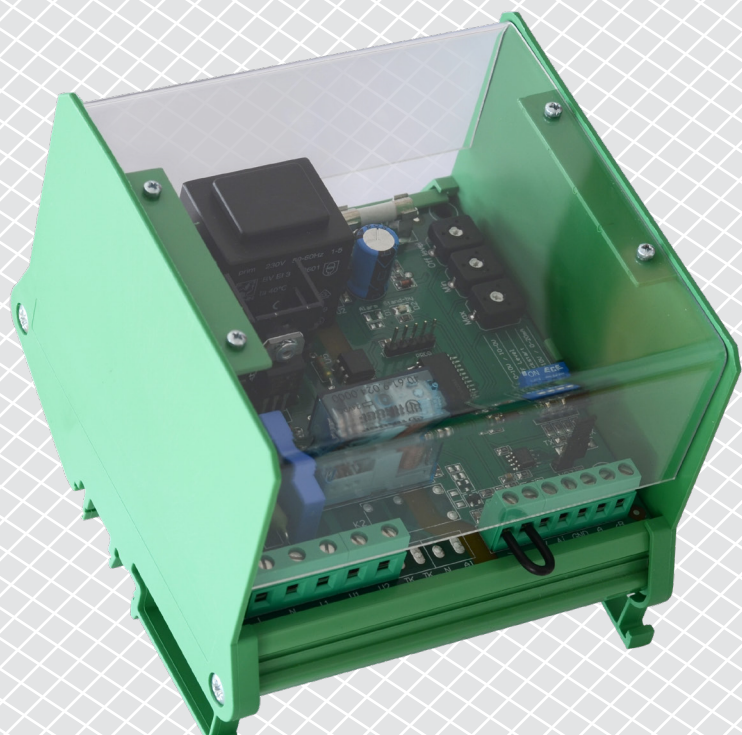# MVS-1 | ELECTRONIC FAN SPEED CONTROLLER

Modbus register map

MODBUS REGISTER MAP

		Data type	Description	Raw data range	Values
1	Analogue input level	unsigned integer	Analogue input value depending on selected analogue input type	0—1.000	0 = 0,0 VDC 1.000 = 10,0 VDC or 0 = 0,0 mA 1.000 = 20,0 mA
2	Current output voltage	unsigned integer	Actual output voltage	0, 30—100	0 = 0 % of supply voltage (Us), 30 = 30 % of supply voltage (Us) 100 = 100 % of supply voltage (Us)
3	Analogue input type	unsigned integer	Type of selected analogue input type	0, 1	0 = 0—20 mA 1 = 0—10 VDC
4	Ascending / descending input mode	unsigned integer	Ascending or descending analogue input mode. Depending on selected analogue input type	0, 1	0 = 10—0 VDC, 1 = 0—10 VDC or 0 = 20—0 mA 1 = 0—20 mA
5	Maximum output voltage	unsigned integer	Maximum output voltage	75—100	75 = 75 % of supply voltage (Us) 100 = 100 % of supply voltage (Us)
6	Minimum output voltage	unsigned integer	Minimum output voltage	30—70	30 = 30 % of supply voltage (Us) 70 = 70 % of supply voltage (Us)
7	Enable off level	unsigned integer	Enable off level	0, 1	0 = Disabled 1 = Enabled
8	Off level value	unsigned integer	Offlevel value. Depending on selected analogue input type and ascending / descending analogue input mode	0—40, 60—100	Ascending mode: Voltage 0 = 0 VDC 400 = 4,0 VDC Current 0 = 0 mA 40 = 8,0 mA Descending mode: Voltage 100 = 10,0 VDC 60 = 6,0 VDC Current 100 = 20,0 mA 60 = 12,0 mA

INPUT REGISTERS

		Data type	Description	Raw data range	Values
9	Kick start / soft start	unsigned integer	Selects kick start or soft start	0, 1	0 = soft start 1 = kick start
10	Remote control input	unsigned integer	Remote control input	0, 1	0 = Disabled 1 = Enabled
12	L1 control	unsigned integer	L1 control	0, 1	0 = Off 1 = On
14	ON/Stand-by LED	unsigned integer	ON/Stand-by LED	0—2	0 = Off 1 = On 2 = Stand-by
15—20			Reserved, return 0		

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

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
1	Device slave address	unsigned integer	Modbus device address	1—247	1	
2	Modbus baud rate	unsigned integer	Modbus communication baud rate	1—4	2	1 = 9.600 2 = 19.200 3 = 38.400 4 = 57.600
3	Modbus parity	unsigned integer	Parity check mode	0—2	1	0 = 8N1 1 = 8E1 2 = 8O1
4	Device type	unsigned integer	Device type (Read only)	MVSX-DM = 3.009		
5	HW version	unsigned integer	Hardware version of the device (Read only)	XXXX	0 x 0300 = HW version 3.00	

HOLDING REGISTERS

		Data type	Description	Raw data range	Values	Factory default values
6	FW version	unsigned integer	Firmware version of the device *(Read only)*	XXXX		0 x 0130 = FW version 1.3
7	Operating mode	unsigned integer	Enables Modbus control and disables the DIP switch and trimmers	0, 1	0	0 = Standalone mode 1 = Modbus mode
8	Output override	unsigned integer	Enables the direct control over the output. *Always settable. Active only if holding register 7 is set to 1.*	0, 1	0	0 = Disabled 1 = Enabled
9—10			Reserved, return 0			
11	Analogue input type	unsigned integer	Selects the Analogue input type of the device. *Always settable. Active only if holding register 7 is set to 1.*	0, 1	1	0 = 0—20 mA 1 = 0—10 VDC
12	Ascending / descending Analogue input mode	unsigned integer	Ascending / descending Analogue input mode. *Depends on the selected Analogue input type. Always settable. Active only if holding register 7 is set to 1.*	0, 1	1	0 = 10—0 VDC 1 = 0—10 VDC or 0 = 20—0 mA 1 = 0—20 mA
13	Maximum output voltage	unsigned integer	Maximum settable output voltage. *Always settable. Active only if holding register 7 is set to 1.*	75—100	100	75 = 75 % Us 100 = 100 % Us
14	Minimum output voltage	unsigned integer	Minimum settable output voltage. *Always settable. Active only if holding register 7 is set to 1.*	30—70	30	30 = 30 % Us 70 = 70 % Us
15	Enable off level	unsigned integer	Enables off level. Always settable. *Active only if holding register 7 is set to 1.*	0, 1	0	0 = Disabled 1 = Enabled
16	Off level value	unsigned integer	Off level value. *Depends on the selected Analogue input type and ascending / descending Analogue input mode. Always settable. Active only if holding register 7 is set to 1.*	0—40 60—100	0	**Ascending mode:** **Voltage** 0 = 0 VDC 40 = 4,0 VDC **Current** 0 = 0 mA 40 = 8,0 mA **Descending mode:** **Voltage** 100 = 10,0 VDC 60 = 6,0 VDC **Current** 100 = 20,0 mA 60 = 12,0 mA

HOLDING REGISTERS

		Data type	Description	Raw data range	Values		Factory default values
17	Kick start / soft start	unsigned integer	Selects kick start or soft start. *Always settable. Active only if holding register 7 is set to 1.*	0, 1	1	0 = 1 =	Soft start Kick start
18	Kick start / soft start duration	unsigned integer	Sets the duration time. Always settable. *Active only if holding register 7 is set to 1.*	0—60	10	0 = 60 =	0 s 60 s
19	Remote control functionality	unsigned integer	Sets the remote control input mode. *Depends on the selected kick start or soft start mode. Always settable. Active only if holding register 7 is set to 1.*	0, 1	0	0 = 1 =	Normal mode Timer mode
20	Analogue input functionality	unsigned integer	Sets the Analogue input functionality. *Depends on the selected kick start or soft start. Always settable. Active only if holding register 7 is set to 1.*	0, 1	0	0 = 1 =	Normal mode Logic mode
21	Operation timer	unsigned i nt.	Sets the operation time of the device when Timer mode by remote control input or Logic mode by the Analogue input is selected. The operation time is additional to the kick start / soft start duration times. *Always settable. Active only if holding registers 7 and 19 or / and 20 are set to 1.*	0—200	60	0 = 200 =	0 s 200 s
22—30			Reserved, return 0				
31	Output override value	unsigned integer	Override value for the Analogue output. *Always settable. Active only if holding register 8 is set to 1.*	0 30—100	0	0 = 30 = 100 =	0 % Us 30 % Us 100 % Us
32—40			Reserved, return 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*