

# BITMAXX

# **USB3 LONG DISTANCE CABLES**

CEI's USB3 BitMaxx active Plug & Play cable, supporting full 5 gig USB3 throughput and power delivery up to 20 meters with full USB2 backward compatibility. Assembly is NOT to be used in conjunction with other cables.

PART NUMBER REFERENCE: MVB3 - X - X - X X XM

## **Select Connector Type: End "A"**

Type A, Friction Fit = 1
Type A, w/Thumbscrews = 2

# **Select Cable Type:**

Extended Distance = 1
\*Available lengths: 10, 15 & 20 Meters
Robotic / Drag Chain = 2
\*Available length: 10Meters

## **Select Connector Type: End "B"**

Type A, Friction Fit = 1

Type A, w/Thumbscrews = 2

Micro B, Straight w/Thumbscrews = 3

Micro B, R/A Up w/Recessed Screws = 4

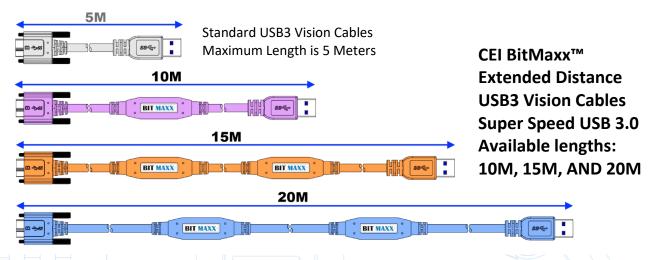
Micro B, R/A Down w/Recessed Screws = 5

Micro B, Exit Right w/Recessed Screws = 6

Micro B, Exit Left w/Recessed Screws = 7 Type B, w/Thumbscrews = 8

Type B, Friction Fit = 9

# \*Length in Meters: 10, 15, 15



Temp 7-31-19



# **USB3 LONG DISTANCE CABLES**







Type A W/Thumbscrews



Micro B, Straight W/Thumbscrews



Micro B, R/A Up W/Recessed Screws



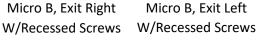
Micro B, R/A Down W/Recessed Screws

6











Type B W/Thumbscrews



Type B Friction Fit

For more information please contact:



#### **BOCK OPTRONICS INC.** 14 Steinway Blvd., Unit 7

Toronto, Ontario M9W 6M6

Tel: (416) 674-2804 sales@bockoptronics.ca www.bockoptronics.ca

#### **Additional Dimensional Information:**

For additional information regarding the physical dimensions of our connector profiles, please visit our Web-Site: www.ComponentsExpress.com or ask one our sales associates and we will be happy to assist.

Temp 7-31-19

# USB 3.0 BitMaxx Cable Type #: 1

The Personal Property lies and		- C - C - C - C - C - C - C - C - C - C	/-J01 77 -07	20 10T I AL B/ CL2/23	ICTOVETO		
	ITEM		SPECIFICATION	NO.	CONTRACTION	D.W.	-
	AWG	24AWG	26AWG	18AWG		) YY	JACKET
CONDUCTOR	MATERIAL	TINNED COPPER	TINNED COPPER	TINNED COPPER		BR	BRAID COPPER
	COND.SIZE	7/0.20±0.008MM	7/0.16±0.008MM	43/0.16±0.008MM		IN W	MYLAR
	MIN.AVG.THICK	0.35MM	0.23MM	0.23MM		1	-
INSULATION	MATERIAL	FM-PE+SKIN	HD-PE	PVC			FILLER
	0.D	1.35±0.10MM	1.00±0.10MM	1.80±0.10MM			CONDITION
	NO.	1P*2	1P	2C	>	THE STATE OF THE S	Specion
	AWG	24AWG	/	,	000	N. INS	INSULATION
DRAIN	MATERIAL	TINNED COPPER	1	/	1	1	41 1001 10
	SIZE	7/0.20±0.008MM		/		7	MILAR
Face Inside	COVERAGE	100%	1	1		AG	DRAIN
AL.MYLAR	OVERLAP	25% MIN	/	1	COL	COLOUR CODE:	
Hot-MYLAR	COVERAGE	%001		/	(1P*24#+DAM)2C:		
	OVERLAP	25%MIN	/	/	1. YELLOW*BLUE	JE	
	NO.	(IP+DAM)2C	IP	2C	2. ORANGE*PURPLE	PLE	
Face Outside	COVERAGE		%001				
AL.MYLAR	OVERLAP		25% MIN		IP*26#; GREEN *WHITE		
DRAIN	MATERIAL						
	SIZE		/		2C*18#: 1.BLACK 2.RED		
BRAID	MATERIAL		TINNED COPPER				
COPPER	SIZE	24*9/0.10±0	24*9/0.10±0.008MM (COVERAGE :85% MIN)	::85% MIN)			
	MIN.AVG.THICK		0.50MM		2.5		
JACKET	MATERIAL		PVC				
	COLOUR		BLACK				
	0.D		7.50±0.20MM		MOS	COMPONENTS EXPRESS INC	JNI SSE
	ELECTRICAL	ELECTRICAL CHARACTERISTICS	PHY	PHYSICAL PROPERTIES OF	10330	10330 Argonne Woods Drive. Ste100	e. Ste 100
TICES OF ITE		HSB3.0 STP*2P	2P JACKET	KET	Wood	Woodridge II 60517	
Rating Temperature: 80°C; Conductor Resistance: at 20 24AWG: 94.2Ω/km; Insulation Resistance: 10Mf	1. Rating Temperature: 80°C; VOLTAGE: 30V 2. Conductor Resistance: at 20°C max 24AWG: 94.20/km; 18AWG: 23.202/km 3. Insulation Resistance: 10Mg/km min at 20°C de 50		2 2	1. Tensile Strength: Unaged: 1500PSI min Aged: 70% min 2. Elongation: Unaged:			
4. Propagation Delay Skew:100ps (f 5. Time Delay: 5.2ns/m(max.) 6. Impedance: 90±15%Ω 7. Attenuation(Full/High-speed only):	4. Propagation Delay Skew.100ps (Full-/High-speed only) 5. Time Delay: 5.2ns/m(max.) 6. Impedance: 90±15%Δ 7. Attenuation(Full/High-speed only):			100% min Aged: 65% 3. Heat shock test: NO CRACKING	(E1013)		
Atten	F(MHz) Attenu	<del>;                                    </del>	SGHz 4.	4, Cold bend test:	APPROVED	CUSTOMER	交樹
0.512 0.13	200 1.20	32dB@0.IGHz		5. Deformation test: MAX 50%	CHECKED	REV	A/1
4 0 0 39	$\parallel$	23dB@3.0GHz		6. Flame test: PASS VW-1	DRAWING CHEN	DATE	2018/5/17

# USB 3.0 BitMaxx Cable Type #: 2

THE MAN	SPECIFICATION:	TION:	(1P*26#+AD	(1P*26#+ADBP)2C+1P*26#+1P*24#+FPB	24#+FPB	CONSTRUCTION	N D.W.G	
TOOPER   T	LI	FEM		SPECIFICA	LION		JACKET	
TOOPPER   TONED COPPER   TONED COPPER   TONED COPPER   TONED COPPER   TONED COPPER   TONED COPPER   TOOPPER   TOOP		AWG	26AWG	26AWG	24AWG		BRAID CO	PPER
100,10±0,008 m	CONDUCTOR		TINNED COPPER	TINNED COPPER	TINNED COPPER			
SEIN   HD-PE   HD-PE   HD-PE			19/0.10±0.008 mm	19/0.10±0.008 mm	41/0.08±0.008 mm		Foamed PP film	film
NEW   HD-PE   HD-PE		MIN.AVG.THICK	0.23 mm	0.23 mm	0.23 mm		AT FOIL	
1   1   1   1   1   1   1   1   1   1	INSULATION	MATERIAL	FM-PE+SKIN	HD-PE	HD-PE		70170	
1P		0.D	1.20±0.10 mm	0.90±0.05 mm	0.95±0.05 mm	000	CONDUCTOR	TOR
COLOUR CODE:		NO.	IP*2	IP	1P			
TOOPER   COLOUR CODE:	Face Outside	COVERAGE	100%	1	1		INSULATI	NO
COPPER   COLOUR CODE:	AL.MYLAR	OVERLAP	25% MIN	1			ILER	
COLOUR CODE:   COLO	DRAIN	MATERIAL	TINNED COPPER				DPAIN	
COPPER		SIZE	19/0.08±0.008				DIVALIA	
1	BRAID	MATERIAL	TINNED COPPER	1	_	COLOUR	CODE:	
1. YELLOW * BLUE   1. YELLOW * BLUE   2. ORANGE * PURPLE   1. ORANGE * PURPLE   1. ORANGE * PURPLE   1. ORANGE * PURPLE   1. ORAGE * PURPLE   1.	COPPER	SIZE	16*6/0.08±0.008MM	1	1.	(1P*26#+ADBP)*2C:		
1		COVERAGE	90%MIN	1	/	1. YELLOW * BLUE		
1992C   1P   1P   1P   1P   1P   1P   1P   1	Foamed PP film	COVERAGE	100%	_		2. ORANGE * PURPLE		
100%   1P*26#: 1.GREEN *WHITE     100%   1P*26#: 1.GREEN *WHITE     100%   100%   1P*26#: 1.BLACK RED     16*100.08±0.008MM (Coverage : 85%MEV)   16*100.08±0.008MM (Coverage : 85%MEV)     16*100.08±0.008MM (Coverage : 85%MEV)   16*100.08±0.008MM (Coverage : 85%MEV)     16*100.08±0.008MM (Coverage : 85%MEV)   10.00±0.008MM (Coverage : 85%MEV)     16*100.08±0.008MM (Coverage : 85%MEV)   10.00*0.008MM (Coverage : 85%MEV)     16*100.08±0.008MM (Coverage : 85%MEV)   10.00*0.008MM (Coverage : 85%MEV)     16*100.08±0.008MM (Coverage : 85%MEV)   10.00*0.008MM (Coverage : 85%MEV)     16*100.08*0.008MM (Coverage : 85%MEV)   10.00*0.008MM (Cov		OVERLAP	25%MIN	1	<i>*</i>			
100%		NO.	(1P+ADBP)2C	1P	1P	IP*26#: I.GREEN *WHITE		
15% MIN	Foamed PP film	COVERAGE		100%				
TRINED COPPER   16*10*0.08±0.008MM (Coverage : 85%MEV)   16*10*0.08±0.008MM (Coverage : 85%MEV)   16*10*0.08±0.008MM (Coverage : 85%MEV)   10.76 mm   MINENG PVC   PURE/IE   7.00 ± 0.30 mm   7.00 ± 0.30 mm   10.330 Mrgonne Woods Drive,   1.50 ms. Pur Sker : 15ps. /m   3.4 ms. above : 15ps. /m   4.5 ms. above : 1.5 ms. Pur Sker : 1.5 ms. Pu		OVERLAP	55. 7	25% MIN				
16*10*0.08±0.008MM (Coverage: 85%MIN)	BRAID	MATERIAL		TINNED COPPE	R			
### ### ### ### #####################	COPPER	SIZE		16*10/0.08±0.00	8MM (Coverage: 85%MIN)			
MIXING PVC   PURPLE   7.00 ± 0.30 mm		MIN.AVG.THICK		0.76 mm				
TERISTICS  TERISTICS  TERISTICS  USB3.0 STP+2P  Woodridge, IL 60517  Woodridge, IL 60517  VS2018111302  Stab@1.25GHz  25db@1.25GHz  25db@1.25GHz  25db@1.25GHz  25db@1.25GHz  25db@1.25GHz  25db@1.25GHz  DBRAWING  CHECKED  DRAWING  DATE	JACKET	MATERIAL	2 39	MIXING PVC				
TERISTICS  TUSBA.0 STP*2P  USBA.0 ST		COLOUR		PURPLE				
USB3.0 STP*2P		O. D		$7.00 \pm 0.30$ mm		The state of the s	TATO LABORDO	9
10330 Argonne Woods Drive,   10380 Argonne Woods Drive,   10583.0 STP*2P   JACKET   JACKET   Using from 1   10480 of 1   10580   1   105							ENIS EXPRESS, I	٦.
USB3.0 STP+2P   JACKET   Woodridge,  L 60517		ELECTRICAL	CHARACTERISTICS	Ы	HYSICAL PROPERTIES OF		ine Woods Drive, Ste1	00
1. Differential Impedance:90±79. 2. Intra-Pair Skew : 15ps /m 3. Attenuation/Insertion Loss. 1.5dB@0.1GHz 5.odB@1.25GHz 7.5dB@2.5GHz 7.5dB@2.5GHz 4. Differential to common moder 2.odB/cable @ 0.1-7.5GHz 7.0dB/cable @ 0.1-7.5GHz 9.DRAWING CHEN DATE	USB2.0 UTP		USB3.0 ST		ACKET	Woodridge, I	L 60517	
3. Attenuation/Insertion Loss: 1.6d@@0.1GHz 5.0d@@1.25GHz 7.5d@@2.5GHz 2.5dB@7.5GHz 4. Differential to common mode: 2.0dB/cable @ 0.1-7.5GHz CHECKED  DRAWING  CHEN  DATE	Rating Temperatu     Conductor Resista	re: 80°C : VOLTAGE: 3 nce: at 20°C max		Impedance:90±7Ω kew:150s/m				
1.5db@0.1GHz 5.0db@1.25GHz 7.5db@2.5GHz 2.5db@7.5GHz 4. Differential to common mode: 2.0db/cable @ 0.1-7.5GHz CHECKED  DRAWING  CHEN  DATE	26AWG: 1	50D/km;		/Insertion Loss.				
Approving the production of the common mode:   2.5db (gr. 1.5db th. 2.5db	<ol> <li>Insulation Resistan</li> <li>Propagation Delay</li> <li>Time Delay</li> <li>Time Delay</li> <li>Impedance</li> </ol>	kev. 10M2/km mm at 20 C Skew.100ps (Full-/High /m(max.)	1901	GHz SGHz GGHz		YS2018111302		
Atheniustrion(dB) F(MHz) Attenuation(dB) 20dB/cable @ 0.1-7.5GHz    0.08	7. Attenuation(Full/E	ligh-speed only):	25dB(@/.5	GHZ to common moder				
0.06 24 0.95		F(MHz)	928	@ 0.1-7.5GHz				奕樹
0.13 96 1.90 DRAWING CHEN DATE	H							4 / 1
0.20 400 5.80 DATE	Ц							
0 0 52	Ц					CHEN		2018/11/13
	8 0 27							



# ULTIMATE PERFORMANCE EXTENDED DISTANCE CAMERA LINK MVB-P

Exclusive NEW technology which allows you to extend your Camera Link cable to 25 Meters @ 85MHz without the use of repeaters and their associated hardware! A simplified solution. The kit contains the following:

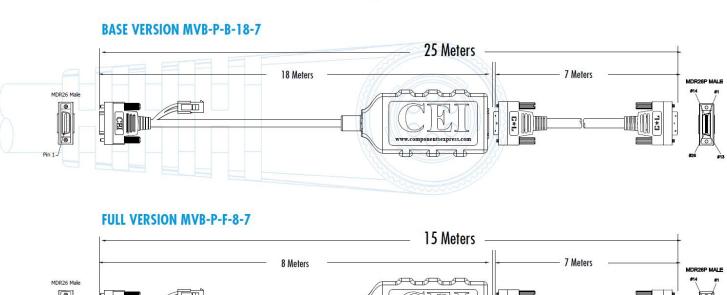
#### **BASE VERSION**

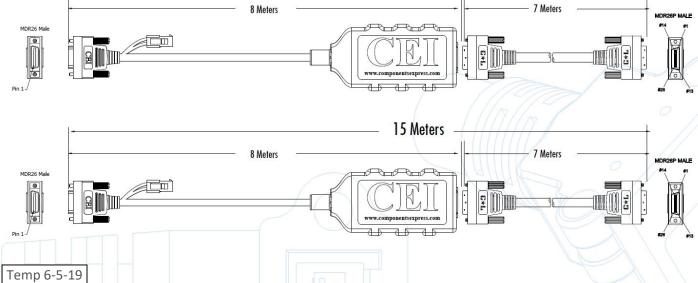
- (1) Power supply: Desktop -Switching type
- (1) 18 Meter CL line conditioner cable HIFLEX design 10,000,000 tick-tock cycles
- (1) 7 Meter CL cable MDR 26P male end HIFLEX design 10,000,000 tick-tock cycles

#### **FULL VERSION**

- (2) Power supply: Desktop -Switching type
- (2) 8 Meter CL line conditioner cable HIFLEX design 10,000,000 tick-tock cycles
- (2) 7 Meter CL cable MDR 26P male end HIFLEX design 10,000,000 tick-tock cycles

Input 120V AC cord NOT included.







# BITMAXX

# EXTENDED DISTANCE CAMERA LINK CABLES MVB-EP

CEI's exclusive Bitmaxx technology utilizes Pre-Emphasis and Equalization in order to extend the distance of Camera Link Cables.

#### Technology:

Equalization is an analog technique to reverse the low pass effect of the cable with a high pass filter to recover and restore the original signal.

Pre-Emphasis is a unique signal improving technique that opens the eye pattern at the far end of the cable for point to point applications. Pre-Emphasis adds additional output current during the transition time of the bit.

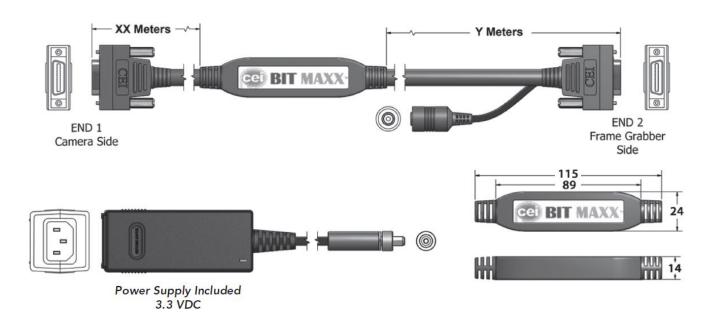
#### **Benefits:**

- Double your cable distance
- Fraction of the cost of repeaters
- High-flex cable construction
- Compact, low profile solution
- PoCL compatible
- Base and Full configurations available



# **Physical Dimensions:**

Units = mm



Temp 6-5-19



#### **Base Configuration**

Part Numbers:

#### MVB-EP-B-(XX)-(Y)

- 1 Bitmaxx EP base cable, MDR to MDR
- 1 Power supply (Does NOT include cord)

#### MVB-EPMC-B-(XX)-(Y)

- 1 Bitmaxx EP base cable
- HDR (Camera side) to MDR (FG side)
- 1 Power supply (Does NOT include cord)

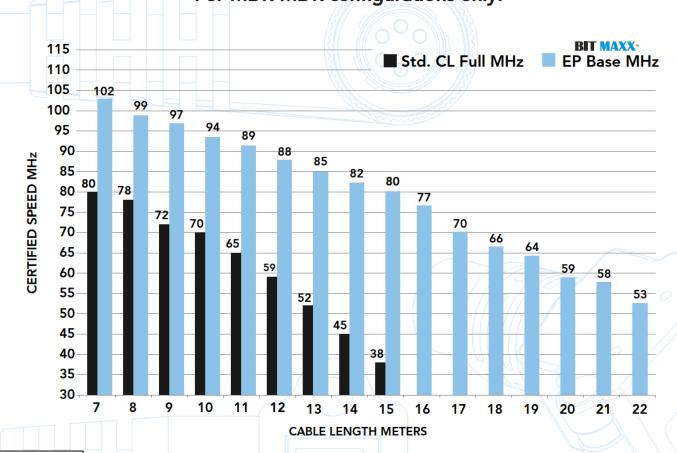
#### MVB-EPMF-B-(XX)-(Y)

- 1 Bitmaxx EP base cable
- HDR (FG side) to MDR (Camera side)
- 1 Power supply (Does NOT include cord)

#### MVB-EPMM-B-(XX)-(Y)

- 1 Bitmaxx EP base cable, HDR to HDR
- 1 Power supply (Does NOT include cord)

\*See Performance chart below for Length vs Speed.
For MDR-MDR configurations only.



Temp 6-5-19



### **Full Configuration**

#### Part Numbers:

#### MVB-EP-F-(XX)-(Y)

- 1 Bitmaxx EP base cable, MDR to MDR
- 1 Bitmaxx EP full cable, MDR to MDR
- 1 Power supply (supplies power to both cables)

#### MVB-EPMC-F-(XX)-(Y)

1 Bitmaxx EP base cable

HDR (Camera side) to MDR (FG side)

1 Bitmaxx EP full cable

HDR (Camera side) to MDR (FG side)

1 Power supply (supplies power to both cables)

#### MVB-EPMF-F-(XX)-(Y)

1 Bitmaxx EP base cable

HDR (FG side) to MDR (Camera side)

1 Bitmaxx EP full cable

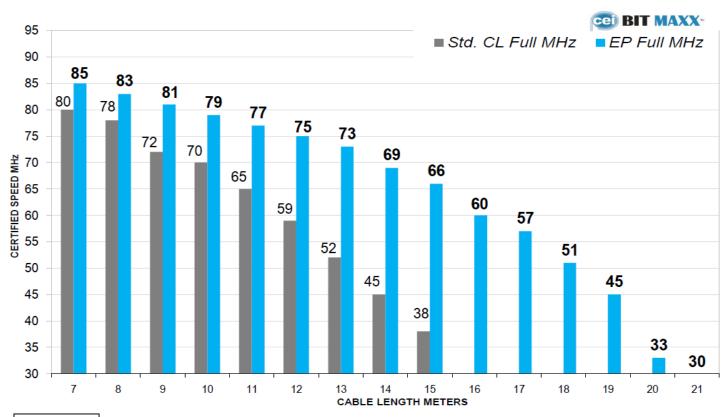
HDR (FG side) to MDR (Camera side)

1 Power supply (supplies power to both cables)

#### MVB-EPMM-F(XX)-(Y)

- 1 Bitmaxx EP base cable, HDR to HDR
- 1 Bitmaxx EP full cable, HDR to HDR
- 1 Power supply (supplies power to both cables)

# \*See Performance chart below for Length vs Speed. For MDR-MDR configurations only.



Temp 6-5-19