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PoE Video Repeater

User Manual

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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Conditions

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.



Safety Instruction

These instructions are intended to ensure that user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into “Warnings” and “Cautions”

Warnings: Serious injury or death may occur if any of the warnings are neglected.

Cautions: Injury or equipment damage may occur if any of the cautions are neglected.

	
Warnings Follow these safeguards to prevent serious injury or death.	Cautions Follow these precautions to prevent potential injury or material damage.

Warnings

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100 to 240 VAC or 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.
- The installation surface should bear the force which is 3 times of the device gravity and not less than 50 N.
- If the device is wall-mounted, adopt the expansion screws of M3X10 or above.



Applicable Models

This manual is applicable to the models listed in the following table.

Series	Model
DS-1H34 Series PoE Video Repeater	DS-1H34-0101P
	DS-1H34-0102P

Symbol Conventions

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

Symbol	Description
	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
	Provides additional information to emphasize or supplement important points of the main text.

1 Introduction

1.1 Overview

The DS-1H34 Series PoE Video Repeater is used for the network connection of the devices in the security video security project. The video repeater can be cooperated with the IP camera and access layer PoE switch to extend the transmission distance of network and PoE signal and transmit the signal of the front-end network device to the center when the network cable is longer than 100 meters.

1.2 Features

- Support 1-ch input and 1-ch output, and 1-ch input and 2-ch output PoE relay function.
- Support EXTEND mode of PSE (Power Sourcing Equipment) output interface. The transmission distance of single-stage network can be extended to 250 meters when the EXTEND mode is enabled.
- Standard Cat. 5e twisted pair. For 100 Mbps mode, the repeater supports 4-stage cascade and the max. transmission distance reaches 400 meters (terminal power consumption < 5W). For EXTEND mode, the max. transmission distance reaches 500 meters (terminal power consumption < 5W).
- IEEE802.3at and IEEE802.3af are supported for PoE output.
- 10/100BaseT(X) (RJ45 interface).
- IEEE802.3, IEEE802.3u and IEEE802.3x network standards available.
- Store-and-forward switching method.
- The time delay of data exchange is shorter than 5 microseconds.
- The working temperature range for wide temperature range models is within -30°C to 70°C.
- Solid metal case of high strength.

1.3 Typical Application

1.3.1 1-ch Input and 2-ch Output Mode

Refer to Figure 1-1 for the 1-ch input and 2-ch output mode.



Figure 1-1 1-ch Input and 2-ch Output Mode

NOTE DS-1H34-0102P does not support cascade.

1.3.2 100 Mbps Mode Cascade (with EXTEND Mode Off)

Refer to Figure 1-2 for the 100 Mbps mode cascade.

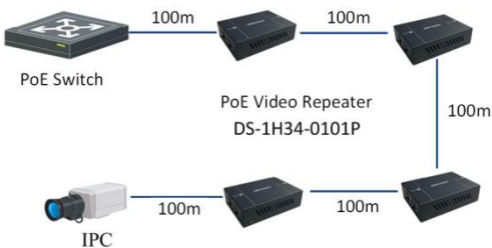


Figure 1-2 100 Mbps Mode Cascade



The power of the IP camera should be lower than 5W.

1.3.3 10 Mbps Mode (with EXTEND Mode On)

Refer to Figure 1-3 for the 100 Mbps mode.



Figure 1-3 10 Mbps Mode



- The power of the IP camera should be lower than 5W.
- The network interface of PoE switch should be configured to be 10 Mbps.
- The EXTEND mode does not support cascade.

2 Panels

2.1 Input Panel

Refer to Figure 2-1 for the input panel (PoE IN) of DS-1H34-0101P and DS-1H34-0102P.

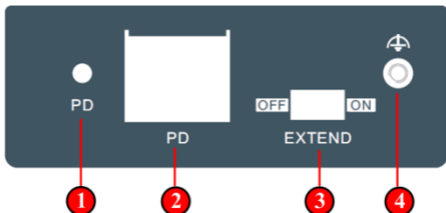


Figure 2-1 Input Panel

Refer to Table 2-1 for the description of input panel (PoE IN) of DS-1H34-0101P and DS-1H34-0102P.

Table 2-1 Description of Input Panel

Serial No.	Item	Description
1	PD Indicator	Lights in green when PSE is connected.
2	RJ45 Interface	Input network interface: 10/100BaseT(X) and IEEE 802.3at standard of PD (Power Device) connection. The indicator lights in yellow when there is no data transmission and flashes in yellow when there is data transmission when PSE is connected.
3	DIP Switch	ON: 10 Mbps mode of PSE network interface is enabled and the network transmission distance can reach 200 meters. OFF (default): Normal 100 Mbps mode of PSE network interface is enabled and the network transmission distance is 100 meters.
4	GND	Ground terminal.

2.2 Output Panel

Refer to Figure 2-2 for the input panel (PoE IN) of DS-1H34-0101P and DS-1H34-0102P.

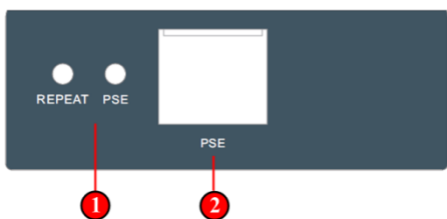


Figure 2-2 Output Panel of DS-1H34-0101P

Refer to Table 2-2 for the description of output panel (PoE OUT) of DS-1H34-0101P.

Table 2-2 Description of Output Panel for DS-1H34-0101P

Serial No.	Item	Description
1	Indicators	REPEAT Indicator: Lights in red when the output power exceeds the limit. PSE Indicator: Lights in green when PD is connected and the power supply is normal.
2	RJ45 Interface	Output network interface: 10/100BaseT(X) and IEEE 802.3af/at standard of PSE output.

Refer to Figure 2-3 for the output panel (PoE OUT) of DS-1H34-0102P.

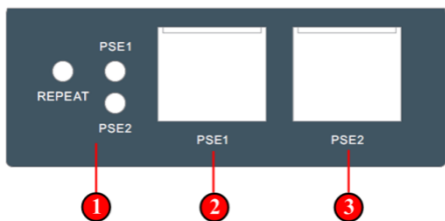


Figure 2-3 Output Panel of DS-1H34-0102P

Refer to Table 2-3 for the description of output panel (PoE OUT) of DS-1H34-0102P.

Table 2-3 Description of Output Panel for DS-1H34-0102P

Serial No.	Item	Description
1	Indicator	<p>REPEAT Indicator: Lights in red when the output power exceeds the limit.</p> <p>PSE1 Indicator: Lights in green when PD is connected to the PSE1 and the power supply is normal.</p> <p>PSE2 Indicator: Lights in green when PD is connected to the PSE2 and the power supply is normal.</p>
2	RJ45 Interface	Output network interface 1: 10/100BaseT(X) and IEEE 802.3af standard of PSE output.
3	RJ45 Interface	Output network interface 2: 10/100BaseT(X) and IEEE 802.3af standard of PSE output.

3 Dimension

Refer to Figure 3-1 for the dimension of DS-1H34 series PoE video repeater.

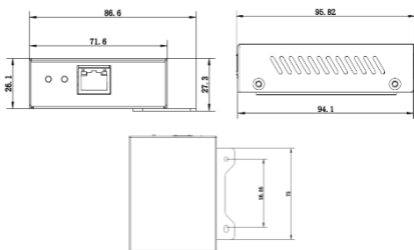


Figure 3-1 Dimension

4 Appendix

4.1 Specifications

Model	DS-1H34-0101P	DS-1H34-0102P
Input	1-ch 10/100BaseT(X) and IEEE 802.3at standard of PD connection.	
Output	1-ch 10/100BaseT(X) and IEEE 802.3af/at standard of PSE output.	2-ch 10/100BaseT(X) and IEEE 802.3af standard of PSE outputs.
MTBF (Mean Time Between Failure)	100000 hours	
Consumption	< 2W	
Working Temperature	-30 °C to +70 °C (-22 °F to +158 °F)	
Working Humidity	10% to 90%	
Dimensions (W×H×D)	71.6 × 26.1 × 95.5 mm (2.8 × 1.0 × 3.8 inch)	
Weight	0.3 Kg (0.7 lb)	
ESD (Electro-Static Discharge)	Contact discharge: ±7 KV Air discharge: ±9 KV	
Surge	Power port: Line-to-ground: ±2 KV; Line-to-line: 1 KV Network port: Line-to-ground: ±4 KV	
EFT (Electrical Fast Transient Burst)	Network port: ±2 KV	

4.2 Glossary

Glossary	Description
PSE (Power Sourcing Equipment)	The power sourcing equipment in PoE system.
PD (Power Device)	The power receiving equipment in PoE system.
IEEE 802.3af	PoE standard. The PSE can supply power to the PD lower than 13W via Ethernet transmission cable.
IEEE 802.3at	PoE standard. The PSE can supply power to the PD lower than 30W via Ethernet transmission cable.