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ALFATRON ALF-WP70T 2×1 Switcher and HDBaseT Transmitter User Manual

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ALFATRON ELECTRONICS GmbH GERMANY
ALF-WP70T/RS

FCC Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radiation Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference, and

2. this device must accept any interference, including interference that may cause undesired operation of the device.

Radiation Exposure:
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment.
Do not dispose of this product with the normal household waste at the end of its life cycle. Return it to a collection point for the recycling of electrical and electronic devices. This is indicated by the symbol on the product, user manual or packaging. The materials are reusable according to their markings. By reusing, recycling or other forms of utilisation of old devices you make an important contribution to the protection of our environment. Please contact your local authorities for details about collection points.

Preface
This manual describes the functions, installation and operation principles and methods of the product in detail. Before installing and using this product, please read it carefully.

Surge protection device recommended
This product contains sensitive electrical components that may be damaged due to electrical spikes, surges, electric shock, lighting strikes, etc. The use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Introduction

The ALF-WP70T/RS wall plate is a 2×1 switcher and HDBaseT transmitter with HDMI and USB-C inputs. It features a US one-gang enclosure for Decora-style wall plate openings with interchangeable black and white wall plates and faceplates. Supports video resolution up to 4K2K@50/60Hz 4:4:4. It supports bidirectional RS-232 pass-through, and the RS-232 control signal can be transmitted up to 131ft / 40m. The product is remotely powered by the receiver or other HDBaseT-equipped devices via POE.

Features

- Compliant with HDMI 2.0b, HDCP 2.2 and Display Port 1.2a
- HDMI input supports 18Gbps video bandwidth; USB-C input supports 5.4Gbps video bandwidth
- Video resolution up to 4K2K@50/60Hz 4:4:4
- HDBaseT output can extend video transmission distance up to 230ft / 70m for 1080P@60 or 131ft / 40m for 4K@60 via a single CAT6/6a/7 cable
- Support 3D, HDR10 and Dolby Vision
- HDMI audio formats support LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
- Supports HDMI and USB-C input
- With USB-C charging port
- US one-gang enclosure for Decora-style wall plate openings
- Input signal selection supports automatic mode and manual mode
- Support POE function (only from Receiver to Transmitter)
- Available in white or black coating

Package Contents

- 1 × 18Gbps HDBaseT 230 ft / 70M with USB-C/HDMI Wall Plate Transmitter
- 1 × 3pin-3.81mm Phoenix Connector (male)
- 1 × User Manual

Specifications

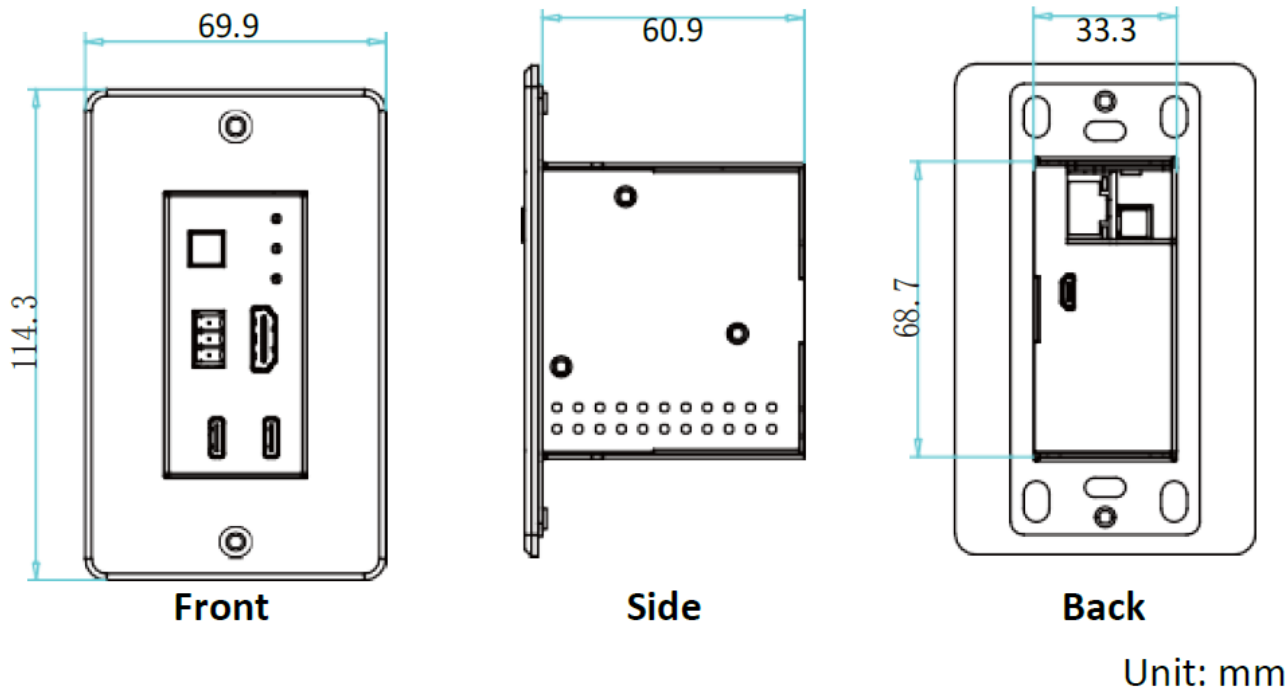| Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
DP Compliance	Display Port 1.2a
Video Bandwidth	USB-C: 5.4 Gbps
	HDMI: 18 Gbps
Video Resolution	480i~1080p50/60Hz, 4Kx2K@24/30Hz, 4k2k@60Hz
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
Color Depth	8/10/12-bit (1080P@60Hz) 8-bit (4K@60Hz)
HDR	Support
HDMI Audio Formats	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS- EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
Transmission Distance	Max distance (1080P): 230ft / 70m over CAT6/6a/7 Max distance (4K): 131ft / 40m over CAT6/6a/7
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	

Transmitter	Inputs: 1x HDMI Type A [19-pin female] 1x USB-C
	Outputs: 1x HDBaseT Out [RJ45, 8-pin female] 1x USB-C (only for charging)
	Controls: 1x RS-232 [3-pin phoenix connector]
	1x FW [Micro USB, Update port]

ALF-WP70T/RS

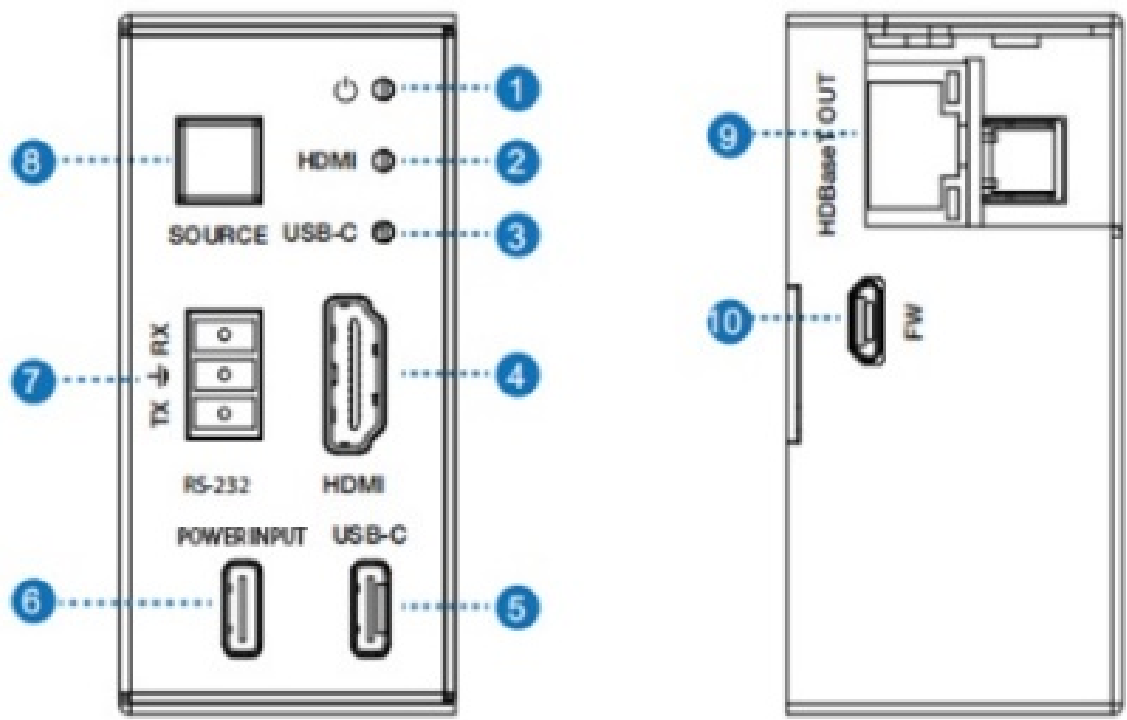| Receiver	Inputs: 1x HDMI IN [Type A, 19-pin female] 1x HDBaseT IN [RJ45, 8-pin female]
	Outputs: 1x HDMI OUT [Type A, 19-pin female] 1x AUDIO OUT [Phoenix jack]
	Controls: 1x RS-232 [3-pin phoenix connector]
	1x FW [Micro USB, Update port]

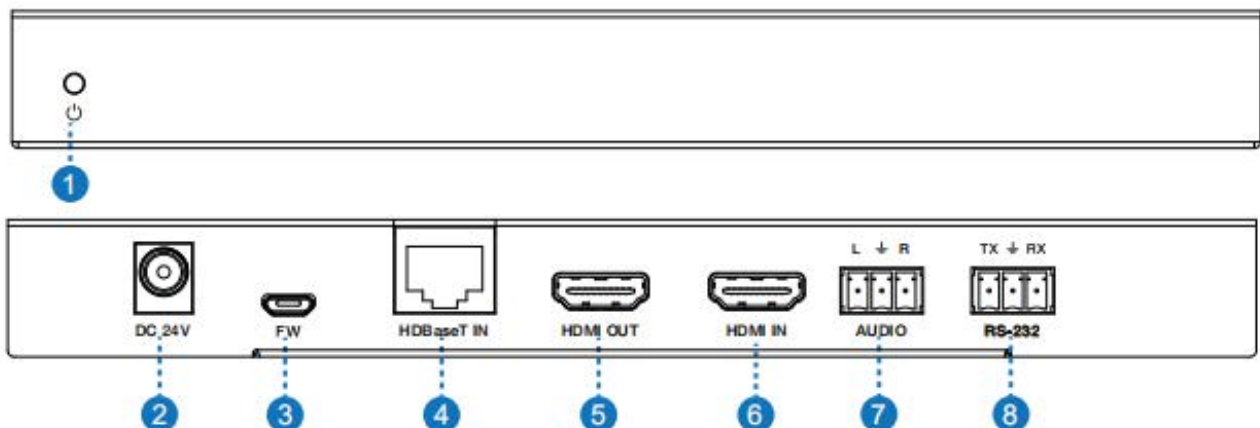| Mechanical	
Housing	Metal Enclosure
Color	White / Black
Dimensions	Wall plate: 33.3mm [W] x 65.7mm [D] x 68.7mm [H] Faceplate: 69.9mm [W] x 3mm [D] x 114.3mm [H] Receiver: 200mm [W] x 102.8mm [D] x 22mm [H]
Weight	Wall plate: 197g, Receiver: 517g
Power Supply	POE (only from Receiver to Transmitter)
Power Consumption	Wall plate: 7.92W (Max), Receiver: 6W (Max)
Operating Temperature	32 – 104°F / 0 – 40°C
Storage Temperature	-4 – 140°F / -20 – 60°C
Relative Humidity	20 – 90% RH (no condensation)

Product Dimensions

69.9   60.9   33.3

114.3

68.7

Front   **Side**   **Back**

Unit: mm

Operation Controls and Functions

Transmitter Panel

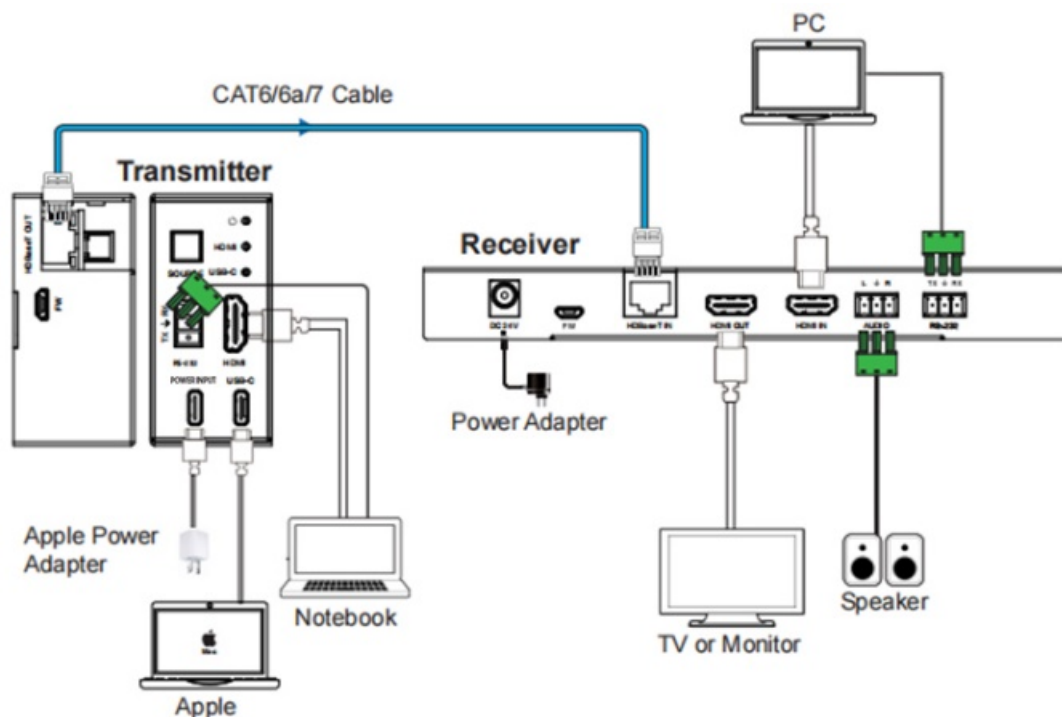| No.	Name	Function Description
1	Power LED	The power LED indicator will illuminate green when the device is powered on, and red when the unit is in standby.
2	HDMI LED	When the HDMI input port is active and the HDMI signal is detected, the green LED will be on.
3	USB-C LED	When the USB-C input port is active and USB-C signal is detected, the green LED will be on.
4	HDMI port	HDMI input port, connect to an HDMI source device.
5	USB-C port	(1) USB-C signal input port.
6	Power Input port	Connect this port to a compatible power supply, the USB-C port will charge the connected device from the USB-C port (5).
7	RS-232 port	Connect to PC or control system for bidirectional RS- 232 control signal passthrough.
8	SOURCE button	Used to switch between HDMI / USB-C input signal.
9	HDBaseT OUT	Connect to the HDBaseT IN port of Receiver with a CAT6/6a/7 cable.
10	FW port	Firmware update port.

Receiver Panel

No.	Name	Function Description
1	Power LED	When the product is powered on, the red LED indicator will be on.
2	DC 24V	DC 24V power supply port.
3	FW	Firmware update port.
4	HDBaseT IN	Connect to the HDBaseT OUT port of the Transmitter with a CAT6/6a/7 cable.
5	HDMI OUT	HDMI output port, connect to HDMI display device.
6	HDMI IN	HDMI input port, connect to HDMI source device.
7	AUDIO OUT	Analog audio output port.
8	RS-232 port	Connect to PC or control system for bidirectional RS-232 control signal pass-through.

Note:
This transmitter supports automatic/manual mode for source signal input. In manual switching mode, press the SOURCE button to select HDMI/ USB-C input source.
In automatic switching mode, the last connected or the currently connected source signal will be selected automatically. When both HDMI and USB-C ports are connected to active signal, HDMI signal input takes preference. When both HDMI and USB-C ports are not connected to an active signal, it will switch to the source signal of the Receiver.

Application Example

After-sales Service

Should you experience problems using the Alfatron ALF-WP70T/RS please refer to the manual and operation controls and functions (6). Should the error persist, note that any transport costs of the equipment to the distributor

are borne by the user during the warranty.

Product Limited Warranty: Alfatron warrants that its products will be free from defects in materials and workmanship for seven years, which starts from the first day of purchase.

Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the warranty period must be presented to obtain warranty service.

What the warranty does not cover (servicing available for a fee):

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration, or malfunction caused by:
- Normal wear and tear.
- Use of supplies or parts not meeting product specifications.
- No certificate or invoice as the proof of warranty.
- The product model showed on the warranty card does not match with the product or if the product had been altered.
- Damage caused by force majeure.
- Servicing not authorized by Alfatron.
- Any other causes which do not relate to a product defect.
- Delivery, installation or labour charges for installation or setup of the product.

Technical Support: Contact our after-sales department at **www.alfatronelectronics.com**

Warranty

1. This limited warranty covers defects in materials and workmanship in this product.
2. Should warranty service be required, proof of purchase must be presented to the Company. The serial number on the product must be clearly visible and not have been tampered with in any way whatsoever.
3. This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing, and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by the Company to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover equipment enclosures, cables or accessories used in conjunction with this product.

   This limited warranty does not cover the cost of normal maintenance. Failure of the product due to insufficient or improper maintenance is not covered.
4. The Company does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.
5. Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.
6. Unless otherwise specified, the goods are warranted in accordance with the manufacturer's product specific warranties against any defect attributable to faulty workmanship or materials, fair wear and tear being

excluded.

7. This limited warranty only covers the cost of faulty goods and does not include the cost of labor and travel to return the goods to the Company's premises.

8. In the event of any improper maintenance, repair or service being carried out by any third persons during the warranty period without the Company's written authorization, the limited warranty shall be void.

9. A 7 (seven) year limited warranty is given on the aforesaid product were used correctly according to the Company's instructions, and only with the use of the Company's components.

10. The Company will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

    1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition.; or

    2. Replace this product with a direct replacement or with a similar product deemed by the Company to perform substantially the same function as the original product; or

    3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

11. The Company is not obligated to provide the Customer with a substitute unit during the limited warranty period or at any time thereafter.

12. If this product is returned to the Company this product must be insured during shipment, with the insurance and shipping charges prepaid by the Customer. If this product is returned uninsured, the Customer assumes all risks of loss or damage during shipment. The Company will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. The Company will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

13. Please be aware that the Company's products and components have not been tested with competitor's products and therefore the Company cannot warrant products and/or components used in conjunction with competitor's products.

14. The appropriateness of the goods for the purpose intended is only warranted to the extent that the goods are used in accordance with the Company's installation, classification, and usage instructions.

15. Any claim by the Customer which is based on any defect in the quality or condition of the goods or their failure to correspond with specification shall be notified in writing to the Company within 7 days of delivery or (where the defect or failure was not apparent on reasonable inspection by the Customer) within a reasonable time after discovery of the defect or failure, but, in any event, within 6 months of delivery.

16. If delivery is not refused, and the Customer does not notify the Company accordingly, the Customer may not reject the goods and the Company shall have no liability and the Customer shall pay the price as if the goods had been delivered in accordance with the Agreement.

17. THE MAXIMUM LIABILITY OF THE COMPANY UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT

Documents / Resources

ALFATRON ALF-WP70T 2x1 Switcher and HDBaseT Transmitter [pdf] User Manual
ALF-WP70T, 2x1 Switcher and HDBaseT Transmitter

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