

Operating Instructions STW164IP

Last updated: 2018-05-15

- Modbus TCP communication protocol

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1 Important Notes

Please also read the general operating instructions of the STW164IP carefully and observe the safety instructions.

2 Interface Parameters

TCP Port: 502

Max. number of TCP connections (max. TCP connections): 1

The Modbus TCP protocol must be activated via the integrated web server of the STW164IP:

- Enter the IP address of the device in the web browser (on computers in the same network)
- Select menu tab "Network"
- Enable Modbus TCP

Modbus settings

Modbus **TCP**

ON Port: 502

3 Telegram Structure

According to Modbus TCP specification.

For details, please refer to the original Modbus documentation, available at <http://www.modbus.org>

4 Supported Function Codes

Function code	Description	Use
3 (03H)	Read Holding Registers	Read data from the registers

5 Modbus Register Tables

5.1 Read out measured values and status values

- Modbus function code 0x03 (Read Holding Registers)

Adr. hex	Data type	Register	Value range	
			Min.	Max.
0000	signed int 16	STW161M, Input Y3 - Adr. 00	-2 = Switch off -1 = Switch on 0...99 = 0..9.9A	
0001	signed int 16	STW161M, Input Y3 - Adr. 01		
0002	signed int 16	STW161M, Input Y3 - Adr. 02		
0003	signed int 16	STW161M, Input Y3 - Adr. 03		
0004	signed int 16	STW161M, Input Y3 - Adr. 04		
0005	signed int 16	STW161M, Input Y3 - Adr. 05		
0006	signed int 16	STW161M, Input Y3 - Adr. 06		
0007	signed int 16	STW161M, Input Y3 - Adr. 07		
0008	signed int 16	STW161M, Input Y3 - Adr. 08		
0009	signed int 16	STW161M, Input Y3 - Adr. 09		
000A	signed int 16	STW161M, Input Y3 - Adr. 10		
000B	signed int 16	STW161M, Input Y3 - Adr. 11		
000C	signed int 16	STW161M, Input Y3 - Adr. 12		
000D	signed int 16	STW161M, Input Y3 - Adr. 13		
000E	signed int 16	STW161M, Input Y3 - Adr. 14		
000F	signed int 16	STW161M, Input Y3 - Adr. 15		
0010	signed int 16	STW161M, Input Y3 - Adr. 16		
0011	signed int 16	STW161M, Input Y3 - Adr. 17		
0012	signed int 16	STW161M, Input Y3 - Adr. 18		
0013	signed int 16	STW161M, Input Y3 - Adr. 19		
0014	signed int 16	STW161M, Input Y3 - Adr. 20		
0015	signed int 16	STW161M, Input Y3 - Adr. 21		
0016	signed int 16	STW161M, Input Y3 - Adr. 22		
0017	signed int 16	STW161M, Input Y3 - Adr. 23		
0018	signed int 16	STW161M, Input Y3 - Adr. 24		
0019	signed int 16	STW161M, Input Y3 - Adr. 25		
001A	signed int 16	STW161M, Input Y3 - Adr. 26		
001B	signed int 16	STW161M, Input Y3 - Adr. 27		
001C	signed int 16	STW161M, Input Y3 - Adr. 28		
001D	signed int 16	STW161M, Input Y3 - Adr. 29		
001E	signed int 16	STW161M, Input Y3 - Adr. 30		
001F	signed int 16	STW161M, Input Y3 - Adr. 31		
0020	signed int 16	STW161M, Input Y4 - Adr. 00	0 = open 1 = closed	
0021	signed int 16	STW161M, Input Y4 - Adr. 01		
0022	signed int 16	STW161M, Input Y4 - Adr. 02		
0023	signed int 16	STW161M, Input Y4 - Adr. 03		
0024	signed int 16	STW161M, Input Y4 - Adr. 04		
0025	signed int 16	STW161M, Input Y4 - Adr. 05		
0026	signed int 16	STW161M, Input Y4 - Adr. 06		
0027	signed int 16	STW161M, Input Y4 - Adr. 07		
0028	signed int 16	STW161M, Input Y4 - Adr. 08		
0029	signed int 16	STW161M, Input Y4 - Adr. 09		
002A	signed int 16	STW161M, Input Y4 - Adr. 10		
002B	signed int 16	STW161M, Input Y4 - Adr. 11		
002C	signed int 16	STW161M, Input Y4 - Adr. 12		
002D	signed int 16	STW161M, Input Y4 - Adr. 13		
002E	signed int 16	STW161M, Input Y4 - Adr. 14		
002F	signed int 16	STW161M, Input Y4 - Adr. 15		
0030	signed int 16	STW161M, Input Y4 - Adr. 16		
0031	signed int 16	STW161M, Input Y4 - Adr. 17		
0032	signed int 16	STW161M, Input Y4 - Adr. 18		
0033	signed int 16	STW161M, Input Y4 - Adr. 19		

Adr. hex	Data type		Register	Value range	
				Min.	Min.
0034	signed int 16		STW161M, Input Y4 - Adr. 20		
0035	signed int 16		STW161M, Input Y4 - Adr. 21		
0036	signed int 16		STW161M, Input Y4 - Adr. 22		
0037	signed int 16		STW161M, Input Y4 - Adr. 23		
0038	signed int 16		STW161M, Input Y4 - Adr. 24		
0039	signed int 16		STW161M, Input Y4 - Adr. 25		
003A	signed int 16		STW161M, Input Y4 - Adr. 26		
003B	signed int 16		STW161M, Input Y4 - Adr. 27		
003C	signed int 16		STW161M, Input Y4 - Adr. 28		
003D	signed int 16		STW161M, Input Y4 - Adr. 29		
003E	signed int 16		STW161M, Input Y4 - Adr. 30		
003F	signed int 16		STW161M, Input Y4 - Adr. 31		
0040	signed int 16		STW161M, Status Slider - Address 00	0 = closed, 1 = delay on, 2 = open, 3 = close delay, 4 = overrun of last slider, 5 = opened due to min. volume flow, 6 = blocked due to max. volume flow, 7 = open due to signal at Y1 (I0-I15)	
0041	signed int 16		STW161M, Status Slider - Adr. 01		
0042	signed int 16		STW161M, Status Slider - Adr. 02		
0043	signed int 16		STW161M, Status Slider - Adr. 03		
0044	signed int 16		STW161M, Status Slider - Adr. 04		
0045	signed int 16		STW161M, Status Slider - Adr. 05		
0046	signed int 16		STW161M, Status Slider - Adr. 06		
0047	signed int 16		STW161M, Status Slider - Adr. 07		
0048	signed int 16		STW161M, Status Slider - Adr. 08		
0049	signed int 16		STW161M, Status Slider - Adr. 09		
004A	signed int 16		STW161M, Status Slider - Adr. 10		
004B	signed int 16		STW161M, Status Slider - Adr. 11		
004C	signed int 16		STW161M, Status Slider - Adr. 12		
004D	signed int 16		STW161M, Status Slider - Adr. 13		
004E	signed int 16		STW161M, Status Slider - Adr. 14		
004F	signed int 16		STW161M, Status Slider - Adr. 15		
0050	signed int 16		STW161M, Status Slider - Adr. 16		
0051	signed int 16		STW161M, Status Slider - Adr. 17		
0052	signed int 16		STW161M, Status Slider - Adr. 18		
0053	signed int 16		STW161M, Status Slider - Adr. 19		
0054	signed int 16		STW161M, Status Slider - Adr. 20		
0055	signed int 16		STW161M, Status Slider - Adr. 21		
0056	signed int 16		STW161M, Status Slider - Adr. 22		
0057	signed int 16		STW161M, Status Slider - Adr. 23		
0058	signed int 16		STW161M, Status Slider - Adr. 24		
0059	signed int 16		STW161M, Status Slider - Adr. 25		
005A	signed int 16		STW161M, Status Slider - Adr. 26		
005B	signed int 16		STW161M, Status Slider - Adr. 27		
005C	signed int 16		STW161M, Status Slider - Adr. 28		
005D	signed int 16		STW161M, Status Slider - Adr. 29		
005E	signed int 16		STW161M, Status Slider - Adr. 30		
005F	signed int 16		STW161M, Status Slider - Adr. 31		
0060	signed int 16		Extraction, relay K1	0 = off, 1 = delay on, 2 = on, 3 = delay off	
0061	signed int 16		Cleaning, relay K2	0 = off, 1 = compressed air (1s), 2 = delay on , 3 = on. 4 = break	
0062	signed int 16		Discharge	0 = off, 1 = on , 2 = overrun	
0063	signed int 16		Total volume flow	0...100%, 255 = inactive	
0064	signed int 16		Volumetric flow line 1		
0065	signed int 16		Volumetric flow line 2		
0066	signed int 16		Volumetric flow line 3		
0067	signed int 16		Volumetric flow line 4		

Adr. hex	Data type		Register	Value range	
				Min.	Min.
0068	signed int 16		Relay K3	0 = off, 1 = on	
0069	signed int 16		Relay K4		
006A	signed int 16		Analog output [mV]	0.	10000
006B	signed long	low	Addition time [s]	0.	72000
006C		high			
006D	signed int 16	high	Error	bit 0: Vol. exceeded, bit 1: End position, bit 2: STW161M: Bus error, bit 3: STW161M: 24V, bit 4: Internal memory, bit 5: Parameter bit 6: Parameter priority bit 7: Device bit 8: STW164IP: 24V bit 9: Display	
006E	signed int 16		Digital input Y1 (I0&I31)	0 (= open).	15
006F	signed int 16		Digital input Y2	0 (= open).	15
0070	signed long	low	Operating hours counter device [h]	0..	2147483648
0071		high			
0072	signed long	low	Extraction operating time [s]	0..	2147483648
0073		high			
0074	signed long	low	Cleaning operating time [s]	0..	2147483648
0075		high			
0076	signed long	low	Operating time relay K3 [s]	0..	2147483648
0077		high			
0078	signed long	low	Operating time relay K4 [s]	0..	2147483648
0079		high			
007A	signed long	low	Machine to STW161M - Adr. 00 -> Switch-on time [s]	0..	2147483648
007B		high			
007C	signed long	low	Machine to STW161M - Adr. 01 -> Switch-on time [s]	0..	2147483648
007D		high			
007E	signed long	low	Machine to STW161M - Adr. 02 -> Switch-on time [s]	0..	2147483648
007F		high			
0080	signed long	low	Machine to STW161M - Adr. 03 -> Switch-on time [s]	0..	2147483648
0081		high			
0082	signed long	low	Machine to STW161M - Adr. 04 -> Switch-on time [s]	0..	2147483648
0083		high			
0084	signed long	low	Machine to STW161M - Adr. 05 -> Switch-on time [s]	0..	2147483648
0085		high			
0086	signed long	low	Machine to STW161M - Adr. 06 -> Switch-on time [s]	0..	2147483648
0087		high			
0088	signed long	low	Machine to STW161M - Adr. 07 -> Switch-on time [s]	0..	2147483648
0089		high			
008A	signed long	low	Machine to STW161M - Adr. 08 -> Switch-on time [s]	0.	2147483648
008B		high			
008C	signed long	low	Machine to STW161M - Adr. 09 -> Switch-on time [s]	0..	2147483648
008D		high			
008E	signed long	low	Machine to STW161M - Adr. 10 -> Switch-on time [s]	0..	2147483648
008F		high			
0090	signed long	low	Machine to STW161M - Adr. 11 -> Switch-on time [s]	0..	2147483648
0091		high			
0092	signed long	low	Machine to STW161M - Adr. 12 -> Switch-on time [s]	0..	2147483648
0093		high			
0094	signed long	low	Machine to STW161M - Adr. 13 -> Switch-on time [s]	0..	2147483648
0095		high			
0096	signed long	low	Machine to STW161M - Adr. 14 -> Switch-on time [s]	0..	2147483648
0097		high			

Adr. hex	Data type		Register	Value range	
				Min.	Min.
0098 0099	signed long	low high	Machine to STW161M - Adr. 15 -> Switch-on time [s]	0.	2147483648
009A 009B	signed long	low	Machine to STW161M - Adr. 16 -> Switch-on time [s]	0.	2147483648
009C 009D	signed long	low high	Machine to STW161M - Adr. 17 -> Switch-on time [s]	0.	2147483648
009E 009F	signed long	low high	Machine to STW161M - Adr. 18 -> Switch-on time [s]	0.	2147483648
00A0 00A1	signed long	low high	Machine to STW161M - Adr. 19 -> Switch-on time [s]	0.	2147483648
00A2 00A3	signed long	low high	Machine to STW161M - Adr. 20 -> Switch-on time [s]	0.	2147483648
00A4 00A5	signed long	low high	Machine to STW161M - Adr. 21 -> Switch-on time [s]	0.	2147483648
00A6 00A7	signed long	low high	Machine to STW161M - Adr. 22 -> Switch-on time [s]	0.	2147483648
00A8 00A9	signed long	low high	Machine to STW161M - Adr. 23 -> Switch-on time [s]	0.	2147483648
00AA 00AB	signed long	low high	Machine to STW161M - Adr. 24 -> Switch-on time [s]	0.	2147483648
00AC 00AD	signed long	low high	Machine to STW161M - Adr. 25 -> Switch-on time [s]	0.	2147483648
00AE 00AF	signed long	low high	Machine to STW161M - Adr. 26 -> Switch-on time [s]	0.	2147483648
00B0 00B1	signed long	low high	Machine to STW161M - Adr. 27 -> Switch-on time [s]	0.	2147483648
00B2 00B3	signed long	low high	Machine to STW161M - Adr. 28 -> Switch-on time [s]	0.	2147483648
00B4 00B5	signed long	low high	Machine to STW161M - Adr. 29 -> Switch-on time [s]	0.	2147483648
00B6 00B7	signed long	low high	Machine to STW161M - Adr. 30 -> Switch-on time [s]	0.	2147483648
00B8 00B9	signed long	low high	Machine to STW161M - Adr. 31 -> Switch-on time [s]	0.	2147483648
00BA 00BB	signed long	low high	Slider on STW161M - Adr. 00 -> Number of openings	0.	2147483648
00BC 00BD	signed long	low high	Slider on STW161M - Adr. 01 -> Number of openings	0.	2147483648
00BE 00BF	signed long	low high	Slider on STW161M - Adr. 02 -> Number of openings	0.	2147483648
00C0 00C1	signed long	low high	Slider on STW161M - Adr. 03 -> Number of openings	0.	2147483648
00C2 00C3	signed long	low high	Slider on STW161M - Adr. 04 -> Number of openings	0.	2147483648
00C4 00C5	signed long	low high	Slider on STW161M - Adr. 05 -> Number of openings	0.	2147483648
00C6 00C7	signed long	low high	Slider on STW161M - Adr. 06 -> Number of openings	0.	2147483648
00C8 00C9	signed long	low high	Slider on STW161M - Adr. 07 -> Number of openings	0.	2147483648
00CA 00CB	signed long	low high	Slider on STW161M - Adr. 08 -> Number of openings	0.	2147483648
00CC 00CD	signed long	low high	Slider on STW161M - Adr. 09 -> Number of openings	0.	2147483648
00CE 00CF	signed long	low high	Slider on STW161M - Adr. 10 -> Number of openings	0.	2147483648

Adr. hex	Data type		Register	Value range	
				Min.	Min.
00D0 00D1	signed long	low high	Slider on STW161M - Adr. 11 -> Number of openings	0.	2147483648
00D2 00D3	signed long	low high	Slider on STW161M - Adr. 12 -> Number of openings	0.	2147483648
00D4 00D5	signed long	low high	Slider on STW161M - Adr. 13 -> Number of openings	0.	2147483648
00D6 00D7	signed long	low high	Slider on STW161M - Adr. 14 -> Number of openings	0.	2147483648
00D8 00D9	signed long	low high	Slider on STW161M - Adr. 15 -> Number of openings	0.	2147483648
00DA 00DB	signed long	low high	Slider on STW161M - Adr. 16 -> Number of openings	0.	2147483648
00DC 00DD	signed long	low high	Slider on STW161M - Adr. 17 -> Number of openings	0.	2147483648
00DE 00DF	signed long	low high	Slider on STW161M - Adr. 18 -> Number of openings	0.	2147483648
00E0 00E1	signed long	low high	Slider on STW161M - Adr. 19 -> Number of openings	0.	2147483648
00E2 00E3	signed long	low high	Slider on STW161M - Adr. 20 -> Number of openings	0.	2147483648
00E4 00E5	signed long	low high	Slider on STW161M - Adr. 21 -> Number of openings	0.	2147483648
00E6 00E7	signed long	low high	Slider on STW161M - Adr. 22 -> Number of openings	0.	2147483648
00E8 00E9	signed long	low high	Slider on STW161M - Adr. 23 -> Number of openings	0.	2147483648
00EA 00EB	signed long	low high	Slider on STW161M - Adr. 24 -> Number of openings	0.	2147483648
00EC 00ED	signed long	low high	Slider on STW161M - Adr. 25 -> Number of openings	0.	2147483648
00EE 00EF	signed long	low high	Slider on STW161M - Adr. 26 -> Number of openings	0.	2147483648
00F0 00F1	signed long	low high	Slider on STW161M - Adr. 27 -> Number of openings	0.	2147483648
00F2 00F3	signed long	low high	Slider on STW161M - Adr. 28 -> Number of openings	0.	2147483648
00F4 00F5	signed long	low high	Slider on STW161M - Adr. 29 -> Number of openings	0.	2147483648
00F6 00F7	signed long	low high	Slider on STW161M - Adr. 30 -> Number of openings	0.	2147483648
00F8 00F9	signed long	low high	Slider on STW161M - Adr. 31 -> Number of openings	0.	2147483648
00FA 00FB	signed long	low high	Serial number		
00FC	signed int 16		Hardware version	0.	2147483648
00FD	signed int 16		Firmware version, App.	e.g. 0x0B01 (hex)	
00FE	signed int 16		Firmware version, Bootl.	-> 12750-1411-01 (dec)	