

# Lite HDCVI Optical Transceiver

## User's Manual V1.0.0

NO.1.251.18.11794-000

### Important Safeguard and Warning

Please read the following safeguards and warnings carefully before using the product in order to avoid damages and losses.

Note:

- Do not expose the device to lampblack, steam or dust. Otherwise it may cause fire or electric shock.
- Do not install the device at position exposed to sunlight or in high temperature. Temperature rise in device may cause fire.
- Do not expose the device to humid environment. Otherwise it may cause fire.
- The device must be installed on solid and flat surface in order to guarantee safety under load and earthquake. Otherwise, it may cause device to fall off or turnover.
- Do not place the device on carpet or quilt.
- Do not block air vent of the device or ventilation around the device. Otherwise, temperature in device will rise and may cause fire.
- Do not place any object on the device.
- Do not disassemble the device without professional instruction.

Warning:

- Please use battery properly to avoid fire, explosion and other dangers.
- Please replace used battery with battery of the same type.
- Do not use power line other than the one specified. Please use it properly. Otherwise, it may cause fire or electric shock.

### Special Announcement

- This manual is for reference only.
- All the designs and software here are subject to change without prior written notice.
- All trademarks and registered trademarks are the properties of their respective owners.
- If there is any uncertainty or controversy, please refer to the final explanation of us.
- Please visit our website for more information.

# 1 Product Overview

## 1.1 Product Model

The manual is designed for three products which are 4-Ch Lite HDCVI Optical Transceiver (PFO2410T/R), 8-Ch Lite HDCVI Optical Transceiver (PFO2810T/R) and 16-Ch Lite HDCVI Optical Transceiver (PFO2910T/R)

## 1.2 Features

- Support HDCVI video format 720p/25、720p/30、720p/50、720p/60、1080p/25、1080p/30.
- High definition, real-time.
- Metal plate is used for the structure, fully enclosed dustproof design.
- Temperature design: -40°C~70°C
- UPnP with simple installation.
- LED status indicator shows the working condition of optical transceiver.

## 1.3 Typical Application

The typical application of the device is shown in Figure 1-1.

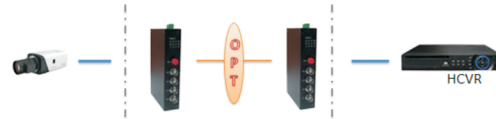


Figure 1-1

# 2 Device Structure

## 2.1 4-Ch Lite HDCVI Optical Transceiver

This section will introduce the panel of the sender and receiver for 4-Ch Lite HDCVI Optical Transceiver.

### 2.1.1 Front Panel of Sender

Please refer to Figure 2-1 for more details about the front panel of sender.

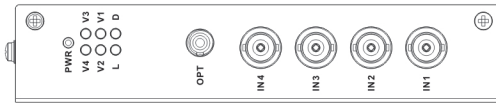


Figure 2-1

Please refer to Sheet 2-1 for indicators and Sheet 2-2 for ports.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4	BNC video input indicator	Green	Video access is normal
L	Optical status indicator	Green	Fiber connection is normal
D	RS485 data transmission indicator	Green light flashing	Transmitting RS485 data

Sheet 2-1

Port	Note
OPT	FC fiber port
IN1/IN2/IN3/IN4	Video input port

Sheet 2-2

### 2.1.2 Front Panel of Receiver

Please refer to Figure 2-2 for the front panel of receiver.

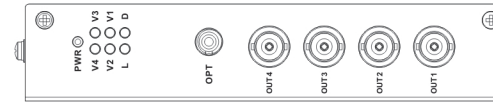


Figure 2-2

Please refer to Sheet 2-3 for indicators and Sheet 2-4 for ports.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4	Fiber video signal indicator	Green	Video signal in fiber is normal The sender IN1/IN2/IN3/IN4 video signal is normal
L	Optical status indicator	Green	Fiber connection is normal
D	RS485 data transmission indicator	Green light flashing	Transmitting RS485 data

Sheet 2-3

Port	Note
OPT	FC fiber port
IN1/IN2/IN3/IN4	Video input port

Sheet 2-4

### 2.1.3 Side Panel

The section mainly introduces the side panel of sender and receiver for 4-Ch Lite HDCVI Optical Transceiver. Please refer to Figure 2-3.

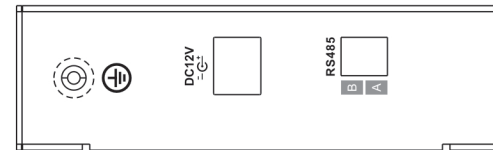


Figure 2-3

Please refer to Sheet 2-5 for ports.

Port	Note
DC12V	Power port
RS485	RS485 control data

Sheet 2-5

## 2.2 8-Ch Lite HDCVI Optical Transceiver

This section will introduce the panel of the sender and receiver for 8-Ch Lite HDCVI Optical Transceiver.

### 2.2.1 Front Panel of Sender

Please refer to Figure 2-4 for the front panel of sender.

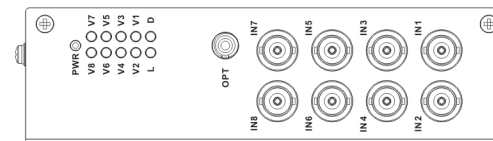


Figure 2-4

For indicator, please refer to Sheet 2-6. For other ports, please refer to Sheet 2-7.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4/V5/V6/V7/V8	BNC video input indicator	Green	Video access is normal
L	Optical status indicator	Green	Fiber connection is normal
D	RS485 data transmission indicator	Green light flashing	Transmitting RS485 data

Sheet 2-6

Port	Note
OPT	FC fiber port
IN1/IN2/IN3/IN4	Video input port

Sheet 2-7

### 2.2.2 Front Panel of Receiver

Please refer to Figure 2-5 for the front panel of receiver.

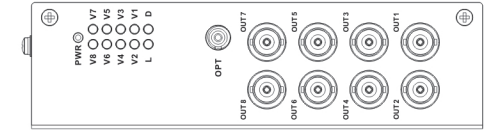


Figure 2-5

For indicator, please refer to Sheet 2-8. For other ports, please refer to Sheet 2-9.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4/V5/V6/V7/V8	Fiber video signal indicator	Green	Video signal in fiber is normal The sender IN1/IN2/IN3/IN4/IN5/IN6/IN7/IN8 video signal is normal
L	Optical status indicator	Green	Fiber connection is normal
D	RS485 data transmission indicator	Flashing green	Transmitting RS485 data

Sheet 2-8

Port	Note
OPT	FC fiber port
OUT1/OUT2/OUT3/OUT4/OUT5/OUT6/OUT7/OUT8	HDCVI video output port

Sheet 2-9

### 2.2.3 Side Panel

The section mainly introduces the side panel of sender and receiver for 8-Ch Lite HDCVI Optical Transceiver. Please refer to Figure 2-6.

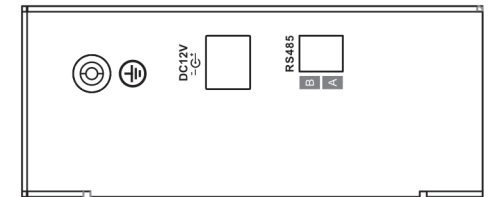


Figure 2-6

Please refer to Sheet 2-10 for ports.

Port	Note
DC12V	Power port
RS485	RS485 control data

Sheet 2-10

## 2.3 16-Ch Lite HDCVI Optical Transceiver

This section will introduce the panel of the sender and receiver for 16-Ch Lite HDCVI Optical Transceiver.

### 2.3.1 Front Panel of Sender

Please refer to Figure 2-7 for the front panel of sender.



Figure 2-7

Please refer to Sheet 2–11 for indicator lights and Sheet 2–12 for ports.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4 /V5/V6/V7/V8 /V9/V10/V11 /V12/V13/V14 /V15/V16	BNC video input indicator	Green	Video access is normal
L	Optical link status indicator	Green	Fiber connection is normal
D	RS485 data transmission indicator	Flashing green	Transmitting RS485 data

Sheet 2–11

Port	Note
SFP+	SFP+ optical port
RS485–1	RS485 control data port
RS485–2	
IN1/IN2/IN3/IN4/IN5/IN6/IN7/IN8/IN9/ /IN10/IN11/IN12/IN13/IN14/IN15/IN16	Video input port

Sheet 2–12

### 2.3.2 Front Panel of Receiver

Refer to Figure 2–8 for the front panel of receiver.



Figure 2–8

Please refer to Sheet 2–13 for indicators and Sheet 2–14 for ports.

Indicator	Note	Color	Device status
PWR	Power status indicator	Green	Power connection is normal
V1/V2/V3/V4 /V5/V6/V7/V8 /V9/V10/V11 /V12/V13/V14 /V15/V16	Fiber video signal indicator	Green	Video signal in fiber is normal The sender IN1/IN2/IN3/IN4 /IN5/IN6/IN7/IN8/IN9/IN10 /IN11/IN12/IN13/IN14/IN15 /IN16 video signal is normal
LOS	Optical link status indicator	Green	Fiber connection is normal
DATA	RS485 data transmission indicator	Flashing green	Transmitting dataqw

Sheet 2–13

Port	Note
SFP+	SFP+ optical port
RS485–1	RS485 control data port
RS485–2	
OUT1/OUT2/OUT3/OUT4/OUT5/OUT6/ OUT7/OUT8/OUT9/OUT10/OUT11/OUT12/ OUT13/OUT14/OUT115/OUT16	HDCVI Video output port

Sheet 2–14

### 2.3.3 Rear Panel

Please refer to Figure 2–9 for the rear panel structure of both sender and receiver of 16–Ch Lite HDCVI Optical Transceiver.



Figure 2–9

Please refer to Sheet 2–15 for ports.

Port	Note
DC12V	Power port

Sheet 2–15

## 3 Installation Guide

4–Ch/8–Ch Lite HDCVI Optical Transceiver supports DIN rail installation; 16–Ch Lite HDCVI Optical Transceiver supports rack–mounted installation. This chapter mainly introduces 4–Ch/8–Ch Lite HDCVI Optical Transceiver supports DIN rail installation.

### Note:

- 4–Ch Lite HDCVI Optical Transceiver supports the rail with the width of 28mm.
- 8–Ch Lite HDCVI Optical Transceiver supports the rail with the width of 38mm.

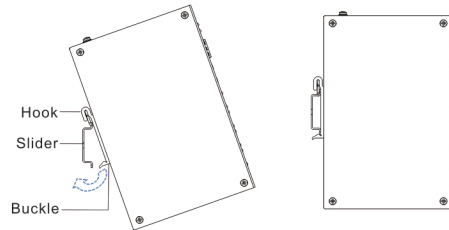


Figure 3–1

## 4 Appendix 1 Technical Specifications

Product Model	PFO2410T/R	PFO2810T/R	PFO2910T/R
Optical Index			
Physical Port	FC port, single mode single fiber	LC port, single mode single fiber	
Transmission Distance	0 ~ 20km		
Input/output Wave Length	Sender: 1310nm Tx 1550nm Rx Receiver: 1550nm Tx 1310nm Rx		
HDCVI Video Index			
Physical Port	Sender: 4*BNC, 1*RS485 Receiver: 4*BNC, 1*RS485	Sender: 8*BNC, 1*RS485 Receiver: 8*BNC, 1*RS485	Sender: 16*BNC, 2*RS485 Receiver: 16*BNC, 2*RS485
Sending end Input Electrical Level	>500mVp–p		
Receiving end Output Electrical Level	1Vp–p		
Input Auto Cable Balance	1080p: 75–5 coaxial cable support 300m 720p: 75–5 coaxial cable support 500m		
Input/Output Impedance	75 Ω		
Video Bandwidth	45MHz		
Sampling Bandwidth	10bit		
Sampling Frequency	108MHz		
HDCVI Coaxial Control Data Index			
Work Mode	Half–duplex		
Error Rate	<10 <sup>–9</sup>		
Baud Rate	9600bps		
Lightning Protection Level			
Level	Level 4		
Indicator	Optical status indicator, power status indicator, RS485 data transmission indicator, video indicator		
Power	DC12V 1A		DC12V 3A
Power Consumption	Sender <6W, Receiver <4W	Sender <12W, Receiver <8W	Sender <24W, Receiver <20W
Humidity	10% ~ 90%		
Temperature	– 40°C ~ 70°C		
Unit Weight	480g	630g	3390g
Dimension	100mm x 150mm x 30mm	100mm x 150mm x 42mm	440mm x 300mm x 43.65mm
Installation	DIN rail		Rack–mounted

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