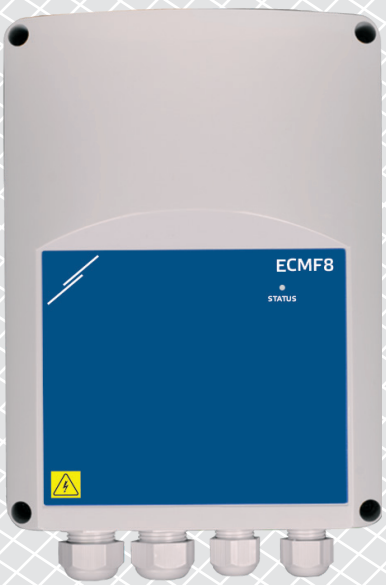
Destratification | AC fans

Destratification



MODBUS REGISTER MAP

INPUT REGISTERS

		Data type	Description	Data	Values
1	Analogue / Modulating input 1 value	unsigned int.	Measured input value 1 when voltage / current / PWM/ digital input selected	0—1.000	600 = 60,0% 1000 = 100,0 %
2			Reserved, returns 0		
3	AO1 output value	unsigned int.	Output Value of AO1	0 – 1.000	100 = 10% Output
4	AO1 operating mode	unsigned int.	Operating Mode of AO1	0—3	0 = OFF 1 = Voltage 2 = Current 3 = PWM
5	TI 1 Measured RPM	unsigned int.	Measured RPM Input 1	0 - 10000	0 = Stop or signal loss 100 = RPM
6 - 7			Reserved, returns 0		
8	Temperature delta	unsigned int.	Measured difference between temperature sensor T1 and temperature sensor T2	0 – 300	99 = 9,9 °C
9-12			Reserved, returns 0		
13	AO2 output value	unsigned int.	Output Value of AO2	0 – 1000	100 = 10 % Output
14	AO2 operating mode	unsigned int.	Operating Mode of AO2	0 - 3	0 = OFF 1 = Voltage 2 = Current 3 = PWM
15	TI 2 Measured RPM	unsigned int.	Measured RPM Input 2	0 – 10000	0 = Stop or signal loss 100 = 100 RPM
16-29			Reserved, returns 0		
30	Device State	unsigned int.	Device status	0 – 65535	Bit 5: Tacho input 2 error - (0 = OK, 1 = Fault) Bit 4: Tacho input 1 error - (0 = OK, 1 = Fault) Bit 3: Tacho input 2 error - (0 = OK, 1 = Fault) Bit 2: Tacho input 1 error - (0 = OK, 1 = Fault) Bit 1: Sensor 2 (outside) communication status (0 = OK, 1 = Lost) Bit 0: Sensor 1 (outside) communication status (0 = OK, 1 = Lost)

Note: The input registers can be read via the Modbus command: “Read input registers”.

HOLDING REGISTERS

		Data type	Description	Raw data range	Default values	Values	
1	Device slave address	unsigned int.	Modbus device address	1 - 247	1		
2	Modbus baud rate	unsigned int.	Modbus communication baud rate	0 – 6	2	0 = 1 = 2 = 3 = 4 = 5 = 6 =	4.800 9.600 19.200 38.400 57.600 115.200 230.400
3	Modbus parity	unsigned int.	Parity check mode	0—2	1	0 = 1 = 2 =	8N1 8E1 8O1
4	Device type	unsigned int.	Device type (Read only)	ECMF8-AO-DM = 2108 ECMF8-AO-WF = 2109 ECMF8-AO-EW = 2110			
5	HW version	unsigned int.	Hardware version of the device (Read only)	XXXX		0 x 0100 =	HW version 1.0
6	FW version	unsigned int.	Firmware version of the device (Read only)	XXXX		0 x 0100 =	FW version 1.0
7			Reserved, returns 0				
8	Modbus Time Out	unsigned int.	Time Out Of Modbus, after which the output is set to OFF	0 - 60	0	0 = 1 = 60 =	Time Out – Min Value 1 min 60 min
9	Modbus network bus termination (NBT)	unsigned int.	Set device as end device of the line / or not by connecting NBT	0 - 1	0	0 = 1 =	disconnected connected
10	Modbus registers reset	unsigned int.	Resets Modbus Holding registers to default values. When finished this register is automatically reset to '0'	0 - 1	0	0 = 1 =	Idle Reset Modbus Registers
11-17			Reserved, returns 0				
18	Minimum output 1 value	unsigned int.	Output 1 minimum value	100 - 600	300	300 = 600 =	30% 60%

HOLDING REGISTERS

		Data type	Description	Raw data range	Default values	Values	
19	Maximum output 1 value	unsigned int.	Output 1 maximum value	600 - 1.000	1.000	600 = 1.000 =	60% 100%
20	Output overwrite 1 value	unsigned int.	Value overwrite for output 1	0 - 1.000	0	0 = 400 = 1.000 =	OFF 40% 100%
21-22			Reserved, returns 0				
23	Temperature delta offlevel (dToff)	unsigned int.	Temperature difference between sensor 1 (T1) minus sensor 2 (T2) to have output switched off.	5 – 15	10	10 =	1,0 °C
24	Minimum temperature delta (dTmin)	unsigned int.	Minimum temperature difference between sensor 1 (T1) minus sensor 2 (T2) to have minimum output level.	20 - 40	20	20 =	2,0 °C
25	Maximum temperature delta (dTmax)	unsigned int.	Maximum temperature difference between sensor 1 (T1) minus sensor 2 (T2) to have maximum output level.	50 – 150	50	50 = 150 =	5,0 °C 15,0 °C
26	Output overwrite enable	unsigned int.	Enable manual overwrite	0 - 1	0	0 = 1 =	Automatic Overwrite
27	Hysteresis	unsigned int.	Enable manual overwrite	0 – dToff	2	10 =	1,0 °C
28	Tacho Input 1 Enable	unsigned int.	Tacho Input 1 enable/disable.	0 - 1	0	0 = 1 =	OFF ON
29	Tacho Input 1 Setup	unsigned int.	Setup number of pulses per revolution for tacho signal of the motor.	1 – 100			
30-39			Reserved, returns 0				
40	Analogue / Modulating Output 1 mode	unsigned int.	Analogue / Modulating output 1 working mode	0 - 3	1	0 = 1 = 2 = 3 =	OFF Voltage Current PWM
41	AO1 PWM Voltage Source selection	unsigned int.	AO1 PWM voltage source	0 – 1	0	0 = 1 =	+12 VDC Open Collector

HOLDING REGISTERS

		Data type	Description	Raw data range	Default values	Values	
42	PWM Frequency	unsigned int.	Select the PWM frequency of the outputs AO1 and AO2	1 - 8	1	1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 =	1 kHz 2 kHz 3 kHz 4 kHz 5 kHz 6 kHz 7 kHz 8 kHz
43	Analogue / Modulating Output 2 mode	unsigned int.	Analogue / Modulating output 2 working mode	0 - 3	1	0 = 1 = 2 = 3 =	OFF Voltage Current PWM
44	AO2 PWM Voltage Source selection	unsigned int.	AO2 PWM voltage source	0 - 1	0	0 = 1 =	+12 VDC Open Collector
45-47			Reserved, returns 0				
48	Tacho Input 2 Enable	unsigned int.	Tacho Input 2 enable / disable.	0 - 1	0	0 = 1 =	OFF ON
49	Tacho Input 2 Setup	unsigned int.	Setup number of pulses per revolution for tacho signal of the motor.	1 - 100	1		
50-51			Reserved, returns 0				
52	LED's brightness control	unsigned int.	The intensity of the LED 2	0 - 10	5	0 = 1 = 2 = 3 = 4 = 5 = 6 = 7 = 8 = 9 = 10 =	Off 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
53-60			Reserved, returns 0				

Note: The holding registers can be managed via the following Modbus commands: "Read Holding Registers", "Write Single Register" or "Write Multiple Registers".

The free Sentera configuration and monitoring software 3SModbus can be downloaded via: https://www.sentera.eu/en/3smcenter