

# CAMERA LINK MACHINE VISION CABLES

PART NUMBER REFERENCE



## Select Connector Type: End "1"

- MDR Male Straight Exit = 1
- MDR Female Straight Exit = 2
- MDR Male Low Profile Right Angle Exit **UP** = 3
- MDR Male Low Profile Right Angle Exit **DOWN** = 4
- HDR Male Straight Exit = 5
- HDR Male Right Angle Exit **UP** = 6
- HDR Male Right Angle Exit **DOWN** = 7
- MDR Male Std. Profile Right Angle Exit **UP** = 8
- MDR Male Std. Profile Right Angle Exit **DOWN** = 9
- MDR Male Exit **RIGHT** = 10
- MDR Male Exit **LEFT** = 11

## Cable Type Options:

- HIFLEX BLACK = 1
- HIFLEX PoCL = 2

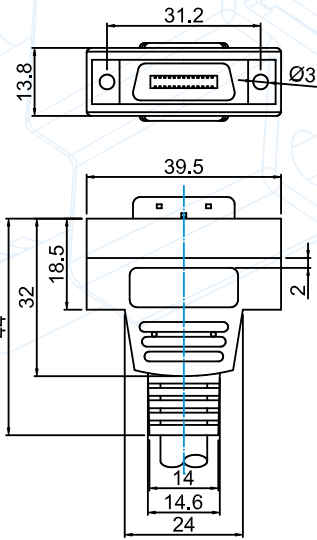
## Select Connector Type: End "2"

- MDR Male Straight Exit = 1
- MDR Female Straight Exit = 2
- MDR Male Low Profile Right Angle Exit **UP** = 3
- MDR Male Low Profile Right Angle Exit **DOWN** = 4
- HDR Male Straight Exit = 5
- HDR Male Right Angle Exit **UP** = 6
- HDR Male Right Angle Exit **DOWN** = 7
- MDR Male Std. Profile Right Angle Exit **UP** = 8
- MDR Male Std. Profile Right Angle Exit **DOWN** = 9
- MDR Male Exit **RIGHT** = 10
- MDR Male Exit **LEFT** = 11

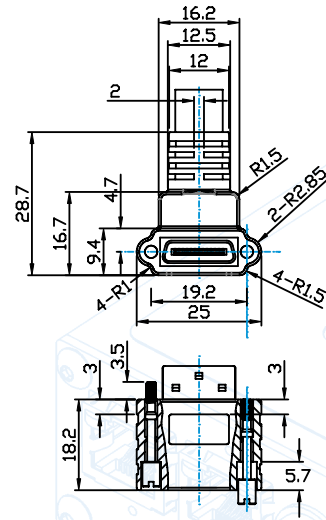
### Physical:

- Cable Color: Black
- Shell Color: Black
- Shell Construction: Pre – mold in Poly Ethelene wrapped 360° with copper tape terminated to shield, over molded in black PVC.
- Cable construction: Meets Automated Imaging Association Camera Link Standard. Skew-within pair: 35 ps/m max Skew-channel skew per chipset: 50 ps/m max. All cables are Camera Link approved.

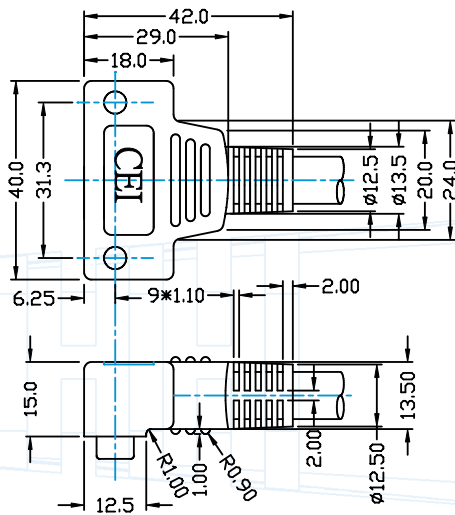
## Option: Length in Meters



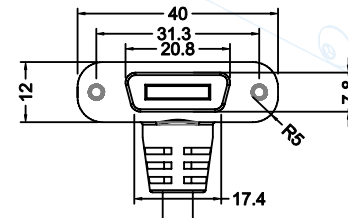
PROFILES 1 & 2



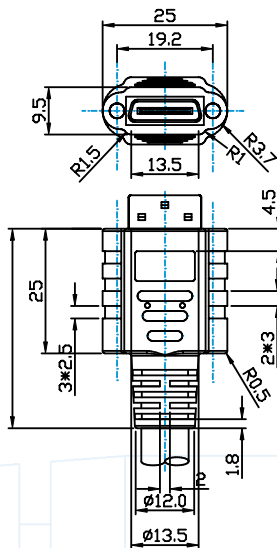
PROFILES 6 & 7



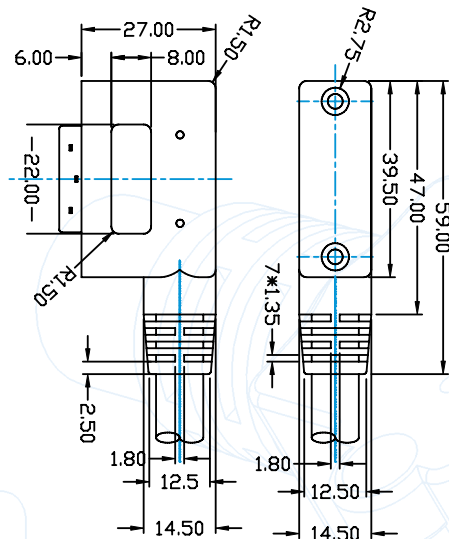
PROFILES 3 & 4



PROFILES 8 & 9



PROFILE 5



PROFILES 10 & 11

## Cable Physical / Testing / Pinout & Warranty

**Testing:** All cables performance tested utilizing B.E.R.T (bit error rate testing).

Testing is performed in full mode:

- \* Image size 256 x 256
- \* All taps fully loaded
- \* Horizontal gray scale image
- \* Cable tested in both directions
- \* Initial bit pattern incremented 256 times to ensure all bit combinations are tested
- \* 1000 images compared in both directions
- \* In order for the cable to pass, zero bit errors are allowed
- \* Each cable is serialized in order to track performance

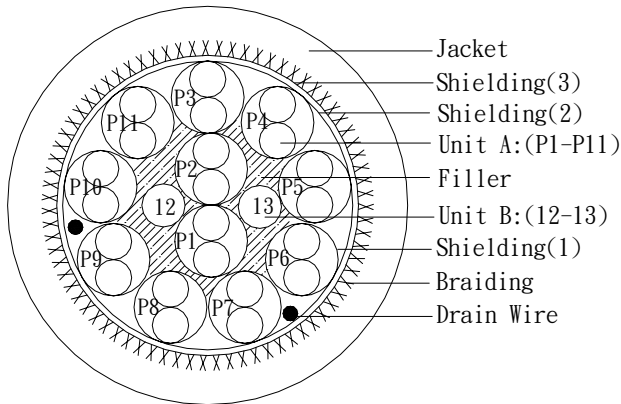
### Camera Link Pinout

Medium and Full Configurations				Base Configuration (with Camera Control and Serial Communication)		
Camera Connector	Frame Grabber Connector	Channel Link Signal	Cable Name	Camera Connector	Frame Grabber Connector	Channel Link Signal
1	1	inner shield	inner shield	1	1	inner shield
14	14	inner shield	inner shield	14	14	inner shield
2	25	Y0-	Pair 1-	2	25	X0-
15	12	Y0+	Pair 1+	15	12	X0+
3	24	Y1-	Pair 2-	3	24	X1-
16	11	Y1+	Pair 2+	16	11	X1+
4	23	Y2-	Pair 3-	4	23	X2-
17	10	Y2+	Pair 3+	17	10	X2+
5	22	Yclk-	Pair 4-	5	22	Xclk-
18	9	Yclk+	Pair 4+	18	9	Xclk+
6	21	Y3-	Pair 5-	6	21	X3-
19	8	Y3+	Pair 5+	19	8	X3+
7	20	100 ohm terminated	Pair 6+	7	20	SerTC+
20	7		Pair 6-	20	7	SerTC-
8	19	Z0-	Pair 7-	8	19	SerTFG-
21	6	Z0+	Pair 7+	21	6	SerTFG+
9	18	Z1-	Pair 8-	9	18	CC1-
22	5	Z1+	Pair 8+	22	5	CC1+
10	17	Z2-	Pair 9+	10	17	CC2+
23	4	Z2+	Pair 9-	23	4	CC2-
11	16	Zclk-	Pair 10-	11	16	CC3-
24	3	Zclk+	Pair 10+	24	3	CC3+
12	15	Z3-	Pair 11+	12	15	CC4+
25	2	Z3+	Pair 11-	25	2	CC4-
13	13	inner shield	inner shield	13	13	inner shield
26	26	inner shield	inner shield	26	26	inner shield

**Warranty:** Components Express warrants that all goods furnished will be free from defects in material and workmanship, conform Camera Link Specification for a period of (2) years from the time of purchase. Components Express makes no other warranties including, but not limited to, any implied warranty of fitness for a particular purpose. If the product is defective within the warranty period, Components Express, at it's option may replace or repair the product, or refund the purchase price of the product.



# HiFlex PoCL Cable



## Color Code

### Unit A:

- P1.White-White/Black
- P2.White-White/Red
- P3.White-White/Green
- P4.White-White/Blue
- P5.White-White/Violet
- P6.White-White/Gray
- P7.White-White/Yellow
- P8.White-White/Orange
- P9.White-White/Brown
- P10.White/Blue-White/Green
- P11.White/Black-White/Red

### Unit B:

- 12.Red
- 13.Black

ITEM		UNIT A	UNIT B
No.of Conductors		11 Pairs	2 Conductors
Conductor	Material	Tinned Copper Wire Stranded	Tinned Copper Wire Stranded
	Construction	28AWG; 19 strands/ 0.08 ± 0.008 mm	24AWG; 19 strands/ 0.127 ± 0.008 mm
Insulation	Material	FoamPE+Skin	SR-PVC
	Thickness	0.27 mm	0.26mm
	Diameter	0.95 ± 0.05 mm	1.13±0.05mm
Shielding(1)	Material	Aluminum Mylar Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Drain Wire	Material	Tinned Copper Wire Stranded <b>(2Pcs)</b>	
	Construction	24AWG , 19 Strands / 0.127 mm	
Shielding(2)	Material	Teflon	
	Coverage	100% coverage with 25% overlapping	
Shielding(3)	Material	Foil-Free Edge Aluminum Mylar Spirally Wrapped	
	Coverage	100% coverage with 25% overlapping	
Braiding	Material	Tinned Copper Wire	
	Construction	24 Carriers / 10 Strands / 0.12 mm , 90% coverage	
Jacket	Material	80°C PVC (-20°C~80°C)	
	Nom.thickness	0.80 mm	
	Diameter	9.5 ± 0.20 mm	

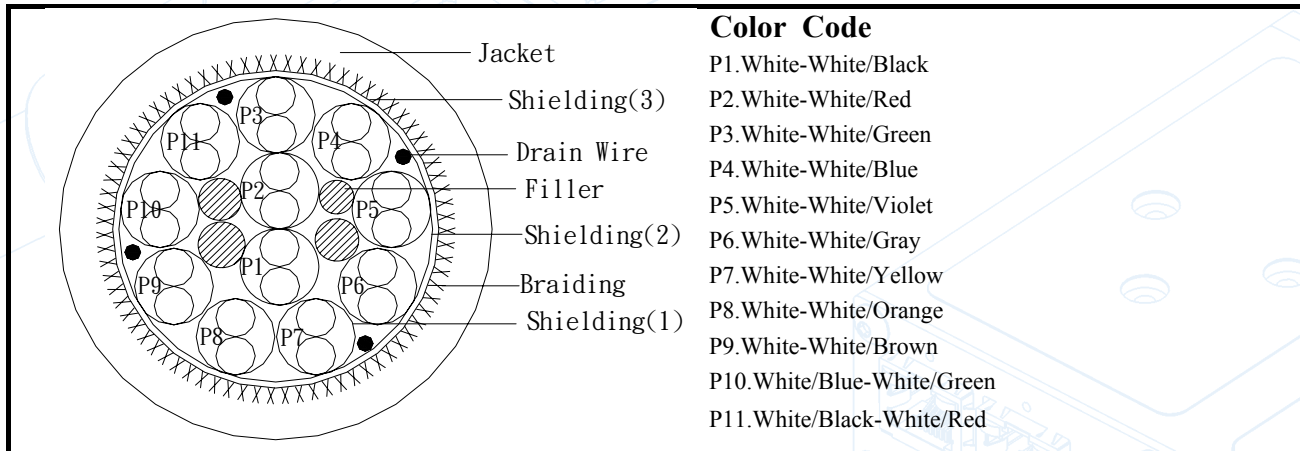
Marking : E324832 AWM STYLE 20276 80°C 30V VW-1 PoCL

## ELECTRICAL PROPERTIES

ITEM		UNIT A	UNIT B
Conductor Resistance		Max. 237 ohms/km at 20°C	Max. 93 ohms/km at 20°C
Insulation Resistance		Min. 100 mega ohms-km at 20°C	Min. 100 mega ohms-km at 20°C
Dielectric Test		500 VAC /1 min ; No Breakdown	500 VAC /1 min ; No Breakdown
Impedance		Nom.100 ± 10 ohms	
Delay		Max. 5.20ns/m	
Delay Skew		Max. 50ps/m	

DRWN.	Lin	SPEC NO: <b>H7324F-2</b>	Construction: [(28AWG×1PR+AM) × 11PCS+24AWG×2C+2D]+Teflon+FAM+B
CHKD.			
APPD.		DATE: Jul.-30-2009	

# HiFlex Black Cable



ITEM		DESCRIPTION
No.of Conductors		11 Pairs
Conductor	Material	Tinned Copper Wire
	Construction	28AWG;19 strands/ 0.08 ± 0.008 mm
Insulation	Material	FoamPE+Skin
	Thickness	0.27 mm
	Diameter	0.96 ± 0.05 mm
Shielding(1)	Material	Aluminum Mylar Spirally Wrapped
	Coverage	100% coverage with 25% overlapping
Drain Wire	Material	Tinned Copper Wire Stranded <b>(4Pcs)</b>
	Construction	28AWG , 19 Strands / 0.08 mm
Shielding(2)	Material	Teflon
	Coverage	100% coverage with 25% overlapping
Shielding(3)	Material	Foil-Free Edge Alumimum Mylar
	Coverage	100% coverage with 25% overlapping
Braiding	Material	Tinned Copper Wire
	Construction	90% coverage
Jacket	Material	UL 80°C PVC
	Nom.thickness	0.80 mm
	Diameter	9.5 ± 0.20 mm

Marking : Ultraflex E324832 ⚡ AWM STYLE 20276 80°C 30V VW-1

## ELECTRICAL PROPERTIES

Conductor Resistance	Max. 237 ohms/km at 20°C
Insulation Resistance	Min. 10 mega ohms-km at 20°C
Dielectric Test	500 VAC /1 min ; No Breakdown
Impedance	Nom.100 ± 10 ohms
Delay Skew	Max. 50ps/m

DRWN.	Lin	SPEC NO:	Construction:
CHKD.		<b>H7761E-3</b>	<b>(28AWG×2C+AM)×11PCS+4D+Teflon+FAM+B</b>
APPD.		DATE: Jul.-30-2009	