LUMINOUS INTENSITY SENSOR - Product Code

wittelB
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SENSOR

WIN-SN-LUX-M

WIN-SN-LUX-Mis a compact, high-precision Light intensity sensor designed for applications requiring low power consumption and small form factor. It ensures reliable measurements over a wide range. Its RS485 communication interface simplifies integration into small, embedded systems, making it ideal for IoT. The sensor's long-term stability ensures consistent performance in harsh environments, making it a cost-effective solution for long-term deployment.In Built DO can use for On/Off the system based on intensity of light. Threshold of the LUX can be set through Modbus. Exceeding threshold will operate a Digital output using relay.

Sensor Specification

Measuring Parameter	Measuring Range	Operating Temperature
Luminous intensity	1-65535 LUX	-20°C ~ 60°C.

Sensor Communication

Start the Sensor: The first step is to power up the sensor with the selected VDD supply voltage (12V DC/230V AC). After power-on, the sensor needs some time (10Us) to reach the idle state.

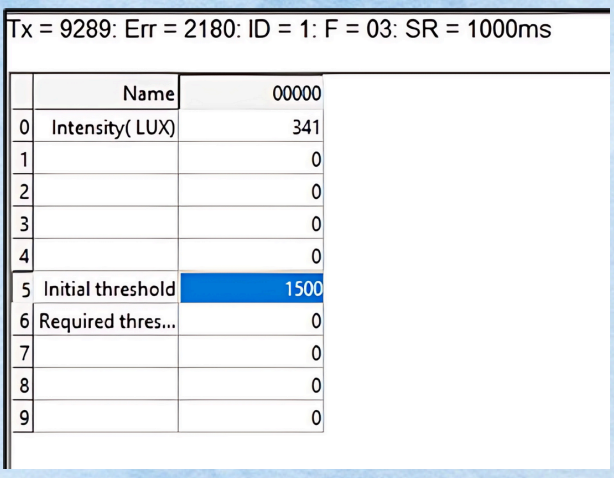
Configuration Setting

Communication Speed - 9600 - 115200 (DIP switch)
Data Bits - 8
Parity - None
Stop bit - 1
CRC - Yes
Function code - 0X03 (Read Holding Register)

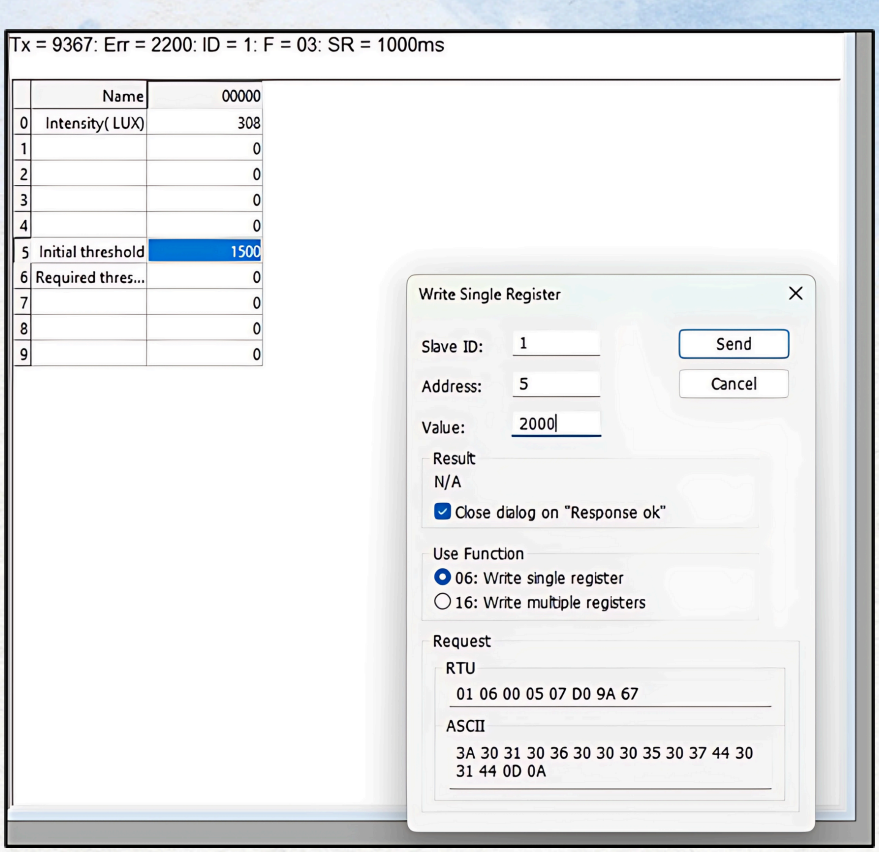
Recommended Cable Electrical Characteristics: -

22 AWG Cable - Shielded and twisted pair should be used.
Tinned Copper - Recommended
Nominal Conductor DCR - 14.7 ohm / 1000 ft
Nominal Capacitance - 11 pf / feet (conductor to conductor)
High Frequency Non-Insertion Loss - 0.5db / 100ft

	Description	Function Code	Register Address	Type
1	Intensity (Lux)	0x03(Read Holding Register)	40000	RS485
2	Initial Threshold	0x03(Read Holding Register)	40005	RS485
3	Required Threshold	0x03(Read Holding Register)	40006	RS485



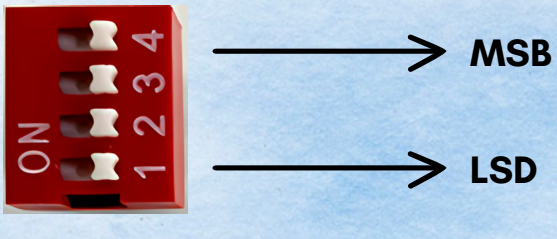
Note: Default baud rate is 9600 (960 in above table) where slave id is 1 .



Important Note:

Luminous intensity(Lux) Data are provided in the multiple of 10, for the sake of higher resolution, you need to divide it by 10 to obtain the actual reading. Example. 308/10 = 30.8 LUX

If wanted to change baud rate/ Slave Id then refer below steps.



- For Baud rate Selection, DIP SW is used as per the diagram.
- Pulling up the switch will make Baud rate active.
- If no selection is made 9600 will be default Baud rate.
- When u change the Baud rate in the Module power 'ON' condition.
- pls press the reset button to get Change to affect.

Baud Rate	DIP SWITCH			
	1	2	3	4
9600	OFF	OFF	OFF	OFF
19200	ON	OFF	OFF	OFF
38400	OFF	ON	OFF	OFF
57600	OFF	OFF	ON	OFF
115200	OFF	OFF	OFF	ON

MSB

LSD

· For Slave ID Selection SW is used to Set The SLAVE ID .
· For Slave ID DIP Switch LSB is "1" follow through "4" is MSB.
· Slave ID Confirmed through below Device ID table .
· IF Eg. Slave ID 1 is Needed to be selected Switch number 1 should pulled up other three should be selected down side. So"1 0 0 0" will be selected as Slave ID 1.

Slave ID	DIP SWITCH				OUTPUT (Binary)	OUTPUT (Decimal)
	1	2	3	4		
0	OFF(0)	OFF(0)	OFF(0)	OFF(0)	1 0 0 0	1
1	ON(1)	OFF(0)	OFF(0)	OFF(0)	1 0 0 0	1
2	OFF(0)	ON(1)	OFF(0)	OFF(0)	0 1 0 0	2
3	ON(1)	ON(1)	OFF(0)	OFF(0)	1 1 0 0	3
4	OFF(0)	OFF(0)	ON(1)	OFF(0)	0 0 1 0	4
5	ON(1)	OFF(0)	ON(1)	OFF(0)	1 0 1 0	5
6	OFF(0)	ON(1)	ON(1)	OFF(0)	0 1 1 0	6
7	ON(1)	ON(1)	ON(1)	OFF(0)	1 1 1 0	7
8	OFF(0)	OFF(0)	OFF(0)	ON(1)	1 0 0 0	8
9	ON(1)	OFF(0)	OFF(0)	ON(1)	1 0 0 1	9
10	OFF(0)	ON(1)	OFF(0)	ON(1)	1 0 1 0	10
11	ON(1)	OFF(0)	ON(1)	ON(1)	1 0 1 1	11
12	OFF(0)	OFF(0)	ON(1)	ON(1)	1 1 0 0	12
13	ON(1)	OFF(0)	ON(1)	ON(1)	1 1 0 1	13
14	OFF(0)	ON(1)	ON(1)	ON(1)	1 1 1 0	14
15	ON(1)	ON(1)	ON(1)	ON(1)	1 1 1 1	15

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