Velocitydvi
Digital Video Extension System

Velocitydvi-3, Velocitydvi-33
Velocitydvi-6, Velocitydvi-63
Single-Link and Dual-Link Fiber Extension Systems

PRODUCT MANUAL

Thinklogical Inc.
100 Washington Street
Milford, Connecticut 06460 U.S.A.
Telephone 1-203-647-8700
Fax 1-203-783-9949
www.thinklogical.com

thinklogical™

thinklogical™

Copyright Notice

Copyright © 2010. All rights reserved. Printed in the U.S.A.

Thinklogical, a subsidiary of Logical Solutions™, Inc.

100 Washington Street
Milford, Connecticut 06460 U.S .A.
Telephone 1-203-647-8700

All trademarks and service marks are the property of their respective owners.

Powered by
MRTS Technology

Subject: VelocityDVI-3, VelocityDVI-6, VelocityDVI-33 and VelocityDVI-63 Extenders
Revision: D (June 2010)

Table of Contents

1. Introduction 5
1.1. Contents 5
1.2. Product Overview 5
Figure 1: VelocityDVI Extenders 6
1.3. The Models 7
1.4. Laser Information 10
2. System Features 11
2.1. General System Features 11
2.2. Basic Operation 11
Figure 2: VelocityDVI Extender Overview 11
2.3. Single Fiber Operation, System-3 12
2.4. Dual Fiber Operation, System-3 12
2.5. Fiber Operation, System-6 12
2.6. Technical Specifications (Systems -3, -6, -33 and -63) 12
Table 1: Technical Specifications 12
3. Connecting the DVI Extender (*Figures 3-22*) **14**
3.1. DDC and EDID 32
3.1.1. DDC (Display Data Channel) and EDID (Extend Display Identification Data) 32
3.1.2. Default DDC Modes 33
3.1.2.1. Remote Dynamic Mode 33
3.1.2.2. Remote Static Mode 33
3.1.2.3. Pass-Thru Mode 33
3.1.2.4. Local Static Mode 34
3.1.3. Load Default EDID Table 34
Table 2: EDID Capability Summary 34
3.1.4. DDC LEDs and Mode Button Operation 35
3.2. AC Power 36
4. Installation 37
4.1. Order of Installation Events 37
5. Regulatory and Safety Compliance 37
5.1. Safety Requirements 37
5.1.1. Symbols Found on Our Products 37
5.1.1.1. Class 1 Laser Labeling 37
5.2. Regulatory Compliance 37
5.2.1. North America 37
5.2.2. Australia & New Zealand 38
5.2.3. European Union 29
5.2.3.1. Declaration of Conformity 38
5.2.3.2. Standards With Which Our Products Comply 38
5.2.4. Supplementary Information 39
5.2.5. Product Serial Number 39

6. How to Contact Us.....40
6.1. Customer Support.....40
6.1.1. Website.....40
6.1.2. Email.....40
6.1.3. Telephone.....40
6.1.4. Fax.....41
6.2. Product Support.....41
6.2.1. Warranty.....41
6.2.2. Return Merchandise Authorization.....41
6.2.3. Our Address.....42
Appendix A: Installation Overview.....43
A.1 VEL-3.....43
A.2 VEL-3 A/V+.....44
A.3 VEL-6.....45
A.4 VEL-6 A/V+.....46
A.5 VEL-33.....47
A.6 VEL-63.....48
Appendix B: DVI Extender Mounting.....49
Appendix C: RJ45 Adapter Pin-outs.....50

1. Introduction

1.1. Contents

When you receive your Thinklogical VelocityDVI Extension System™, you should find the following items:

- DVI Extender Transmitter
- DVI Extender Receiver
- DVI-D Male to Male Cable, 2 Meter (CBL-000009-002MR)[1]
- DVI-D Male to Male Dual-Link Cable, 2 Meters (CBL-000023-002MR)[2]
- Universal AC Power Adapters (PWR-000022-R) – Quantity 2 (Vel-3, -6)
- AC Power Cord (PWR-000006-R) – Quantity 2 (Vel-33, -63)
- CAT5 Cable Assembly (CBL000001-002MR)[3]
- 3.5mm Audio Cable, M-M – Quantity 2 (CBL000016-006FR)[3]
- DB9F Adapter (ADP-000025-R) and DB9M Adapter (ADP-000019-R)[4]
- CD Product Manual

[1] *For VelocityDVI-3, Qty = 1 each. For VelocityDVI-33, Qty = 3 each*
[2] *For VelocityDVI-6, Qty = 1 each. For VelocityDVI-63, Qty = 3 each*
[3] *With A/V+ and A/N+ models*
[4] *With A/V+ models only*

1.2. Product Overview

MRTS Technology 6.25 Gbps. allows for Full Frame Rate Transmission of uncompressed DVI.
Powered by Thinklogical's™ cutting edge, patent-pending MRTS (**M**ulti **R**ate **T**ransmission **S**ystem) Technology, our DVI extension systems transport every frame of a DVI video stream seamlessly with no compression or dropped frames. In addition, all high speed peripherals function with no latency. Leveraging standard SFP+ transceivers, the system uses multi-mode fiber optic cable to permit the placement of a digital monitor or projector up to 1000 meters (3280 feet) away from the controlling computer without loss of resolution. Installation is plug-and-play and no adjustments are necessary.

Each Vel-3 (single-link) and Vel-6 (dual-link) system consists of one transmitter per chassis and one receiver per chassis. The rack-mountable Vel-33 system (single-link) and the rack-mountable Vel-63 system (dual-link) each feature three transmitters per chassis and three receivers per chassis. All models support **D**ata **D**isplay **C**hannel (DDC), with a variety of modes to meet each unique requirement. All models are connected by multi-mode fiber optic cable(s), the count of which varies depending upon the DDC mode to provide communications to and from the transmitter. The transmitter unit connects to the CPU with supplied DVI-D cables (and audio, serial & network cables in A/V+ and A/N+ models). The receiver unit provides an interface to the monitor(s) (and audio, serial & network devices in A/V+ and A/N+ models).

Each Transmitter (TX) features a video input and local video output which can be used for DDC modification and for displaying video at the source. The TX also has fiber connectors used for transferring video and data to the Receiver. Status LEDS and DDC Mode buttons are provided for system configuration.

Each Receiver (RX) features 2 video outputs. The *DVI to Display DDC* output on the left (looking at the back of the unit) is the primary output. The RX also has fiber connectors used for transferring data to the TX and receiving video and data from the TX. Status LEDS and DDC Mode buttons are provided for system configuration.

VEL-3 Transmitter

VEL-3 Receiver

Velocitydvi Digital Video Extender-3

VEL-6 Transmitter

VEL-6 Receiver

Velocitydvi Digital Video Extender-6

Velocitydvi Digital Video Extender-33

Velocitydvi Digital Video Extender-63

FIGURE 1: *VelocityDVI Extenders*

1.3. The Models

VEL-000S03-SCRX VELOCITY 3 DVI VIDEO EXTENDER, SINGLE LINK DVI, AUX DVI OUTPUT, DDC, SINGLEMODE, SC/APC
VEL-000S03-SCTX VELOCITY 3 DVI VIDEO EXTENDER, SINGLE LINK DVI, LOCAL DVI OUTPUT, DDC, SINGLEMODE, SC/APC

VOP-S05 VELOCITY 3 OPTICS OPTION FOR TX OR RX, SINGLEMODE, DUAL FIBERS, 10KM

VEL-000S06-SCRX VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DUAL DVI OUTPUT, DDC, SINGLEMODE, SC/APC
VEL-000S06-SCTX VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DUAL DVI OUTPUT, DDC, SINGLEMODE, SC/APC

VOP-S08 VELOCITY 6 OPTICS OPTION FOR TX OR RX, SINGLEMODE, 3 FIBERS, 10KM

VEL-000M03-LCRX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, LC
VEL-000M03-LCTX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, LC
VEL-000M03-SCRX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, SC
VEL-000M03-SCTX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, SC
VEL-000M03-STRX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, ST
VEL-000M03-STTX VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, ST

VEL-000M33-LCRX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, LC
VEL-000M33-LCTX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, LC
VEL-000M33-SCRX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, SC
VEL-000M33-SCTX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, SC
VEL-000M33-STRX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, RX, ST
VEL-000M33-STTX 3-in-1 VELOCITY 3, SINGLE LINK DVI, DDC, MULTIMODE, TX, ST

VEL-AV0S03-SCRX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLE LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, SC/APC
VEL-AV0S03-SCTX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLE LINK DVI, LOCAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE. TX, SC/APC
VEL-AV0S03-NKRX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLE LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, NEUTRIK LC
VEL-AV0S03-NKTX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLE LINK DVI, LOCAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE. TX, NEUTRIK LC

VOP-S05 VELOCITY 3 AV+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, DUAL FIBER, 10KM, SC/APC
VOP-S11 VELOCITY 3 AV+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, DUAL FIBER, 10KM, NEUTRIK LC

VEL-AV0M03-LCRX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, LC
VEL-AV0M03-LCTX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, LC
VEL-AV0M03-SCRX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, SC
VEL-AV0M03-SCTX VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, SC

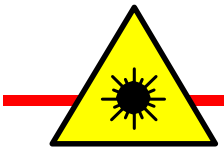
VEL-AV0M03-STRX	VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, ST
VEL-AV0M03-STTX	VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, ST
VEL-AV0M03-NKRX	VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, NEUTRIK
VEL-AV0M03-NKTX	VELOCITY 3 A/V+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, NEUTRIK
VOP-M04	VELOCITY 3 AV+ OPTICS OPTION FOR TX OR RX, MULTIMODE, DUAL FIBER, 50M, OR 350M OR 1000M, LC OR NEUTIK LC
VOP-M01	VELOCITY 3 AV+ OPTICS OPTION FOR TX OR RX, MULTIMODE, DUAL FIBER, 50M OR 350M OR 1000M, SC OR ST
VEL-AN0S03-SCRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLE LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, SC/APC
VEL-AN0S03-SCTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLE LINK DVI, LOCAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE. TX, SC/APC
VEL-AN0S03-NKRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLE LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, NEUTRIK LC
VEL-AN0S03-NKTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLE LINK DVI, LOCAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE. TX, NEUTRIK LC
VOP-S05	VELOCITY 3 A/N+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, DUAL FIBER, 10KM, SC/APC
VOP-S11	VELOCITY 3 A/N+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, DUAL FIBER, 10KM, NEUTRIK LC
VEL-AN0M03-LCRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, LC
VEL-AN0M03-LCTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, LC
VEL-AN0M03-SCRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, SC
VEL-AN0M03-SCTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, SC
VEL-AN0M03-STRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, ST
VEL-AN0M03-STTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, ST
VEL-AN0M03-NKRX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, NEUTRIK
VEL-AN0M03-NKTX	VELOCITY 3 A/N+ DVI VIDEO EXTENDER, SINGLELINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, NEUTRIK
VOP-M04	VELOCITY 3 A/N+ OPTICS OPTION FOR TX OR RX, MULTIMODE, DUAL FIBER, 50M, OR 350M OR 1000M, LC OR NEUTIK LC
VOP-M01	VELOCITY 3 A/N+ OPTICS OPTION FOR TX OR RX, MULTIMODE, DUAL FIBER, 50M OR 350M OR 1000M, SC OR ST
VEL-000M06-LCRX	VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, LC
VEL-000M06-LCTX	VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, LC

VEL-000M06-SCRX	VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, SC
VEL-000M06-SCTX	VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, SC
VEL-000M06-STRX	VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, ST
VEL-000M06-STTX	VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, ST
VEL-000M63-LCRX	3-in-1 VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, LC
VEL-000M63-LCTX	3-in-1 VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, LC
VEL-000M63-SCRX	3-in-1 VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, SC
VEL-000M63-SCTX	3-in-1 VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, SC
VEL-000M63-STRX	3-in-1 VELOCITY 6 DVI VIDEO EXTENDER, DUAL LINK DVI AUX DUAL DVI OUTPUT, DDC, MULTIMODE, RX, ST
VEL-000M63-STTX	3-in-1 VELOCITY 6, DVI VIDEO EXTENDER, LOCAL DUAL DVI PORT, DDC, MULTIMODE, TX, ST
VEL-AV0S06-SCRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DUAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, SC/APC
VEL-AV0S06-SCTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DUAL DVI PORT, DDC, SERIAL, AUDIO, SINGLEMODE, TX, SC/APC
VEL-AV0S06-NKRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DUAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, NEUTRIK LC
VEL-AV0S06-NKTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DUAL DVI PORT, DDC, SERIAL, AUDIO, SINGLEMODE, TX, NEUTRIK LC
VOP-S08	VELOCITY 6 AV+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, 3 FIBERS, 10KM, SC/APC
VOP-S12	VELOCITY 6 AV+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, 3 FIBERS, 10KM, NEURTIK LC/APC
VEL-AV0M06-LCRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, LC
VEL-AV0M06-LCTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, LC
VEL-AV0M06-SCRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, SC
VEL-AV0M06-SCTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, SC
VEL-AV0M06-STRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, ST
VEL-AV0M06-STTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, ST
VEL-AV0M06-NKRX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, NEUTRIK
VEL-AV0M06-NKTX	VELOCITY 6 A/V+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, NEUTRIK
VOP-M05	VELOCITY 6 AV+ OPTICS OPTION FOR TX OR RX, MULTIMODE, 3 FIBERS, 50M, OR 350M OR 1000M, LC OR NEUTRIK LC

VOP-M02	VELOCITY 6 AV+ OPTICS OPTION FOR TX OR RX, MULTIMODE, 3 FIBERS, 50M OR 350M OR 1000M, SC OR ST
VEL-AN0S06-SCRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DUAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, SC/APC
VEL-AN0S06-SCTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DUAL DVI PORT, DDC, SERIAL, AUDIO, SINGLEMODE, TX, SC/APC
VEL-AN0S06-NKRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DUAL DVI OUTPUT, DDC, SERIAL, AUDIO, SINGLEMODE, RX, NEUTRIK LC
VEL-AN0S06-NKTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DUAL DVI PORT, DDC, SERIAL, AUDIO, SINGLEMODE, TX, NEUTRIK LC
VOP-S08	VELOCITY 6 A/N+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, 3 FIBERS, 10KM, SC/APC
VOP-S12	VELOCITY 6 A/N+ OPTICS OPTION FOR TX OR RX, SINGLEMODE, 3 FIBERS, 10KM, NEURTIK LC/APC
VEL-AN0M06-LCRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, LC
VEL-AN0M06-LCTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, LC
VEL-AN0M06-SCRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, SC
VEL-AN0M06-SCTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, SC
VEL-AN0M06-STRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, ST
VEL-AN0M06-STTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, ST
VEL-AN0M06-NKRX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, AUX DVI OUTPUT, DDC, SERIAL, AUDIO, MULTI-MODE, RX, NEUTRIK
VEL-AN0M06-NKTX	VELOCITY 6 A/N+ DVI VIDEO EXTENDER, DUAL LINK DVI, LOCAL DVI PORT, DDC, SERIAL, AUDIO, MULTIMODE, TX, NEUTRIK
VOP-M05	VELOCITY 6 A/N+ OPTICS OPTION FOR TX OR RX, MULTIMODE, 3 FIBERS, 50M, OR 350M OR 1000M, LC OR NEUTRIK LC
VOP-M02	VELOCITY 6 A/N+ OPTICS OPTION FOR TX OR RX, MULTIMODE, 3 FIBERS, 50M OR 350M OR 1000M, SC OR ST

1.4. Laser Information

The DVI Extender models **Velocity-3, -6, -33** and **-63** are designed and identified as **Class 1 LASER products.**



CLASS 1 LASERS do not require any special precautions under conditions of normal use.

2. System Features

2.1. General System Features

Thinklogical's VelocityDVI Extender Systems™ are designed for high resolution video extension applications, such as remote projection centers, theaters and assembly halls, and for secure computer installations. The ability to remotely locate the CPU away from the monitor allows more control of your computer environment. It is now possible to position your monitor or projector in any setting from office to lecture hall to boardroom while keeping the computer secure in a remote, controlled location.

Each DVI Extender system includes the following features:

- Supports one Single-Link (System-3) or one Dual-Link (System-6) video signal.
- Supports three Single-Link (System-33) or three Dual-Link (System-63) video signals.
- DDC2B compliant
- Extends DVI up to 1000 meters (3280 feet) using OM4 multi-mode fiber
- Signal transmission via fiber optic cable; no RF interference
- Flawless image quality with no frame dropping
- Class 1 laser product
- Simple plug and play
- Small form factor

2.2. Basic operation

The unit transmits video and data information from the Transmitter to the Receiver through fiber L1. The data return path from the Receiver to the Transmitter is fiber L2.

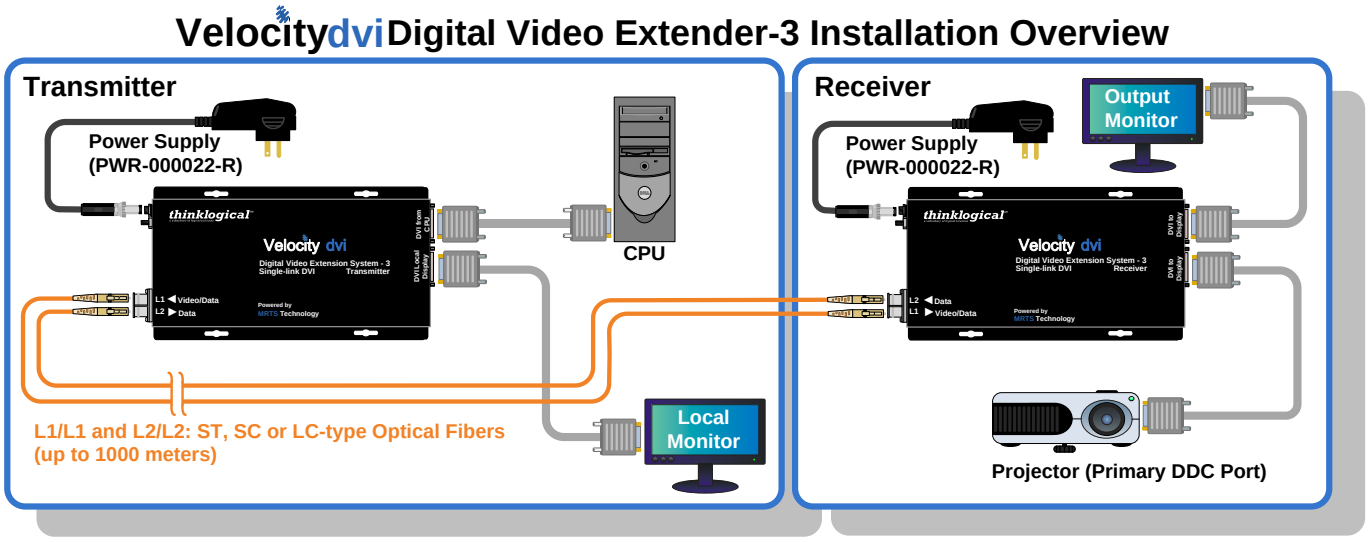


FIGURE 2: *VelocityDVI Extender Overview*

2.3 Single Fiber operation, System-3

The unit will operate with a single fiber from the TX to the RX. In this mode of operation the TX can transmit video and status LED information to the RX. The RX cannot send any information to the TX. In this mode the RX buttons are inoperative. Also, DDC information can only be gathered from the TX local port or the Thinklogical™ default EDID table.

2.4 Dual Fiber Operation, System-3

In this mode video information is transmitted from the TX to the RX over fiber L1. Fiber L2 is used as a data return path from the RX to the TX. Providing a back channel from the RX to the TX allows the RX to modify DDC configuration via the Acquire and Select buttons and allows the RX to send DDC information to the TX. DDC information exchange allows the PC to gather information about the connected monitor to determine the display properties.

2.5 Fiber Operation, System-6

System-6 operates in Dual-fiber or Triple-fiber operation. In dual-fiber operation, fibers L1 and L3 are used to transmit data and video from the TX to the RX and in three-fiber mode, fiber L2 transmits data from the RX back to the TX.

2. 6 Technical Specifications (Systems-3, -6, -33 and -63)

TABLE 1:	Technical Specifications (Systems-3, -6, -33, -63)
Video Resolution	**Vel-3:** Any single-link DVI resolution **Vel-6:** Any single-link or dual-link DVI resolution
Panel Connections	**Transmitter** Video DVI-D (2) Power 2.5 mm power connector Fiber Connections ST, SC or LC **Receiver** Video DVI-D (2) Power 2.5 mm power connector Fiber Connections ST, SC or LC
Operating Temperature and Humidity	0-50 °C (32-122° F, 5-95% RH, non-condensing)
Storage Temperature	-20 to 70° C (-4 to 158° F)
Indicators	*LEDs on each DVI Extender unit:* **Front:** Power, Connection Status **Rear:** DDC Modes - Local, Remote
Weight	<1 lb. (0.45 kg) each (Vel-3, Vel-6) 4 lb. (1.81 kg) each (Vel-33, Vel-63)
Dimensions	*See page 13.*
Shipping Weight	4 lb. (1.81 kg) pair (Vel-3, Vel-6) 13 lb. (5.89 kg) pair (Vel-33, Vel-63)

Optical Cable	Sys-3 = 2 fibers, Sys-33 = 6 fibers Sys-6 = 3 fibers, Sys-63 = 9 fibers (available, not supplied)
Optical Distance	Up to 350 meters using 50/125um, type OM2 Up to 1000 meters using 50/125um, type OM4 Up to 10 kilometers using 9/125um
Supply Voltage	+5.0 VDC (Vel-3, Vel-6) 90-264 VAC (Vel-33, Vel-63)
Power Consumption	6 watts per unit (Vel-3, Vel-6) 20 watts per unit (Vel-33, Vel-63)
DC Adapter	AC/DC adapter universal input 90-264 VAC (supplied, Vel-3, -6)
DB9 to RJ45 Adapters	*With AV+ models only:* DB9M to RJ45 (ADP-000019-R) DB9F to RJ45 (ADP-000025-R)
Copper Video Cables	CBL000009-002MR Single-link DVI-D Male to Male, 2 meters *1 each, Vel-3 3 each, Vel-33* CBL000023-002MR Dual-link DVI-D Male to Male, 2 meters *1 each, Vel-6 3 each, Vel-63*
Compliance	Approvals for US, Canada, and European Union
Warranty	12 months from date of shipment. *Extended warranties available at time of purchase.*

UNIT	DIMENSIONS (inches)	DIMENSIONS (metric)
Vel-3 Short Body	5.375"W x 7.0"D x 1.1"H	136.65mm x 177.80mm x 27.94mm
Vel-3 Long Body	5.5"W 10.0"D x 1.1"H	139.70mm x 254.00mm x 27.94mm
Vel-3 with Neutrik®	5.375"W x 7.0"D x 2.0"H	136.65mm x 177.80mm x 50.80mm
Vel-3 AV+ Short	7.5"W x 7.0"D x 1.1"H	190.50mm x 177.80mm x 27.94mm
Vel-3 AV+ Long	7.5"W x 10.0"D x 1.1"H	190.50mm x 254.00mm x 27.94mm
Vel-3 AV+ w/ Neutrik®	7.5"W x 7.0"D x 2.0"H	190.50mm x 177.80mm x 50.80mm
Vel-3 AN+	7.5"W x 7.0"D x 1.1"H	190.50mm x 254.00mm x 27.94mm
Vel-3 AN+ w/ Neutrik®	7.5"W x 7.0"D x 2.0"H	190.50mm x 177.80mm x 50.80mm
Vel-6	5.5"W x 7.75"D x 1.1"H	139.70mm x 196.85mm x 27.94mm
Vel-6 with Neutrik®	5.375"W x 7.0"D x 2.44"H	136.65mm x 177.80mm x 61.98mm
Vel-6 AV+	7.5"W x 7.75"D x 1.1"H	190.50mm x 196.85mm x 27.94mm
Vel-6 AV+ w/ Neutrik®	7.5"W x 7.0"D x 2.44"H	190.50mm x 177.80mm x 61.98mm
Vel-6 AN+	7.5”W x 7.75” D x 1.1”H	190.50mm x 196.85mm x 27.94mm
Vel-6 AN+ w/ Neutrik®	7.5”W x 7.75” D x 2.0”H	190.50mm x 196.85mm x 50.80mm
Vel-33 (rack-mount)	19.0"W x 10.0"D x 1.72"H	482.60mm x 254.00mm x 43.69mm
Vel-63 (rack-mount)	19.0"W x 7.84"D x 1.72"H	482.60mm x 199.14mm x 43.69mm

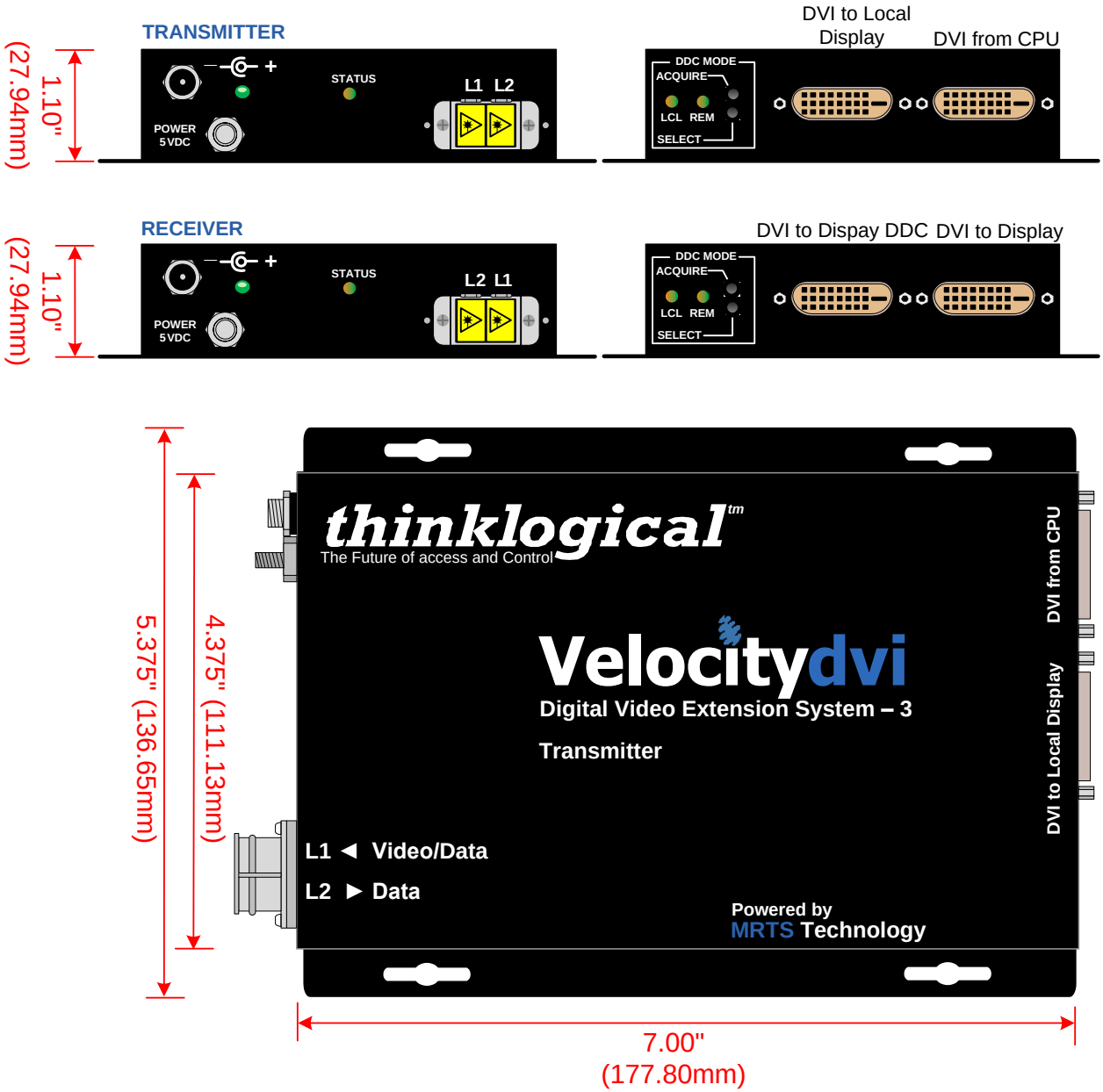
TABLE 1: Technical Specifications

3. Connecting the DVI Extender

All physical connections to these products use industry-standard connectors.

Refer to the Installation Overviews included in *Appendix A, B & C* on pages 43 through 50.

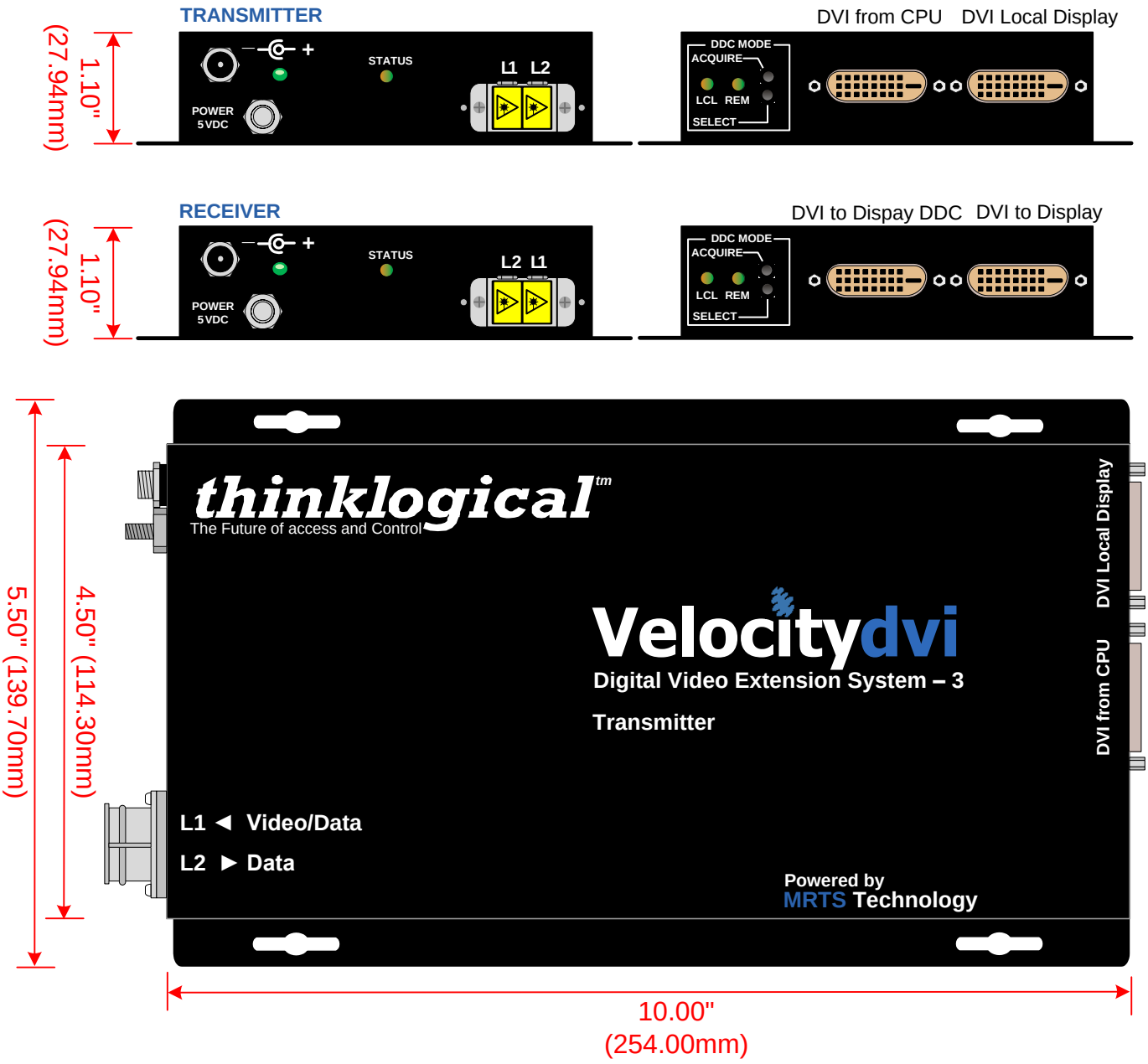
Velocity-3 Short Body



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 3: *VELOCITY-3 Short Body*

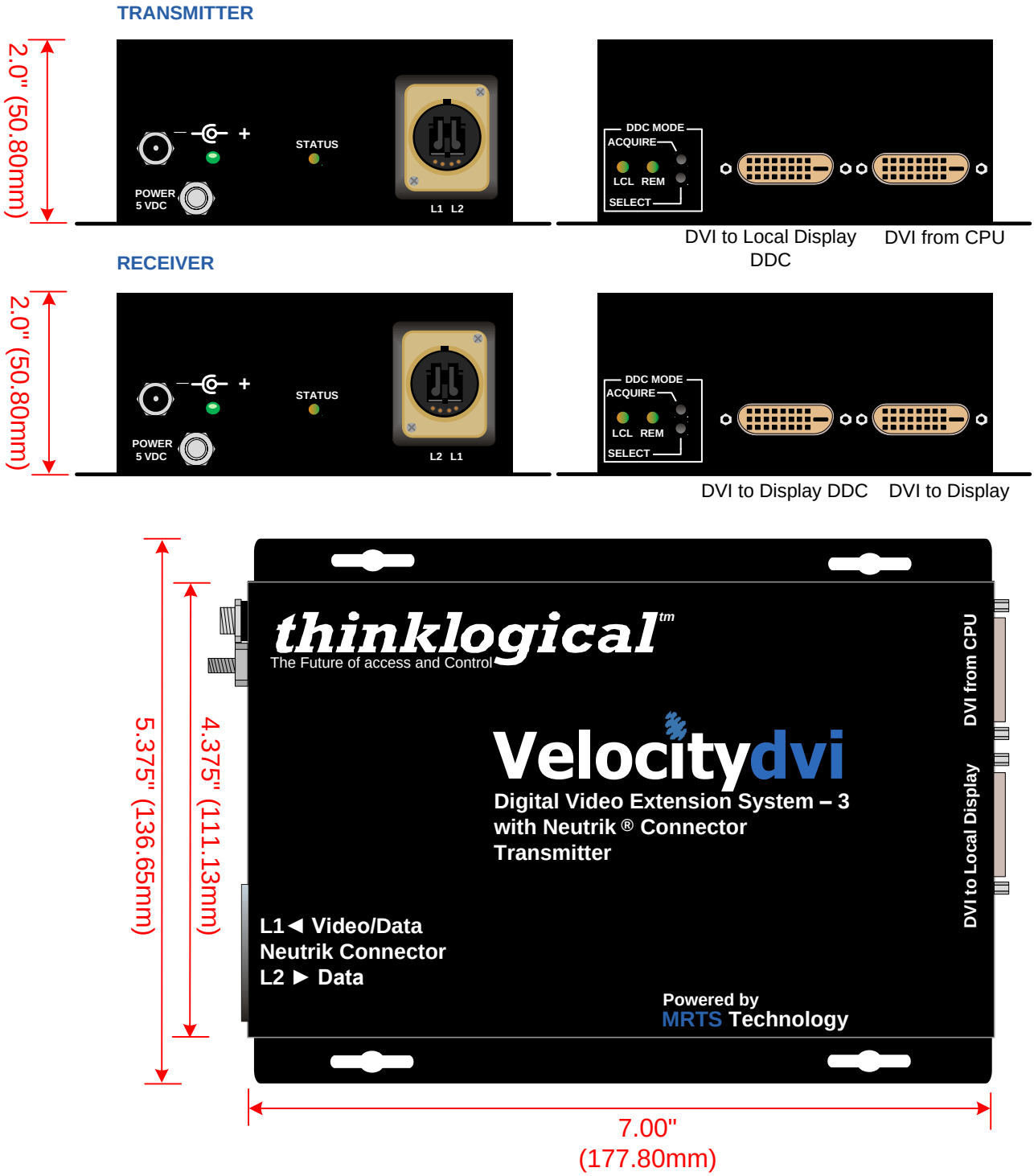
Velocity-3 Long Body



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 4: *VELOCITY-3 Long Body*

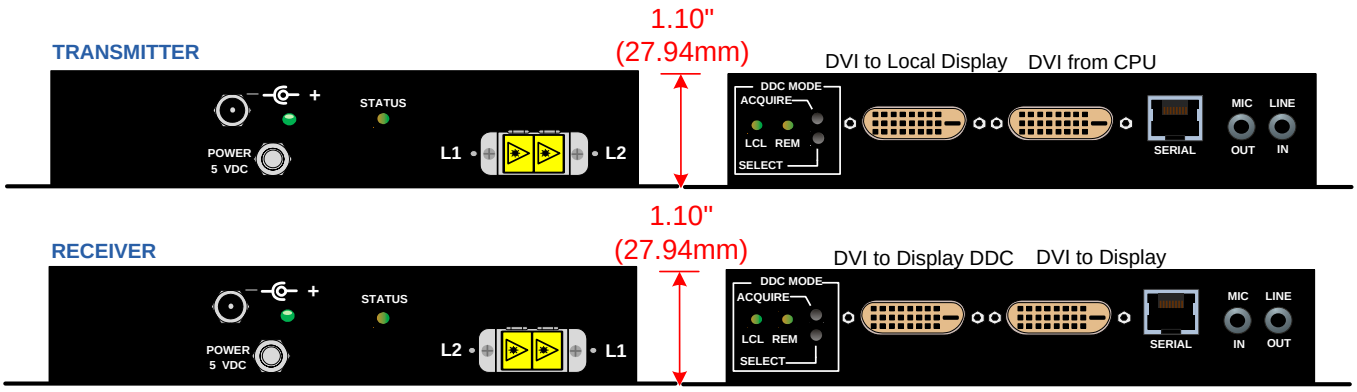
Velocity-3 with Neutrik® Connector

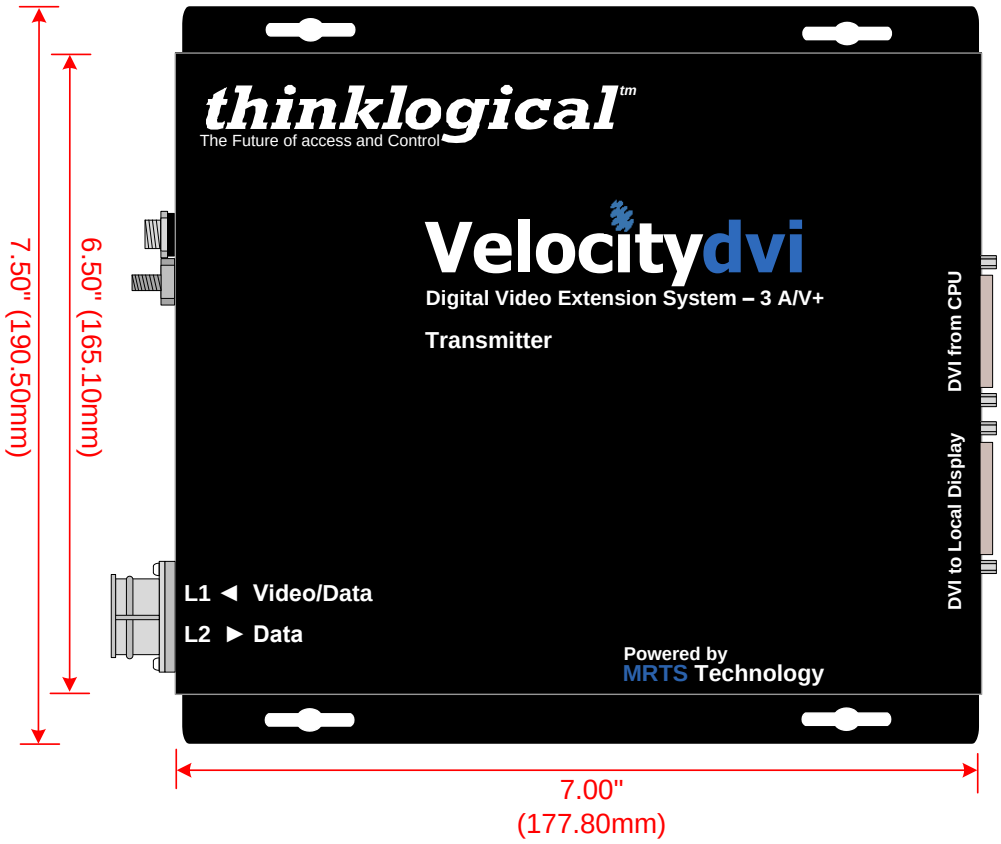


Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 5: *VELOCITY-3 with Neutrik®* OpticalCon *DUO Connector*

Velocity-3 A/V+ Short

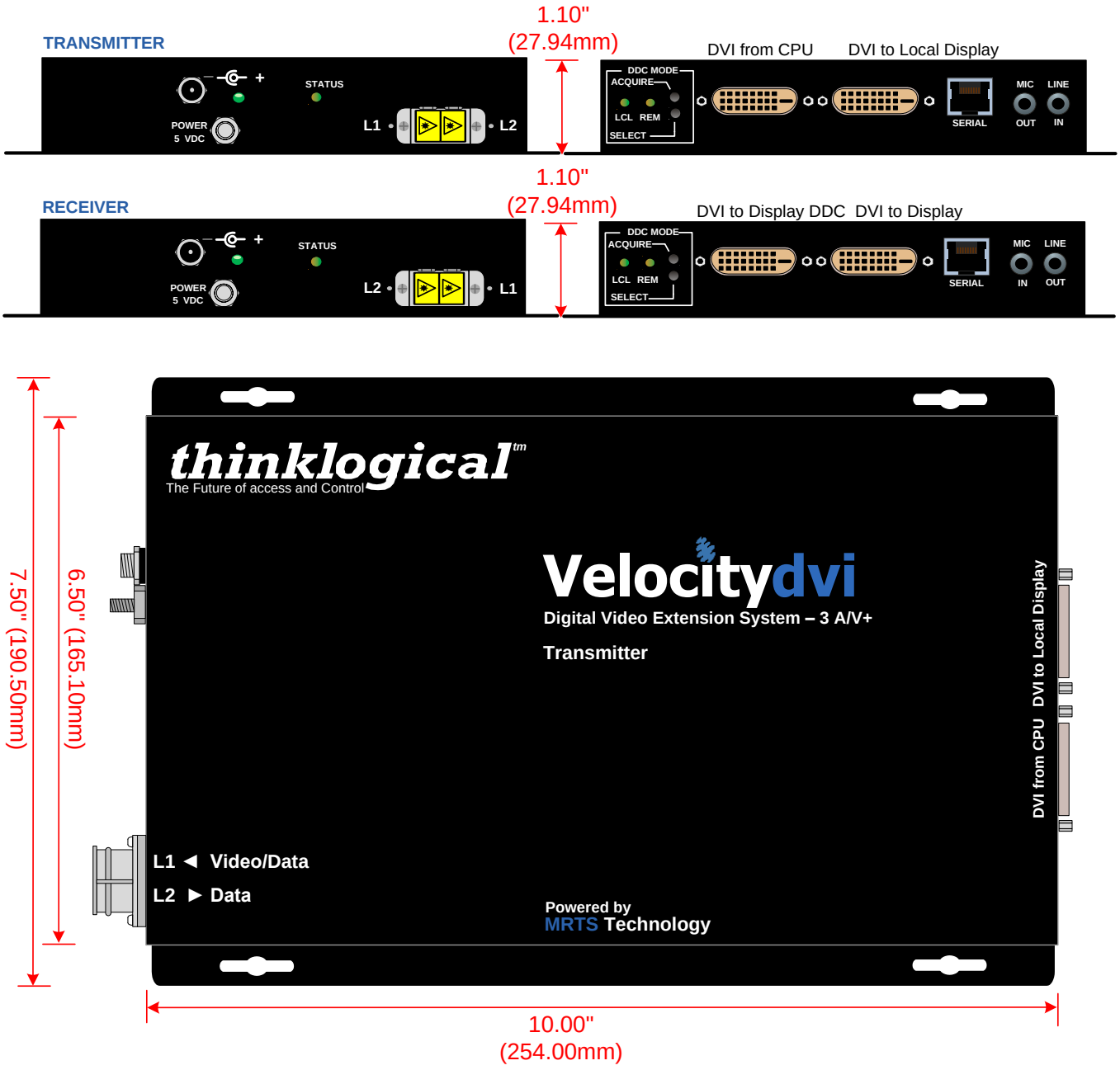




Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 6: *Velocity-3 A/V+ Short Body*

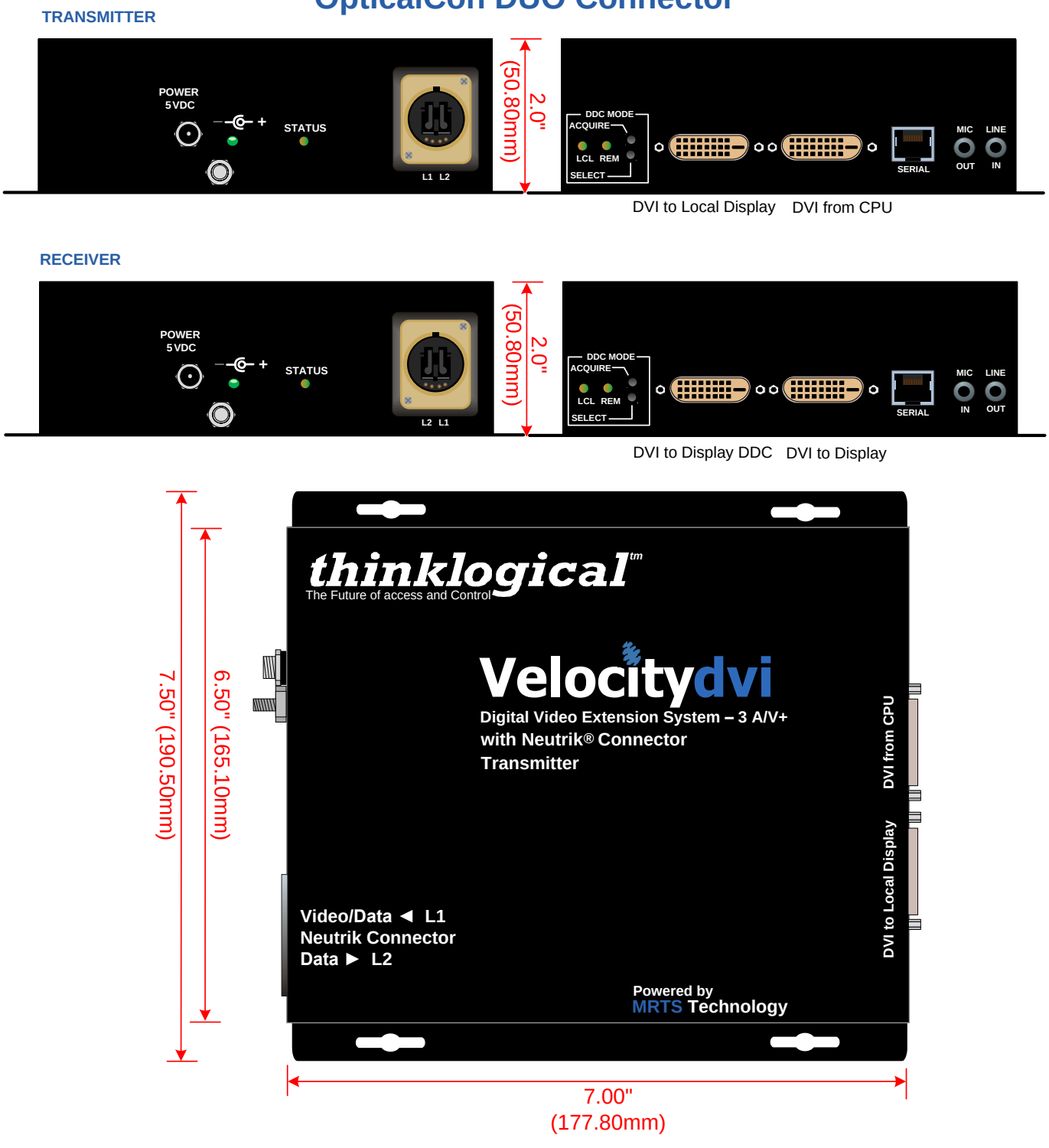
Velocity-3 A/V+ Long



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 7: *Velocity-3A/V+ Long Body*

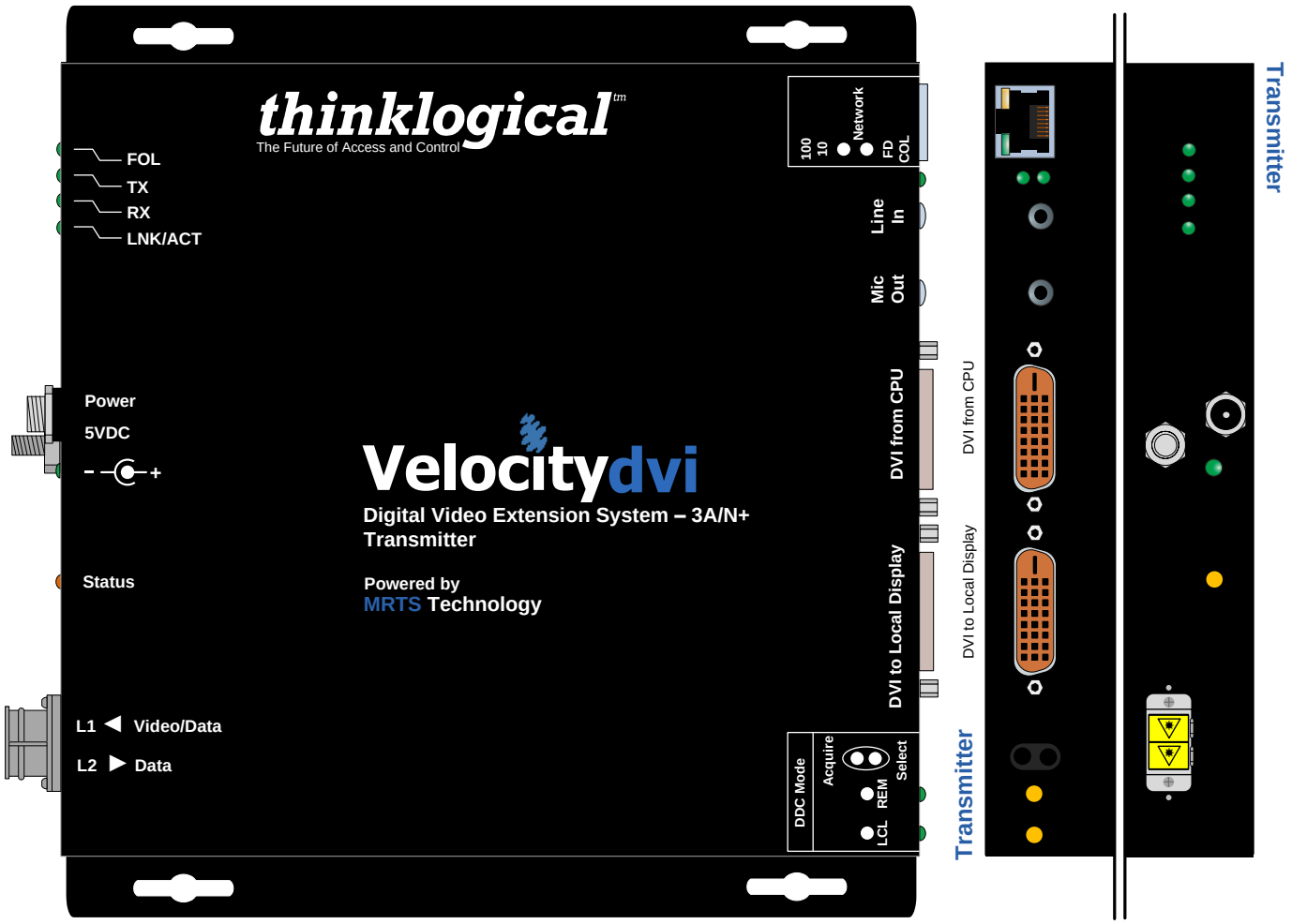
Velocity-3 A/V+ with Neutrik® OpticalCon DUO Connector



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 8: *Velocity-3A/V+ with Neutrik®* OpticalCon *DUO Connector*

Velocity-3 A/N+ Transmitter (Audio Network)



7.00" (177.80mm) L x 7.49" (190.25mm) W x 1.10" (27.94mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

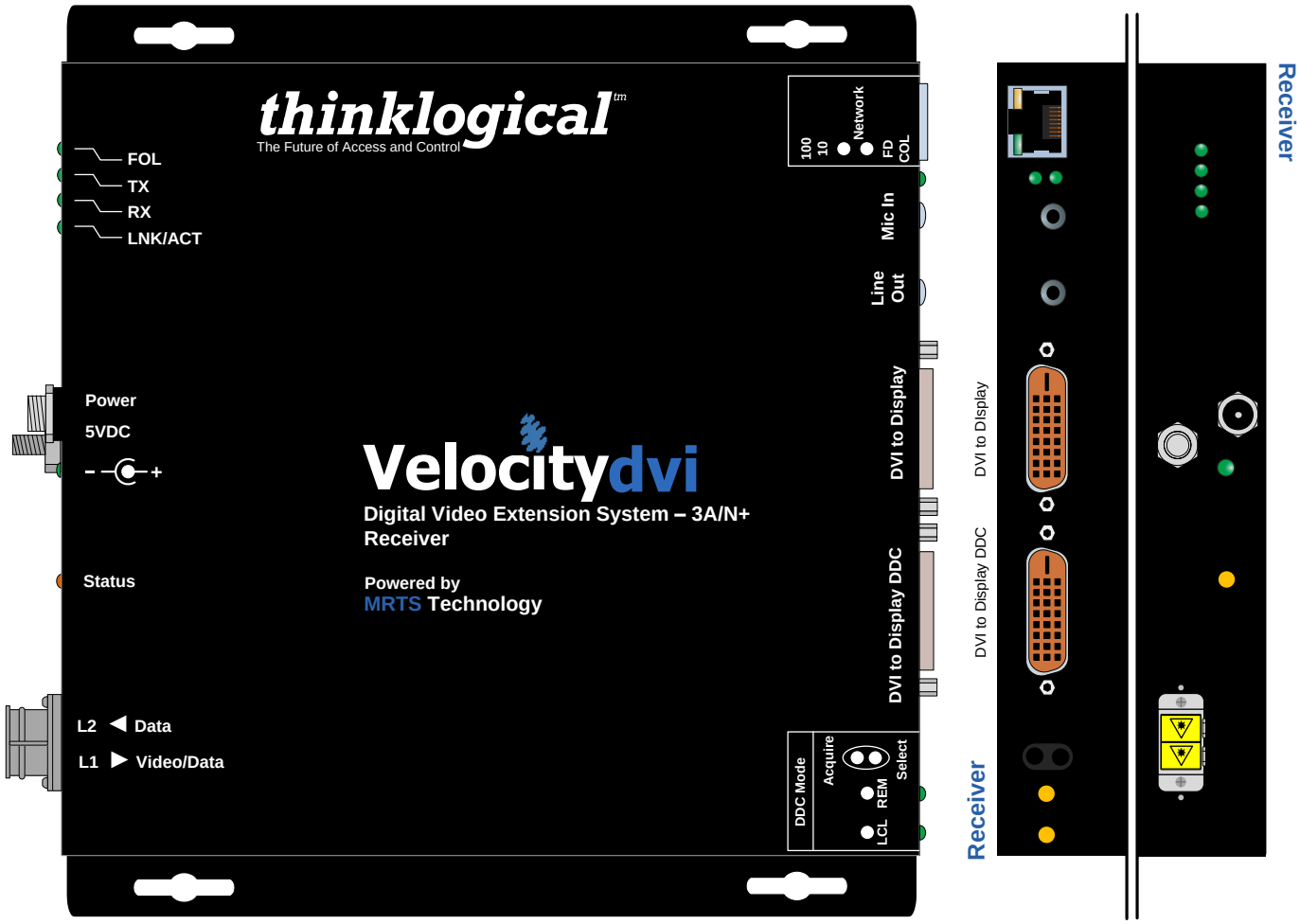
Network Status LEDs:

100/10:
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.

FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 9: *Velocity-3 A/N+ Transmitter*

Velocity-3 A/N+ Receiver (Audio Network)



7.00" (177.80mm) L x 7.49" (190.25mm) W x 1.10" (27.94mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

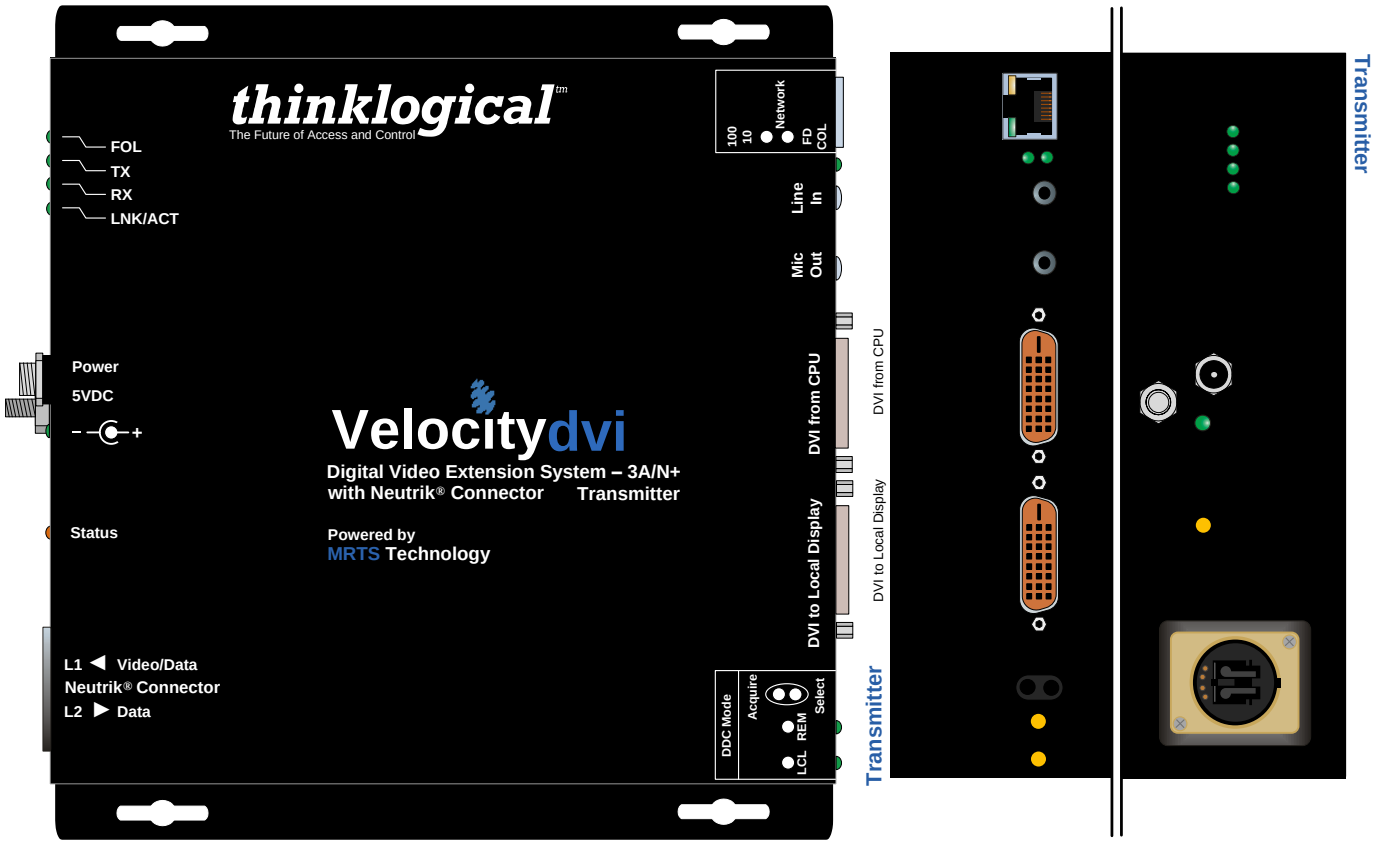
Network Status LEDs:

100/10:
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.

FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 10: *Velocity-3 A/N+ Receiver*

Velocity-3 A/N+ Transmitter with Neutrik® OpticalCon DUO Connector



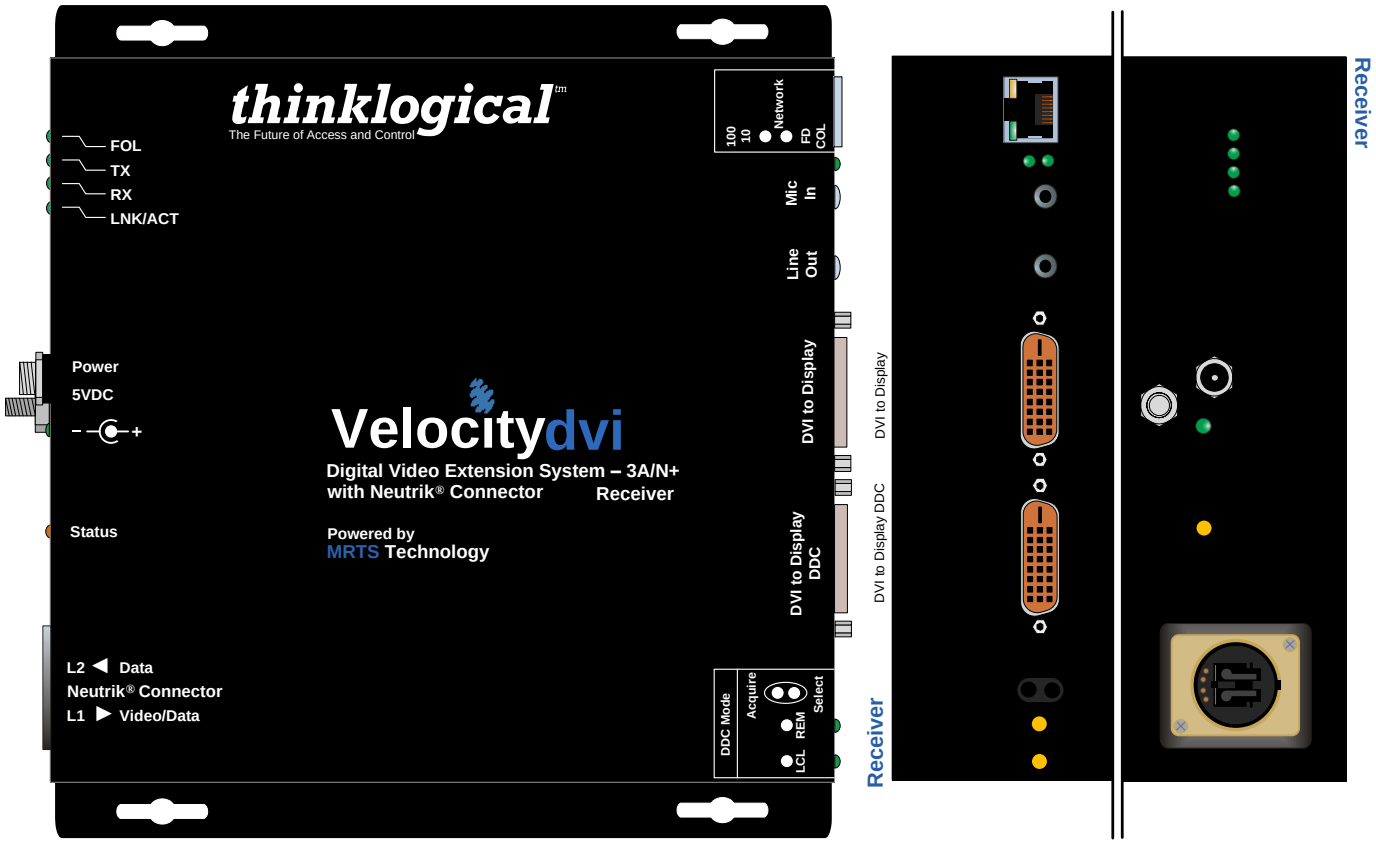
7.00" (177.80mm) L x 7.49" (190.25mm) W x 2.00" (50.80mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 11: *Velocity-3 A/N+ Transmitter with Neutrik® DUO Connector*

Velocity-3 A/N+ Receiver with Neutrik® OpticalCon Duo Connector



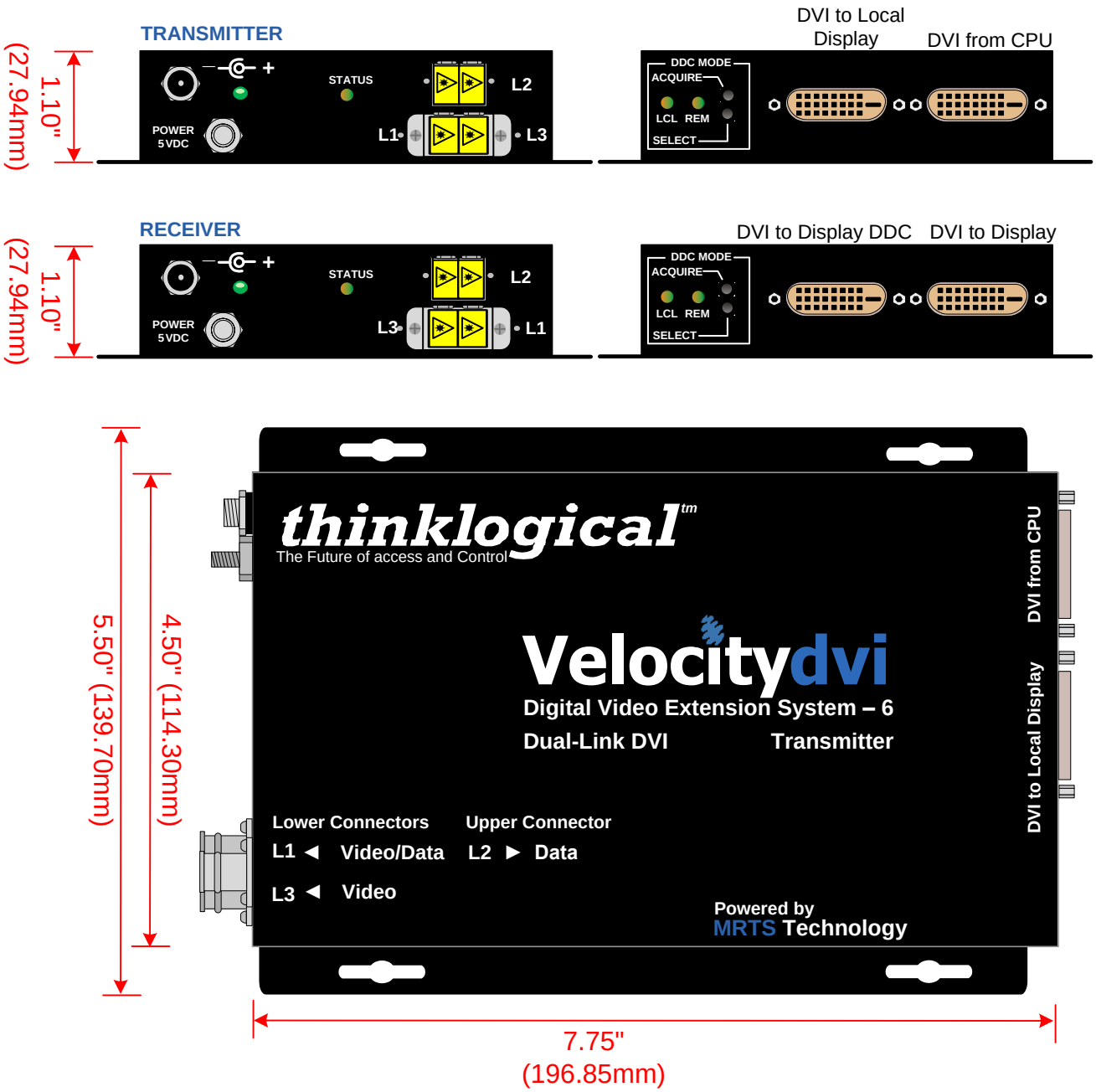
7.00" (177.80mm) L x 6.50" (165.10mm) W x 1.10" (27.94mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 12: *Velocity-3 A/N+ Receiver with Neutrik® DUO Connector*

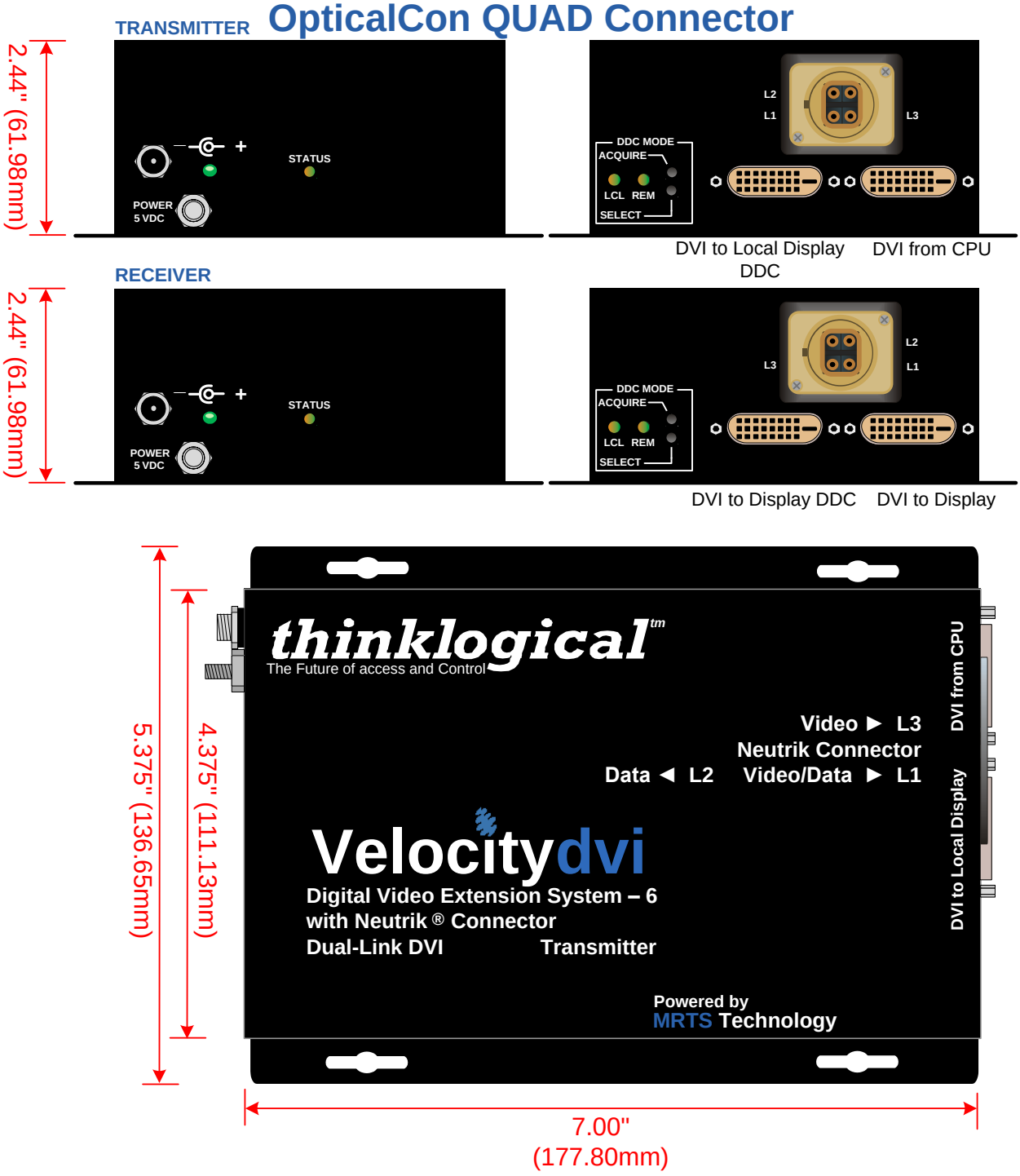
Velocity-6



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 13: *Velocity-6 Dual-Link DVI*

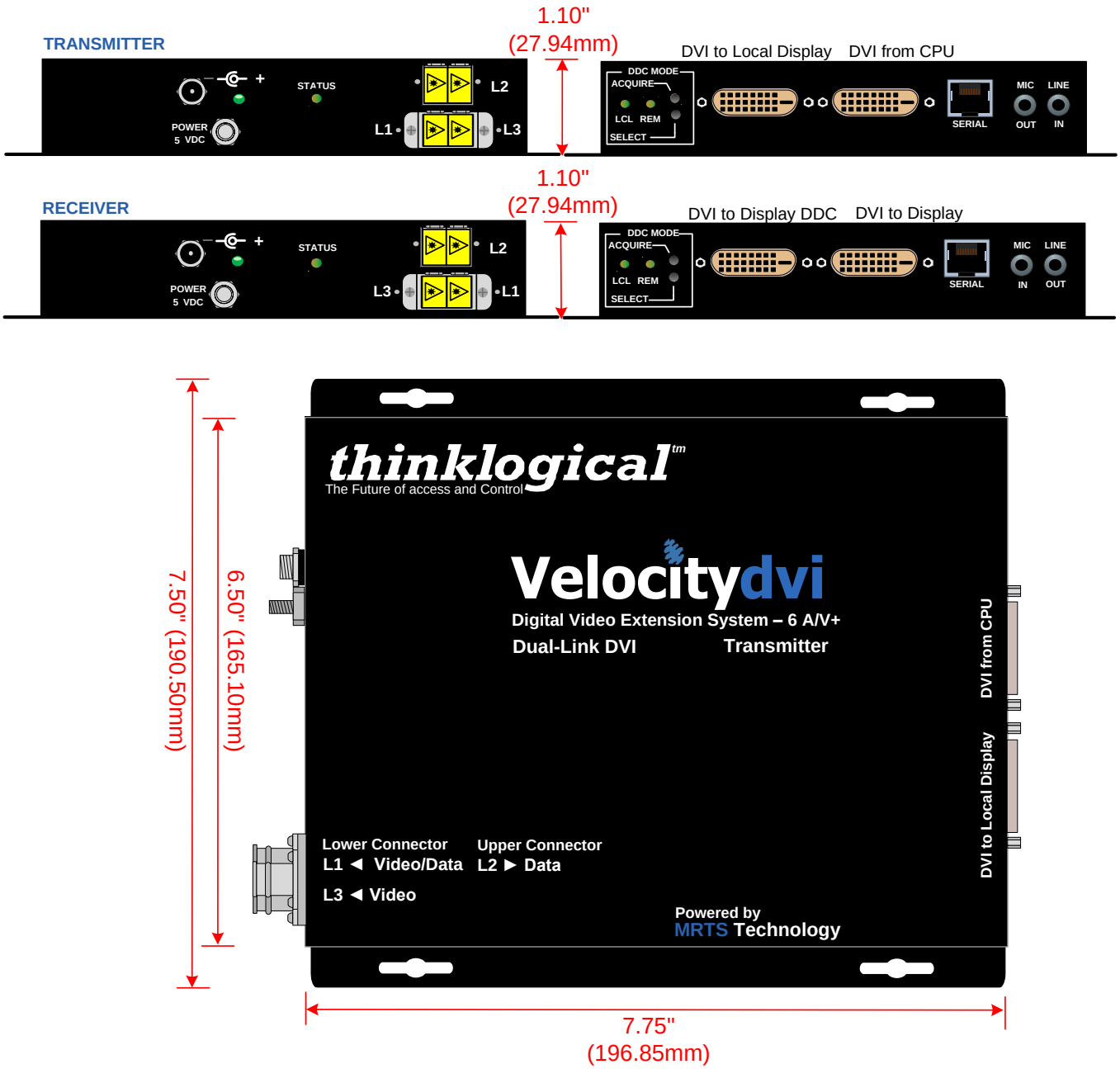
Velocity-6 with Neutrik®
OpticalCon QUAD Connector



Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 14: *Velocity-6 with Neutrik®* OpticalCon *QUAD Connector*

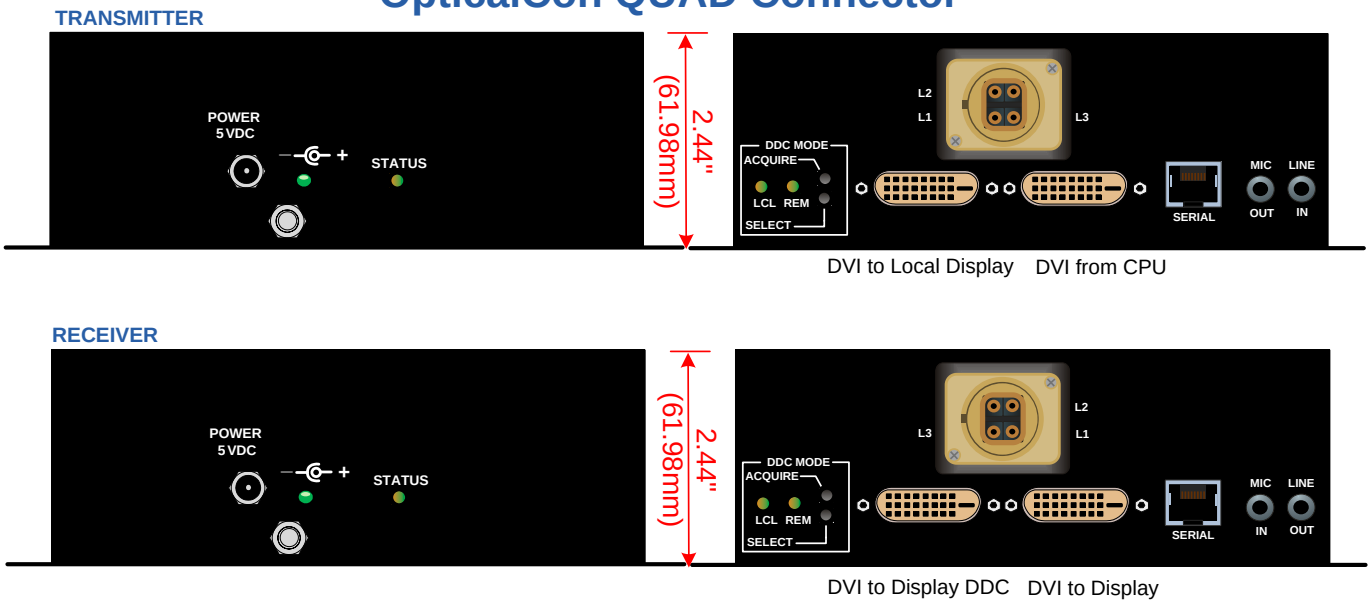
Velocity-6 A/V+

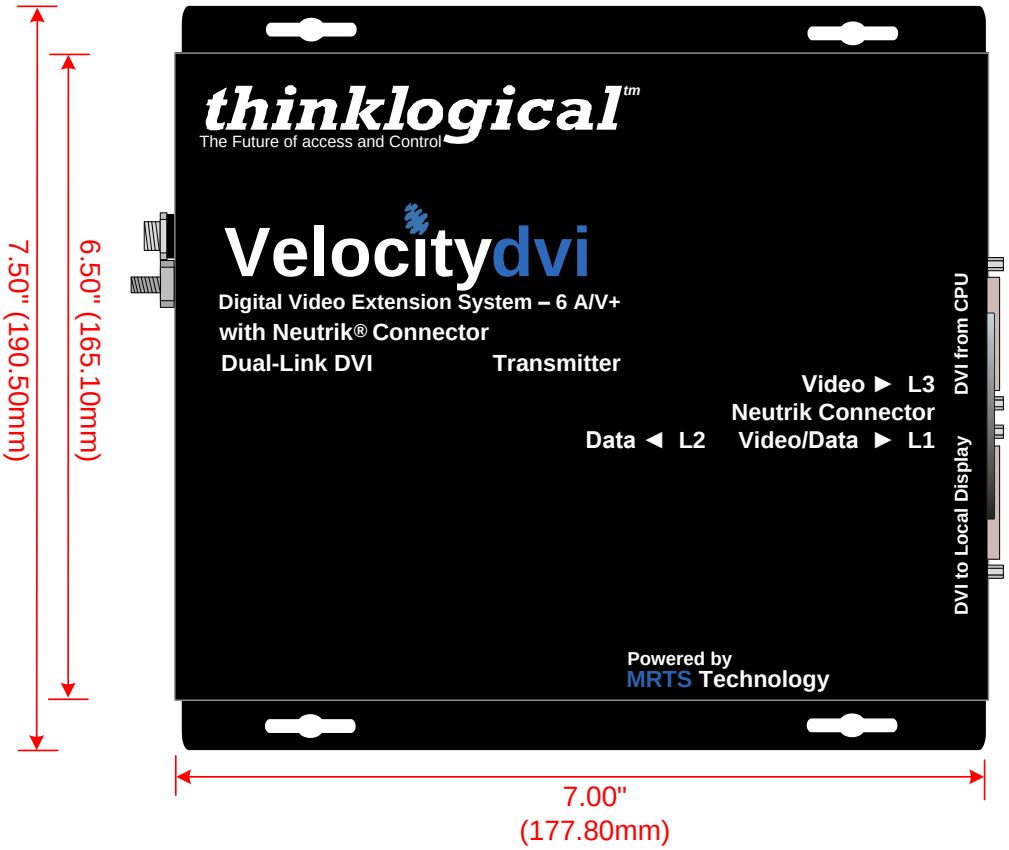


Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 15: *Velocity-6 A/V+*

Velocity-6 A/V+ with Neutrik®
OpticalCon QUAD Connector

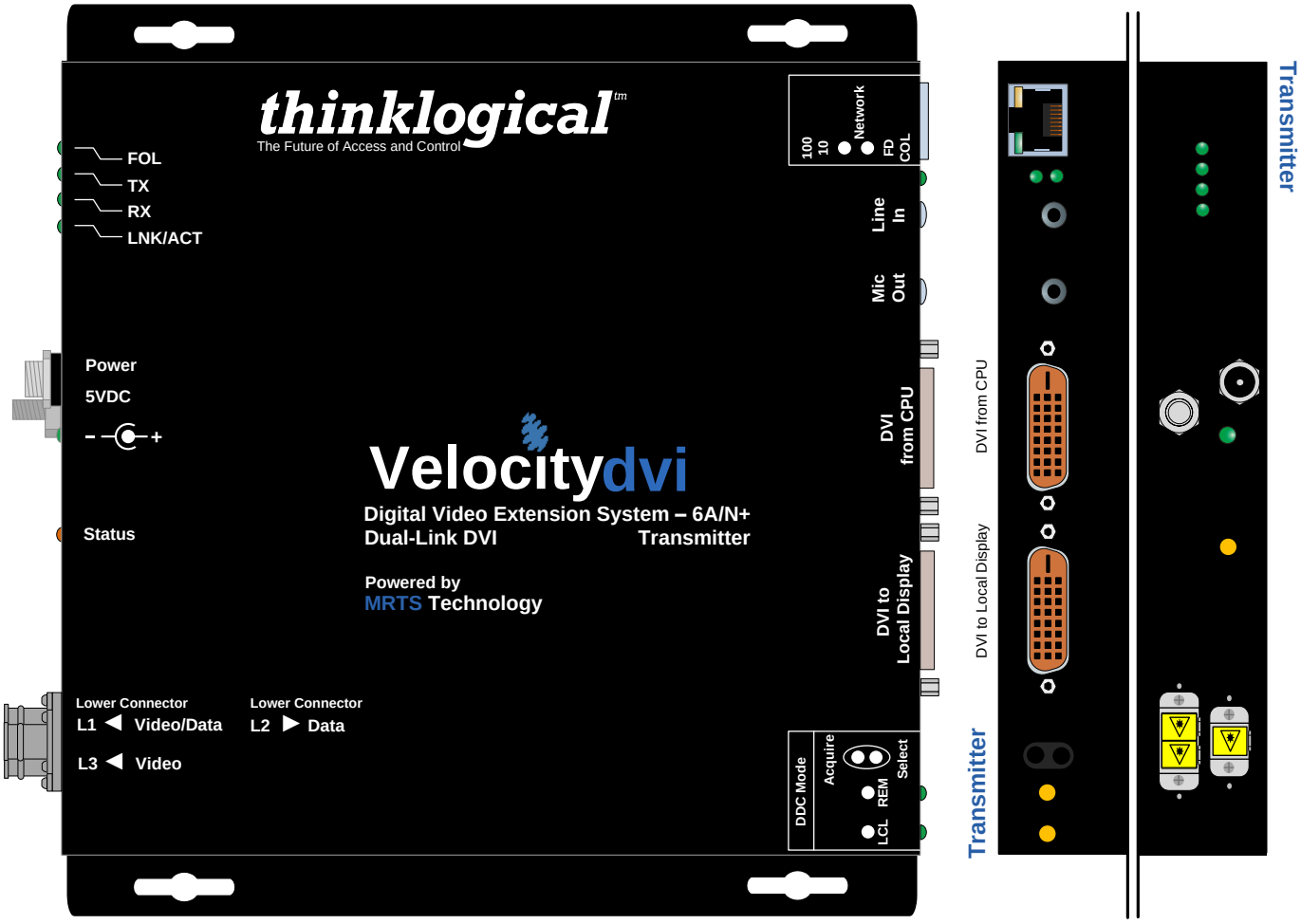




Physical dimensions are the same for both the Transmitter and Receiver chassis.

FIGURE 16: *Velocity-6A/V+ with Neutrik®* OpticalCon *QUAD Connector*

Velocity-6 A/N+ Transmitter



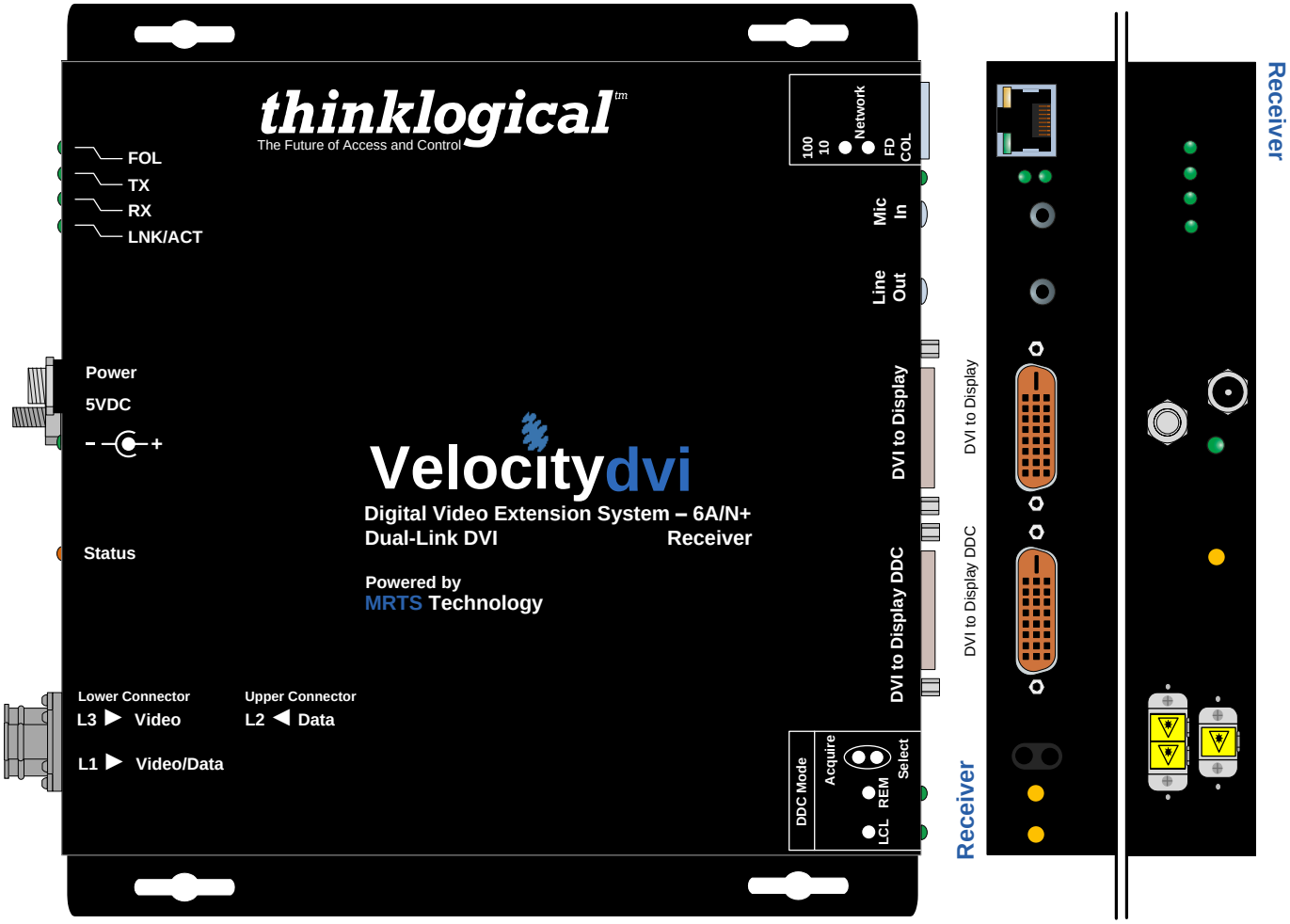
7.00" (177.80mm) L x 7.49" (190.25mm) W x 1.10" (27.94mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 17: *Velocity-6A/N+ Transmitter*

Velocity-6 A/N+ Receiver



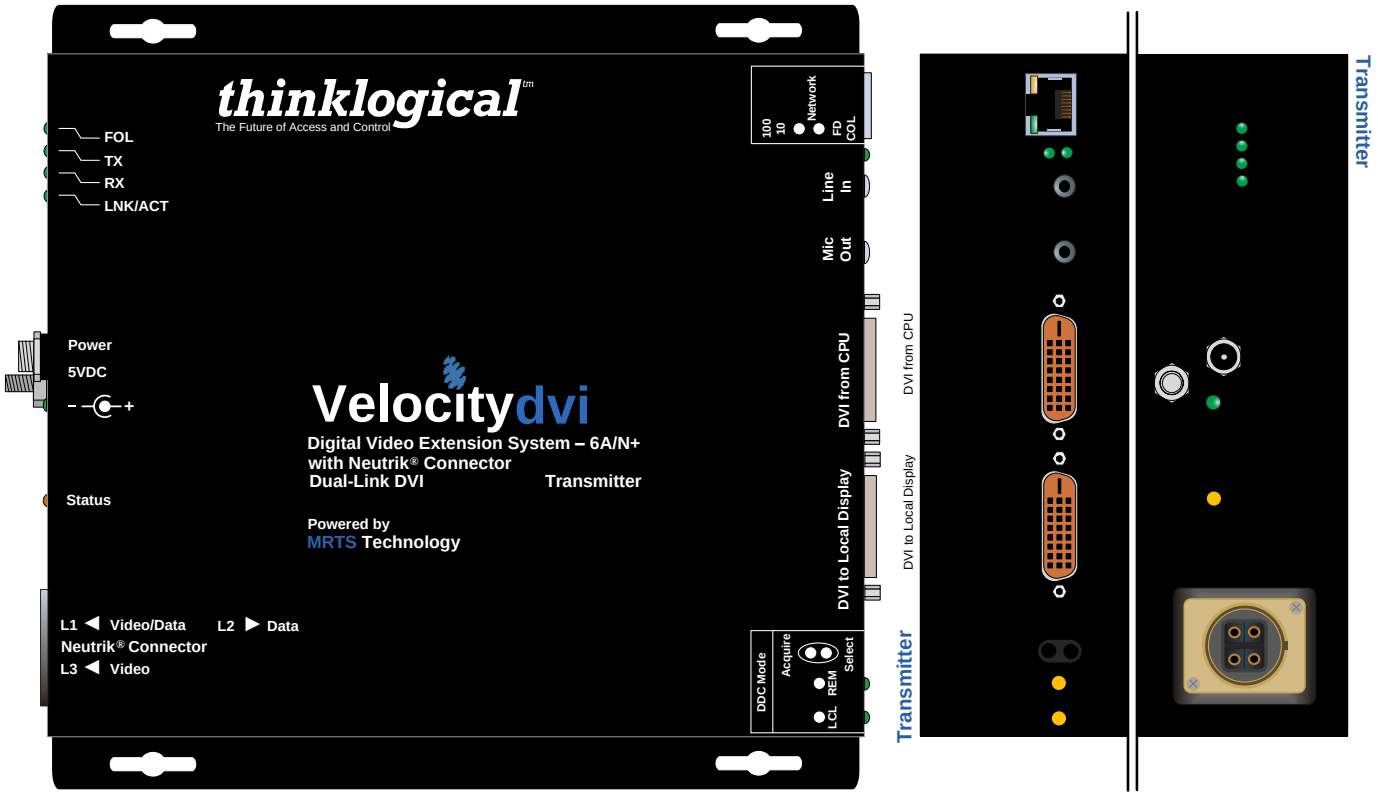
7.00" (177.80mm) L x 7.49" (190.25mm) W x 1.10" (27.94mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 18: *Velocity-6A/N+ Receiver*

Velocity-6 A/N+ Transmitter with Neutrik® QUAD OpticalCon Connector



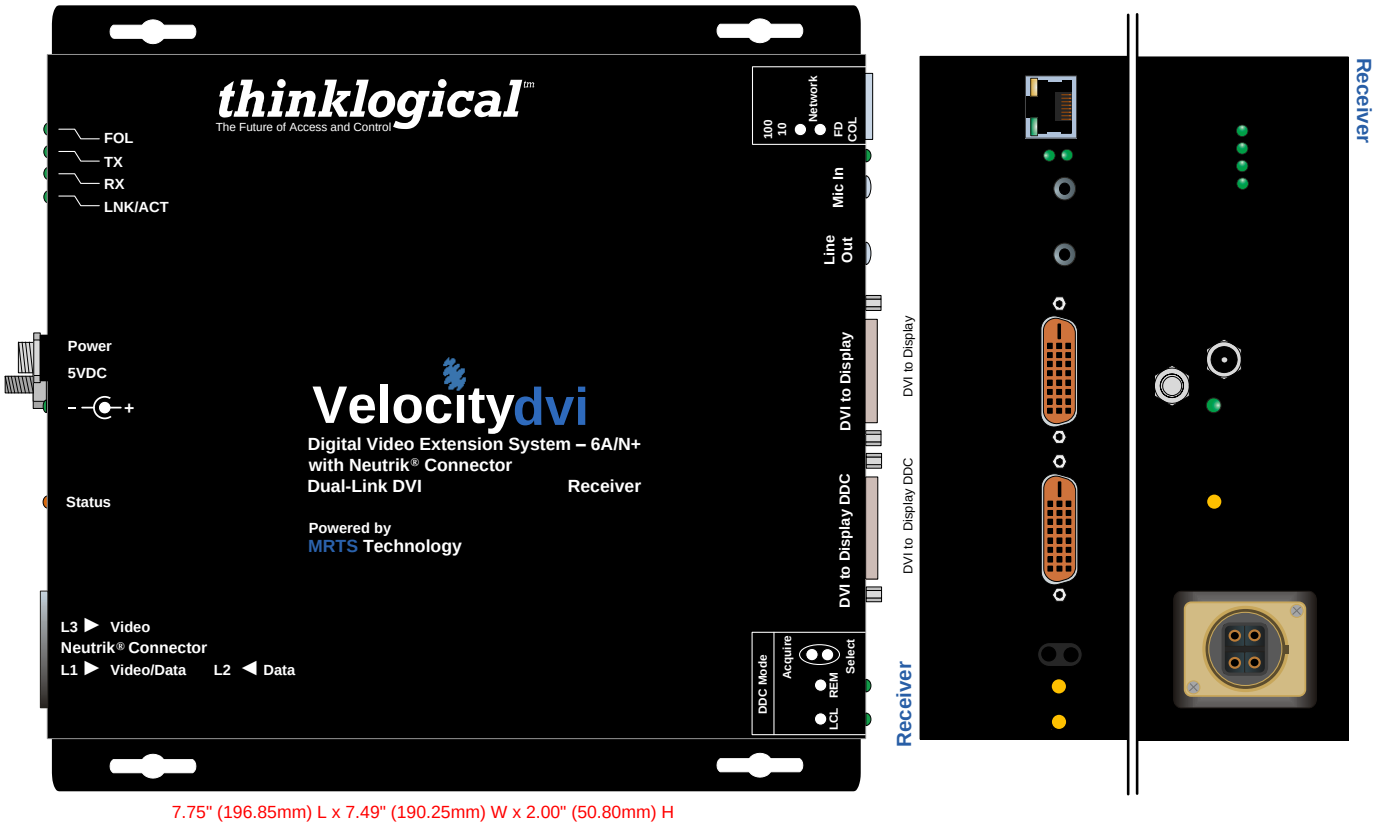
7.75" (196.85mm) L x 7.49" (190.25mm) W x 2.00" (50.80mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 19: *Velocity-6A/N+ Transmitter with Neutrik® QUAD Connector*

Velocity-6 A/N+ Receiver with Neutrik® QUAD OpticalCon Connector



7.75" (196.85mm) L x 7.49" (190.25mm) W x 2.00" (50.80mm) H

On the RJ45 connector:
Green LED = Link
Yellow LED (blinking) = Activity

Network Status LEDs: **100/10:**
*When **lit**, speed of link is* **100 Mb**.
*When **off**, speed of link is* **10 Mb**.
FD/COL:
*When **lit**, indicates operation in* **Full Duplex**.
*When **off**, indicates operation in* **Half Duplex**.
*When **blinking**, indicates* **Collision**.

FIGURE 20: *Velocity-6A/N+ Receiver with Neutrik® QUAD Connector*

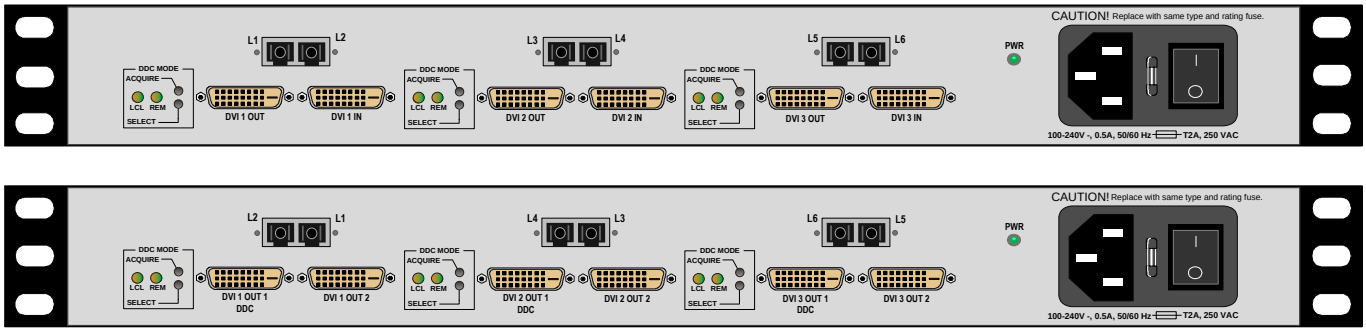


FIGURE 21: *VELOCITY-33 Transmitter (top) and Receiver*

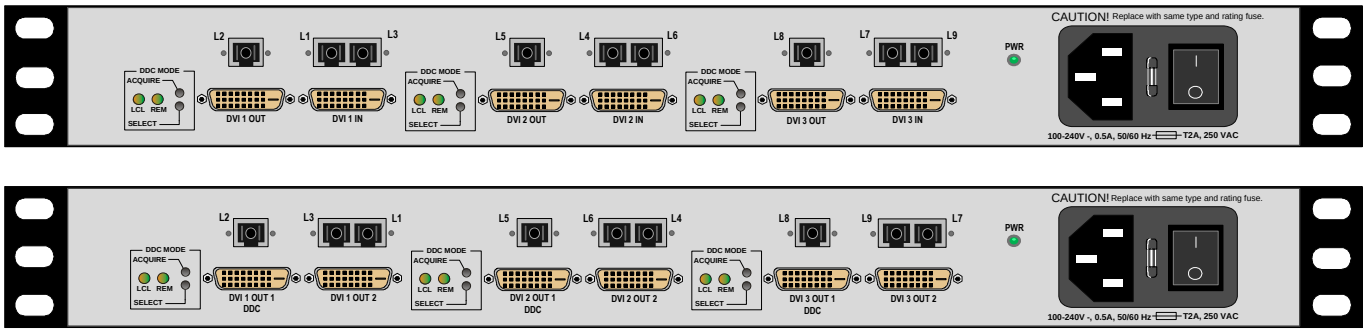


FIGURE 22: *VELOCITY-63 Transmitter (top) and Receiver*

3.1 DDC and EDID

3.1.1 DDC (Display Data Channel) and EDID (Extended Display Identification Data)

DDC is a VESA standard transport medium between a CPU's graphics adapter and monitor. The DDC is used to pass EDID (**E**xtended **D**isplay **I**dentification **D**ata), which is stored in the monitor and describes its characteristics (vendor name, serial number, frequency range, etc.). With this information the CPU and video card can determine what resolutions the monitor is capable of.

The DDC bus can be unidirectional or bidirectional. A bidirectional bus supports content protection (HDCP) and display calibration software. (***H**igh-bandwidth **D**igital **C**ontent **P**rotection* is a specification used to encrypt and protect digital video and audio signals transmitted between two HDCP-enabled devices.)

NOTE: Most DVI-D graphics adapters will not boot if a valid EDID table is not received at power up.

3.1. 2 Default DDC Modes

3.1.2.1. Remote Dynamic Mode

System-3: ***2 fibers required,*** **System-6: 3** ***fibers required***

The unit acts as a direct connection between the RX and TX. In this mode DDC data is read at the RX and sent to the TX. Once verified at the TX the information is written into a PROM on the TX and provided to the CPU video card. The RX will not send DDC data to the TX unless a different display is connected to the RX.

Advantages: Allows CPU video card to boot when there is no fiber connection to the RX.

Limitations: No communication link from the CPU to the display. Prevents the use of HDCP or monitor configuration /color tuning.

NOTE: When switching between DDC modes (except Pass-Thru), you will need to press the Acquire button to activate the new mode.

3.1.2.2. Remote Static Mode

Sys-3: ***2 fibers required to acquire DDC data, 1 fiber thereafter***

Sys-6: 3 ***fibers required to acquire DDC data, 2 fibers thereafter***

Remote Static Mode is a subset of Dynamic Mode in that once a transfer from the RX to the TX is completed successfully no other transfer will be made unless specifically requested by using the Acquire Button. The DDC data stored in the TX PROM will not change regardless of display changes.

Advantages: Allows the user to acquire and use an EDID table regardless of changes in connection at the RX.

Limitations: No communication link from the CPU to the display. Prevents the use of HDCP or monitor configuration/color tuning. May result in no video if a display with lower resolution capability is subsequently connected.

3.1.2.3. Pass-Thru Mode

Sys-3: ***2 fibers required*****, Sys-6: 3** ***fibers required***

The units act as a direct connection between the TX and RX. This mode allows the CPU to communicate directly with the monitor.

Advantages: Allows monitor color tuning and HDCP.

Limitations: If a monitor is not connected to the RX most video cards will not boot.

3.1.2.4. Local Static Mode

Sys-3: *1 fiber* required, Sys-6: 2 *fibers* required

Local Static mode operates in the same manner as Remote Static mode except that the EDID table is read from a monitor plugged into the local port of the TX. Once the Acquire button is pressed the TX will begin reading the DDC from the locally connected monitor until a valid EDID table is read. The table will then be stored on the TX and presented to the CPU.

Advantages: The TX does not need to be connected to the video card or RX.
The EDID table can be loaded before the TX is installed.

Limitations: No communication link from the CPU to the display. This prevents the use of HDCP or monitor configuration /color tuning and may result in loss of remote video if a display with lower resolution capability is connected to the RX.

3.1.3 Load Default EDID Table

Holding both buttons for 5 seconds will reload the default DDC table into the TX, and switch the DDC mode to Remote Static. The TX Status LED will turn Orange while the default table is loaded and then change to Green.

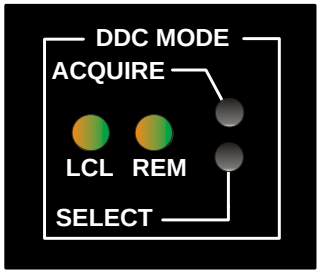
Advantages: Sends a valid EDID table to the CPU in order for the graphics adapter to boot.

Limitations: Default EDID table may not support required resolutions.

Feature	Remote Dynamic	Remote Static	Pass-Thru	Local Static	Load Default
Supports HDCP	No	No	Yes	No	No
Supports monitor calibration	No	No	Yes	No	No
Monitor on RX side required to boot video	No	No	Yes	No	No
EDID table loaded from Rx	Yes	Yes	Yes	No	No
EDID table loaded from Tx	No	No	No	Yes	No
EDID table stored in non-volatile memory	Yes	Yes	No	Yes	Yes
Fibers required System-3	2	2 initially, then L1 only	2	1	1
Fibers required System-6	3	3 initially, then L1 and L3 only	3	2	2

TABLE 2: EDID Capability Summary

3.1.4. DDC LEDs and Mode Button Operation



- **Acquire Button**

The upper button is the Acquire Button. This button is used to initiate DDC collection. This button works with all modes except Pass-Thru.

- **Select Button**

The lower button is used to select the DDC Mode of operation. The modes will cycle through Remote Dynamic, Remote Static, PassThru and Local Static.

- **Both Buttons Held 5 seconds**

Holding both buttons for 5 seconds will reload the default DDC table into the TX and switch to Remote Static mode.

- **Local and Remote LED Mode Indication**

LCL	REM	DDC MODE	DESCRIPTION
OFF	GREEN	REMOTE DYNAMIC	EDID READ FROM REMOTE DISPLAY AND UPDATED EACH TIME REMOTE DISPLAY CHANGES
ORANGE	GREEN	REMOTE STATIC	EDID READ FROM REMOTE DISPLAY WHEN ACQUIRE BUTTON IS PRESSED
GREEN	GREEN	PASS-THRU	ACTS AS A DIRECT CONNECTION BETWEEN CPU AND DISPLAY. NO EMULATION IS PERFORMED
GREEN	ORANGE	LOCAL STATIC	EDID READ FROM LOCAL DISPLAY WHEN ACQUIRE BUTTON IS PRESSED

- **TX Status LED**

The status LED indicates the connection status of the TX Extender.
Green = Fiber L2 is connected and a good link is established.
Orange = Local Static Mode selected and no fiber link from RX to TX (L2 is not connected), or both buttons are held down and the unit is waiting to reload the default DDC table.
Red Flashing = No Fiber Link from RX to TX (Not available in Local Static mode).
For **Vel-6 models**, there is no LED indication for Fiber L3. In single-link mode, video is not affected if L3 is not connected. In dual-link mode, there will be no video if L3 is not connected.

- **RX Status LED**

The status LED indicates the connection status of the RX Extender.
Green = Good Link and DVI monitor connected to primary port (port on left looking at DVI connectors).
Orange = No DVI monitor connected to primary port.
Red Flashing = No Fiber Link from TX to RX (L1 is not connected).

- **Power LED**

When lit, the **Green LED** near the power jack indicates that +5VDC power is applied to the unit.

- **Grounding Stud**

A grounding stud located below the power jack allows the unit to be hard-wired to electrical ground if required.

3.2 AC Power (Vel-3 and Vel-6)

Two wall pack AC/DC adapters (PN: PWR-000022-R) are included with the Vel-3 and Vel-6 models. The AC wall pack has a universal power rating (100-240VAC, 50-60Hz) and also has interchangeable wall plug adapters for various AC power receptacles found throughout the world (shown below). Use the appropriate plug for your country or location.

- ✓ +5VDC
- ✓ Continuous Short Circuit Protection
- ✓ Over Voltage Protection
- ✓ Conductive EMI Meets CISPR/FCC Class B high efficiency, 75% Typical

4. Installation

4 .1. Order of Installation Events

If you intend to mount your VelocityDVI-3 or -6 Extenders, instructions are included in *Appendix B* on page 49. **It is recommended that you securely mount the unit(s) before installing the cabling and power sources.**

See *Appendix A: Installation Overview* on pages 43-48, *Appendix B: DVI Extender Mounting* on page 49 and *Appendix C: RJ-45 Adapter Pin-outs* on page 50.

5. Regulatory and Safety Compliance

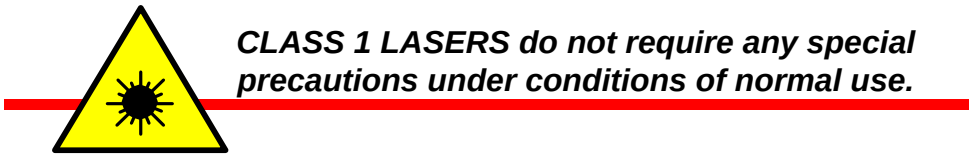
5.1. Safety Requirements

5.1.1. Symbols Found on Our Products

Markings and labels on our products follow industry-standard conventions. Regulatory markings found on our products comply with all domestic and many international requirements.

5.1.1.1. Class 1 Laser Labeling

The DVI Extenders, **models VEL-3, -6, -33 and -63** are designed and identified as Class 1 LASER products.



CLASS 1 LASERS do not require any special precautions under conditions of normal use.

5.2. Regulatory Compliance

Thinklogical VelocityDVI Extender™ products are designed and made in the USA. VelocityDVI Extender products have been tested by a nationally recognized testing laboratory and found to be compliant with the following standards (both domestic USA and many international locations).

5.2.1. North America

These products comply with the following standards:

Safety

- ANSI/UL60950-1: 1st Edition (2003)
- CAN/CSA C22.2 No. 60950-1-03

Laser Safety

- CDRH 21 CFR 1040.10
- Class 1 Laser Product: VEL-3, VEL-6, VEL-33, VEL-63
- Accession Number TBD

Electromagnetic Interference

- FCC CFR47, Part 15, Class A
- Industry Canada ICES-003 Issue 2, Revision 1

5.2.2. Australia & New Zealand

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take corrective measures.

5.2.3. European Union

5.2.3.1. Declaration of Conformity

Product name

VelocityDVI Digital Video Extension System-3, VelocityDVI Digital Video Extension System-6, VelocityDVI Digital Video Extension System-33, VelocityDVI Digital Video Extension System-63

These products comply with the requirements of Low Voltage Directive 72/23/EEC and EMC Directive 89/336/EEC.

5.2.3.2. Standards With Which Our Products Comply

Safety

- CENELEC EN 60950-1, 1st Edition (2001)

Laser Safety

- IEC60825:2001 Parts 1 and 2
- Class 1 Laser Product

Electromagnetic Emissions

- EN55022: 1994 (IEC/CSPIR22:1993)
- EN61000-3-2/A1 4:2000
- EN61000-3-3:1994

Electromagnetic Immunity

- EN55024:1998 Information Technology Equipment-Immunity Characteristics
- EN61000-4-2:1995 Electro-Static Discharge Test
- EN61000-4-3:1996 Radiated Immunity Field Test
- EN61000-4-4:1995 Electrical Fast Transient Test
- EN61000-4-5:1995 Power Supply Surge Test
- EN61000-4-6:1996 Conducted Immunity Test
- EN61000-4-8:1993 Magnetic Field Test
- EN61000-4-11:1994 Voltage Dips & Interrupts Test

5.2.4. Supplementary Information

The following statements may be appropriate for certain geographical regions but might not apply to your location.

NOTE: This equipment has been tested and found to comply with the limits for a Class 1 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 uses, generates 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, in which case the user may be required to correct the interference.

NOTE: This Class 1 digital apparatus complies with Canadian ICES-003 and has been verified as compliant within the Class A limits of the FCC Radio Frequency Device Rules (FCC Title 47, Part 15, Subpart B Class A), measured to CISPR 22: 1993 limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigencies du Reglement sur le material brouilleur du Canada.

NOTE: The user may notice degraded audio performance in the presence of electro-magnetic fields.

5.2.5. Product Serial Number

The VelocityDVI Extender products have a unique serial number, imprinted on a small silver label that is placed on the bottom of the chassis. The serial number includes a date-code. The format for the date-code is two digits for the month; two digits for the day and two digits for the year and two or three digits for a unique unit number. This serial number is also found on the original shipping carton.

6. How to Contact Us

6.1. Customer Support

Thank you for choosing Thinklogical™ products for your application. We appreciate your business and are dedicated to helping you successfully use our products.

Thinklogical™ is always here to help you. To contact us, please use the following telephone numbers and internet-based methods:

6.1.1. Website

Visit our website for more product information, current updates and the full line of Thinklogical™ products.

Internet: www.thinklogical.com

Our internet website offers product information on all current systems, including technical specification sheets and Quick Start Guides (for viewing online or for download), product diagrams showing physical connections and other information you might need. We are continually updating our website so be sure to update your browser when visiting the Thinklogical™ website to see our most up-to-date information.

NOTE: Most online documents are stored as Adobe Acrobat "PDF" files. If you do not have the Adobe Acrobat reader needed to view PDF files, visit www.adobe.com for a download.

6.1.2. Email

Thinklogical™ is staffed Monday through Friday from 8:30am to 5:30pm, Eastern Time Zone. We will try to respond to your email inquiries promptly. Please use the following email addresses for your various needs:

Info@thinklogical.com – Information about Thinklogical™ and our products.

sales@thinklogical.com – Sales Department: orders or questions.

support@thinklogical.com – Product support, technical issues or questions, product repairs and request for Return Authorization.

6.1.3. Telephone

Telephone Sales: Contact our expert sales staff via telephone in Milford, CT at **1-203-647-8700** or if in the continental US, you may use our toll-free number **1-800-291-3211**. We are here Monday through Friday from 8:30am to 5:30pm, Eastern Time Zone. Be sure to ask for your sales representative's direct dial phone number when you call.

Telephone Product Support: Please contact our expert Product Support staff via telephone in Milford, Connecticut at **1-203-647-8700**. The support lines are manned Monday through Friday, 8:30am to 5:30pm, Eastern Time Zone.

International Sales: Please contact our US Sales Staff in Milford, Connecticut at **1-203-647-8700**. We are here Monday through Friday, 8:30am to 5:30pm, Eastern Time Zone (same as New York City). If leaving a voice message, please provide a preferred time to call back so we may reach you at your convenience.

Our switchboard attendant will direct your call during regular business hours. We have an automated attendant answering our main telephone switchboard after regular business hours and on holidays. You may leave a voice message for any of our representatives at any time. Each of our sales and service representatives has a direct number to accommodate your calls.

6.1.4. Fax

Our company facsimile number is **1-203-783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information, including your phone number.

6.2. Product Support

Thinklogical's™ support personnel are available Monday through Friday from 8:30am to 5:30pm, Eastern Time Zone. If you require assistance at some time outside of our normal business hours, please contact us beforehand and we will do our best to make arrangements to assist you.

6.2.1. Limited Warranty Information

Thinklogical, LLC ("Thinklogical") warrants this product against defects in materials and workmanship for a period of one (1) year from the date of delivery (ordinary wear and tear excluded). This limited warranty does not cover defects resulting from (i) use of the product other than as described in the applicable documentation for the product; (ii) modifications to or repairs of the product that are made by any party other than Thinklogical or a party acting on Thinklogical's behalf, or (iii) combination of the product with third party products that is not consented to by Thinklogical. Occurrences of events described in (i) – (iii) shall void the foregoing warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Except for the express warranty set forth above, to the fullest extent permitted under applicable law, Thinklogical, LLC and its suppliers disclaim any and all other warranties, express and implied, including without limitation the implied warranties of merchantability, fitness for a particular purpose, title and non-infringement.

If the defective product is returned to the authorized dealer within one (1) year of the delivery date, repair or replacement of the product will be made. Repairs may be made with refurbished parts. If repair or replacement is not possible, Thinklogical may keep the defective product and refund the amount that you paid for the defective product. These are Thinklogical's sole obligations, and your exclusive remedies, for a breach of the limited warranty set forth above.

To return a defective product, contact the Thinklogical authorized dealer from whom you purchased the product. Do not return a product directly to Thinklogical without prior authorization from your dealer.

If you have received prior authorization from your dealer and are returning a product directly to Thinklogical:

1. Contact your sales representative, or call Customer Support at (800)291–3211 or + (203)647–8700.
2. Describe the defect with the product and Customer Support will issue a Return Merchandise Authorization Number (RMA#).
3. Pack the product in all of its original packing, if possible, and write the RMA number on the box.
4. Return the product to:
   Thinklogical, LLC

Attn: RMA# [Insert the RMA# issued to you, by Thinklogical, here.]
100 Washington Street
Milford, CT 06460 USA

6.2.3. Our Address

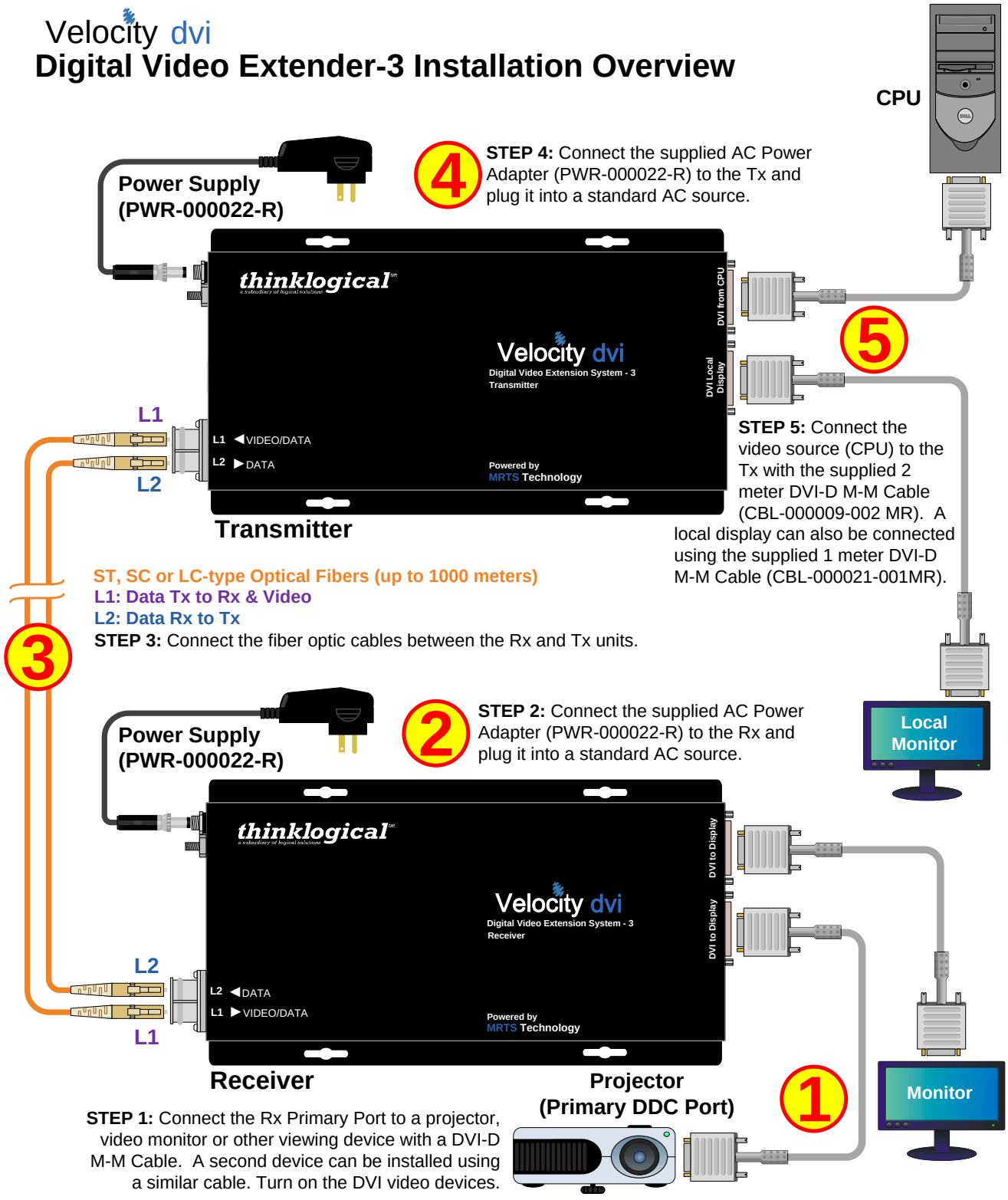
If you have any issues with our products, have product questions or need technical assistance with your VelocityDVI Extension System™, please call us at **1-203-647-8700** and let us help.

If shipping something with an RMA # or if you'd like to write us, our address is:

Thinklogical, ***a subsidiary of Logical Solutions™, Inc.***
100 Washington Street
Milford, CT 06460 USA
Telephone 1-203-647-8700

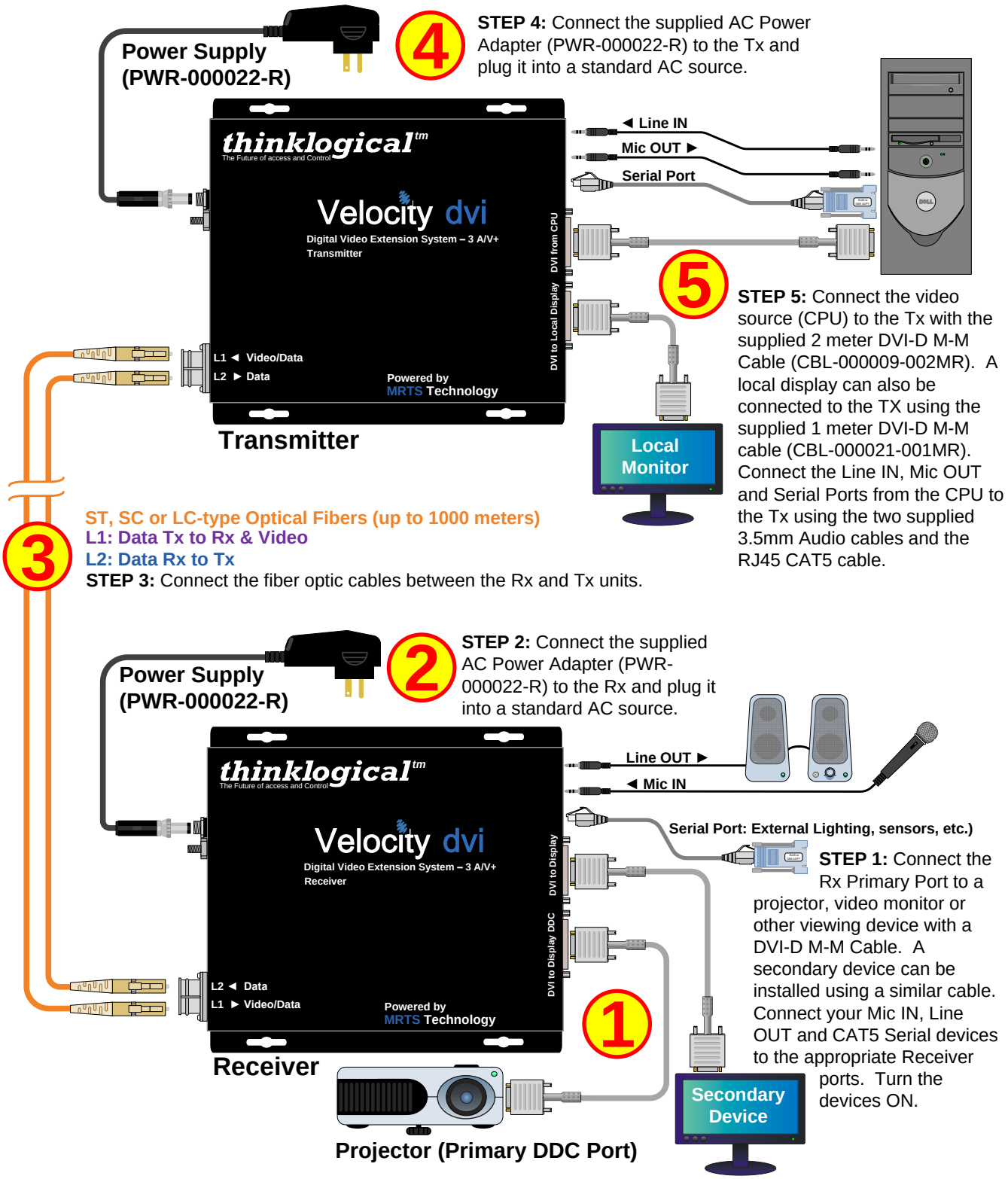
Appendix A: Installation Overview

- **A.1. VEL-3**



A.2. VEL- 3 A/V+

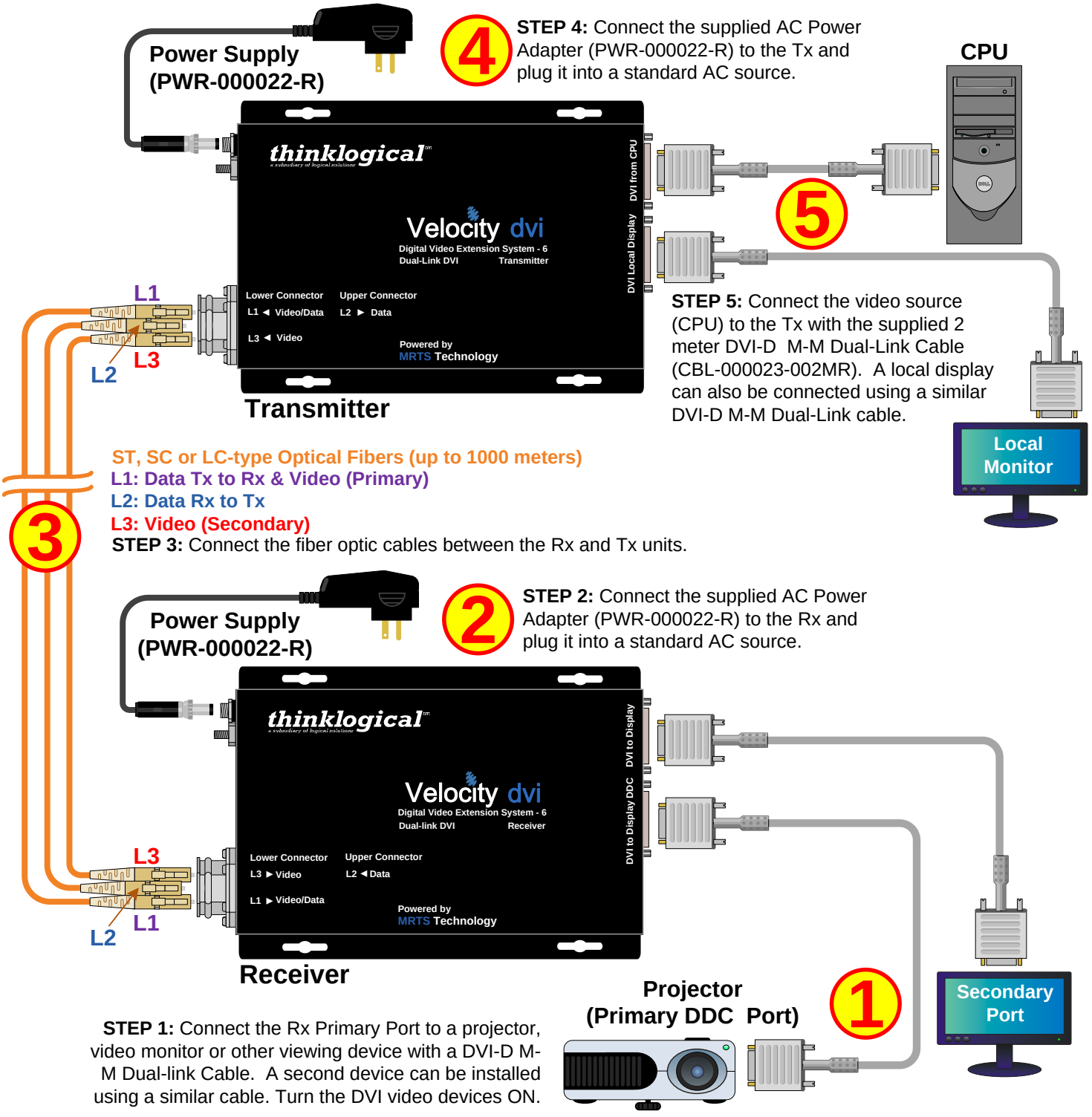
Velocitydvi
Digital Video Extender-3 A/V+ Installation Overview



A.3. VEL-6

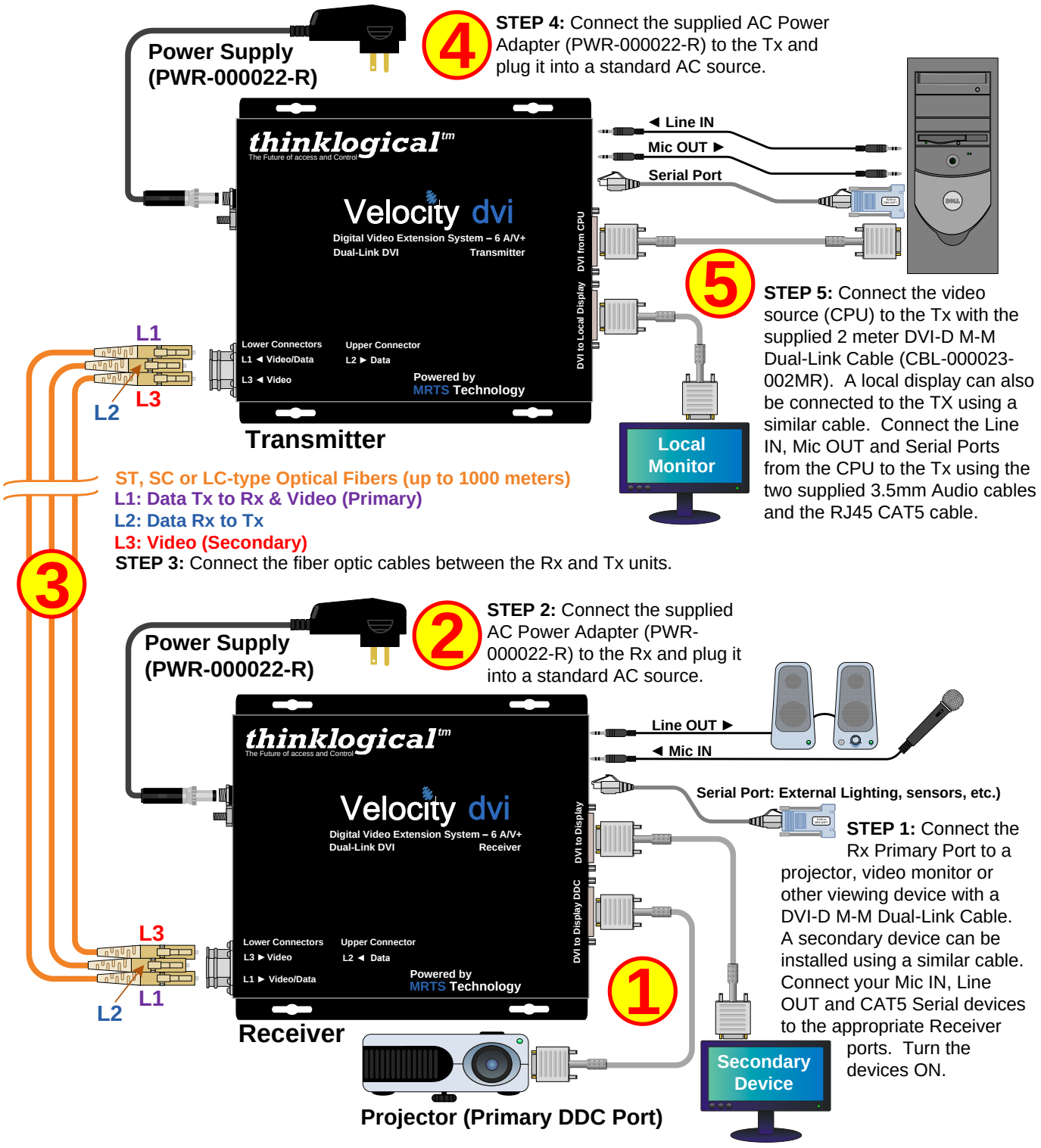
Velocity dvi

Digital Video Extender-6 Installation Overview



A.4. VEL-6 A/V+

Velocitydvi
Digital Video Extender-6 A/V+ Installation Overview



thinklogical™

STEP 6: Using the supplied DVI-D male to male cables, connect the video output sources to the Transmitter Unit's DVI IN receptacles.

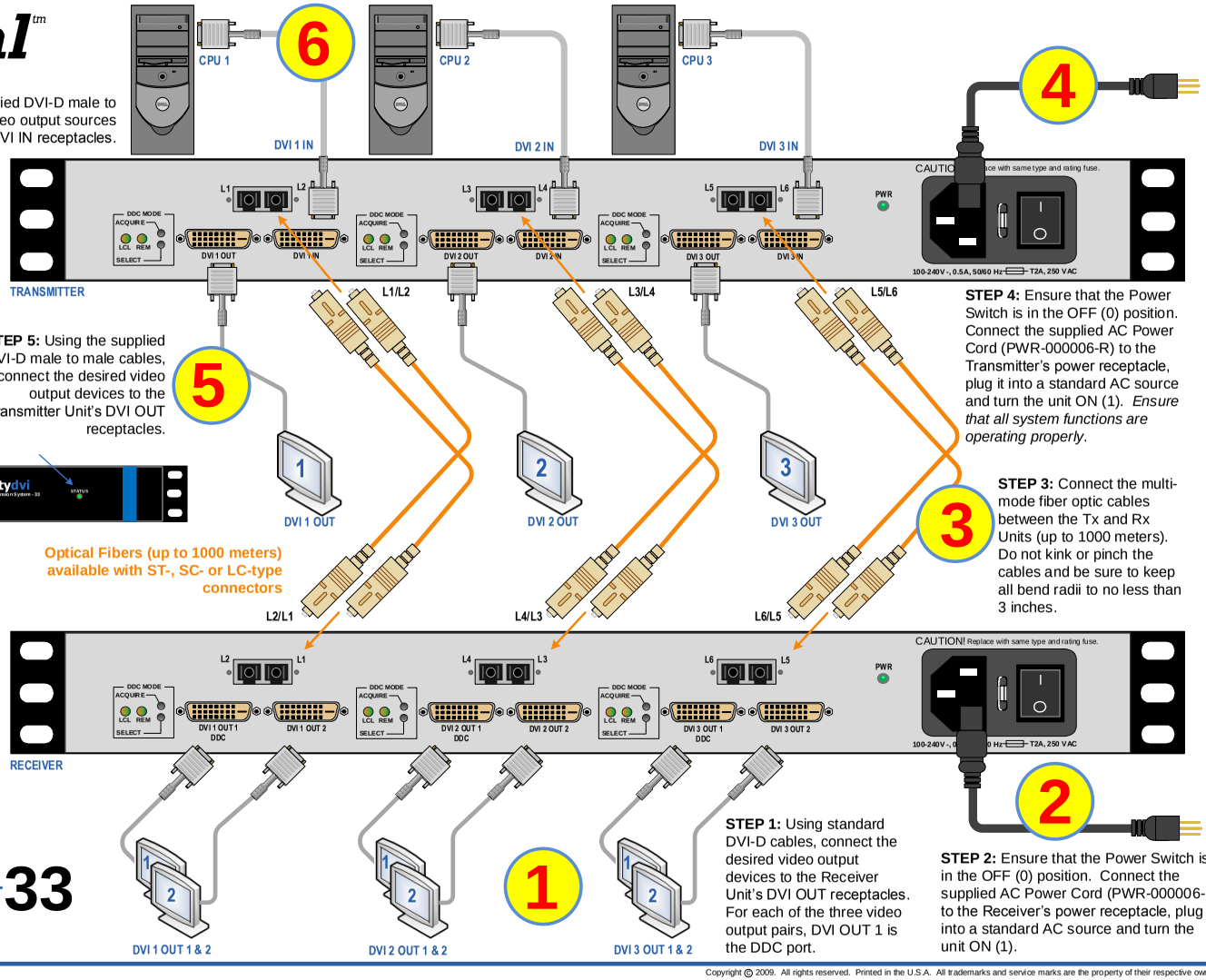
Tx STATUS LEDs
GREEN: Fibers connected, good link established.
ORANGE: Local Status Mode selected, no fiber link from Rx to Tx, or both DDC Mode buttons held down (waiting to reload default DDC table).
RED flashing: No fiber link from Rx to Tx.

Rx STATUS LEDs
GREEN: DVI monitor has good link to primary DVI OUT port (labeled DDC).
ORANGE: No DVI monitor connected to primary port
RED flashing: No fiber link from Tx to Rx.

The Primary Port on the Rx is used for DDC. The Secondary Port carries video data only.

STEP 5: Using the supplied DVI-D male to male cables, connect the desired video output devices to the Transmitter Unit's DVI OUT receptacles.

Optical Fibers (up to 1000 meters) available with ST-, SC- or LC-type connectors



STEP 4: Ensure that the Power Switch is in the OFF (0) position. Connect the supplied AC Power Cord (PWR-000006-R) to the Transmitter's power receptacle, plug it into a standard AC source and turn the unit ON (1). *Ensure that all system functions are operating properly.*

STEP 3: Connect the multi-mode fiber optic cables between the Tx and Rx Units (up to 1000 meters). Do not kink or pinch the cables and be sure to keep all bend radii to no less than 3 inches.

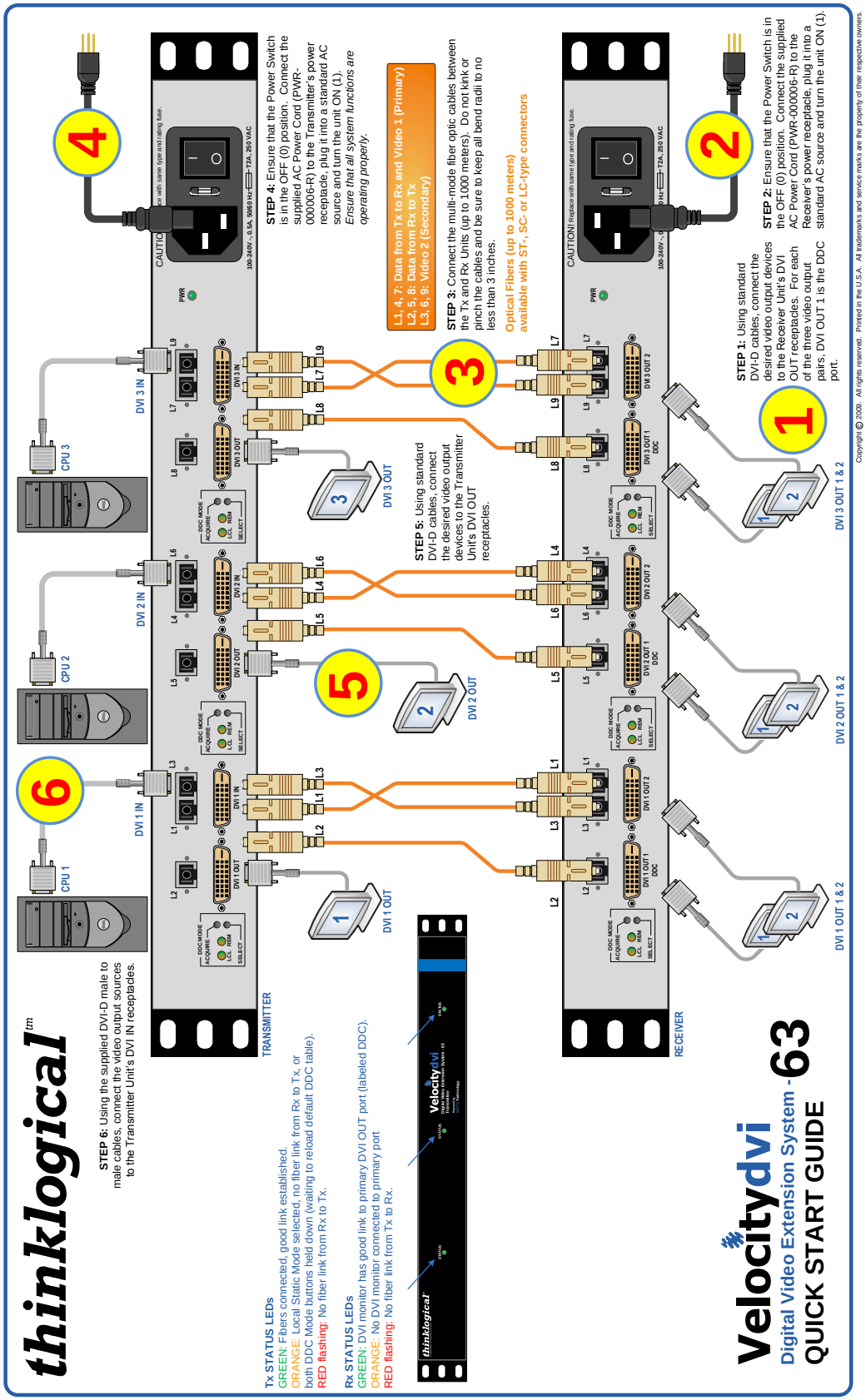
STEP 1: Using standard DVI-D cables, connect the desired video output devices to the Receiver Unit's DVI OUT receptacles. For each of the three video output pairs, DVI OUT 1 is the DDC port.

STEP 2: Ensure that the Power Switch is in the OFF (0) position. Connect the supplied AC Power Cord (PWR-000006-R) to the Receiver's power receptacle, plug it into a standard AC source and turn the unit ON (1).

Velocitydvi
Digital Video Extension System - 33
QUICK START GUIDE

Copyright © 2009. All rights reserved. Printed in the U.S.A. All trademarks and service marks are the property of their respective owners.

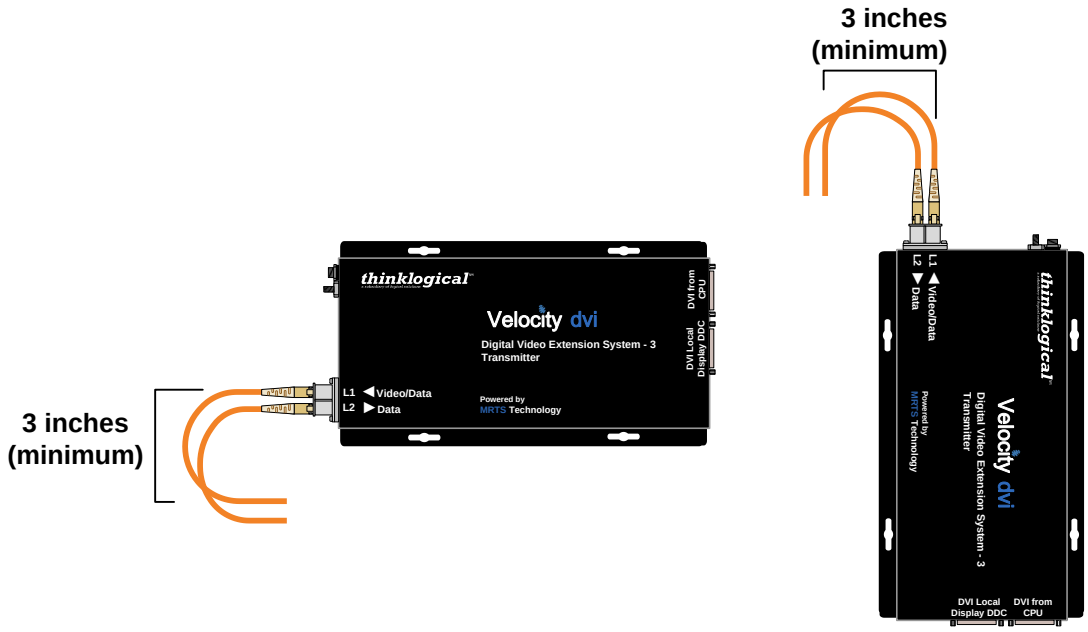
A.6 VEL-63


thinklogical™
Velocitydvi
Digital Video Extension System - 63
QUICK START GUIDE
TRANSMITTER
RECEIVER
CPU 1
CPU 2
CPU 3
DVI 1 IN
DVI 2 IN
DVI 3 IN
DVI 1 OUT
DVI 2 OUT
DVI 3 OUT
DVI 1 OUT 1 & 2
DVI 2 OUT 1 & 2
DVI 3 OUT 1 & 2
L1, 4, 7: Data from Tx to Rx and Video 1 (Primary)
L2, 5, 8: Data from Rx to Tx
L3, 6, 9: Video 2 (Secondary)
Optical Fibers (up to 1000 meters) available with ST-, SC- or LC-type connectors
STEP 1: Using standard DVI-D cables, connect the desired video output devices to the Receiver Unit's DVI OUT receptacles. For each of the three video output pairs, DVI OUT 1 is the DDC port.
STEP 2: Ensure that the Power Switch is in the OFF (0) position. Connect the supplied AC Power Cord (PWR-000006-R) to the Receiver's power receptacle, plug it into a standard AC source and turn the unit ON (1).
STEP 3: Connect the multi-mode fiber optic cables between the Tx and Rx Units (up to 1000 meters). Do not kink or pinch the cables and be sure to keep all bend radii to no less than 3 inches.
STEP 4: Ensure that the Power Switch is in the OFF (0) position. Connect the supplied AC Power Cord (PWR-000006-R) to the Transmitter's power receptacle, plug it into a standard AC source and turn the unit ON (1). Ensure that all system functions are operating properly.
STEP 5: Using standard DVI-D cables, connect the desired video output devices to the Transmitter Unit's DVI OUT receptacles.
STEP 6: Using the supplied DVI-D male to male cables, connect the video output sources to the Transmitter Unit's DVI IN receptacles.
Tx STATUS LEDs
GREEN: Fibers connected, good link established.
ORANGE: Local Static Mode selected, no fiber link from Rx to Tx, or both DDC Mode buttons held down (waiting to reload default DDC table).
RED flashing: No fiber link from Rx to Tx.
Rx STATUS LEDs
GREEN: DVI monitor has good link to primary DVI OUT port (labeled DDC).
ORANGE: No DVI monitor connected to primary port
RED flashing: No fiber link from Tx to Rx.
Copyright © 2009. All rights reserved. Printed in the U.S.A. All trademarks and service marks are the property of their respective owners.

Appendix B: DVI Extender Mounting

Each **VelocityDVI Extender-3** and **-6** can be used as a desk top or wall-mounted device. Mounting centers are provided with keyhole slots. Users may choose the most appropriate fasteners and anchors to mount each unit according to the requirements of each application. **VelocityDVI-33** and **-63** chassis can be desk-top (feet provided) or standard EIA 19" rack-mounted.

Note: Be sure to leave adequate clearance (3 inch minimum bend radius) for your Fiber Cable.

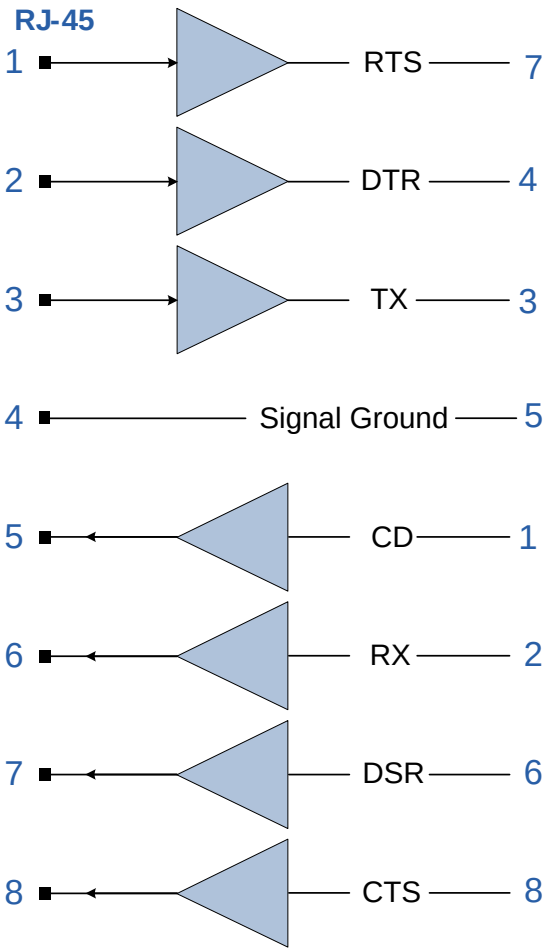


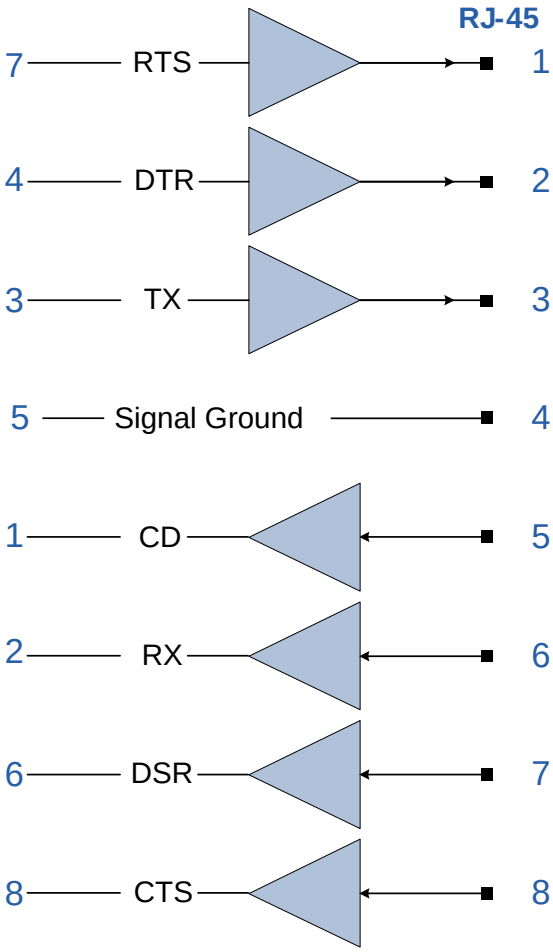
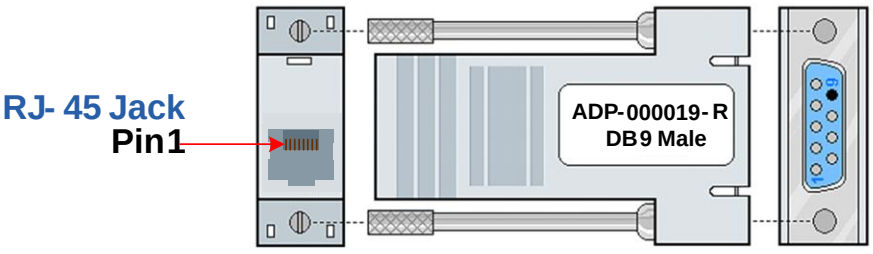
UNIT	DIMENSIONS (inches)	DIMENSIONS (metric)
Vel-3 Short Body	5.375"W x 7.0"D x 1.1"H	136.65mm x 177.80mm x 27.94mm
Vel-3 Long Body	5.5"W 10.0"D x 1.1"H	139.70mm x 254.00mm x 27.94mm
Vel-3 with Neutrik®	5.375"W x 7.0"D x 2.0"H	136.65mm x 177.80mm x 50.80mm
Vel-3 AV+ Short	7.5"W x 7.0"D x 1.1"H	190.50mm x 177.80mm x 27.94mm
Vel-3 AV+ Long	7.5"W x 10.0"D x 1.1"H	190.50mm x 254.00mm x 27.94mm
Vel-3 AV+ w/ Neutrik®	7.5"W x 7.0"D x 2.0"H	190.50mm x 177.80mm x 50.80mm
Vel-3 AN+	7.5"W x 7.0"D x 1.1"H	190.50mm x 254.00mm x 27.94mm
Vel-3 AN+ w/ Neutrik®	7.5"W x 7.0"D x 2.0"H	190.50mm x 177.80mm x 50.80mm
Vel-6	5.5"W x 7.75"D x 1.1"H	139.70mm x 196.85mm x 27.94mm
Vel-6 with Neutrik®	5.375"W x 7.0"D x 2.44"H	136.65mm x 177.80mm x 61.98mm
Vel-6 AV+	7.5"W x 7.75"D x 1.1"H	190.50mm x 196.85mm x 27.94mm
Vel-6 AV+ w/ Neutrik®	7.5"W x 7.0"D x 2.44"H	190.50mm x 177.80mm x 61.98mm
Vel-6 AN+	7.5"W x 7.75" D x 1.1"H	190.50mm x 196.85mm x 27.94mm
Vel-6 AN+ w/ Neutrik®	7.5"W x 7.75" D x 2.0"H	190.50mm x 196.85mm x 50.80mm
Vel-33 (rack-mount)	19.0"W x 10.0"D x 1.72"H	482.60mm x 254.00mm x 43.69mm
Vel-63 (rack-mount)	19.0"W x 7.84"D x 1.72"H	482.60mm x 199.14mm x 43.69mm

Appendix C: RJ-45 Adapter Pin-outs

Tx

Velocity-3/6 A/V+ and A/N+ Tx
ADP-000025-R DB9 Female



Rx

Velocity-3/6 A/V+ and A/N+ Rx
ADP-000019-R DB9 Male