Colorlight

H10FN

Fiber Optic   User Manual

CONTENTS

Safety Information

To avoid personal injury and equipment damage, please read and comply with the following instructions.

Do not disassemble the device
Unauthorized disassembly is prohibited for non-technical personnel.

Use manufacturer-approved power supplies and accessories
Please use the power adapter delivered together with the device or adopt a power supply that complies with the electrical specification of the device.

Avoid contact between functional ports and energized components
This product is electronic, and contact between its functional ports and energized components may damage circuitry and disrupt normal operation.

Grounding
Ensure proper grounding to protect users from electric shock.

Class A statement
Warning: Using the product in a residential environment may cause radio interference.

Environmental Conditions
Please use this device at altitudes of 5,000 meters or below.

Avoid moisture
This product is not waterproof. Do not expose it to liquids or use it in humid environments.

Keep away from flammable and explosive materials

Unpacking and inspection
After unpacking, please check the attached packing list and see whether all parts are included. If you find any parts incomplete or missing, please contact the seller promptly.

01 **INTRODUCTION**

1.1 Overview

H10FN is a high-performance accessory featuring one Neutrik opticalCON fiber port and ten Neutrik RJ45 Gigabit Ethernet (GbE) ports. With enhanced compatibility, it also works seamlessly with LC-LC fiber ports.
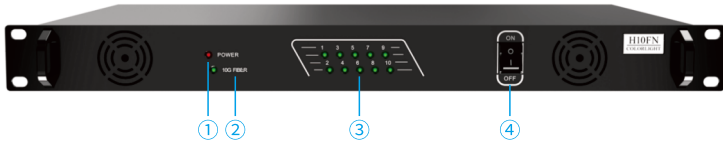
H10FN excels in data transmission, supporting up to 10Gb/s transmission rates on its fiber port and each GbE port. Designed for single-mode dual core fiber, the unit comes standard with an optical module offering a transmission distance of 2 km. For applications requiring extended reach, optional optical fiber modules are available to extend the range to 20 km.

Among the key features of H10FN are its plug-and-play and hot-swapping operations, without the need for any driver or configuration, making it exceptionally easy to use across diverse applications.

01 INTRODUCTION

1.2 Appearance

Front Panel

No.	Name	Description
1	POEWR	Power status LED: - Steady on: H10FN is powered on. - Off: H10FN is powered off.
2	10G FIBER	Fiber port status LED: -Blinking green: This port is connected. -Off: This port is not connected.
3	1~10	Ethernet ports status LEDs: -Blinking green: This port is connected. -Off: This port is not connected.
4	ON/OFF	Power switch: -Switch to O: Power on H10FN. -Switch to I: Power off H10FN.

01 **INTRODUCTION**

1.2 Appearance

Rear Panel
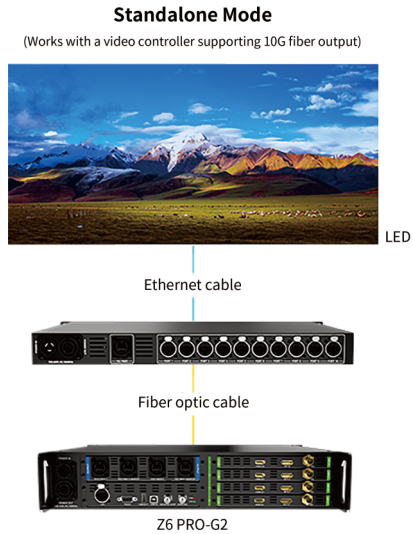

No.	Name	Description
1	POEWR IN/ POWER OUT	POWER IN: Neutrik (NAC3PX-TOP) power input, 100-240V~, 50/60Hz. POWER OUT: Neutrik (NAC3PX-TOP) power output, 4A (maximum).
2	10G FIBER	Fiber port: Neutrik opticalCON DUO fiber port, compatible with LC-LC fiber port.
3	PORT 1 ~ PORT 10	10×GbE ports

02 DEVICE CONNECTION

2.1 Application I (Standalone Mode)

🔍 Connect the fiber optic transceiver's fiber port to Z6 PRO-G2 using a fiber optic cable.

(Note: The fiber optic transceiver works with the FPGA program corresponding to the standalone-mode operation.)
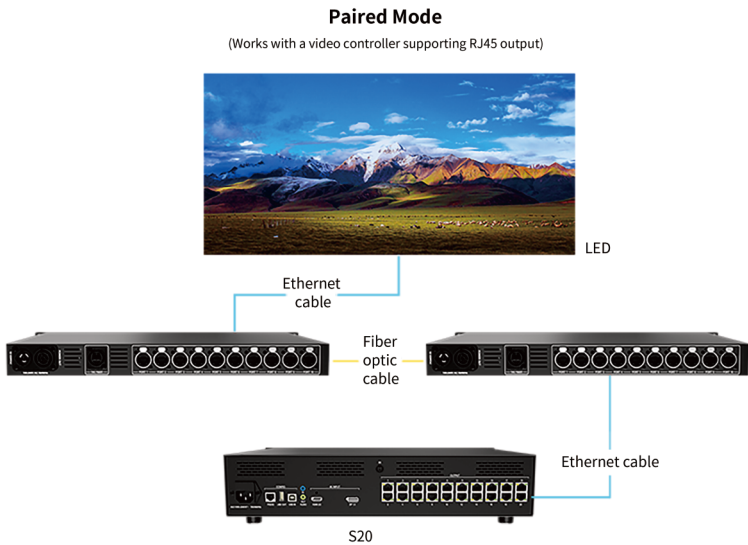
Standalone Mode

(Works with a video controller supporting 10G fiber output)

LED

Ethernet cable

Fiber optic cable

Z6 PRO-G2

2.2 Application II (Paired Mode)

🔍 Connect two fiber optic transceivers using a fiber optic cable. Connect one transceiver's Ethernet port to the video controller's RJ45 Ethernet port using an Ethernet cable; connect the other transceiver to the LED screen using another Ethernet cable.

(Note: The fiber optic transceiver works with the FPGA program corresponding to the paired-mode operation.)

Paired Mode

(Works with a video controller supporting RJ45 output)

LED

Ethernet cable

Fiber optic cable

Ethernet cable
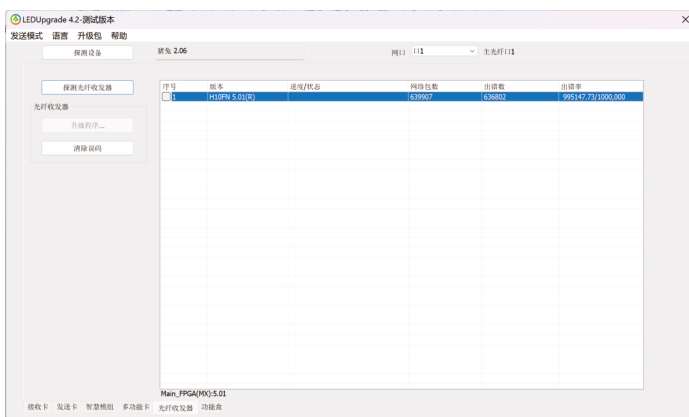
S20

03 SOFTWARE SETTINGS

Please use LEDUpgrade to detect and upgrade the fiber optic transceiver.

● Please detect the fiber optic transceiver using the sending device to ensure the transceiver is properly connected.

● LEDUpgrade is the software used for upgrading devices. You can download LEDUpgrade from the Colorlight website at www.colorlightinside.com.

3.1 Viewing Fiber Optic Transceiver Information

In LEDUpgrade, go to the Sender tab and click Detect Sender to retrieve sender card information. Next, switch to the Fiber Transceiver tab and click Detect Fiber Transceiver to obtain basic information about the detected fiber optic transceiver.
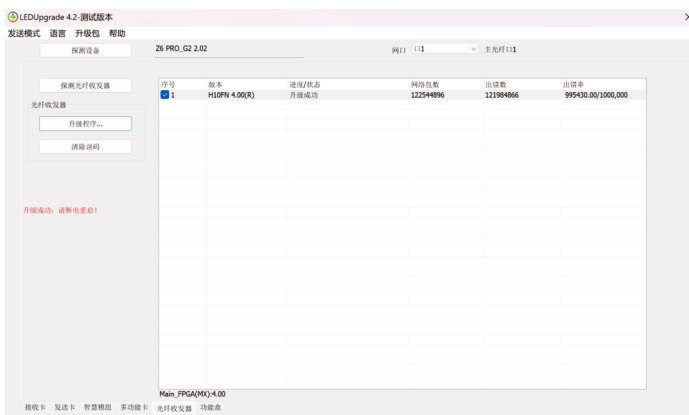
● Fiber Optic Transceiver Information Page

04 FIRMWARE UPGRADE

To upgrade firmware using LEDUpgrade, ensure a proper connection between the sending device and the fiber optic transceiver.

● Go to the Fiber Transceiver tab and click Detect Fiber Transceiver. Select the desired transceiver for upgrade. Click Upgrade Firmware and choose the .fw upgrade package. After the upgrade, power off the transceiver and restart it.
● After restarting, select the upgraded transceiver and verify that the firmware version matches the upgraded version.
● Upgrade success page

05 PRODUCT FEATURES

High Flexibility

- Two operating modes: Supports standalone and paired modes; select the desired mode as needed.

Easy Maintenance

- Firmware upgrade: Supports quick firmware upgrades for fiber optic transceivers via the USB port of the sending device.
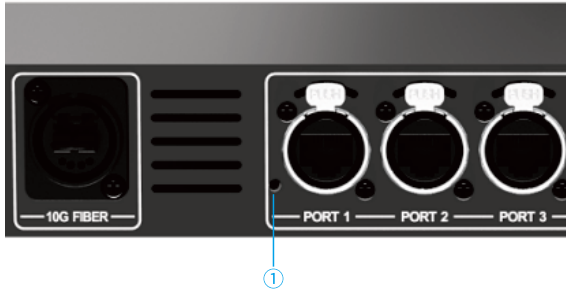
Increased Reliability

- Fail-safe upgrades: Ensures that firmware is not missing in the event of unexpected power outages during the upgrade process, eliminating concerns about firmware loss due to power outages or cable disconnections.

06 COMPATIBLE SENDERS

PCB 1.0-Compatible Senders		
Z Series	H10FN firmware version: V1.50	Z6 PRO (fiber optic board 1.02 program)
	H10FN firmware version: V1.96/V1.98	Z6 PRO (fiber optic board 1.04 program)
PCB 2.0/3.0-Compatible Senders		
X Series	X16E, X20, X20m, X26m, X40m, X100-4U, X100-7U, X100 Pro-2U, X100 Pro-4U, X100 Pro-7U, X100 Pro-11U	
S Series	S20F	
Z Series	Z6 PRO (fiber optic board 1.04 program), Z6 PRO-G2, Z4 PRO/Z5, Z8, Z8T	

07 H10FN PCB VERSIONS

- Hardware differentiation: The physical appearance of H10FN PCB1.0, H10FN PCB2.0, and H10FN PCB3.0 is identical. To distinguish between them, gently press the small hole marked with ① (as shown above), located at the bottom left of Ethernet port 1, using a pointed tool. For H10FN PCB1.0, a light press will click an underlying button. However, for H10FN PCB2.0 and H10FN PCB3.0, such press will click no button.

08 DEVICE SPECIFICATIONS

Physical Specifications (L×W×H)	
Device dimensions	482.6 mm (19.0'')×297.5 mm (11.7'')×44.0 mm (1.7'')
Packing dimensions	530.0 mm (20.9'')×465.0 mm (18.3'')×98.0 mm (3.9'')
Packing details	Outer box: 1×fiber optic transceiver + 1×inner box Inner box : 1×power cord + 1×fiber optic cable
Transmission rate	1 Gb/s
Communication distance	Comes with an optical module with a 2 km transmission distance. An optical module with a 20 km transmission distance is optional.
Compatible devices	Compatible with video controllers supporting 10G fiber output or RJ45 output.
Weight	
Net	3.2 kg/7.0 lbs
Electrical Parameters	
Input power	AC100-240V, 50/60Hz
Rated power	30W
ESD protection (HBM)	2KV
Operating Environment	
Temperature	0℃~70℃ (32°F~158°F)
Humidity	10% RH~80% RH, non-condensing
Storage Environment	
Temperature	-25℃~80℃ (-13°F~176°F)
Humidity	10% RH~90% RH, non-condensing

09 STATEMENTS

9.1 Certifications

FCC, CE, RoHS, IC, CB, cTUVus, EAC, BIS

Please contact the technical support for more details.

📖 If the product does not have the relevant certifications required by the countries or regions where it is to be sold, please contact Colorlight to confirm or address the problem as soon as possible. Otherwise, the customer shall be responsible for the legal risks or Colorlight has the right to claim compensation.

9.2 Legal Statement

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