290	0002	Alarm: Overheating	BIT 1 = 1
01	03	3002	12290	0002	Alarm: Autocooling	BIT 2 = 1
01	03	3002	12290	0002	Alarm: Dirty Filter	BIT 3 = 1
01	03	3002	12290	0002	Alarm: TK fan (thermocontact)	BIT 4 = 1
01	03	3002	12290	0002	Alarm: Electrical Heating Blocked	BIT 5 = 1
01	03	3002	12290	0002	Alarm: Insufficient Air Flow	BIT 6 = 1
01	03	3002	12290	0002	Alarm: Fire ON	BIT 7 = 8
01	03	3002	12290	0002	Alarm: Fire OFF	BIT 8 = 1
01	03	3002	12290	0002	Alarm: Temperature Sensor	BIT 9 = 1
01	03	3002	12290	0002	Alarm: Fan RPM	BIT 10 = 1
01	03	3002	12290	0002	Alarm: External Stop	BIT 11 = 1
01	03	3002	12290	0002	Alarm: External	BIT 12 = 1
01	03	3002	12290	0002	Alarm: Anti Freezing	BIT 15 = 1
01	03	3002	12290	0002	Alarm: Heat Pump	BIT 16 = 1
01	03	3002	12290	0002	Alarm: TK fan blocked	BIT 17 = 1
01	03	3002	12290	0002	Alarm: EC fan	BIT 18 = 1

### Writing

Node	Function	Starting Address	Starting	Number of points	Concept	Parameter Value (Hex)
01	06	300C	12300	0001	ON/OFF Unit	ON=1, OFF=0
01	06	203B	8251	0001	Set Point Temperature	Hundredth of °C in Decimal (22°C is 2200 so 0898)
01	10	F051	61521	0001 (Bytes 02)	Send via Modbus, outside temperature (*)	Hundredth of °C in Decimal (22°C is 2200 so 0898)

\* Broadcast (00) the temperature to PCB at least every 25 seconds.

Note, no sensor can be connected as outdoor sensor to the PCB to use this function.