DIGITALINX
VALUE-ENGINEERED DIGITAL SOLUTIONS

DL-HDE100-H2 Owners Manual

LIBERTY AV SOLUTIONS
A SUBSIDIARY OF WESCO DISTRIBUTION, INC.

Rev 181010

11675 Ridgeline Drive
Colorado Springs, CO
80921

Phone: 719-260-0061
Toll-Free: 800-530-8998
Fax: 719-260-0075

Important Safety Instructions

» Please completely read and verify you understand all instructions in this manual before operating this equipment.

» Keep these instructions in a safe, accessible place for future reference.

» Heed all warnings.

» Follow all instructions.

» Do not use this apparatus near water.

» Clean only with a dry cloth.

» Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

» Use only accessories specified or recommended by Intelix.

» Explanation of graphical symbols:

◊ Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.

◊ Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

» **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**

» Use the mains plug to disconnect the apparatus from the mains.

» **THE MAINS PLUG OF THE POWER CORD MUST REMAIN READILY ACCESSIBLE.**

» Do not defeat the safety purpose polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**

» Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.

» Do not block the air ventilation openings. Only mount the equipment per Intelix’s instructions.

» Use only with the cart, stand, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.

» Unplug this apparatus during lightning storms or when unused for long periods of time.

» **Caution!** Shock Hazard. Do not open the unit.

» Refer to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Table of Contents

Product Overview 4
Package Contents 4
Front and Rear Panels 5
Transmitter / Front and Back View 5
Receiver / Front and Back View 6
Installation Instructions 7
Quick Start 7
Connecting a Video Source 7
HDMI Input (Transmitter) 7
Connecting a Display 7
HDMI Output (Receiver) 7
HDBaseT Connection 8
Connecting RS232 Control 8
Connecting IR Control 9
Source Device Control using IR 9
Remote Display using IR 9
Source / Display Control from Control System 9
Apply Power 10
Application Diagrams 11
HDMI Extension / Bi-Directional IR Control 11
HDMI Extension / Control System IR Control 12
HDMI Extension / Control System RS232 Control 13
Technical Specifications 14

Product Overview

The DigitaLinx DL-HDE100-H2 HDBaseT extender set extends HDMI audio, video as well as control up to 100m / 330' using a single Category 6 cable. Supports HDMI 2.0a, HDR10 and HDCP 2.2 as well as Dolby Atmos and DTS:X audio formats. Control extension supports bidirectional IR, Ethernet pass through and RS232 pass through.

The DigitaLinx DL-HDE100-H2 can transport HDMI data rates up to 18Gbps up to 100 meters. The system enables high data rates by utilizing visually lossless compression at a 2:1 data compression rate when the signal surpasses 10Gbps, anything under 10Gbps will never be compressed.

Built-in surge protection and diagnostic LEDs ensure hassle-free and robust installations. Flexible power design allows the units to be powered at either the TX or RX end, and only one power supply is required to power the set. The 12 volt power supply is secured with a screw-on connector to prevent the power from being accidentally disconnected.

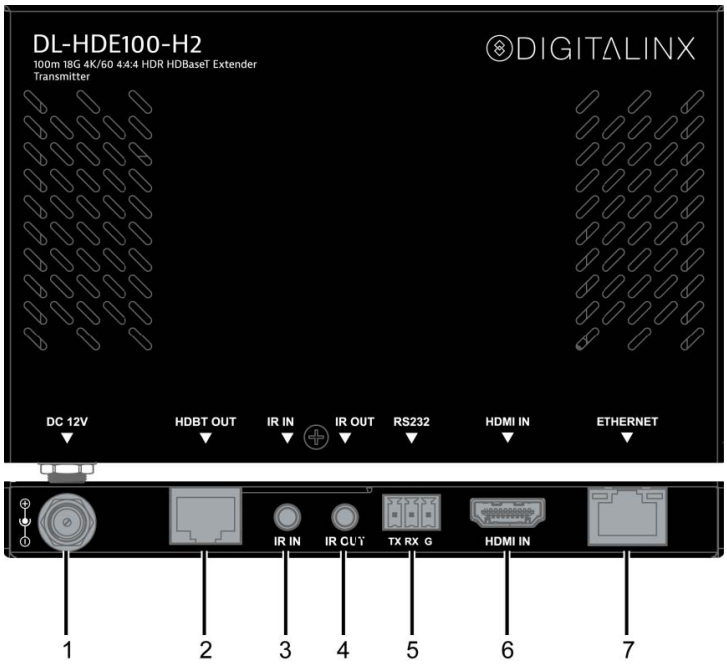
The DL-HDE100-H2 is sold only as a set. The individual transmitter and receiver are not compatible with other HDBaseT devices due to proprietary PoE circuitry.

Package Contents

- DL-HDE100-H2 Extender Set
- Quick Install Guide
- (1) IR Emitter
- (1) IR Broadband Receiver (30-50KHz)
- (1) DC12V 2A power supply with US, UK, EU and AU power adapter plugs
- (4) Mounting clips with mounting screws
- (1) IR-AC IR coupler cable
- (2 Phoenix 3.5mm 3 pin male connectors

Front and Rear Panels

Transmitter / Front and Back View

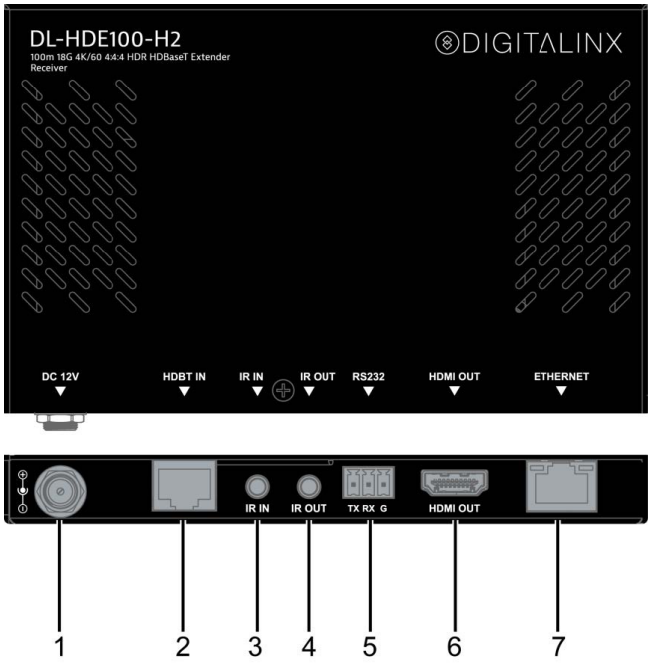


1. **DC 12V** - Locking power supply port (transmitter)
2. **HDBT OUT** - HDBaseT output; RJ45 connection
3. **IR IN** - 3.5mm IR input port for connection to IR receiver or 3rd party IR system
4. **IR OUT** - 3.5mm IR output port for connection to IR emitter
5. **RS232** - 3 pin Phoenix connector port for passing RS232 control to transmitter location
6. **HDMI IN** - HDMI input port for connection to HDMI video source
7. **ETHERNET** - RJ45 port for passing Ethernet to receiver / display location

Front Panel LED States for Transmitter / Receiver

POWER (RED)- Solid when device is powered ON
STATUS (BLUE)- When blinking the device is working properly
HDCP (BLUE) - Solid when HDMI signal is encrypted; blinking when non-HDCP protected content is transmitted; OFF when no content is being transmitted
LINK (GREEN)- Solid when successful link between transmitter and receiver is established; off or blinking indicates a physical link error

Receiver / Front and Back View



1. **DC 12V** - Locking power supply port (transmitter)
2. **HDBT IN** - HDBaseT input; RJ45 connection
3. **IR IN** - 3.5mm IR input port for connection to IR receiver or 3rd party IR system
4. **IR OUT** - 3.5mm IR output port for connection to IR emitter
5. **RS232** - 3 pin Phoenix connector port for passing RS232 control to transmitter location
6. **HDMI IN** - HDMI input port for connection to HDMI video source
7. **ETHERNET** - RJ45 port for passing Ethernet to transmitter location

Front Panel LED States for Transmitter / Receiver

POWER (RED)- Solid when device is powered ON
STATUS (BLUE)- When blinking the device is working properly
HDCP (BLUE) - Solid when HDMI signal is encrypted; blinking when non-HDCP protected content is transmitted; OFF when no content is being transmitted
LINK (GREEN)- Solid when successful link between transmitter and receiver is established; off or blinking indicates a physical link error

Installation Instructions

Quick Start

1. Connect video source to transmitter HDMI IN
2. Connect display technology to receiver HDMI OUT
3. Connect transmitter and receiver together with a shielded Category 6 cable
4. Connect control (optional)
5. Connect LAN pass through (optional)
6. Apply power to either transmitter OR receiver to power entire circuit

Connecting a Video Source

HDMI Input (Transmitter)

Connect an HDMI source device to the HDMI input on the DL-HDE100-H2 transmitter labeled *HDMI IN* using an HDMI cable that is less than or equal to 5 meters in total length. For HDMI source devices that are further away, an active HDMI cable may be required to complete the connection.

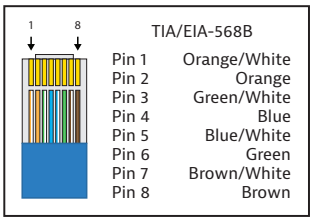
Connecting a Display

HDMI Output (Receiver)

Connect the display to the HDMI output on the DL-HDE100-H2 receiver labeled *HDMI OUT* using an HDMI cable that is less than or equal to 5 meters in length. It is recommended to keep the DL-HDE100-H2receiver near the display input as it is not recommended that an active HDMI cable be used on the HDMI output on the DL-HDE100-H2 receiver.

HDBaseT Connection

Connect one end of a Category cable to the DL-HDE100-H2 transmitter labeled *HDBT OUT*, then connect the other end of the Category cable to the DL-HDE100-H2 receiver labeled *HDBT IN*



Twisted Pair Wiring
Use TIA/EIA-568B wiring for Category 6 connection between send and receive units.

To ensure proper performance of the DL-HDE100-H2, it is recommended that you use solid core, shielded Category 6 F/UTP cabling at a minimum. Category 5e F/UTP may perform well up to a certain length but may not support power over HDBaseT reliably longer distances.

When using shielded category cabling *ALWAYS*...

....use shielded connectors
....properly ground the category cable

For optimized performance use the following Liberty Wire and Cable branded cabling;

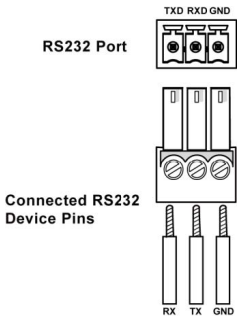
Category 6 plenum; 24-4P-P-L6SH
Category 6A plenum; 24-4P-P-L6ASH

Category 6 NON-plenum; 24-4P-L6SH
Category 6A NON-plenum; 24-4P-L6ASH

Connecting RS232 Control

RS232 or serial control signals can be transmitted through the DL-HDE100-H2 using the RS232 connection ports on he DL-HDE100-H2 transmitter and receiver.

RS232 Wiring
Connect the controller or device RX signal to TX on the DL-HDE100-H2 extender.
Connect the controller or device TX signal to RX on the DL-HDE100-H2 extender.



Connecting IR Control

The DL-HDE100-H2 is capable of transmitting bi-directional IR signals through the HDBaseT circuit. The DL-HDE100-H2 comes with 1 IR receiver (eye) and 1 IR emitter (flasher) so you can control devices from either end of the extender circuit.

Passing IR Signals:
The DL-HDE100-H2 is capable of passing IR signals between 33 and 55 KHz. To prevent damage to any of the electronics, the extenders should be powered off while inserting or removing any IR components. Inserting an IR transmitter into the IR IN port may damage the IR circuit for that extender.

Source Device Control using IR

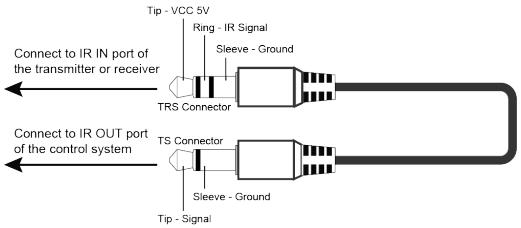
Attach the IR emitter to the IR receiver of the source device, insert the TS 3.5 mm plug of the emitter to the IR OUT port of the DL-HDE100-H2 transmitter. Insert the TS 3.5 mm plug of the IR receiver (eye) to the IR IN port of the DL-HDE100-H2 receiver. Point the source device IR remote at the display location where the IR receiver is located, IR signals will now travel through HDBaseT to the DL-HDE100-H2 transmitter side where the IR emitter is attached to the source device.

Remote Display using IR

Attach the IR emitter to the IR receiver of the display device, insert the TS 3.5 mm plug of the emitter to the IR OUT port of the DL-HDE100-H2 receiver. Insert the TS 3.5 mm plug of the IR receiver (eye) to the IR IN port of the DL-HDE100-H2 transmitter. Point the source device IR remote at the source device location where the IR receiver is located, IR signals will now travel through HDBaseT to the DL-HDE100-H2 receiver side where the IR emitter is attached to the display device.

Source / Display Control from Control System

To pass 3rd party IR system signals through the DL-HDE100-H2, such as a control system, connect the TS connector of the IR-AC coupling cable (provided) to the IR output port of the control system and connect the TRS connector of the IR-AC cable to the IR IN to either transmitter or receiver of the DL-HDE100-H2.

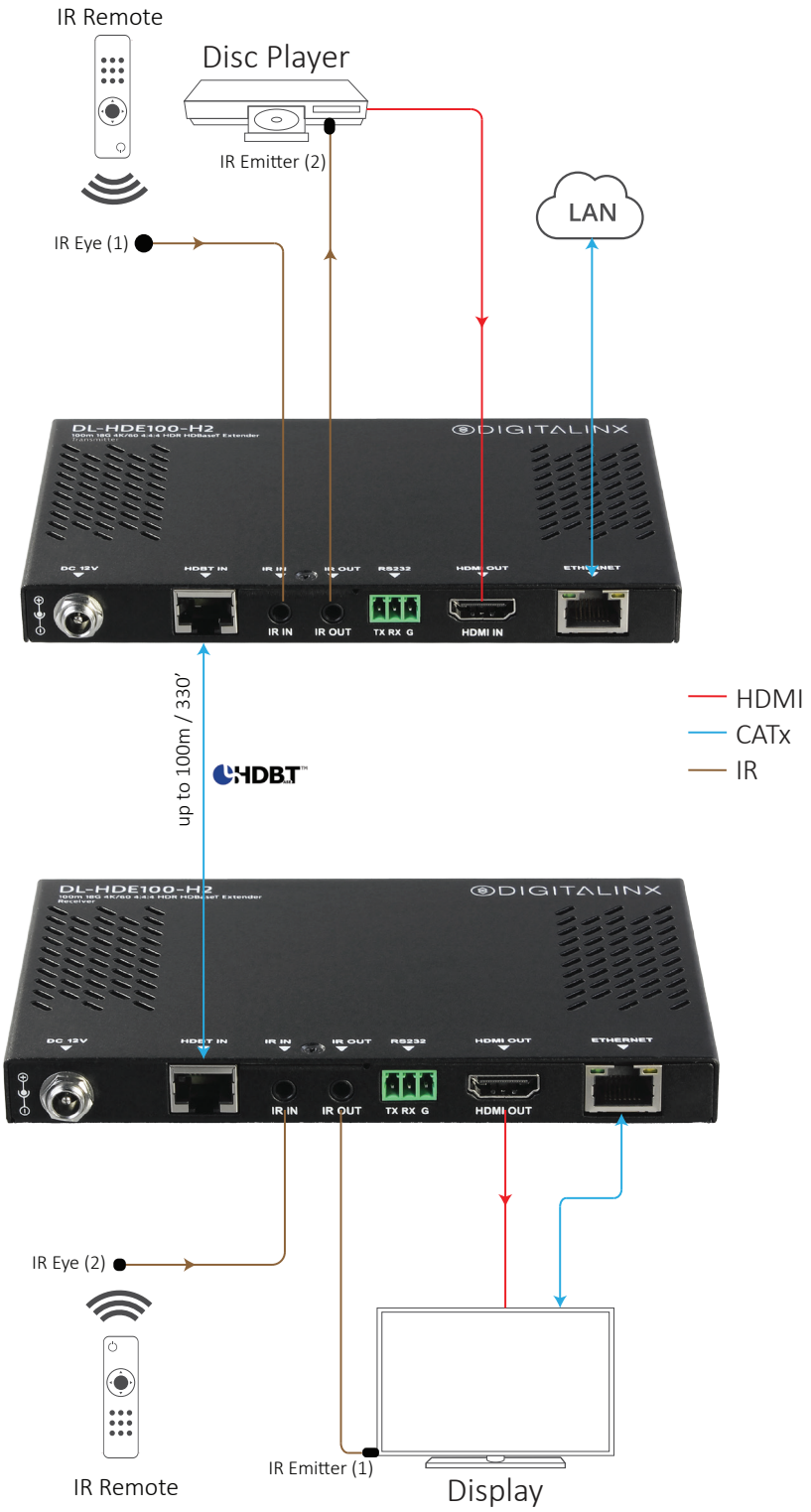


Apply Power

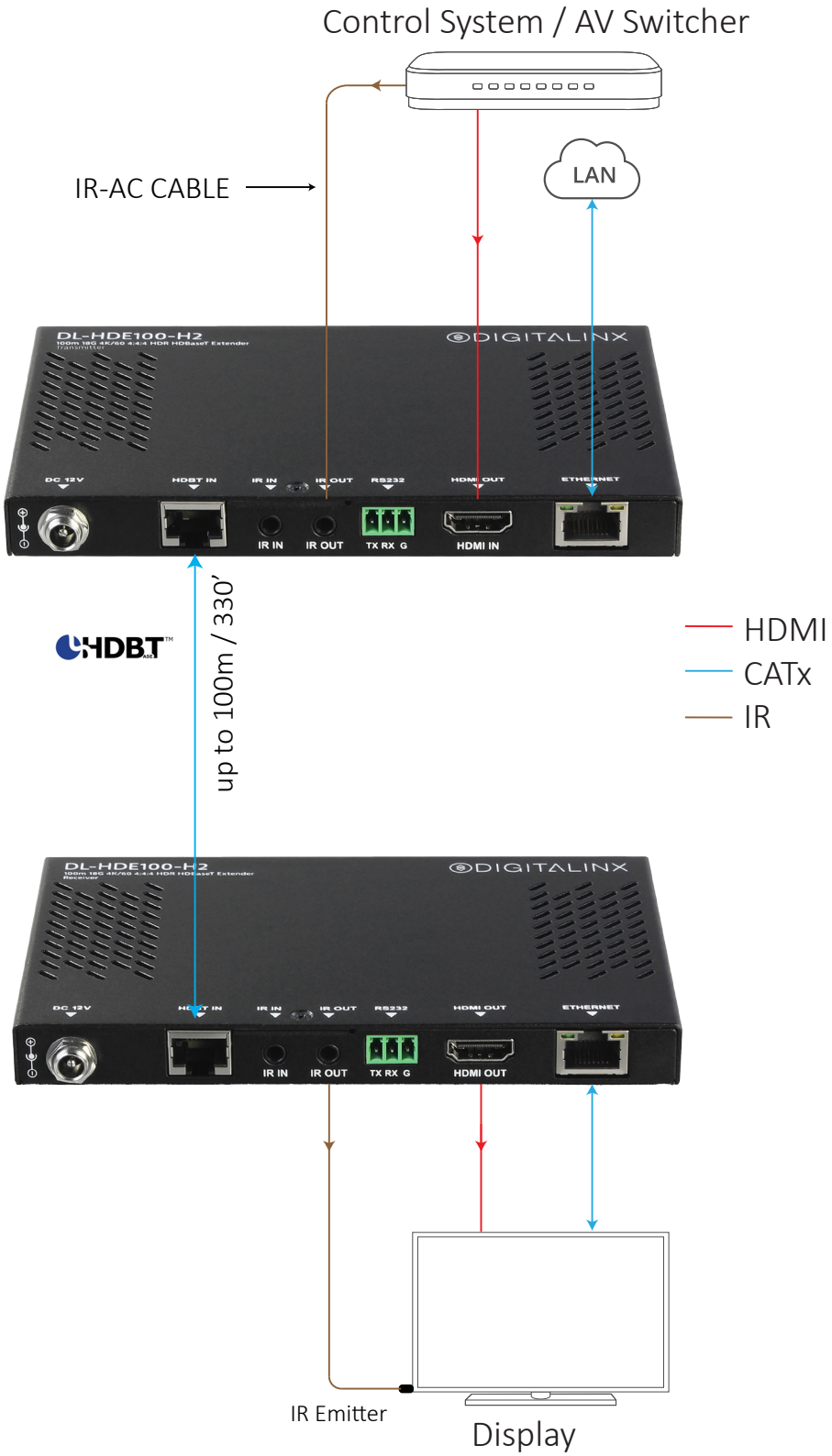
Connect the included power supply to the transmitter or receiver and lock the power supply to the power connector by twisting the locking collar clockwise. It is not required that both the transmitter and receiver be powered simultaneously.

Application Diagrams

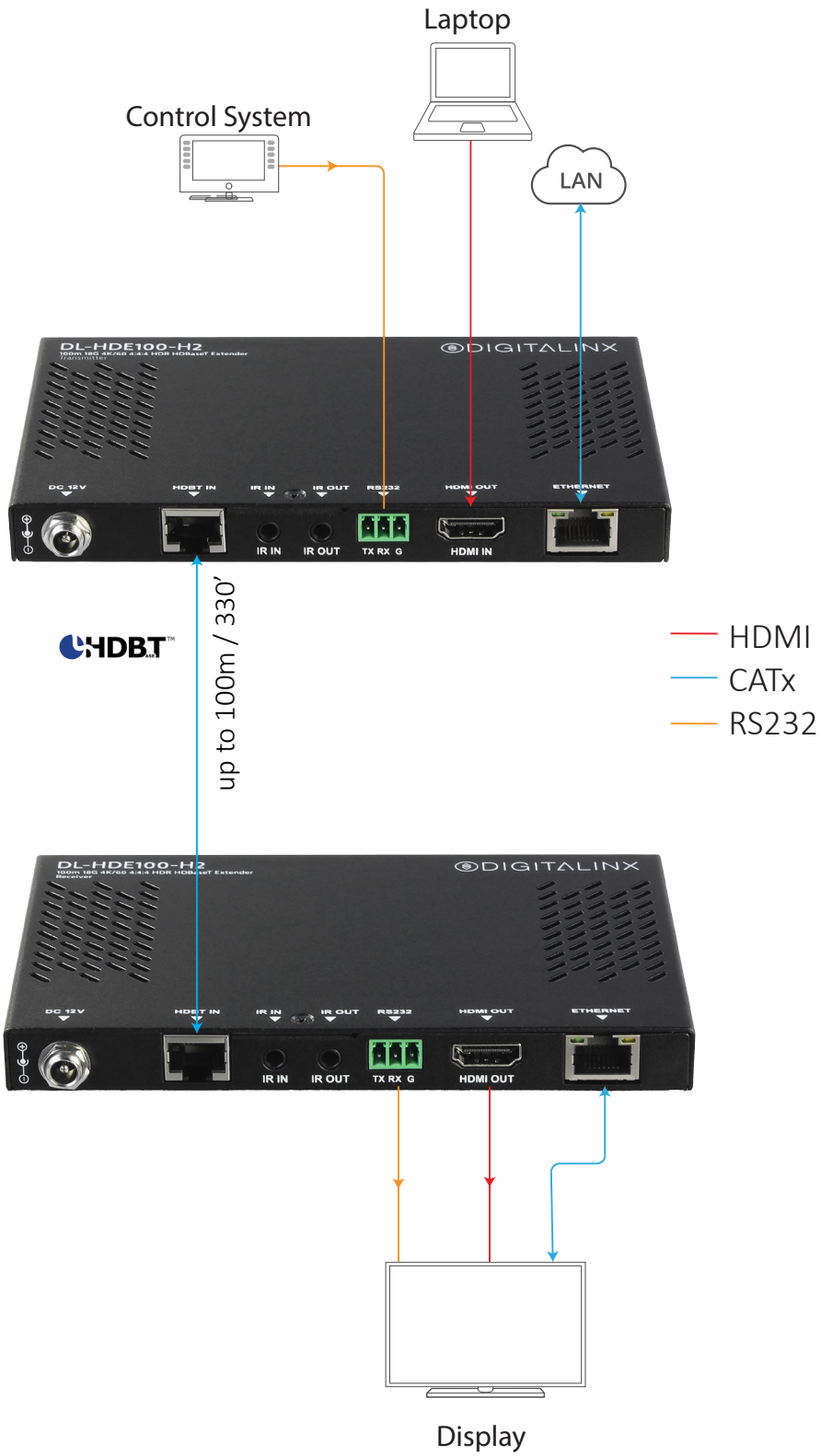
HDMI Extension / Bi-Directional IR Control



HDMI Extension / Control System IR Control



HDMI Extension / Control System RS232 Control



Technical Specifications

Supported Audio and Video	
Video Compliance	HDMI 2.0a, HDCP 2.2, and CEC (Consumer Electronics Control)
Input / Output Resolution Support	*SMPTE*: Up to 4096x2160@60Hz (4:4:4 chroma sub-sampling / 8 bit deep color) *VESA*: Up to 1920x1200
Maximum Pixel Clock	600MHz
Embedded Audio	Up to PCM 8 channel, Dolby Atmos, DTS: X, Dolby TrueHD, DTS-HD Master Audio, Dolby Digital and DTS
IR Carrier Frequency Range	33-55kHz at 5 volts
RS232 Baud Rate	Up to 115200 baud
HDBaseT Signal Characteristics	
Maximum Distance	*1080p:* 100 meters / 330 feet *4K:* 70 meters / 230 feet
Cable Requirements	Solid core F/UTP Category 6 cable or greater with TIA/EIA-568B crimp pattern
Bandwidth	18 Gbps
Chassis and Environmental	
Dimensions (WxHxD)	TX / RX- 150mm x 15.8mm x 95.2mm (5.90'' x 0.62'' x 3.75'')
Operating Temperature (Environment)	TX/RX- 0° to +45° C (+32° to +113° F)
Operating Humidity (Environment)	TX/RX- 10% to 90%, Non-condensing
Product Weight	TX/RX- 0.26kg / 0.57 lbs
Power	
Maximum Power Consumption	17 watts (TX)- when receiver is powered by transmitter 16 watts (RX)- when transmitter is powered by receiver
Power Supply Input Voltage	100-240V AC at 50-60 Hz
Power Supply Output Voltage	DC 12V 2A
ESD Protection	±8kV(Air-gap discharge)/ ±4kV(Contact discharge)
Surge Protection	Voltage: ±1 kV
Regulatory	CE, FCC
Other	
Standard Warranty	5 Years
Included Items	(1) Transmitter, (1) Receiver, (1) Quick Install Guide, DC 12V Power Supply with US, UK, EU and AU adapters, (1) IR Transmitter, (1) IR Receiver, (1) IR-AC IR coupler cable, (4) Mounting Brackets, Mounting Screws and (2 Phoenix 3.5mm 3 pin male connectors

Thank you for your purchase.

For Technical Support please call our toll free number at
800-530-8998 or email us at supportlibav@libav.com

www.libav.com

DIGITALINX
VALUE-ENGINEERED DIGITAL SOLUTIONS

is a brand of:

LIBERTY®
AV SOLUTIONS
A SUBSIDIARY OF WESCO DISTRIBUTION, INC.

11675 Ridgeline Drive
Colorado Springs, Colorado
80921 USA
Phone: 719-260-0061
Fax: 719-260-0075
Toll-Free: 800-530-8998