

Protocol Description

Thermolog sends data using the Modbus proto protocol. Below is a description of the protocol.

| Readable registers 0x04 - 30000 | | | | | | |
|---------------------------------|-------------|------------------------|--------------|---------------|--------------|--------------------------|
| Address | Hex Address | Parameter | Organization | Example Value | Accuracy | Example |
| 30000 | 0x00 | Temperature | int32 | 152 | %0.1f | 15.2 °C |
| 30002 | 0x02 | Humidity | int32 | 457 | %0.1f | 45.7 % |
| 30004 | 0x04 | Version | uint32 | 20201 | %d.%02d.%02d | 2.02.01 |
| 30006 | 0x06 | Serial | uint32 | 7EF8E955 | %08X | 0x7EF8E955 |
| 30008 | 0x08 | ID 1 | uint32 | 05D3FF31 | %08X | 05D3FF313838553443134350 |
| 30010 | 0x0A | ID 2 | uint32 | 38385534 | %08X | |
| 30012 | 0x0C | ID 3 | uint32 | 43134350 | %08X | |
| 30014 | 0x0E | Position Record Memory | uint32 | 34897 | %d | 34897 |

| Readable/Writable registers 0x03 - 40000 | | | | | | | | | |
|------------------------------------------|-------------|---------------------|--------------|---------------|----------|---------|----------|---------|---------|
| Address | Hex Address | Parameter | Organization | Example Value | Accuracy | Example | Val. Min | Val.Max | Default |
| 40000 | 0x00 | Correct Temperature | int32 | -12 | %0.1f | -1.2 | -100 | 100 | 0 |
| 40002 | 0x02 | Correct Humidity | int32 | 25 | %0.1f | 2.5 | -100 | 100 | 0 |
| 40004 | 0x04 | Low Temp. Alarm | int32 | -25 | %0.1f | -2.5 | -1200 | 1200 | -1.5 |
| 40006 | 0x06 | High Temp. Alarm | int32 | 20 | %0.1f | 3.0 | -1200 | 1200 | 3.6 |

| Readable/Writable registers 0x03 - 40000 | | | | | | | | | |
|------------------------------------------|-------------|------------------|--------------|---------------|----------|---------|----------|----------|---------|
| Address | Hex Address | Parameter | Organization | Example Value | Accuracy | Example | Val. Min | Val.Max | Default |
| 40008 | 0x08 | State Alarm | int32 | 0 | %d | 0 | 0 | 2 | 0 |
| 40010 | 0x0A | Modbus Address | uint32 | 1 | %d | 1 | 1 | 247 | 1 |
| 40012 | 0x0C | RS485 Baudrate | uint32 | 9600 | %d | 9600 | 1200 | 921600 | 9600 |
| 40014 | 0x0E | RS485 Parity | uint32 | 0 | %d | 0 | 0 | 2 | 0 |
| 40016 | 0x10 | RS485 Length Bit | uint32 | 8 | %d | 8 | 8 | 9 | 8 |
| 40018 | 0x12 | RS485 Stop bit | uint32 | 1 | %d | 1 | 0 | 3 | 1 |
| 40020 | 0x14 | Show Type | uint32 | 1 | %d | 1 | 1 | 6 | 1 |
| 40022 | 0x16 | Correct Time | int32 | -13 | %0.1f | -13 | -120 | 120 | -11 |
| 40024 | 0x18 | Light | uint32 | - | %d | - | 0 | 15 | 0 |
| 40026 | 0x1A | Year | uint32 | 1022 | %d | 1022 | 2022 | 2099 | - |
| 40028 | 0x1C | Month | uint32 | 9 | %d | 9 | 1 | 12 | - |
| 40030 | 0x1E | Day | uint32 | 3 | %d | 3 | 1 | 29/30/31 | - |
| 40032 | 0x20 | Hour | uint32 | 15 | %d | 15 | 0 | 23 | - |
| 40034 | 0x22 | Minute | uint32 | 12 | %d | 12 | 0 | 59 | - |
| 40036 | 0x24 | Second | uint32 | 33 | %d | 33 | 0 | 59 | - |

| | |
|------------------------------------------------------------------------------------------------|---|
| Correct temperature - each temperature reading is corrected by this value | |
| Correct Humidity - each humidity reading is corrected for this value | |
| Low Temp. Alarm - when the temperature is lower than this value, the alarm will be triggered | |
| High Temp. Alarm - when the temperature is higher than this value, the alarm will be triggered | |
| State Alarm - there are three alarm states | |
| ALARM_NONE | 0 |
| ALARMYELLOW | 1 |
| ALARMRED | 2 |

| |
|-----------------------------------------------------------------------------------------------------------------------------|
| Show type - determines how the temperature, humidity and time are shown on the LED display |
| Correct time - after the end of the day, the time was adjusted by this value |
| Light - brightness level of the LED display. For value 0 - the automatic brightness function is enabled. |
| Identification Device - ID1+ID2+ID3 - unique value for each device |
| Position Record Memory - position in the internal memory organization of the device for archiving the measured temperatures |

Communication over Modbus

| Name | Function | Value |
|------------------|---------------------|-------|
| RS485 Baudrate | From 1200 to 921600 | 9600 |
| RS485 Parity | None | 0 |
| | Odd | 1 |
| | Even | 2 |
| RS485 Length Bit | Normal | 8 |
| | Extend | 9 |
| RS485 Stop bit | 0.5 | 0 |
| | 0 | 1 |
| | 1.5 | 2 |
| | 2 | 3 |

Revision #6
Created 23 February 2025 13:21:53 by Yogesh
Updated 23 February 2025 13:51:01 by Yogesh