AMMONIA GAS TRANSMITTER, RS485 OUTPUT, 0-300 PPM

User Guide for SRAQ-D198-1

Product Description »

The SRAQ-D198-1 ammonia gas transmitter is a RS485 bus type sensor utilizing the standard Modbus-RTU protocol, allowing for long distance transmission. With a wide detection range of 0-300ppm, this industrial sensor can be used in areas such as public restrooms, manufacturing facilities, warehouses and other commercial buildings where ammonia gas concentration is a concern.

Features »

- Highly sensitive and accurate
- Low power consumption
- Wide detection range 0-300ppm
- Modbus RS485 output
- Wall-mount and dust proof housing

Applications »

- Mining industry
- Agriculture industry
- Farming and Livestock industry
- Public restrooms
- Other IOT systems

Thank you for choosing L-com product. To ensure safe, accurate performance and product longevity, please take a moment to familiarize yourself with this manual before powering the device. Please keep it handy for future reference. In case of any questions regarding the installation or use of product, please call us at 800.341.5266.

Reach out to us at customerservice@l-com.com and visit our website at www.l-com.com

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Technical Parameters »

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Working voltage	12 VDC ± 0.2 V
Detection range	0 – 300 ppm
Output mode	RS485 / MODBUS RTU
Resolution	1 ppm
Measurement error	± 10% FS (25 °C)
Response time	< 2 minutes (When power ON for first time, preheat time is at least half hour. The longer the power ON time, the more stable the data will be.)

Electrical Diagram »

Sr. No.	Function	Notes	Color
1	VCC	12 VDC	Red
2	GND	GND, 0 V	Black
3	RS485_A+	RS485_A+	Yellow / Green
4	RS485_B-	RS485_B-	Blue
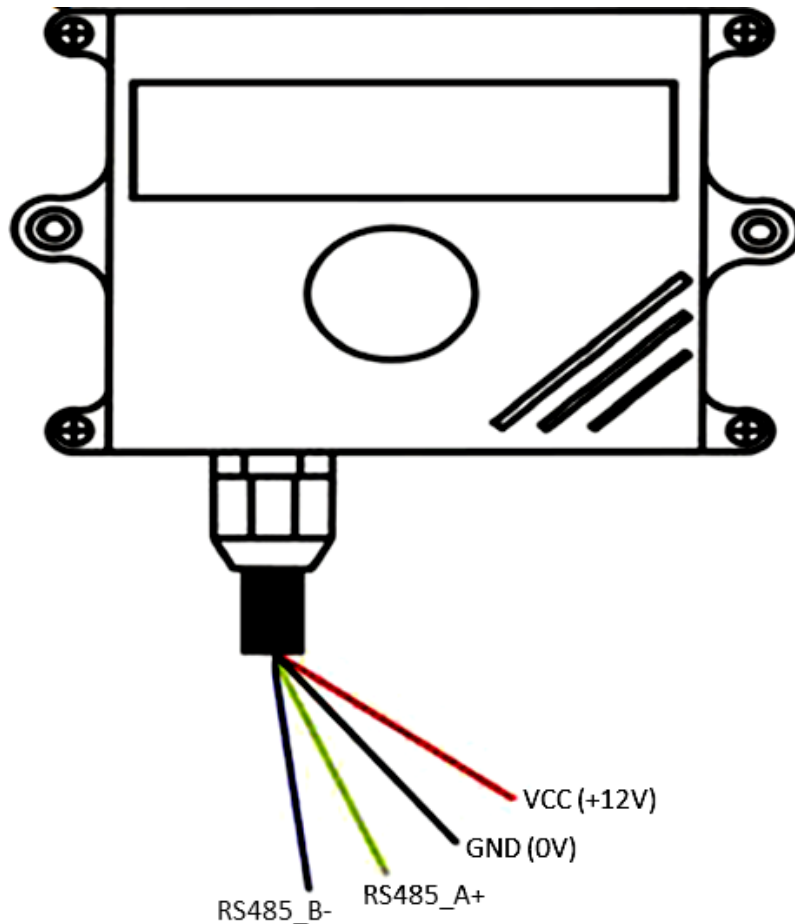
Mounting Diagrams »

Thread hole diameter is 3.7mm.
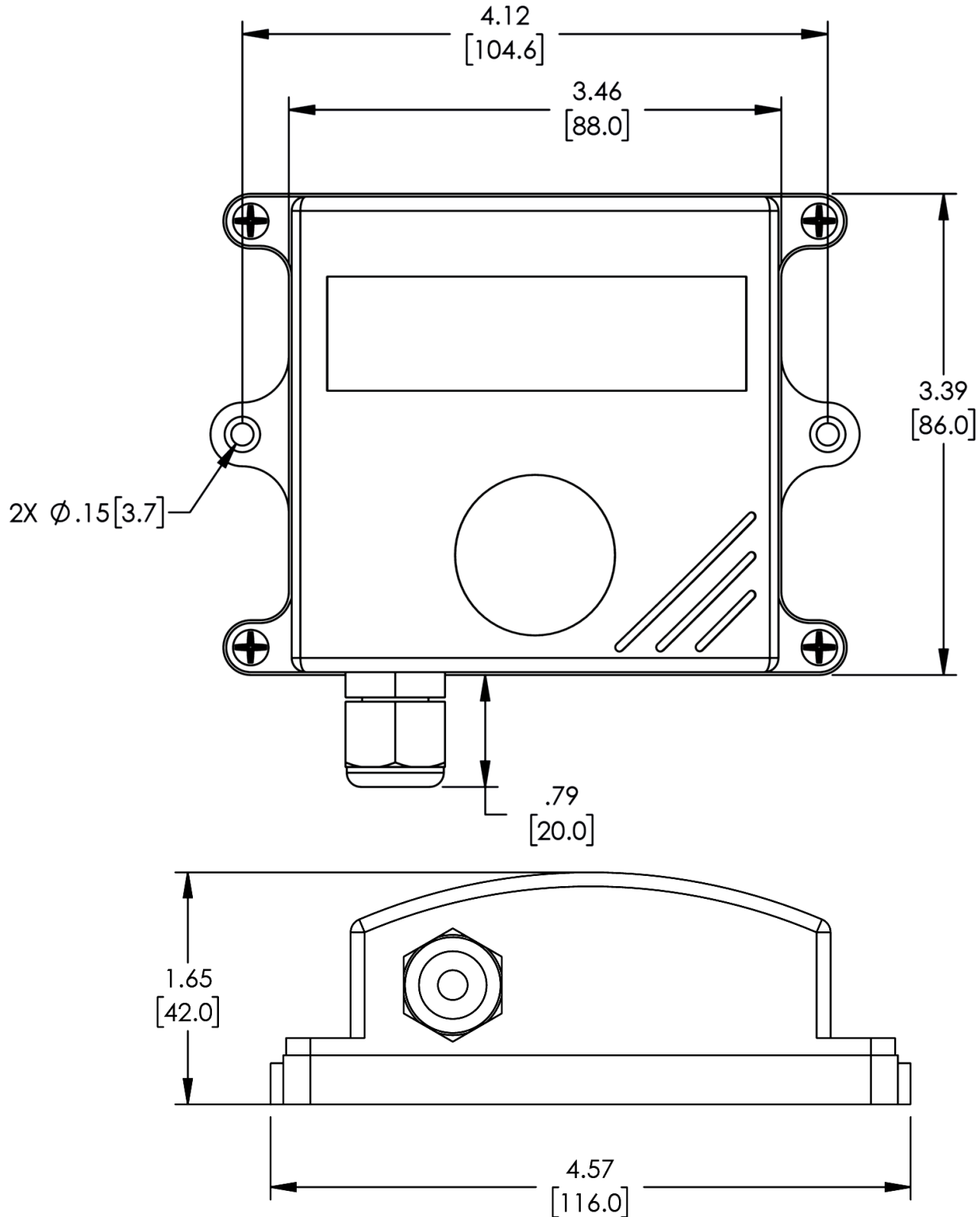
Notes »

1. Please confirm the polarity and value of the power supply before powering ON the transmitter, to avoid damages to the transmitter.

2. Avoid exposure to silicone vapors or areas where silicone adhesives, hairspray, silicone rubber, putty, or silicone-containing plastic additives may be present. If the surface of the sensor adsorbs silicone vapor, it will reduce the sensitivity of the sensor, and it cannot be recovered.

3. Avoid exposure to highly corrosive environments or gases (such as H2S, SOX, Cl2, HCl, etc.) It will not only cause corrosion or damage to heat materials and sensor leads, but also cause irreversible changes in the properties of sensitive materials.

4. Avoid exposure to alkalis, alkali metal salts and halogens.

5. We recommend testing the sensor every six months to ensure the sensitivity of the sensor to the presence of ammonia gas. .

Communication Protocol »

All operations or responses of the device are in hexadecimal data.

Default communication baud rate: 9600, 8, N, 1.

Open 03, 06 two function codes.

CRC check can select A001 or 8005 reverse orders.

Name	Register Address	Type	Value Range
NH3	D00000 (0x0000)	unsigned int	0~300
ID	D00100 (0x0064)	unsigned int	1~247

Data Reading Format »

ID	Function Code	Register Address		Number of Registers		CRC Check	
1~247	03	00	00	00	01	CRC_low	CRC_high

Data Return Format »

ID	Function Code	Data Length		NH3 Data		CRC Check	
1~247	03	00	02	Data_high	Data_low	CRC_low	CRC_high

NH3 concentration calculation: (Data-high * 256 + data-low) / 100

0 x 00BD (Hex) / 10 => 189 (Dex) / 10 = 1.89 ppm

Device ID modification command format:

ID	Function Code	Register Address		New ID		CRC Check	
1~254	06	00	64	xx	xx	CRC_low	CRC_high

When the returned data is consistent with the sent data, the ID modification is successful.