

 AIR COMFORT
AIR TREATMENT
9458 GB

# MODBUS RS485

» TECHNICAL INSTRUCTION

## MODBUS RS485

### DESCRIPTION

RS485 has two connections, A and B. Often there is also a protective earth, ground. RS485 units are connected A to A and B to B. You may have to shift A and B in order for Modbus to work.

RS485 is so called half duplex communication:

Communication can only go in one direction at a time;

i. e. the master will first send an enquiry and will then listen for the reply. A and B are used for both transmission and reception.

### CONNECTION TO CONTROL BOARD

A to terminal 70

B to terminal 67

Ground to terminal 68

See figure to the right.

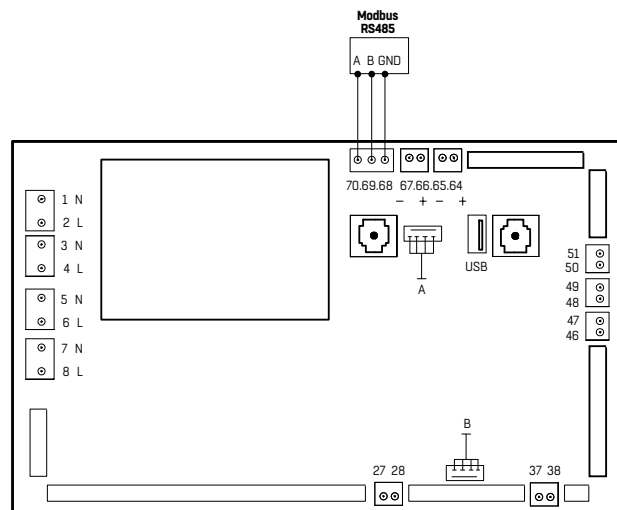
Default settings for RS485 communication is:

Com speed 19200

Parity None

Data bits 8

Stop bits 1



### PRESENTATION

1 bit status are presented as 0=off and 1=on

1 bit alarm are presented as 0=Normal and 1=Alarm

16 bit real values are presented in their actual value.

E.g. %, Pa, l/s

### DECIMALS

When Modbus are using a 16 bit register to handle real values, a factor must be used to have decimals.

All temperature values and set points have a factor 10 and must then be divided/multiplied with 10 in the Master device.

**COILS**

Address	R / R/W <sup>1)</sup>	Description	Comment	I/O	Range	Default	Ecostar	Housing
00013	R	External timer 1		DI1	Yes/No	x	x	
00014	R	External timer 2		DI2	Yes/No	x	x	
00020	R	Pressure switch, supply filter		DI5	Yes/No	x		
00022	R	Pressure switch, exhaust filter		DI6	Yes/No	x		
00025	R	Cooker hood switch		UI2	Yes/No		x	
00033	R	By-pass Damper		DO5	Yes/No	x		
00085	R	Summer/Winter Mode			1=Summer 0=Winter	x	x	
00094	R	Fire alarm	Alarm		Yes/No	x	x	
00095	R/W	Sensor error supply temp.	Alarm		Yes/No	x	x	
00096	R/W	Sensor error out door temp.	Alarm		Yes/No	x	x	
00097	R/W	Sensor error extract/room temp.	Alarm		Yes/No	x	x	
00098	R	Sensor error frost protect. Post h.	Alarm		Yes/No	x	x	
00105	R/W	Dirty filter	Alarm		Yes/No		x	
00106	R/W	Supply fan error	Alarm		Yes/No	x	x	
00107	R/W	Extract fan error	Alarm		Yes/No	x	x	
00108	R/W	Post heater out of range	Alarm		Yes/No	x	x	
00109	R/W	Pre heater out of range	Alarm		Yes/No	x	x	
00110	R/W	Frost alarm PHE	Alarm		Yes/No	x		
00111	R/W	RHE failure	Alarm		Yes/No		x	
00112	R/W	Filter alarm, supply air	Alarm		Yes/No	x		
00113	R/W	Filter alarm, exhaust air	Alarm		Yes/No	x		
00114	R/W	Over heating electrical heater	Alarm		Yes/No	x		
00115	R	Pump/ heater malfunction	Alarm		Yes/No	x		
00116	R	Freezing hot water battery	Alarm		Yes/No	x		
00117	R/W	Summary alarm cooler	Alarm		Yes/No	x		
00118	R/W	Pump/ cooling malfunction	Alarm		Yes/No	x		

**HOLDING REGISTER**

Address	R / R/W <sup>1)</sup>	Description	Comment	I/O	Range	Default	Ecostar	Housing
40025	R	Supply air	Temperature	AI1	-40,0 - +100,0° C	x	x	
40026	R	Out door air	Temperature	AI2	-40,0 - +100,0° C	x	x	
40027	R	Extract/room air	Temperature	AI3	-40,0 - +100,0° C	x	x	
40028	R	Freezing protection post heater	Temperature	AI4	-40,0 - +100,0° C	x	x	
40030	R	Cold corner defrost air	Temperature	AI5/UI1	-40,0 - +100,0° C	x		
40032	R	CO2	Air quality	AI6	0-2000 ppm	x	x	
40035	R	Humidity 1	Humidity	AI9	0-100 %rH		x	
40036	R	Humidity 2	Humidity	AI8	0-100 %rH		x	
40037	R	Pressure supply air		AI7/UI2	0-1000 Pa	x		
40038	R	Pressure extract air		AI8/UI5	0-1000 Pa	x		
40039	R	Airflow supply air	Calculated		0- ? m <sup>3</sup> /h	x		
40040	R	Airflow extract air	Calculated		0- ? m <sup>3</sup> /h	x		
40041	R	Fan speed, Supply air	Signal	A01	0-100 %	x	x	
40042	R	Fan speed, Extract air	Signal	A02	0-100 %	x	x	
40043	R	Post heating	Signal	A03	0-100 %	x	x	
40044	R	Pre heating	Signal	A04	0-100 %	x	x	
40045	R	Cooling	Signal	A05	0-100 %	x		
40046	R	Rotary heat exchanger	Signal	A06	0-100 %		x	
40049	R/W	Set point	Temperature		15,0-35,0° C	18x	x	
40054	R/W	Min supply air temperature	Temperature		15,0-35,0° C	15x	x	
40055	R/W	Max supply air temperature	Temperature		15,0-35,0° C	35x	x	
40078	R/W	Supply fan speed trickle	Speed		30-100 %	30	x	
40079	R/W	Supply fan speed home	Speed		30-100 %	55	x	
40080	R/W	Supply fan speed boost	Speed		30-100 %	75	x	
40081	R/W	Supply fan speed cooker hood	Speed		30-100 %	30		
40082	R/W	Supply fan speed fireplace	Speed		30-100 %	100		
40083	R/W	Extract fan speed trickle	Speed		30-100 %	30	x	
40084	R/W	Extract fan speed home	Speed		30-100 %	55	x	
40085	R/W	Extract fan speed boost	Speed		30-100 %	75	x	
40086	R/W	Extract fan speed cooker hood	Speed		30-100 %	100		
40087	R/W	Extract fan speed fireplace	Speed		30-100 %	30		
40275	R	Active TemperatureSetpoint	Temperature		0,5-50,5° C	x	x	
40073	R/W	Set point CO2	Air quality		0-2000 ppm	800	x	x
40213	R/W	Main switch	0=Stop, 1 = Auto 2=Manual 3=Fire place		0-3	x	x	
40202	R/W	Basic HMI speed	0=Trickle 1=Normal 2=Boost		0-2	x	x	
40277	R/W	Dirty filter alarm time	0=Filter alarm disabled		0-600 days	180	x	

1) R = Read only      R/W = Read/Write



# WE BRING BETTER AIR TO LIFE

Fläkt Woods is a global leader in air management. We specialize in the design and manufacturing of a wide range of air climate and air movement solutions. Our product brands such as SEMCO<sup>®</sup>, Econet<sup>®</sup>, Veloduct<sup>®</sup>, Optivent<sup>®</sup>, and Cleanvent<sup>®</sup> are well-known and trusted by customers all over the world to deliver Air Comfort and Fire Safety.

Our collective experience is unrivalled. We are constantly aiming to provide systems that precisely deliver required function and performance, as well as maximum energy efficiency.

WWW.FLAKTWOODS.COM

2014.07.02

See global website for international sales offices: [www.flaktwoods.com](http://www.flaktwoods.com)