



Traffic Light Signal Detector

User Manual

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Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 Note	Provides additional information to emphasize or supplement important points of the main text.
 Caution	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 Danger	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

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Chapter 1 Introduction

1.1 Product Introduction

Traffic Light Signal Detector (hereinafter referred to as "device") supports 22-channel signal light detection capabilities, and the detected data is transmitted to the upper-level device via RS-485 or network interfaces. Data detection and communication are achieved by a microcontroller, ensuring long-term stable and reliable operation. The data transmission modes include active upload and search mode.

1.2 Key Features

- Integrated capture and display. Capture results are displayed in real time.
- 22-ch signal light AC signal input interface.
- 100 M RJ-45 network interface, RS-485 output interface, and 5V DC output interface.
- 5-digit switch to set baud rate, address, and upload mode.
- 22-ch lights to show status.
- Detection and communication unit using microcontroller, highly stable and reliable.
- Input interface with voltage protection, light/electric separation.
- Real-time output of light status.

Chapter 2 Panel

2.1 Front Panel

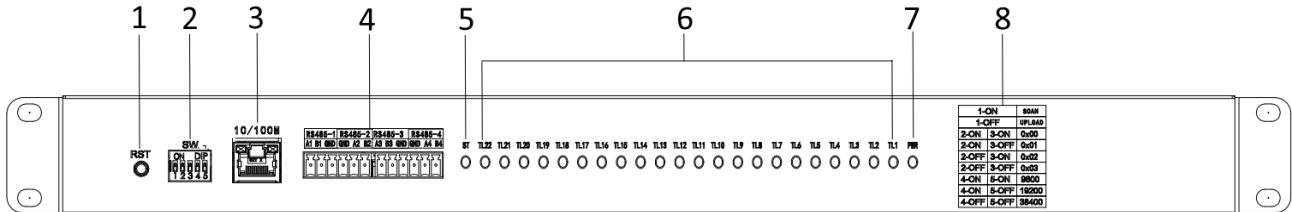


Figure 2-1 Front Panel Interface

Table 2-1 Front Panel Interface Description

No.	Name	Description
1	Reset Button	Hold it for more than 3 seconds to reset the device after DIP switch settings are changed.
2	DIP Switch	Used to set the IP address, baud rate, and upload mode. See Table 2-2 for details.
3	10/100 M Ethernet Port	100 Mbps Ethernet port.
4	RS-485 Interface	4 sets of RS-485 interfaces in total.
5	System Indicator	Flashing green indicates data transmission is in progress.
6	Input Signal Indicator	Solid red when there is a signal input, and unlit when no signal input.
7	Power Indicator	Solid green after power-on.
8	Status Table	5-bit DIP switch settings instruction. See Table 2-2 for details.

Table 2-2 DIP Switch Settings Instruction (Status Table)

Name	DIP Switch Position		Function	Description
DIP Switch	1-ON		Set Mode	Search Mode
	1-OFF			Active Upload
	2-ON	3-ON	Set Address	Address: 0×00
	2-ON	3-OFF		Address: 0×01
	2-OFF	3-ON		Address: 0×02
	2-OFF	3-OFF		Address: 0×03
	4-ON	5-ON	Set Baud Rate	Baud rate: 9600
	4-ON	5-OFF		Baud rate: 19200
	4-OFF	5-ON		None
	4-OFF	5-OFF		Baud rate: 38400

2.2 Rear Panel

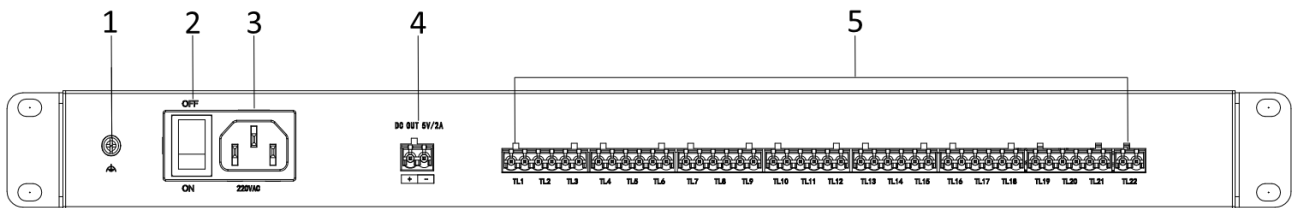


Figure 2-2 Rear Panel Interface



Caution

- Cut off the power supply before operation.
- The signal input uses 100 to 240 VAC, 50 Hz/60 Hz high voltage. Avoid touching after power-up.

Table 2-3 Rear Panel Interface Description

No.	Name	Description
1	Grounding Screw	Used for grounding the device casing.
2	On/Off Button	Turn on/off the device.
3	Power Input	100 to 240 VAC, 50 Hz/60 Hz power input.
4	5 VDC Output Terminals	5 VDC output terminals.
5	Traffic Light Signal Input Terminals	Used for 22-channel traffic light signal input.

Chapter 3 Typical Scenarios

The traffic light signal detector can be directly connected to multiple network traffic cameras (usually in active upload mode), as shown in the figure below.

The traffic light signal detector transmits the detected red light status data to the cameras in real-time via the RS-485 bus. Upon receiving the data, the cameras will parse it and process the signal status (e.g., red or green light signal status).

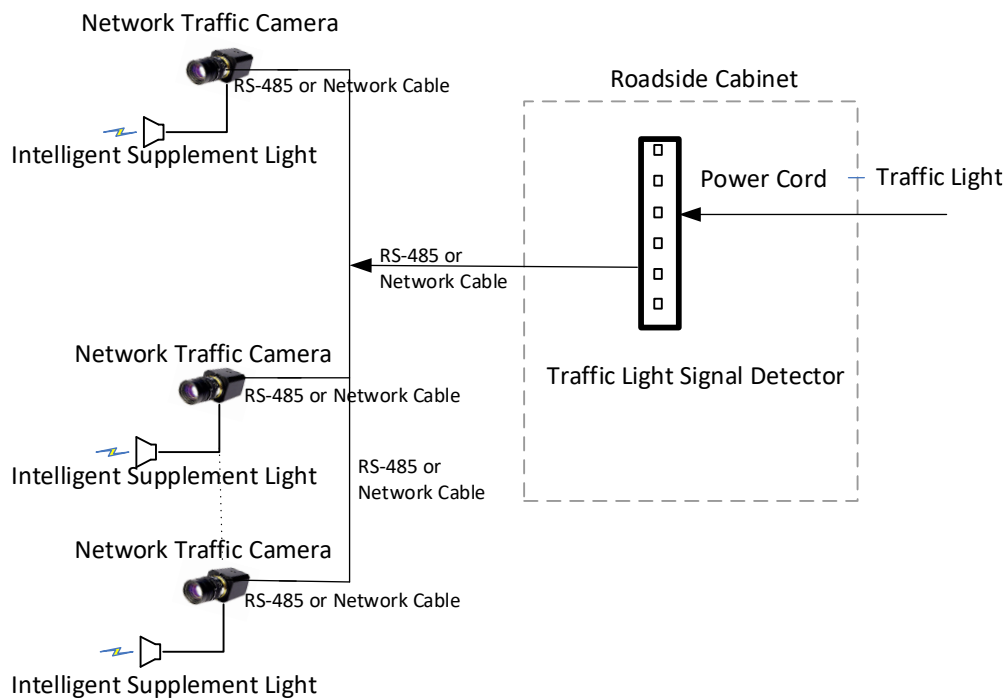


Figure 3-1 Connection with Cameras

