Modbus-RTU Register Table

- BaudRate: 19,200 bps(fixed), data bit: 8, stop bit: 1, parity: none, flow control: none.

- R = Read   - W = Write (single write)

| Address | | Length | Description | R/W |
Dec	Hex	(short)		
40,000	0x9C40	1	Device ID (1 ~ 200) (*)	R/W
40,001	0x9C41	1	Emissivity (10~100. default : 97) (**)	R/W
40,002	0x9C42	1	Object temperature (To)	R
40,003	0x9C43	1	Ambient temperature (Ta)	R

*: Modbus broadcast not supported.

**: "97" means emissivity "0.97".
    To adjust the emissivity to 0.95, write 95 not 0.95.

Support Modbus function codes

- Read Holding Registers 03 (0x03)
- Write Single Register: 06 (0x06)

Temperature Calculation

The result is calculated by following expressions (valid for both To and Ta):
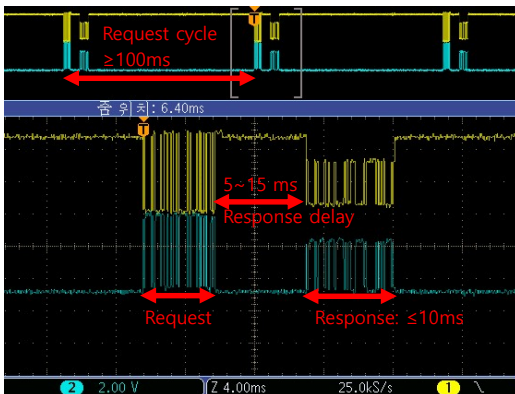
1. Convert it to decimal value i.e. 0x016D = 365d
2. Multiply by 0.1(or divide by 10) i.e. 365 / 10 = 36.5℃

    0xFFF1 = -15 → -1.5℃
    0xFF9C = -100 → -10.0℃
    0x00FF = 255 → 25.5℃

Output Data Limit

Ta: 0xFE83(-38.1℃) … 0x4E2(120.0℃)
To: 0xFE70(-40.0℃) … 0xED8(380.0℃)

Timing

- Request cycle: ≥100ms
- First data request time after Power-on: ≥ 200ms
- Timeout: ≥ 25ms

Note. If there is an error in the request sequence (including crc), there is no response data.

Additional information

Manufacturer: DIWELL Electronics Co., Ltd. (South Korea)
Technical support: mailto:expoeb2@diwell.com, mailto:dsjeong@diwell.com

Revision history

Version	Date(Y,M,D)	Description
1.0.0	2022. 7. 21.	First version is released