

# SWC-TSTAT-2 Modbus Register Map

Registers	Value	Set	Format	Remark
700	0 (OK)		Signed Decimal	Status (OK or NoLink)
702	10		Signed Decimal	Report Interval (Seconds)
703	4		Signed Decimal	System Mode
704	0		Signed Decimal	Fan Mode
705	0		Signed Decimal	Hold Mode
706	0		Signed Decimal	Hold Heat Temperature (°F)
707	0		Signed Decimal	Hold Cool Temperature (°F)
708	1		Signed Decimal	Fan Speed
709	73		Signed Decimal	Day Cool Set Temperature (°F)
710	70		Signed Decimal	Day Heat Set Temperature (°F)
711	73		Signed Decimal	Night Cool Set Temperature (°F)
712	70		Signed Decimal	Night Heat Set Temperature (°F)
713	70		Signed Decimal	Single Set Temp/No Program
714	006E		Unsigned Hex.	DIP Switch Status
715	70		Signed Decimal	Set Temp - Single SP Mode/Prog
716	00		2-Digit BCD	Week Day
717	18		2-Digit BCD	Hour
718	02		2-Digit BCD	Minute
719	09		2-Digit BCD	Second
720	117		Signed Decimal	Inside Sensor Temperature (°F)
721	0		Signed Decimal	Remote Sensor Temperature (°F)
722	130		Signed Decimal	Current Room Temperature (°F)
723	200		Signed Decimal	Set Temperature (°C/°F)
724	0		Signed Decimal	Display F = 0, C = 1
725	0000		Unsigned Hex.	Relay outputs
726	1		Signed Decimal	Night = 0, Day = 1
727	217		Unsigned Decimal	T770 Firmware Version

**Modbus Address** ..0  
 Function group Main  
 Function Status  
 Type Read Only  
 Values 0 = OK; 2 = No communication

**Modbus Address** ..2  
 Function group Main  
 Function Report Interval  
 Type Read/Write  
 Values 10 seconds ... 3600 seconds

Note: The thermostat will update gateway registers periodically as configured in the report interval. Commands sent to gateway registers will be communicated to the thermostat immediately (as fast as possible).

### **Object List for Function 3 "Input Registers"**

**Modbus Address** ..3  
Function group Main  
Function System Mode  
Type Read / Write  
Values  
0= Thermostat Mode is OFF  
1= Thermostat Mode is Emergency Heat Mode  
2= Thermostat Mode is Heat Only Mode  
3= Thermostat Mode is Cool Only Mode  
4= Thermostat Mode is Auto season Change over Mode

Note: The effect of changing the system mode register value is dependent on other register values and hardware switch settings.

**Modbus Address** ..4  
Function group Main  
Function Fan Mode  
Type Read / Write  
Values  
0= Fan Mode is Auto (Cycles with heat and cool)  
1= Fan Mode is ON

**Modbus Address** ..5  
Function group Main  
Function Program Hold (residential programmable mode only)  
Type Read / Write  
Values  
0 = Hold function OFF  
1 = Temporary Hold  
2 = Permanent Hold

**Modbus Address** ..6  
Function group Main  
Function Heat Set Temperature HOLD value (2 set-point mode only)  
Type Read / Write  
Values  
Deg C Subtract 20 from Modbus value then divide by 2 to get Deg C value.  
Deg F 1:1

**Modbus Address** ..7  
Function group Main  
Function Cool Set Temperature HOLD value (2 set-point mode only)  
Type Read / Write  
Values  
Deg C Subtract 20 from Modbus value then divide by 2 to get Deg C value.  
Deg F 1:1

<b>Modbus Address</b>	<b>..8</b>
Function group	Main
Function	Fan Speed (3 speed fan mode only)
Type	Read / Write
Values	1 = Low Speed 2 = Medium Speed 3 = High Speed 4 = Auto Speed
<b>Modbus Address</b>	<b>..9</b>
Function group	Main
Function	Day Cool Set Temp (manual day/night mode only; SW6=OFF, SW8=ON)
Type	Read / Write
Values	Range deg C 30~94 100=OFF Subtract 20 from Modbus value then divide by 2 to get Deg C value Range deg F 41 ~ 98 100=OFF 1:1
<b>Modbus Address</b>	<b>..10</b>
Function group	Main
Function	Day Heat Set Temp (manual day/night mode only; SW6=OFF, SW8=ON)
Type	Read / Write
Values	Range deg C 20~90 0=OFF Subtract 20 from Modbus value then divide by 2 to get Deg C value Range deg F 32 ~ 95 0=OFF 1:1
<b>Modbus Address</b>	<b>..11</b>
Function group	Main
Function	Night Cool Set Temp (manual day/night mode only; SW6=OFF, SW8=ON)
Type	Read / Write
Values	Range deg C 30~94 100=OFF Subtract 20 from Modbus value then divide by 2 to get Deg C value Range deg F 41 ~ 98 100=OFF 1:1
<b>Modbus Address</b>	<b>..12</b>
Function group	Main
Function	Night Heat Set Temp (manual day/night mode only; SW6=OFF, SW8=ON)
Type	Read / Write
Values	Range deg C 20~90 0=OFF Subtract 20 from Modbus value then divide by 2 to get Deg C value Range deg F 32 ~ 95 0=OFF 1:1
<b>Modbus Address</b>	<b>..13</b>
Function group	Main
Function	Single Set point temperature / Manual mode (SW6=OFF, SW8=OFF)
Type	Read / Write
Values	Range deg C 30~90 Subtract 20 from Modbus value then divide by 2 to get Deg C value Range deg F 41 ~ 95

**Modbus Address** ..14  
 Function group Main  
 Function 8 DIP switch settings  
 Type Read Only  
 Values Sw1 On = 1  
 Sw2 On = 2  
 Sw3 On = 64  
 Sw4 On = 4  
 SW5 On = 8  
 SW6 **OFF** = 16  
 Sw7 On = 128  
 SW8 **OFF** = 32

**Modbus Address** ..15  
 Function group Main  
 Function Single Set point temperature / Start-Stop Programmable mode (SW6=ON, SW8=OFF)  
 Type Read / Write  
 Values Range deg C 30~90  
 Subtract 20 from Modbus value then divide by 2 to get Deg C value  
 Range deg F 41 ~ 95

**Modbus Address** ..16  
 Function group Real Time Clock  
 Function Day  
 Type Read / Write  
 Values 0 = Monday .....  
 6 = Sunday

**Modbus Address** ..17  
 Function group Real Time Clock  
 Function Hour  
 Type Read / Write  
 Values 0 = 0...  
 9=9am  
**10 ~ 15 Not used**  
 16 = 10am...  
 25 = 7pm  
**26 ~ 31 Not used**  
 32 = 8pm...  
 35 = 11pm

**Modbus Address** ..18  
 Function group Real Time Clock  
 Function Minute  
 Type Read / Write  
 Values 0 = 0 min ...  
 9=9 min  
**10 ~ 15 Not used**  
 16 = 10 min...  
 25 = 19 min  
**26 ~ 31 Not used**  
 32 = 20 min...  
 41=29 min  
**42 ~47 Not Used**  
 48=30 min...  
 57 = 39 min  
**58 ~ 63 not used**  
 64 = 40  
 73=49  
**74 ~ 79 Not used**  
 80=50  
 89 =59 min

**Modbus Address** ..19  
 Function group Real Time Clock  
 Function Seconds  
 Type Read Only  
 Values (See register above for values)

**Modbus Address** ..20  
 Function group Info  
 Function Fitted Temperature Sensor Value Deg F  
 Type Read Only  
 Values Deg F value, **subtract 40 from register value**

**Modbus Address** ..21  
 Function group Info  
 Function Remote Temperature Sensor (both Deg C & F)  
 Type Read Only  
 Values C= Subtract 20 from register value then by 2 to get set temp in C  
 F= 1:1

**Modbus Address** ..22  
 Function group Info  
 Function Room Temperature Deg F  
 Type Read Only  
 Values Deg F value, **subtract 40 from register value**

**Modbus Address** ..23  
Function group Info  
Function Current thermostat set temp (both Deg C & F)  
Type Read Only  
Values C= Subtract 20 from register value then by 2 to get set temp in C  
F= 1:1

**Modbus Address** ..24  
Function group Main  
Function Display Temperature Setting  
Type Read/Write  
Values 0 = Fahrenheit  
1 = Celsius

**Modbus Address** ..25  
Function group Info  
Function Relay Status  
Type Read Only  
Values 1 = G1 Relay ON  
2 = G2/Y2 Relay ON  
4 = G3/W2/OB Relay ON  
8 = Y1 Relay ON  
16 = W1 Relay ON

**Modbus Address** ..26  
Function group Main  
Function Day/Night mode change (SW6=OFF, SW8=ON)  
Type Read/Write  
Values 0 = Night Mode  
1 = Day Mode

**Modbus Address** ..27  
Function group Info  
Function Display firmware revision number  
Type Read Only

**Modbus Address** ..82 to ..85  
Function group Info  
Function Radio MAC Address (see bar code on radio)  
Type Read  
Values 4 registers, hex value

**Modbus Address** ..86  
Function group Info  
Function Device Type  
Type Read  
Values 6 = SWC-TSTAT-1

**Modbus Address** ..87  
Function group Info  
Function Radio Firmware Version  
Type Read  
Values e.g. 217

**Modbus Address** ..88 to ..99  
Function group Info  
Function Device Name, user configurable  
Type Read/Write  
Values 12 registers, 2 ASCII characters each