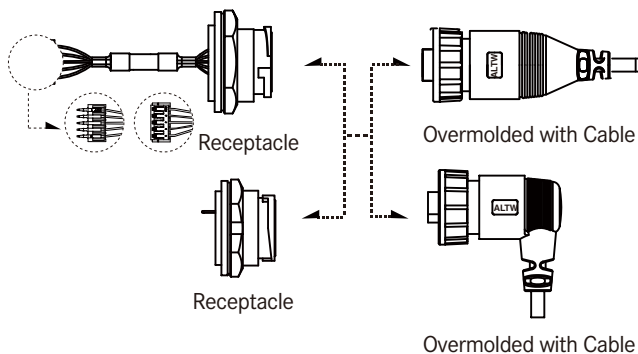


USB Connector

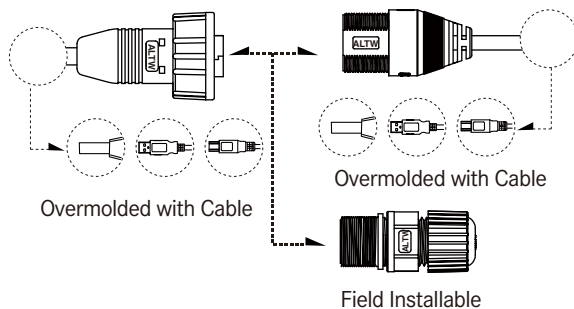


Range Overview

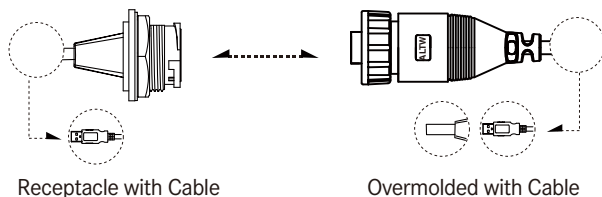
Receptacle to Overmolded with Cable



In Line



Receptacle with Cable to Overmolded with Cable



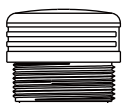
Micro USB



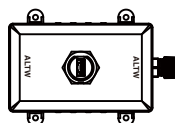
Accessories



Waterproof Cap
See page 21-16



Waterproof Cap
See page 21-16



Box
See page 21-21

Specification

Identifications	USB 3.0 A Type USB 2.0 A Type, USB 2.0 B Type Mini USB 2.0 B Type Micro USB: Available soon
Description	Receptacle Receptacle With Cable Overmolded with Cable Field Installable
Current Rating / Data	1.5A
Material	Contacts: Copper Alloy, Gold Plated Connector Body (Housing) : PBT UL94V-0
Waterproof Rating	IP67~68
Temperature Range	Receptacle: Nylon+GF: -40°C~105°C M-PPE: -40°C~105°C ABS: -20°C~80°C Receptacle with cable: Nylon+GF: -20°C~105°C ABS: -20°C~80°C Overmolded with Cable: -20°C~80°C Field Installable: -20°C~80°C
Contact Resistance	≤ 30mΩ
Insulation Resistance	≥ 1000mΩ at DC500V
Breakdown Voltage	≥ AC500V / 1 minute
More to know	USB 2.0: Standard Cable Length: 01-05M USB 3.0: Standard Cable Length: 01-03M Mini USB: Standard Cable Length: 01-04M

* Design and specification are subject to change without notice.

Ordering Information

	1	2	3	4	5	6	7	8	9	10
Specification										
(UA) USB A Type		(NUB) Mini USB B								
(UB) USB B Type										
Data Transfer Rate										
(20) 2.0		(30) 3.0								
Connector Body (Style)										
<u>> For Receptacle</u>		<u>> For Overmolded with Cable</u>								
(P) Front Fastened		(A) With Strain Relief								
<u>> For Field installable</u>		(B) Without Strain Relief								
Connector (Housing) Gender										
(M) Male		(F) Female								
Contact Gender										
(M) Male (Plug)		(F) Female (Jack)								
Assemble Style										
<u>> For Receptacle</u>		<u>> For Overmolded with Cable</u>								
(P) 180° PCB Type		(M) Overmolded with Cable								
(R) 90° PCB Type		<u>> For Field Installable</u>								
(J) Jack		(A) Field installable (Solder)								
Mating Style										
(S) Screw Thread		(L) 2 Points Lock Bayonet (Nut OD: 28.5mm)								
(N) 2 Points Lock Bayonet (Nut OD: 25.4mm)										
Backshell										
<u>> For Receptacle</u>		<u>> For Overmolded with Cable</u>				<u>> For Field Installable</u>				
(C) Circular		(L) Straight				(L) Straight				
(S) Square		(R) Right Angle								
Waterproof Rating										
(7) IP 67		(8) IP 68								

More Information

<u>> For Receptacle</u>	<u>> For Overmolded with Cable</u>
(001) Without Cable	(□)+(■) : Cable Type + Cable Length
(002) With Cable (Harness (50mm))	EX. (A01) = USB 2.0 Cable + 1M
	(□) : Cable Type (■) : Cable Length
(A) USB 2.0 Cable	USB2.0 :From 1M to 5M
(B) USB 3.0 Cable	USB3.0 :From 1M to 3M
	Mini USB2.0: From 1M to 4M
	EX. (01) = 1M

Ordering Information I Double-ended

ALTW waterproof connector to ALTW waterproof connector

ALTW waterproof connector to Standard USB connector (None Waterproof)

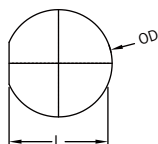
	1	2	3	4	5	6	7	8	9
Specification									
(UA) USB A Type									
(UB) USB B Type									
Data Transfer Rate									
(20) 2.0									
(30) 3.0									
Connector Body (Style)									
> For Receptacle									
(P) Front Fastened									
> For Overmolded with Cable									
(A) With Strain Relief									
(B) Without Strain Relief									
Connector (Housing) Gender									
(M) Male									
(F) Female									
Contact Gender									
(M) Male (Plug)									
(F) Female (Jack)									
Mating Style									
(S) Screw Thread									
(L) 2 Points Lock Bayonet (Nut OD: 28.5mm)									
Non-Waterproof (2ne End)									
(A) USB2.0 A Type (Plug)									
(D) USB3.0 A Type (Plug)									
(B) USB2.0 B Type (Plug)									
Waterproof Rating									
(6) IP 66									
(7) IP 67									
(8) IP 68									
More Information									
> For Receptacle with Cable									
(□)+(■) : Cable Type + Cable Length									
EX. (BX10) = USB 3.0 Cable + 100mm									
(□) : Cable Type									
(B) USB 3.0 Cable									
(■) : Cable Length									
USB3.0 :From 100mm to 300mm									
EX. (10) = 100mm									
> For Overmolded with Cable									
(□)+(■) : Cable Type + Cable Length									
EX. (A01) = USB 2.0 Cable + 1M									
(□) : Cable Type									
(A) USB 2.0 Cable									
(B) USB 3.0 Cable									
(■) : Cable Length									
USB2.0 :From 1M to 5M									
USB3.0 :From 1M to 3M									
Mini USB2.0: From 1M to 4M									
EX. (01) = 1M									

* Design and specification are subject to change without notice.

Physical Dimension

Receptacle

Panel Cut-Out

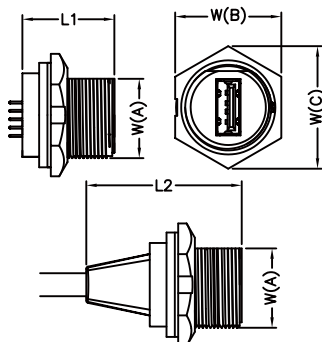


Type		Connector Gender (Housing)	L		OD	
			Male			
USB2.0	Type A	Screw Thread	19.4		20.8	
		2 Points Lock Bayonet	23.6		25.6	
	Type B	Screw Thread	19.4		20.8	
		2 Points Lock Bayonet	23.6		25.6	
USB3.0	Type A	Screw Thread	19.4		20.8	
		2 Points Lock Bayonet	23.6		25.6	
Mini USB	-	Screw Thread	14.8		15.6	

* Maximum Panel Thickness: USB: 4mm I Mini USB: 2.5mm
 * USB: Screw I Middle Size (13/16"-28 UNS)
 2 Points Lock Bayonet I Large Size (1"20 UNEF)
 * Mini USB: Screw I Standard Size (5/8"-27 UNS)

Dimensions are shown in millimeters

Connector Dimension

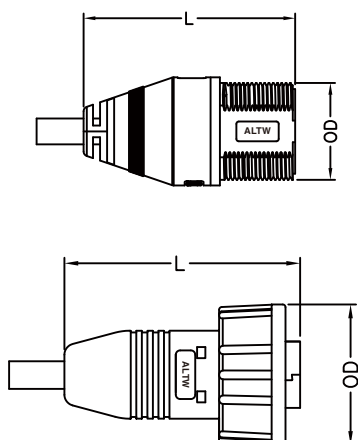


Type		Connector Gender (Housing)	W(A)	W(B)	W(C)	L1	L2
			Male				
USB2.0	Type A	Screw Thread	19.0	25.4	29.3	22.0	-
		2 Points Lock Bayonet	23.2	28.5	32.9	20.3	-
	Type B	Screw Thread	19.0	25.4	29.3	22.0	-
		2 Points Lock Bayonet	23.2	28.5	32.9	20.3	-
USB3.0	Type A	Screw Thread	19.0	25.4	29.3	-	37.2
		2 Points Lock Bayonet	23.2	28.5	32.9	-	37.5
Mini USB	-	Screw Thread	14.5	20.6	23.5	15.0	-

* USB: Screw I Middle Size (13/16"-28 UNS)
 2 Points Lock Bayonet I Large Size (1"20 UNEF)
 *Mini USB: Screw I Standard Size (5/8"-27 UNS)

Dimensions are shown in millimeters

Overmolded with Cable

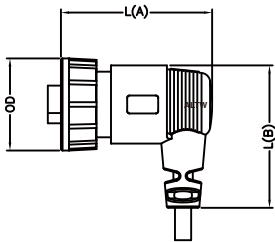


Type		Connector Gender (Housing)	L		OD	
			Female	Male	Female	Male
USB2.0	Type A	Screw Thread	42.6	45.0	25.4	20.6
		2 Points Lock Bayonet	73.3	-	28.5	-
	Type B	Screw Thread	42.6	45.0	25.4	20.6
		2 Points Lock Bayonet	73.3	-	28.5	-
USB3.0	Type A	Screw Thread	42.6	45.0	42.6	20.6
		2 Points Lock Bayonet	75.0	-	28.5	-
Mini USB	-	Screw Thread	42.6	45.0	20.0	15.45

* USB: Screw I Middle Size (13/16"-28 UNS)
 2 Points Lock Bayonet I Large Size (1"20 UNEF)
 *Mini USB: Screw I Standard Size (5/8"-27 UNS)

Dimensions are shown in millimeters

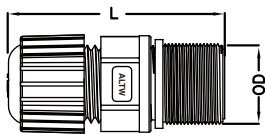
↳ **Overmolded with Cable**



Type	Connector Gender (Housing)	L(A)		L(B)		OD		
		Female	Male	Female	Male	Female	Male	
USB 2.0	Type A	Screw Thread	-	-	-	-	-	-
		2 Points Lock Bayonet	46.8	-	44.1	-	28.5	-
	Type B	Screw Thread	-	-	-	-	-	-
		2 Points Lock Bayonet	46.8	-	44.1	-	28.5	-

* USB: Screw I Middle Size (13/16"-28 UNS) Dimensions are shown in millimeters
 2 Points Lock Bayonet I Large Size (1"20 UNEF)

↳ **Field Installable**



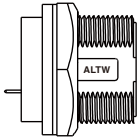
Type	Connector Gender (Housing)	L		OD		
		Female	Male	Female	Male	
USB 2.0	Type A	Screw Thread	-	56.0	-	20.6
		2 Points Lock Bayonet	-	-	-	-
	Type B	Screw Thread	-	56.0	-	20.6
		2 Points Lock Bayonet	-	-	-	-
Mini USB	-	Screw Thread	-	45.0	-	15.45

* USB: Screw I Middle Size (13/16"-28 UNS) Dimensions are shown in millimeters
 2 Points Lock Bayonet I Large Size (1"20 UNEF)
 *Mini USB: Screw I Standard Size (5/8"-27 UNS)

* Design and specification are subject to change without notice.

Product Features

Receptacle



Backshell 8



Circular (C)

Mating Style 7



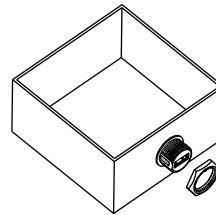
Screw Thread (S)



2 Points Lock Bayonet (L)
(Nut OD: 28.5mm)

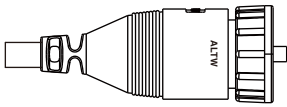
2 Points Lock Bayonet (N)
(Nut OD: 25.4mm)

Connector Body (Style) 3



Front Fastened (P)

Overmolded with Cable



Backshell 8



Straight (L)



Right Angle (R)

Mating Style 7



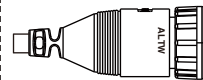
Screw Thread (S)



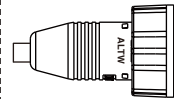
2 Points Lock Bayonet (L)
(Nut OD: 28.5mm)

2 Points Lock Bayonet (N)
(Nut OD: 25.4mm)

Connector Body (Style) 3

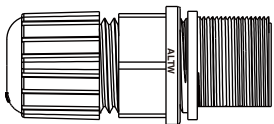


With Strain Relief (A)

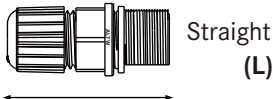


Without Strain Relief (B)

Field Installable



Backshell 8



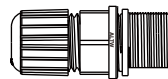
Straight (L)

Mating Style 7



Screw Thread (S)


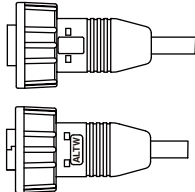
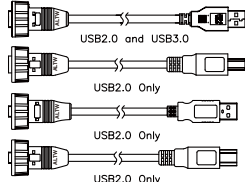
Connector Body (Style) 3



Without Strain Relief (B)


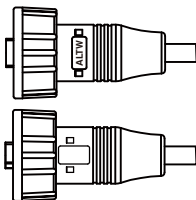
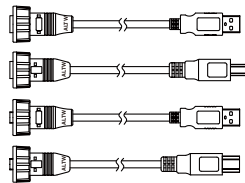
Find Our Standard Products

USB > In-line

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS) 	<p>Overmolded with Cable-----></p> 	<p>Overmolded with Cable-----></p> 	<p>Overmolded with Cable (Double-Ended)</p>  <p>USB2.0 and USB3.0 USB2.0 Only USB2.0 Only USB2.0 Only</p> <p>Non-Waterproof</p>
	<p>** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m</p>	<p>** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m</p>	<p>** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m</p>
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
USB 2.0 Type A	UA-20AMFM-SL7A**	UA-20BFMM-SL7A**	UA-20BFM-SA7A** UA-20BFM-SB7A**
USB 2.0 Type B	UB-20AMFM-SL7A**	UB-20BFMM-SL7A**	UB-20BFM-SA7A** UB-20BFM-SB7A**
USB 3.0 Type A	UA-30AMFM-SL7B**	UA-30BFMM-SL7B**	UA-30BFM-SD7B**

* Refer to P4-4 for ordering information.

USB > In-line

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS) 	<p>Field Installable -----></p> 	<p>Overmolded with Cable-----></p> 	<p>Overmolded with Cable (Double-Ended)</p>  <p>Non-Waterproof</p>
	<p>** USB 2.0: Choose the cable length from 01~05m</p>	<p>** USB 2.0: Choose the cable length from 01~05m</p>	<p>** USB 2.0: Choose the cable length from 01~05m</p>
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
USB 2.0 Type A	UA-20BMFA-SL8001	UA-20BFMM-SL7A**	UA-20BFM-SA7A** UA-20BFM-SB7A**
USB 2.0 Type B	UB-20BMFA-SL8001	UB-20BFMM-SL7A**	UB-20BFM-SA7A** UB-20BFM-SB7A**

* Refer to P4-4 for ordering information.

* Design and specification are subject to change without notice.

USB > In-line

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS) 	<p>Overmolded with Cable (Double-Ended)</p> <p>USB2.0 and USB3.0</p>	<p>Overmolded with Cable (Double-Ended)</p> <p>USB2.0 and USB3.0</p>	<p>Field Installable</p>
	<p>** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m</p>	<p>** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m</p>	
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
USB 2.0 Type A	UA-20AMF-SA7A**	UA-20BFM-SA7A**	-
USB 3.0 Type A	UA-30AMF-SD7B**	UA-30BFM-SD7B**	-
USB 2.0 Type B	UB-20AMFM-SL7A**	-	-

* Refer to P4-4 for ordering information.

* Refer to P4-4 for ordering information.

USB > Receptacle and Mating Pair

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS) 	<p>Receptacle</p> <p>Type 1 Type 2</p>	<p>Overmolded with Cable</p>	<p>Overmolded with Cable (Double-Ended)</p> <p>Non-Waterproof</p>
	<p>** Choose the cable length from 01~05m</p>	<p>** Choose the cable length from 01~05m</p>	
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
USB 2.0 Type A	UA-20PMFP-SC8001 UA-20PMFP-SC8002 Type1 UA-20PMFP-SC8003 Type2	UA-20BFMM-SL7A**	UA-20BFM-SA7A** UA-20BFM-SB7A**
USB 2.0 Type B	UB-20PMFP-SC8001 UB-20PMFP-SC8002 UB-20PMFP-SC8003	UB-20BFMM-SL7A**	UB-20BFM-SA7A** UB-20BFM-SB7A**

* Refer to P4-4 for ordering information.

↳ USB > Receptacle and Mating Pair

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • 2 Points Lock Bayonet (Nut OD: 28.5mm) • Large Size (1" 20 UNEF) 	<p>Receptacle</p> <p>Type 1 Type 2</p>	<p>Overmolded with Cable</p> <p>** Choose the cable length from 01~05m</p>	<p>Field Installable</p>
	<p>Speed (Code)</p> <p>Male Connector (M) Female Contacts (F)</p>	<p>Female Connector (F) Male Contacts (M)</p>	<p>Female Connector (F) Male Contacts (M)</p>
<p>USB 2.0 Type A</p>	<p>UA-20PMFP-LC7001 UA-20PMFP-LC7002 <small>Type1</small> UA-20PMFP-LC7003 <small>Type2</small></p>	<p>UA-20AFMM-LL7A** UA-20AFMM-LR7A**</p>	-
<p>USB 2.0 Type B</p>	<p>UB-20PMFP-LC7001 UB-20PMFP-LC7002 UB-20PMFP-LC7003</p>	<p>UB-20AFMM-LL7A** UB-20AFMM-LR7A**</p>	-

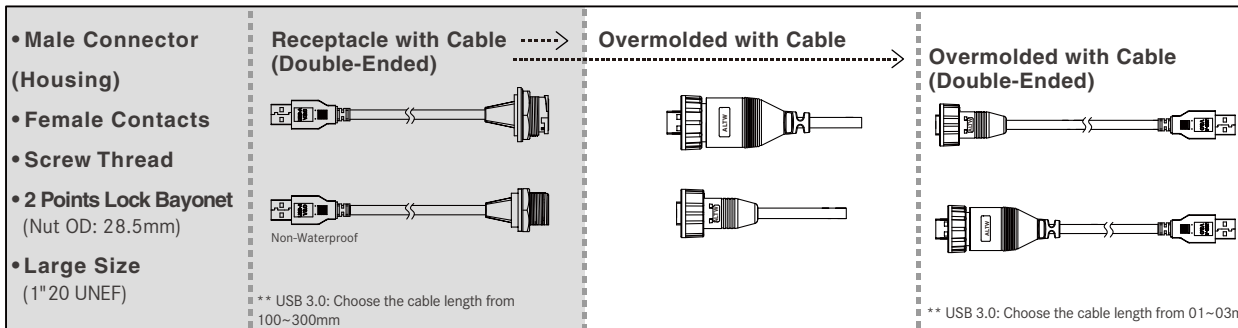
↳ USB > Receptacle and Mating Pair

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • 2 Points Lock Bayonet (Nut OD: 25.4mm) • Large Size (13/16-28 UN) 	<p>Receptacle</p>	<p>Overmolded with Cable</p> <p>** Choose the cable length from 01~05m</p>	<p>Field Installable</p>
	<p>Speed (Code)</p> <p>Male Connector (M) Female Contacts (F)</p>	<p>Female Connector (F) Male Contacts (M)</p>	<p>Female Connector (F) Male Contacts (M)</p>
<p>USB 2.0 Type A</p>	<p>UA-20PMFJ-NC7001</p>	<p>UA-20BFMM-NL7A**</p>	-

USB

Receptacle with Overmolded Cable and Mating Pair
 2 Points Lock Bayonet
 Large Size

➤ **USB > Receptacle with Overmolded Cable and Mating Pair**

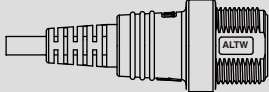
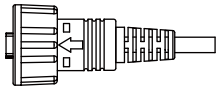


Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
USB 3.0 Type A	UA-30PMF-LD7B** UA-30PMF-SD7B**	UA-30AFMM-LL7BXX UA-30BFMM-SL7BXX	UA-30BFM-SD7B** UA-30AFM-LD7B**

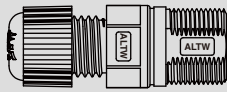
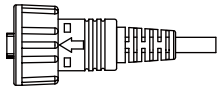
* Refer to P4-4 for ordering information.

* Refer to P4-4 for ordering information.

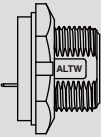
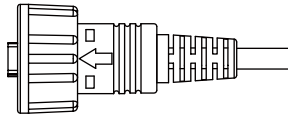
↳ **Mini USB > In-line**

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Standard Size (5/8"-27 UNS) 	<p>Overmolded with Cable-----></p>  <p>** Choose the cable length from 01~04m</p>	<p>Overmolded with Cable -----></p>  <p>** Choose the cable length from 01~04m</p>	Field Installable
	Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20AMFM-SL7A**	NUB-20AFMM-SL7A**	-

↳ **Mini USB > In-line**

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Standard Size (5/8"-27 UNS) 	<p>Field Installable -----></p>  <p>** Choose the cable length from 01~04m</p>	<p>Overmolded with Cable -----></p>  <p>** Choose the cable length from 01~04m</p>	Field Installable
	Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20AMFM-SL7A**	NUB-20AFMM-SL7A**	-

↳ **Mini USB > Receptacle and Mating Pair**

<ul style="list-style-type: none"> • Male Connector (Housing) • Female Contacts • Screw Thread • Standard Size (5/8"-27 UNS) 	<p>Receptacle -----></p> 	<p>Overmolded with Cable -----></p>  <p>** Choose the cable length from 01~04m</p>	Field Installable
	Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20PMFP-SC7001 NUB-20PMFR-SC7001	NUB-20AFMM-SL7A**	-