USB Connector

Range Overview

↘ Receptacle to Overmolded with Cable

Receptacle

Overmolded with Cable

Receptacle

Overmolded with Cable

↘ In Line

Overmolded with Cable

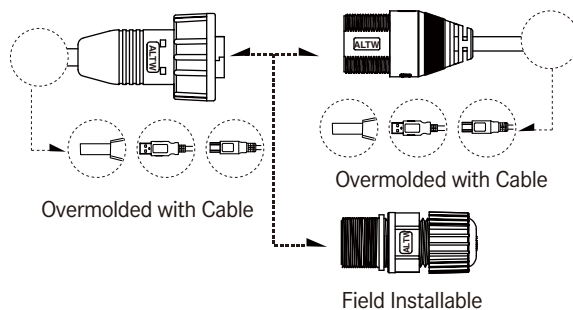Overmolded with Cable

Field Installable
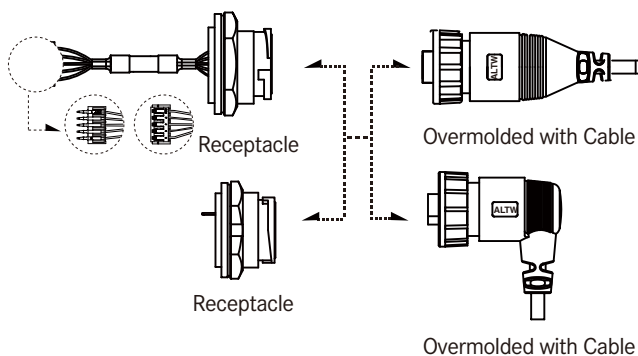
↘ Receptacle with Cable to Overmolded with Cable

Receptacle with Cable

Overmolded with Cable

↘ Micro USB

Available soon
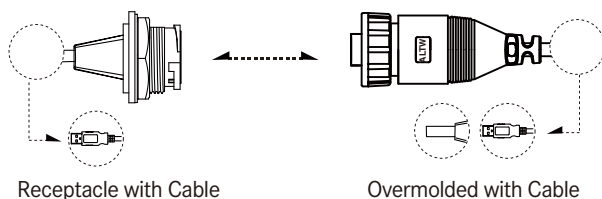
↘ Accessories

Waterproof Cap
See page 21-16

Waterproof Cap
See page 21-16
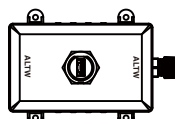
Box
See page 21-21

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.

IP 67 . 68 ⑨
Unmated or Mated

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)
> For Receptacle   > For Overmolded with Cable
(P) Front Fastened   (A) With Strain Relief
> For Field installable   (B) Without Strain Relief
(B) Without Strain Relief

Connector (Housing) Gender
(M) Male   (F) Female

Contact Gender
(M) Male (Plug)   (F) Female (Jack)

Assemble Style
> For Receptacle   > For Overmolded with Cable
(P) 180° PCB Type   (M) Overmolded with Cable
(R) 90° PCB Type   > For Field Installable
(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
> For Receptacle   > For Overmolded with Cable   > For Field Installable
(C) Circular   (L) Straight   (L) Straight
(S) Square   (R) Right Angle

Waterproof Rating
(7) IP 67
(8) IP 68

More Information
> For Receptacle   > For Overmolded with Cable
(001) Without Cable   (□)+(■) : Cable Type + Cable Length
(002) With Cable (Harness EX. (A01) = USB 2.0 Cable + 1M
(50mm))

(□) : 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   > For Overmolded with Cable
(P) Front Fastened   **(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   **> For Overmolded with Cable**
(☐)+(■) : Cable Type + Cable Length   (☐)+(■) : Cable Type + Cable Length
EX. (BX10) = USB 3.0 Cable + 100mm   EX. (A01) = USB 2.0 Cable + 1M

(☐) : Cable Type	(■) : Cable Length	(☐) : Cable Type	(■) : Cable Length
(B) USB 3.0 Cable	USB3.0 :From 100mm to 300mm	(A) USB 2.0 Cable	USB2.0 :From 1M to 5M
	EX. (10) = 100mm	(B) USB 3.0 Cable	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
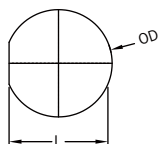
Type		Connector Gender (Housing)	L	OD
			Male	
USB 2.0	Type A	Screw Thread	19.4	20.8
		2 Points Lock Bayonet	23.6	25.6
	Type B	Screw Thread	19.4	20.8
		2 Points Lock Bayonet	23.6	25.6
USB 3.0	Type A	Screw Thread	19.4	20.8
		2 Points Lock Bayonet	23.6	25.6
Mini USB	-	Screw Thread	14.8	15.6

Dimensions are shown in millimeters

* 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)

Connector Dimension
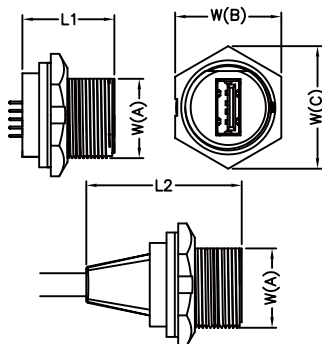
Receptacle with Cable

Type		Connector Gender (Housing)	W(A)	W(B)	W(C)	L1	L2
			Male				
USB 2.0	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	-
USB 3.0	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	-

Dimensions are shown in millimeters

* 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)

⬊ Overmolded with Cable

Type		Connector Gender (Housing)	L		OD	
			Female	Male	Female	Male
USB 2.0	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	-
USB 3.0	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

Dimensions are shown in millimeters

* 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)

↘ Overmolded with Cable

Type		Connector Gender (Housing)	L(A)		L(B)		OD	
			Female	Male	Female	Male	Female	Male
USB2.0	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)
2 Points Lock Bayonet I Large Size (1"20 UNEF)

Dimensions are shown in millimeters

↘ Field Installable
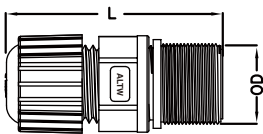
Type		Connector Gender (Housing)	L		OD	
			Female	Male	Female	Male
USB2.0	Type A	Screw Thread	-	56.0	-	20.6
		2 Points Lock Bayonet	-	-	-	-
	Type B	Screw Thread	-	56.0	-	20.6
		2 Points Lock Bayonet	-	-	-	-
Mini USB	-	Screw Thread	-	45.0	-	15.45

* USB: Screw I Middle Size (13/16"-28 UNS)
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

Product Features

↘ Receptacle
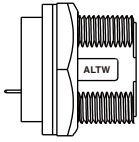
Mating Style 7

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)**

Backshell 8

Circular **(C)**
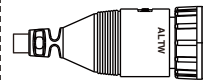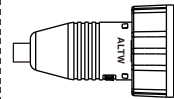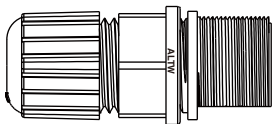
↘ Overmolded with Cable

Mating Style 7

Screw Thread **(S)**

2 Points Lock Bayonet (L)
(Nut OD: 28.5mm)
2 Points Lock Bayonet (N)
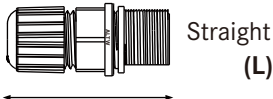(Nut OD: 25.4mm)

Connector Body (Style) 3
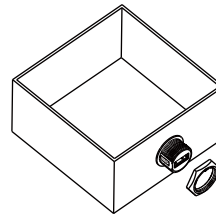
With Strain Relief **(A)**

Without Strain Relief **(B)**

Backshell 8

Straight (L)

Right Angle (R)

↘ Field Installable

Mating Style 7
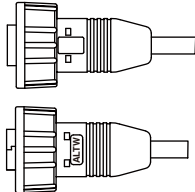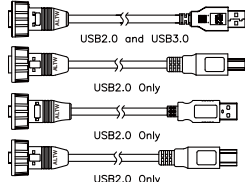
Screw Thread **(S)**
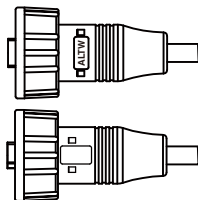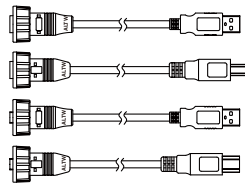
Connector Body (Style) 3

Without Strain Relief **(B)**

Backshell 8

Straight
(L)

Find Our Standard Products

↘ USB > In-line

	Overmolded with Cable ···→	Overmolded with Cable ········→	Overmolded with Cable (Double-Ended)
•Male Connector (Housing) •Female Contacts •Screw Thread •Middle Size (13/16"-28 UNS)			USB2.0 and USB3.0 USB2.0 Only USB2.0 Only USB2.0 Only Non-Waterproof
	** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m	** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m	** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m
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

	Field Installable ·······→	Overmolded with Cable ·······→	Overmolded with Cable (Double-Ended)
• Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS)			Non-Waterproof
		** USB 2.0: Choose the cable length from 01~05m	** USB 2.0: Choose the cable length from 01~05m
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 I Receptacle and Mating Pair
2 Points Lock Bayonet I Screw Thread
Middle Size

⬊ USB > In-line

• Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS)	Overmolded with Cable ····▷ (Double-Ended)	Overmolded with Cable (Double-Ended) ┈┈┈┈┈┈▷	Field Installable
	USB2.0 and USB3.0	USB2.0 and USB3.0	
	** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m	** USB 2.0: Choose the cable length from 01~05m ** USB 3.0: Choose the cable length from 01~03m	
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

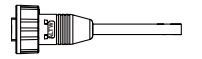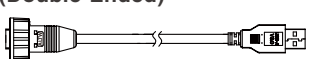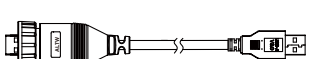| • Male Connector (Housing) • Female Contacts • Screw Thread • Middle Size (13/16"-28 UNS)	Receptacle ┈┈┈┈┈┈▷	Overmolded with Cable ┈┈┈┈┈▷	Overmolded with Cable (Double-Ended)
	Type 1 Type 2	** Choose the cable length from 01~05m	Non-Waterproof ** Choose the cable length from 01~05m
Speed (Code)	Male 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

• **Male Connector** (Housing) • **Female Contacts** • **2 Points Lock Bayonet** (Nut OD: 28.5mm) • **Large Size** (1"20 UNEF)	**Receptacle** ·······> Type 1 Type 2	**Overmolded with Cable** ·······> ** Choose the cable length from 01~05m	**Field Installable**
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-LC7001 UA-20PMFP-LC7002 Type1 UA-20PMFP-LC7003 Type2	UA-20AFMM-LL7A** UA-20AFMM-LR7A**	-
USB 2.0 Type B	UB-20PMFP-LC7001 UB-20PMFP-LC7002 UB-20PMFP-LC7003	UB-20AFMM-LL7A** UB-20AFMM-LR7A**	-
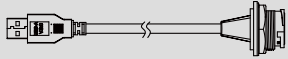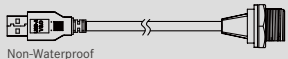
↘ USB > Receptacle and Mating Pair

• **Male Connector** (Housing) • **Female Contacts** • **2 Points Lock Bayonet** (Nut OD: 25.4mm) • **Large Size** (13/16-28 UN)	**Receptacle** ·······>	**Overmolded with Cable** ·······> ** Choose the cable length from 01~05m	**Field Installable**
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-20PMFJ-NC7001	UA-20BFMM-NL7A**	-

USB Connector I Find Our Standard Products

USB

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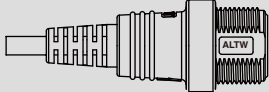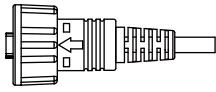Large Size

IP 67 . 68 ❾

Unmated or Mated

↘ USB > Receptacle with Overmolded Cable and Mating Pair

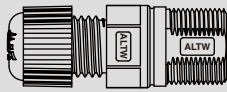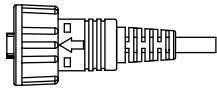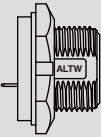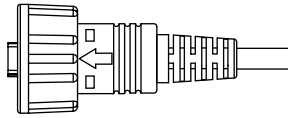| • Male Connector (Housing) • Female Contacts • Screw Thread • 2 Points Lock Bayonet (Nut OD: 28.5mm) • Large Size (1" 20 UNEF)	**Receptacle with Cable (Double-Ended)** ---->	**Overmolded with Cable** ---->	**Overmolded with Cable (Double-Ended)**
	Non-Waterproof ** USB 3.0: Choose the cable length from 100~300mm		** USB 3.0: Choose the cable length from 01~03m
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

•Male Connector (Housing) **•Female Contacts** **•Screw Thread** **•Standard Size** (5/8"-27 UNS)	**Overmolded with Cable** ┄┄→ ** Choose the cable length from 01~04m	**Overmolded with Cable** ┄┄┄→ ** Choose the cable length from 01~04m	**Field Installable**
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20AMFM-SL7A**	NUB-20AFMM-SL7A**	-

↘ Mini USB > In-line

•Male Connector (Housing) **•Female Contacts** **•Screw Thread** **•Standard Size** (5/8"-27 UNS)	**Field Installable** ┄┄→ ** Choose the cable length from 01~04m	**Overmolded with Cable** ┄┄┄→ ** Choose the cable length from 01~04m	**Field Installable**
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20AMFM-SL7A**	NUB-20AFMM-SL7A**	-

↘ Mini USB > Receptacle and Mating Pair

•Male Connector (Housing) **•Female Contacts** **•Screw Thread** **•Standard Size** (5/8"-27 UNS)	**Receptacle** ┄┄┄→	**Overmolded with Cable** ┄┄→ ** Choose the cable length from 01~04m	**Field Installable**
Speed (Code)	Male Connector (M) Female Contacts (F)	Female Connector (F) Male Contacts (M)	Female Connector (F) Male Contacts (M)
Mini USB 2.0 Type B	NUB-20PMFP-SC7001 NUB-20PMFR-SC7001	NUB-20AFMM-SL7A**	-