

# SURE-SEAL® IP67 USB SERIES CATALOG





# Table of Contents

---

<b>Technical Information</b> .....	4
<b>How to Order</b>	
USB Cable Assemblies .....	5
USB Receptacles .....	5
<b>USB Cable Mounted Plug Assemblies</b>	
USB-A Circular Plug to USB-A Plug Cable Assembly .....	6
USB-A Metal Circular Plug to USB-A Plug Cable Assembly .....	6
USB-A Circular Plug to USB-B Plug Cable Assembly .....	7
USB-A Metal Circular Plug to USB-B Plug Cable Assembly .....	7
USB-A Circular Plug to Circular USB-A Plug Cable Assembly .....	8
USB-A Metal Circular Plug to Metal Circular USB-A Plug Cable Assembly .....	8
USB-A Circular Plug to Circular USB-B Plug Cable Assembly .....	9
USB-B Circular Plug to Circular USB-B Plug Cable Assembly .....	9
USB-B Circular Plug to USB-A Plug Cable Assembly .....	10
USB-B Circular Plug to USB-B Plug Cable Assembly .....	10
<b>USB Cable Mounted Receptacle Assemblies</b>	
USB-A Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly.....	11
USB-A Metal Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly.....	11
USB-A Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly .....	12
USB-A Metal Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly.....	12
USB-A Circular Cable Mounted Receptacle to Circular Cable Mounted USB-A Plug Cable Assembly .....	13
USB-A Metal Circular Cable Mounted Receptacle to Metal Circular USB-A Plug Cable Assembly .....	13
USB-A Circular Cable Mounted Receptacle to Circular Cable Mounted USB-B Plug Cable Assembly .....	14
USB-B Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly .....	14
USB-B Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly .....	15
USB-B Circular Cable Mounted Receptacle to Circular Cable Mounted USB-A Plug Cable Assembly .....	15
USB-B Circular Cable Mounted Receptacle to Circular Cable Mounted USB-B Plug Cable Assembly .....	16
<b>USB Jamnut Receptacles</b>	
USB-A Circular Receptacle Feed Thru .....	17
USB-A Metal Circular Receptacle Feed Thru.....	17
USB A Circular Receptacle to PCB Contacts .....	18
USB-A Metal Circular Receptacle to PCB Contacts.....	18
USB-A Circular Receptacle to Screw Terminals .....	19
USB-A Metal Circular Receptacle to Screw Terminals.....	19
USB-A Circular Receptacle to Flying Leads .....	20
USB-A Metal Circular Receptacle to Flying Leads .....	20
USB-B Circular Receptacle Feed Thru .....	21
USB-B Circular Receptacle to PCB Contacts.....	21
USB-B Circular Receptacle to Flying Leads .....	22
<b>Accessories</b>	
USB Receptacle Cap .....	23
USB Receptacle Metal Cap .....	23
Gasket .....	24
Locknut .....	24
<b>USB PCB Layout</b> .....	25
<b>Part Numbers</b> .....	26

# Technical Information

## Wire Gauge Conversion Chart

Conversion between American Wire Gauge (AWG), Circular Mil Area (CMA), and approximate metric millimeter squared (mm<sup>2</sup>) wire sizes.

Diameter			Area	
AWG	in.	mm	CMA	mm <sup>2*</sup>
4/0 (0000)	0.46	11.68	212000	120
3/0 (000)	0.41	10.41	168000	95
2/0 (00)	0.365	9.27	133000	70
1/0 (0)	0.325	8.26	106000	50
1	0.289	7.34	83700	-
2	0.258	6.55	66400	35
3	0.229	5.82	52600	-
4	0.204	5.18	41700	25
5	0.182	4.62	33100	-
6	0.162	4.11	26300	16
7	0.144	3.66	20800	-
8	0.128	3.25	16500	10
9	0.114	2.90	13100	-
10	0.102	2.59	10400	6
11	0.091	2.31	8230	-
12	0.081	2.06	6530	4
13	0.072	1.83	5180	-

Diameter			Area	
AWG	in.	mm	CMA	mm <sup>2*</sup>
14	0.062	1.57	4110	2.5
15	0.057	1.45	3260	-
16	0.051	1.30	2580	1.5
17	0.045	1.14	2050	1
18	0.040	1.02	1620	0.75
19	0.036	0.91	1290	-
20	0.032	0.81	1020	0.5
21	0.0285	0.72	810	-
22	0.0253	0.643	642	0.34
23	0.0226	0.574	509	-
24	0.0201	0.511	404	0.25
25	0.0179	0.45	320	-
26	0.0159	0.404	254	0.14
27	0.0142	0.361	202	-
28	0.0126	0.320	160	0.08
29	0.0113	0.29	127	-
30	0.01	0.254	101	0.05

\*Nearest metric wire size  
Use to Convert American Wire Gauge to Diameter and Circular Mil Area.

# How to Order

## USB 2.0 & 3.0 Cable Assemblies

1		2	3	4		5
<b>USB</b>	-	<b>3</b>	<b>WPA</b>	<b>PA</b>	-	<b>1M</b>
SERIES		USB VERSION	CONNECTOR STYLE (END A)	CONNECTOR STYLE (END B)		LENGTH

**SERIES**

USB = USB Composite  
USBM = USB Metal\*

**USB VERSION**

2 = USB 2.0  
3 = USB 3.0

**CONNECTOR STYLE (END A)**

WPA = Molded Plug USB-A  
WPB = Molded Plug USB-B  
WJA = Molded Receptacle USB-A  
WJB = Molded Receptacle USB-B

**CONNECTOR STYLE (END A)**

WPA = Molded Plug USB-A  
WPB = Molded Plug USB-B  
PA = USB-A  
PB = USB-B

**LENGTH\*\***

1M = 1 meters  
2M = 2 meters  
3M = 3 meters

\* Molded USB-B only available in composite  
\*\* Additional lengths are available upon request

## USB 2.0 & 3.0 Receptacles

1		2	3
<b>IPUSB</b>	-	<b>2</b>	<b>JAFL</b>
SERIES		USB VERSION	STYLE

**SERIES**

IPUSB = USB Composite  
IPUSBM = USB Metal\*

**USB VERSION**

2 = USB 2.0  
3 = USB 3.0

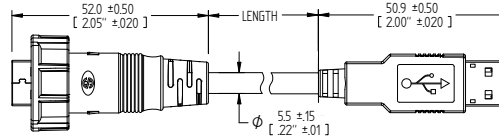
**STYLE**

JAFL = Molded Receptacle USB-A to 500 mm Flying Leads  
JBFL = Molded Receptacle USB-B to 500 mm Flying Leads  
JAPC = Molded Receptacle A to PC Contacts  
JBPC = Molded Receptacle B to PC Contacts  
AABHD = Molded Receptacle A to A Feed Thru  
BABHD = Molded Receptacle B to A Feed Thru  
ASTB = Molded Receptacle A to Terminal Block

\* Molded USB-B only available in composite

# USB-A Circular Plug to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Male  
Part No.: IPUSB-\*WPAPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length

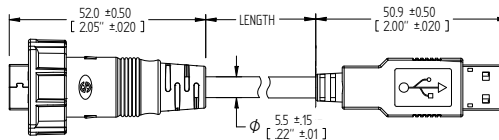


## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Plug to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Male  
Part No.: IPUSBM-\*WPAPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

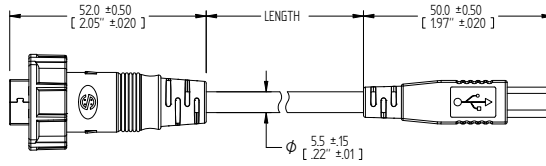
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Plug to USB-B Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSB-\*WPAPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



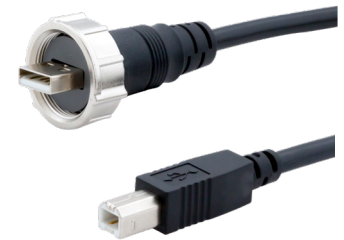
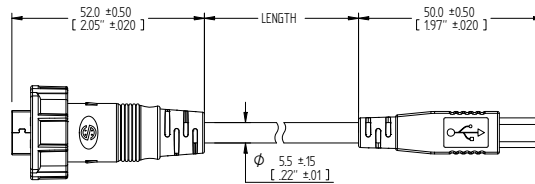
## General Information

Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Plug to USB-B Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSBM-\*WPAPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (mated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

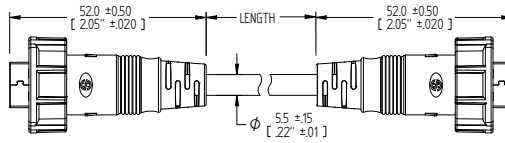
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

## USB-A Circular Plug to Circular USB-A Plug Cable Assembly

Connector series: USB  
 Gender: Male to Male  
 Part No.: IPUSB-\*WPAWPA-#M

\*refers to use version (2.0 or 3.0)  
 # refers to cable length



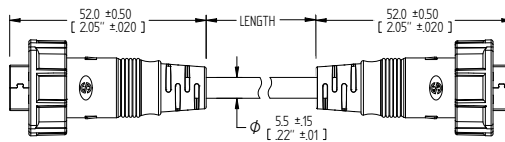
### General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

## USB-A Metal Circular Plug to Metal Circular USB-A Plug Cable Assembly

Connector series: USB  
 Gender: Male to Male  
 Part No.: IPUSBM-\*WPAWPA-#M

\*refers to use version (2.0 or 3.0)  
 # refers to cable length



### General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

### Notes

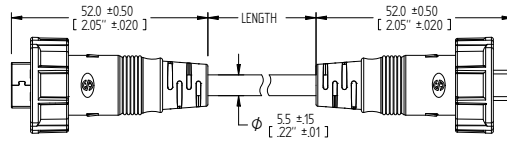
- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.



# USB-A Circular Plug to Circular USB-B Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSB-\*WPAWPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



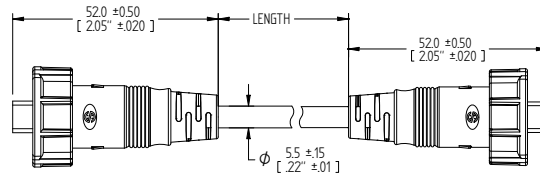
## General Information

Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-B Circular Plug to Circular USB-B Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSB-\*WPBWPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-B to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (mated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

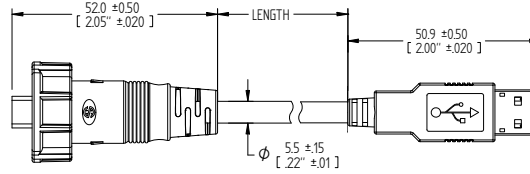
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-B Circular Plug to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSB-\*WPBPA-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



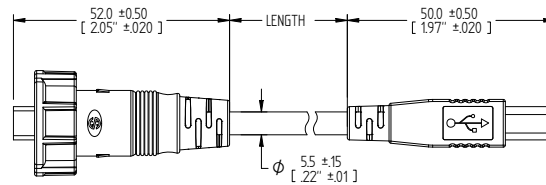
## General Information

Connector Type:	USB-B to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-B Circular Plug To USB-B Plug Cable Assembly

Connector series: USB  
Gender: Male to Male  
Part No.: IPUSB-\*WPBPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

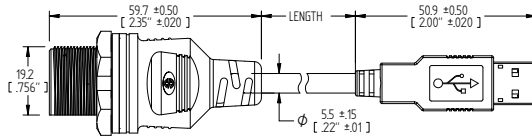
Connector Type:	USB-B to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJAPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length

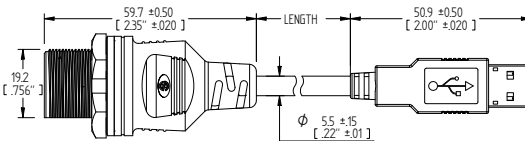


## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSBM-\*WJAPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

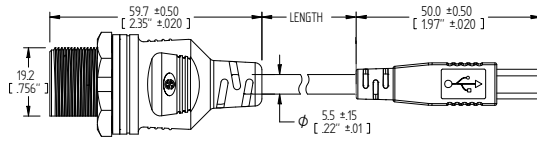
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJAPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



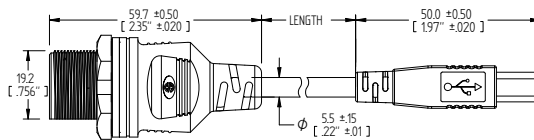
## General Information

Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSBM-\*WJAPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

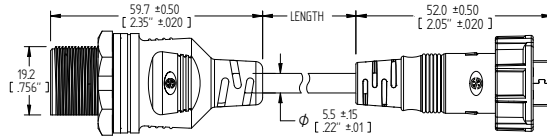
Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Cable Mounted Receptacle to Circular Cable Mounted USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJAWPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length

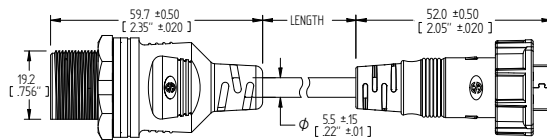


## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Cable Mounted Receptacle to Metal Circular USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSBM-\*WJAWPA-#M  
\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

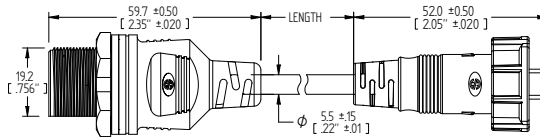
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Cable Mounted Receptacle to Circular Cable Mounted USB-B Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJAWPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



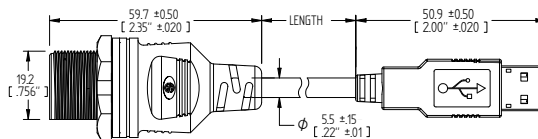
## General Information

Connector Type:	USB-A to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-B Circular Cable Mounted Receptacle to USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJBPA-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-B to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

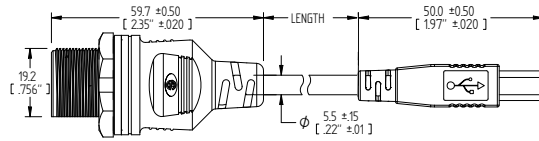
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-B Circular Cable Mounted Receptacle to USB-B Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJBPB-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



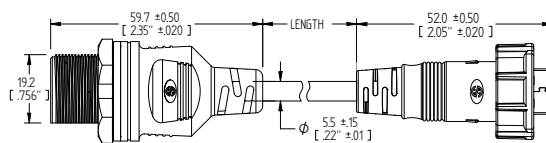
## General Information

Connector Type:	USB-B to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-B Circular Cable Mounted Receptacle to Circular Cable Mounted USB-A Plug Cable Assembly

Connector series: USB  
Gender: Female to Male  
Part No.: IPUSB-\*WJBWPA-#M

\*refers to use version (2.0 or 3.0)  
# refers to cable length



## General Information

Connector Type:	USB-B to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

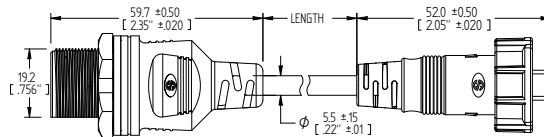
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-B Circular Cable Mounted Receptacle to Circular Cable Mounted USB-B Plug Cable Assembly

Connector series: USB  
 Gender: Female to Male  
 Part No.: IPUSB-\*WJBWPB-#M

\*refers to use version (2.0 or 3.0)  
 # refers to cable length



## General Information

Connector Type:	USB-B to USB-B	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	$\leq 30M\Omega$	Voltage rating:	30V

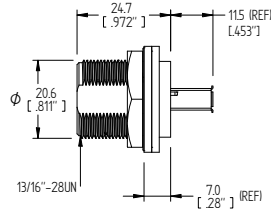
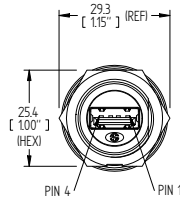
## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.



## USB-A Circular Receptacle Feed Thru

Connector series: USB  
Gender: Female  
Part No.: IPUSB-\*AABHD  
\*refers to use version (2.0 or 3.0)



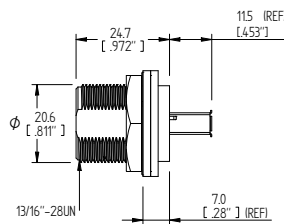
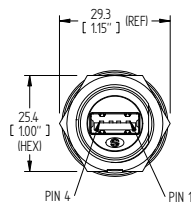
### General Information

Connector Type:	USB-A to USB-A
Temperature range:	-20°C ~ +80°C
Terminal:	Copper alloy, gold plated
Screw nut:	Nylon + GF
Mating style:	Screw thread
Contact resistance:	≤ 30MΩ

Withstanding voltage:	AC 500V/1 minute
Salt spray:	48 hr.
Protection class:	IP67 (unmated)
Durability:	1000 times
Current rating:	1.5A
Voltage rating:	30V

## USB-A Metal Circular Receptacle Feed Thru

Connector series: USB  
Gender: Female  
Part No.: IPUSBM-\*AABHD  
\*refers to use version (2.0 or 3.0)



### General Information

Connector Type:	USB-A to USB-A
Temperature range:	-20°C ~ +80°C
Terminal:	Copper alloy, gold plated
Screw nut:	Zinc alloy, nickel plated
Mating style:	Screw thread
Contact resistance:	≤ 30MΩ

Withstanding voltage:	AC 500V/1 minute
Salt spray:	48 hr.
Protection class:	IP67 (unmated)
Durability:	1000 times
Current rating:	1.5A
Voltage rating:	30V

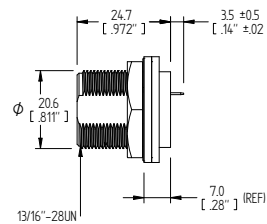
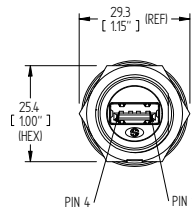
### Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Receptacle to PCB Contacts

Connector series: USB  
 Gender: Female  
 Part No.: IPUSB-\*JAPC

\*refers to use version (2.0 or 3.0)



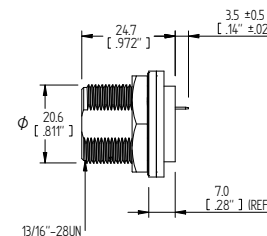
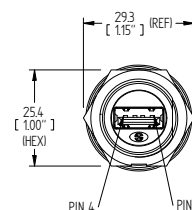
## General Information

Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

# USB-A Metal Circular Receptacle to PCB Contacts

Connector series: USB  
 Gender: Female  
 Part No.: IPUSBM-\*JAPC

\*refers to use version (2.0 or 3.0)



## General Information

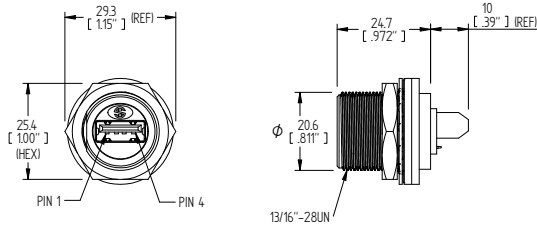
Connector Type:	USB-A to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Receptacle to Screw Terminals

Connector series: USB  
Gender: Female  
Part No.: IPUSB-\*ASTB  
\*refers to use version (2.0 or 3.0)



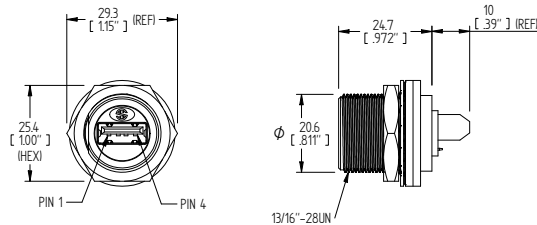
## General Information

Connector Type:	USB-A type
Temperature range:	-20°C ~ +80°C
Terminal:	Copper alloy, gold plated
Screw nut:	Nylon + GF
Mating style:	Screw thread
Contact resistance:	≤ 30MΩ

Withstanding voltage:	AC 500V/1 minute
Salt spray:	48 hr.
Protection class:	IP67 (unmated)
Durability:	1000 times
Current rating:	1.5A
Voltage rating:	30V

# USB-A Metal Circular Receptacle to Screw Terminals

Connector series: USB  
Gender: Female  
Part No.: IPUSBM-\*ASTB  
\*refers to use version (2.0 or 3.0)



## General Information

Connector Type:	USB-A type
Temperature range:	-20°C ~ +80°C
Terminal:	Copper alloy, gold plated
Screw nut:	Zinc alloy, nickel plated
Mating style:	Screw thread
Contact resistance:	≤ 30MΩ

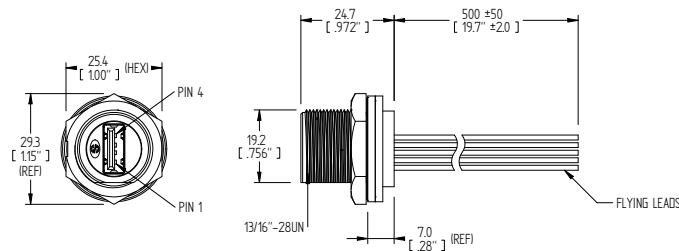
Withstanding voltage:	AC 500V/1 minute
Salt spray:	48 hr.
Protection class:	IP67 (unmated)
Durability:	1000 times
Current rating:	1.5A
Voltage rating:	30V

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-A Circular Receptacle to Flying Leads

Connector series: USB  
 Gender: Female  
 Part No.: IPUSB-\*JAFL  
 \*refers to use version (2.0 or 3.0)

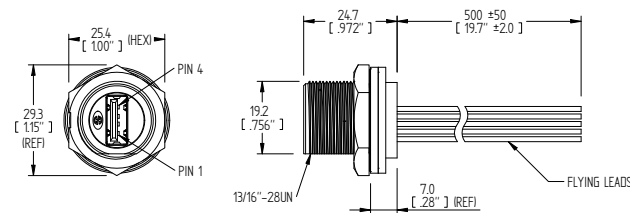


## General Information

Connector Type:	USB-A type	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V
		Cable length:	500 mm

# USB-A Metal Circular Receptacle to Flying Leads

Connector series: USB  
 Gender: Female  
 Part No.: IPUSBM-\*JAFL  
 \*refers to use version (2.0 or 3.0)



## General Information

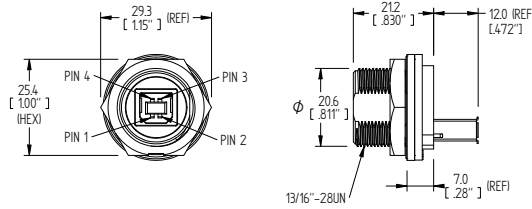
Connector Type:	USB-A type	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Zinc alloy, nickel plated	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V
		Cable length:	500 mm

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

## USB-B Circular Receptacle Feed Thru

Connector series: USB  
Gender: Female  
Part No.: IPUSB-\*BABHD  
\*refers to use version (2.0 or 3.0)

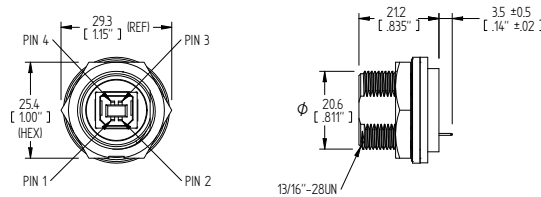


### General Information

Connector Type:	USB-B to USB-A	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

## USB-B Circular Receptacle to PCB Contacts

Connector series: USB  
Gender: Female  
Part No.: IPUSB-\*JBPC  
\*refers to use version (2.0 or 3.0)



### General Information

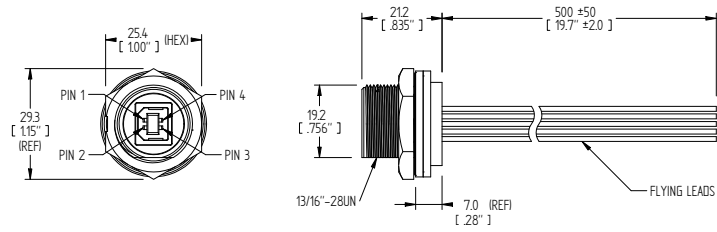
Connector Type:	USB-B type	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V

### Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

# USB-B Circular Receptacle to Flying Leads

Connector series: USB  
 Gender: Female  
 Part No.: IPUSB-\*JBFL  
 \*refers to use version (2.0 or 3.0)



## General Information

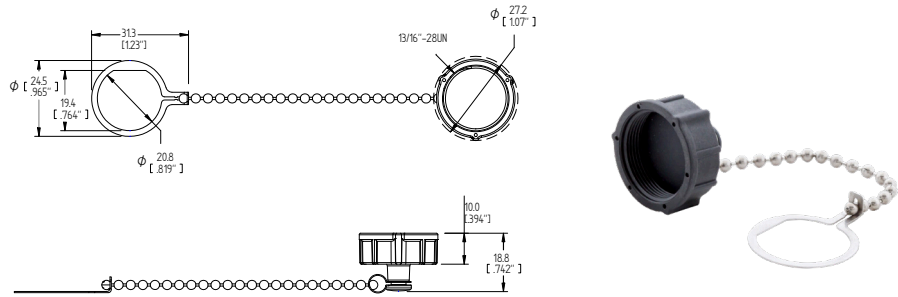
Connector Type:	USB-B type	Withstanding voltage:	AC 500V/1 minute
Temperature range:	-20°C ~ +80°C	Salt spray:	48 hr.
Terminal:	Copper alloy, gold plated	Protection class:	IP67 (unmated)
Screw nut:	Nylon + GF	Durability:	1000 times
Mating style:	Screw thread	Current rating:	1.5A
Contact resistance:	≤ 30MΩ	Voltage rating:	30V
		Cable length:	500 mm

## Notes

- Please refer to Page 4 for the Conversion between American Wire Gauge AWG and Wire Cross-section mm<sup>2</sup>.
- Please refer to Page 5 for part number breakdown.

## USB Receptacle Cap

Connector series: USB  
Part No.: IPCAP-1316



### General Information

Temperature range: -40°C ~ +105°C

Material, cap: Nylon, black

Material, holder: Nylon, black

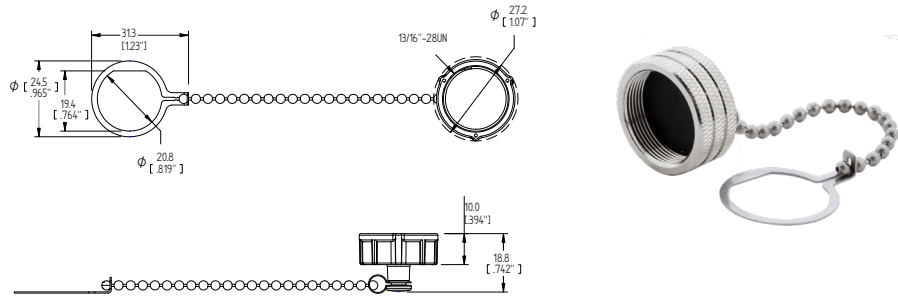
Protection class: IP67

Material, gasket: EPDM, black

Material, chain: Stainless steel

## USB Receptacle Metal Cap

Connector series: USB  
Part No.: IPCAPM-1316



### General Information

Temperature range: -40°C ~ +105°C

Material, cap: Copper alloy, nickel plated

Material, holder: Nylon, black

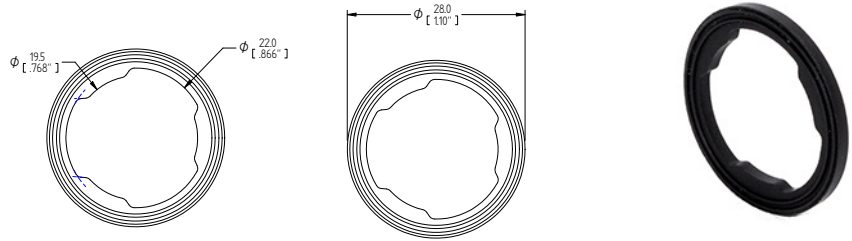
Protection class: IP67

Material, gasket: EPDM, black

Material, chain: Stainless steel

## Gasket

Connector series: USB  
Part No.: IPGSK-1316



### General Information

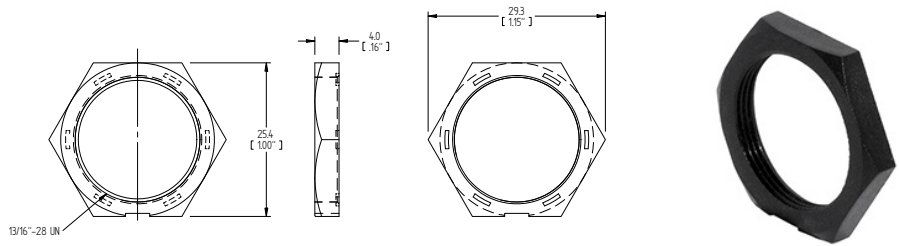
Material: Silicone (UL94V-0)

Color: Gray

Packaging: Pack of 10

## Lock Nut

Connector series: USB  
Part No.: IPNT-1316



### General Information

Material: Nylon

Color: Black

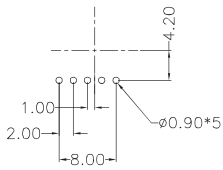
Packaging: Pack of 10



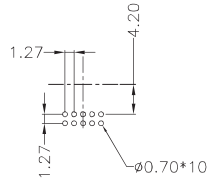
# USB PCB Layout

## USB-A Type, PCB

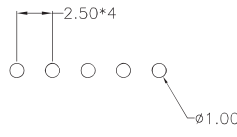
USB 2.0



USB 3.0

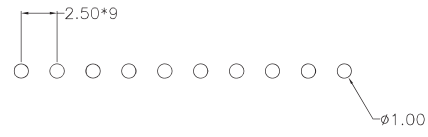


USB 2.0



Board In Conn.

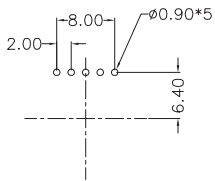
USB 3.0



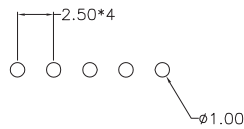
Board In Conn.

## USB-B Type, PCB

USB 2.0



USB 2.0



Board In Conn.

# Part Numbers

All HDMI Series P/Ns	Catalog Page
IPUSB-2WPAPA-1M	6
IPUSB-2WPAPA-2M	6
IPUSB-2WPAPA-3M	6
IPUSB-3WPAPA-1M	6
IPUSB-3WPAPA-2M	6
IPUSB-3WPAPA-3M	6
IPUSBM-2WPAPA-1M	6
IPUSBM-2WPAPA-2M	6
IPUSBM-2WPAPA-3M	6
IPUSBM-3WPAPA-1M	6
IPUSBM-3WPAPA-2M	6
IPUSBM-3WPAPA-3M	6
IPUSB-2WPAPB-1M	7
IPUSB-2WPAPB-2M	7
IPUSB-2WPAPB-3M	7
IPUSB-3WPAPB-1M	7
IPUSB-3WPAPB-2M	7
IPUSB-3WPAPB-3M	7
IPUSBM-2WPAPB-1M	7
IPUSBM-2WPAPB-2M	7
IPUSBM-2WPAPB-3M	7
IPUSBM-3WPAPB-1M	7
IPUSBM-3WPAPB-2M	7
IPUSBM-3WPAPB-3M	7
IPUSB-2WPAWPA-1M	8
IPUSB-2WPAWPA-2M	8
IPUSB-2WPAWPA-3M	8
IPUSB-3WPAWPA-1M	8
IPUSB-3WPAWPA-2M	8
IPUSB-3WPAWPA-3M	8

All HDMI Series P/Ns	Catalog Page
IPUSBM-2WPAWPA-1M	8
IPUSBM-2WPAWPA-2M	8
IPUSBM-2WPAWPA-3M	8
IPUSBM-3WPAWPA-1M	8
IPUSBM-3WPAWPA-2M	8
IPUSBM-3WPAWPA-3M	8
IPUSB-2WPAWPB-1M	9
IPUSB-2WPAWPB-2M	9
IPUSB-2WPAWPB-3M	9
IPUSB-3WPAWPB-1M	9
IPUSB-3WPAWPB-2M	9
IPUSB-3WPAWPB-3M	9
IPUSB-2WPBWPB-1M	9
IPUSB-2WPBWPB-2M	9
IPUSB-2WPBWPB-3M	9
IPUSB-3WPBWPB-1M	9
IPUSB-3WPBWPB-2M	9
IPUSB-3WPBWPB-3M	9
IPUSBM-2WPBPA-1M	10
IPUSBM-2WPBPA-2M	10
IPUSBM-2WPBPA-3M	10
IPUSBM-3WPBPA-1M	10
IPUSBM-3WPBPA-2M	10
IPUSBM-3WPBPA-3M	10
IPUSBM-2WPBPB-1M	10
IPUSBM-2WPBPB-2M	10
IPUSBM-2WPBPB-3M	10
IPUSBM-3WPBPB-1M	10
IPUSBM-3WPBPB-2M	10
IPUSBM-3WPBPB-3M	10

All HDMI Series P/Ns	Catalog Page
IPUSB-2WJAPA-1M	11
IPUSB-2WJAPA-2M	11
IPUSB-2WJAPA-3M	11
IPUSB-3WJAPA-1M	11
IPUSB-3WJAPA-2M	11
IPUSB-3WJAPA-3M	11
IPUSBM-2WJAPA-1M	11
IPUSBM-2WJAPA-2M	11
IPUSBM-2WJAPA-3M	11
IPUSBM-3WJAPA-1M	11
IPUSBM-3WJAPA-2M	11
IPUSBM-3WJAPA-3M	11
IPUSB-2WJAPB-1M	12
IPUSB-2WJAPB-2M	12
IPUSB-2WJAPB-3M	12
IPUSB-3WJAPB-1M	12
IPUSB-3WJAPB-2M	12
IPUSB-3WJAPB-3M	12
IPUSBM-2WJAPB-1M	12
IPUSBM-2WJAPB-2M	12
IPUSBM-2WJAPB-3M	12
IPUSBM-3WJAPB-1M	12
IPUSBM-3WJAPB-2M	12
IPUSBM-3WJAPB-3M	12
IPUSB-2WJAWPA-1M	13
IPUSB-2WJAWPA-2M	13
IPUSB-2WJAWPA-3M	13
IPUSB-3WJAWPA-1M	13
IPUSB-3WJAWPA-2M	13
IPUSB-3WJAWPA-3M	13

All HDMI Series P/Ns	Catalog Page
IPUSBM-2WJAWPA-1M	13
IPUSBM-2WJAWPA-2M	13
IPUSBM-2WJAWPA-3M	13
IPUSBM-3WJAWPA-1M	13
IPUSBM-3WJAWPA-2M	13
IPUSBM-3WJAWPA-3M	13
IPUSBM-2WJAWPB-1M	14
IPUSBM-2WJAWPB-2M	14
IPUSBM-2WJAWPB-3M	14
IPUSBM-3WJAWPB-1M	14
IPUSBM-3WJAWPB-2M	14
IPUSBM-3WJAWPB-3M	14
IPUSBM-2WJBPA-1M	14
IPUSBM-2WJBPA-2M	14
IPUSBM-2WJBPA-3M	14
IPUSBM-3WJBPA-1M	14
IPUSBM-3WJBPA-2M	14
IPUSBM-3WJBPA-3M	14
IPUSBM-2WJBPB-1M	15
IPUSBM-2WJBPB-2M	15
IPUSBM-2WJBPB-3M	15
IPUSBM-3WJBPB-1M	15
IPUSBM-3WJBPB-2M	15
IPUSBM-3WJBPB-3M	15
IPUSBM-2WJBWPA-1M	15
IPUSBM-2WJBWPA-2M	15
IPUSBM-2WJBWPA-3M	15
IPUSBM-3WJBWPA-1M	15
IPUSBM-3WJBWPA-2M	15
IPUSBM-3WJBWPA-3M	15
IPUSBM-2WJBWPB-1M	16
IPUSBM-2WJBWPB-2M	16

All HDMI Series P/Ns	Catalog Page
IPUSBM-2WJBWPB-3M	16
IPUSBM-3WJBWPB-1M	16
IPUSBM-3WJBWPB-2M	16
IPUSBM-3WJBWPB-3M	16
IPUSB-2AABHD	17
IPUSB-3AABHD	17
IPUSBM-2AABHD	17
IPUSBM-3AABHD	17
IPUSB-2JAPC	18
IPUSB-3JAPC	18
IPUSBM-2JAPC	18
IPUSBM-3JAPC	18
IPUSB-2ASTB	19
IPUSB-3ASTB	19
IPUSBM-2ASTB	19
IPUSBM-3ASTB	19
IPUSB-2JAFL	20
IPUSB-3JAFL	20
IPUSBM-2JAFL	20
IPUSBM-3JAFL	20
IPUSB-2BABHD	21
IPUSB-3BABHD	21
IPUSB-2JBPC	21
IPUSB-3JBPC	21
IPUSB-2JBFL	22
IPUSB-3JBFL	22
IPCAP-1316	23
IPCAPM-1316	23
IPGSK-1316	24
IPNT-1316	24



Corporate Headquarters, Philadelphia, PA



European Headquarters & Production Facility, Southampton, UK



Production Facility, Zhuhai, China



North American Production Facility, South Bend, IN



FilConn, Chandler, AZ



PEI-Genesis has sales offices throughout the Americas, Europe and Asia.  
Visit [www.peigenesis.com](http://www.peigenesis.com), call +1 800.675.1214 (North America), +44 (0) 23 8062 1260 (Europe),  
+86 756 7683 088 (Asia), +1 631.475.5050 (Rest of World), or email: [sales@peigenesis.com](mailto:sales@peigenesis.com).

[www.peigenesis.com](http://www.peigenesis.com) | [www.peigenesis.cn](http://www.peigenesis.cn)

