

# User Guide

## Introduction

The RS485-to-Alarm Converter is a module that controls audio-visual alarm outputs via Modbus RTU commands and is compatible with GS1 series devices. It receives control instructions through the RS485 bus to turn the alarm on or off, enabling remote warning and alert notifications for systematic and automated management.

## Use Case Scenarios

It is extensively applied in industrial automation alarm systems, environmental monitoring alerts, equipment status indication, building security, and fire safety systems.

## Features

- No configuration required, plug and play
- RS485-controlled output
- Reliable and stable communication
- Configurable parameters for versatile applications

## Specification

Specification	
Model	UB-ARS-N1
Power Supply	DC 12V
Output Voltage	DC 12V
Enclosure Material	ABS Plastic
Net Weight	18 g
Cable Length	320 mm
Connector	1 × Audio Male Plug & 1 × 35135 Female Socket
Communication Protocol	RS485 Modbus RTU Protocol
RS485 Address	0xFD
Baud Rate	4800 bit/s, 9600 bit/s (default), 19200 bit/s, 38400 bit/s, 57600 bit/s, 115200 bit/s

## Wiring Instruction

Wiring Instruction				
RS485	VCC	B	A	GND
Audio	Red	Green	White	Black



## Communication protocols

### 1. Communication basic parameters

Communication Basic Parameter	
Coding System	8-bit binary
Data Bit	8 bits
Parity Checking Bit	none
Stop Bit	1 bit
Error Checking	CRC Check
Baud Rate	4800 bit/s, 9600 bit/s (default), 19200 bit/s, 38400 bit/s, 57600 bit/s, 115200 bit/s

### 2. Data Frame Format

The Modbus-RTU communication protocol is used in the following format:

- Initial structure  $\geq 4$  bytes in time.
- Address code: 1 byte, default 0xFD.
- Function code: 1 byte, support function code 0x03 (read only) and 0x06 (read/write).
- Data area: N bytes, 16-bit data, high byte comes first.
- Error check: 16-bit CRC code.
- End structure  $\geq 4$  bytes of time.

Request							
Slave Address	Function Code	Register Address	No. of Registers	CRC LSB		CRC MSB	
1 byte	1 byte	2 bytes	2 bytes	1 byte		1 byte	
Response							
Slave Address	Function Code	No. of Bytes	Content 1	Content 1	...	Content n	CRC
1 byte	1 byte	1 byte	2 bytes	2 bytes	...	2 bytes	2 bytes

### 3. Register Address

Register Address				
Address	Content	Register Length	Function Code	Description of definitions
0x0010	Address	1	06	1 ~ 255
0x0030	Alarm Control	1	06	On: 00 00, Off: 00 FF

## Product Application

1. Do not plug or unplug the device while powered on. Always power off before connecting or disconnecting to avoid equipment damage.
2. The alarm output must not be connected directly to high-voltage loads. If you need to drive a 220V audio-visual alarm, please use a relay as an intermediary control.
3. Avoid address conflicts. If the communication address conflicts with other sensors, please modify the device address accordingly.