



# FIBER OPTIC

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Hybrid To The Antenna solution



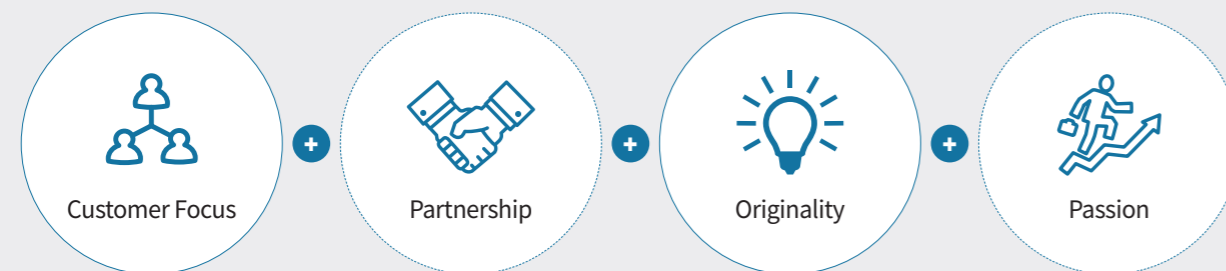
# Simple Connectivity Solution

## Company Information

Telcon seeks to develop the best technology by continuous investments in developing wireless communication parts which are essential for ICT business since the founding in 1999. Especially, we offer high-quality services in the fields of wireless communication device, wireless network installation, and communication system.

Moreover, our business area has expanded to automotive and medical equipment with the establishment of local subsidiaries in China and Vietnam, which help us enhance global competitiveness.

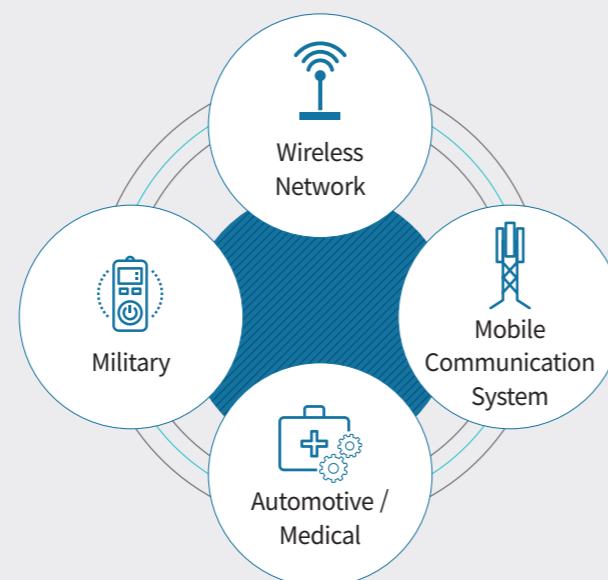
## Core Values



## Vision



## Business Area



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# Screw type Multi optical connectors

## 16HEX, 19HX, 26HEX Series

Telcon's Screw type multi optical Connector is designed to provide multiple optical ports within a single connector, and it provides the following advantages.



- Easy installation
- Cable-Saving design
- Very robust housing and coupling mechanism
- Stable optical performance

Parameter		Value	
Dimension(Front coupling part)		Φ17.6, 16HEX	
		Φ25.0, 19HEX	
		Φ27.8, 26HEX	
Cable diameter		Customizing	
Durability		100 matings	
Temperature range		-40 °C~ 80 °C	
Ingress protection		IP67	
Corrosion resistance(salt 5%)		720hrs	
Cable retention force		80 kgf	
UV resistance		Compliant	
RoHS		Compliant	
Material (Coating)		Brass, TIP (Patent)	
Optic	Composition	Φ17.6, 16HEX	4 fibers MAX
		Φ25.0, 19HEX	8 fibers MAX
		Φ27.8, 26HEX	12 fibers MAX
	Mating module		1.25mm UPC, Zirconia
	Insertion Loss		-0.4dB @ 1310nm/1550nm, typical
Return Loss		-45dB @ 1310nm/1550nm, typical	

# Push/Pull type Multi optical connectors

Telcon's Push/Pull type multi optical Connector is designed to provide multiple optical ports within a single connector, and it provides the following advantages.



- Very easy(Fast) installation
- Cable-Saving design
- Robust housing and coupling mechanism
- Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ18.1
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		20 kgf
UV resistance		Compliant
RoHS		Compliant
Material (Coating)		Brass, TIP (Patent)
Optic	Composition	4 fibers MAX
	Mating module	1.25mm UPC, Zirconia
	Insertion Loss	-0.4dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical

# Screw type Hybrid connectors

## 26HEX Series

Telcon's Screw type hybrid connector is designed to provide both fiber and power within a single connector, and it provides the following advantages



- Easy installation
- Cable-Saving design
- Very robust housing and coupling mechanism
- Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ27.8, 26HEX
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		80 kgf
UV resistance		Compliant
RoHS		Compliant
Material (Coating)		Brass, TIP (patent)
Optic	Composition	4 fibers MAX.
	Mating module	1.25mm UPC, Zirconia
	Insertion Loss	-0.4dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Composition	1pair(2C), dc
	Working current	30A
	Working voltage	2500V
	Cable conductor size	10SQ MAX

# Screw type Hybrid connectors

## 32HEX Series

Telcon's Screw type hybrid connector is designed to provide both fiber and power within a single connector, and it provides the following advantages.



- Easy installation
- Cable-Saving design
- Very robust housing and coupling mechanism
- Multi connection design, and Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ34.5, 32HEX
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		80 kgf
UV resistance		Compliant
RoHS compliant		Compliant
Material (Coating)		Brass, TIP (Patent)
Optic	Composition	4 fibers MAX.
	Mating module	1.25mm UPC, Zirconia
	Insertion Loss	-0.4dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Composition	1pair(2C), dc
	Working current	40A
	Working voltage	300V
	Cable conductor size	10SQ MAX

# Screw type Hybrid connectors

## 39HEX Series

Telcon's Screw type hybrid connector is designed to provide both a lots of fiber and power within a single connector. And it provides the following advantages.



- Easy installation
- Cable-Saving design
- Very robust housing and coupling mechanism
- Multi connection design, and Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ41.6, 39HEX
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		150 kgf
UV resistance		Compliant
RoHS compliant		Compliant
Material (Coating)		Brass, TIP (Patent)
Optic	Composition	12 fibers typical
	Mating module	MTP or MPO, APC
	Insertion Loss	-0.7dB @ 1310nm/1550nm, typical
	Return Loss	-50dB @ 1310nm/1550nm, typical
Power	Composition	4pair(8C), dc
	Working current	30A
	Working voltage	250V
	Cable conductor size	10SQ MAX

# Push/pull type Hybrid connectors

## 24mm Series

Telcon's Push/pull type hybrid connector is designed to provide both fiber and power within a single connector. And it provides the following advantages.



- Very easy(Fast) installation
- Cable-Saving design
- Robust housing and coupling mechanism
- Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ23.7
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		50 kgf
UV resistance		Compliant
RoHS compliant		Compliant
Material (Coating)		Brass, TIP (Patent)
Optic	Composition	4 fibers MAX.
	Mating module	1.25mm UPC, Zirconia
	Insertion Loss	-0.4dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Composition	1pair(2C), dc
	Working current	15A
	Working voltage	200V
	Cable conductor size	6SQ MAX

# Push/pull type Hybrid connectors

## 26mm Series

Telcon's Push/pull type hybrid connector is designed to provide both fiber and power within a single connector. And it provides the following advantages.

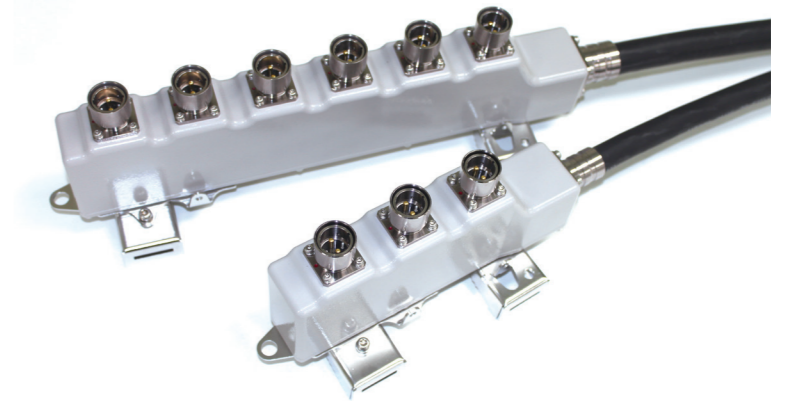
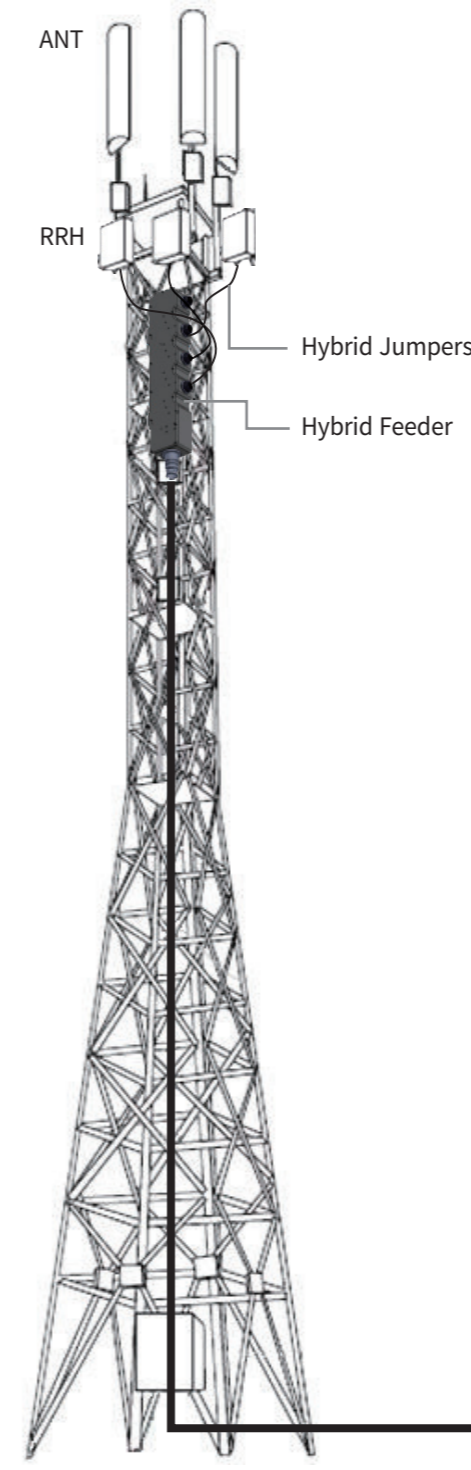


- Very easy(Fast) installation
- Cable-Saving design
- Robust housing and coupling mechanism
- Stable optical performance

Parameter		Value
Dimension(Front coupling part)		Φ25.7
Cable diameter		Customizing
Durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
Cable retention force		50 kgf
UV resistance		Compliant
RoHS compliant		Compliant
Material (Coating)		Brass, TIP (Patent)
Optic	Composition	4 fibers MAX.
	Mating module	1.25mm UPC, Zirconia
	Insertion Loss	-0.4dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Composition	1pair(2C), dc
	Working current	30A
	Working voltage	250V
	Cable conductor size	8SQ MAX

# Hybrid Feeder & Jumper assembly

## Push/Pull Series (distribute parts)



- Easy, and safety installation
- Robust housing and coupling mechanism
- Compact Design
- Fiber and power output within single connector

Hybrid connector is path-breaking technology for Telcon HTTA solution, and designed to integrate both fiber and power contact within single connector.

In the early days, Fiber to the Antenna designs fiber and power cables were installed separately, but also no flexibility for future expansion. Every time equipment is added to the tower with new power and fiber lines are need to be installed. This method becomes far more expensive, because the cost returns to the site.

On the other hands, Hybrid feeder & jumpers has a massive advantage over most of its previous solution. This solution provides much flexibility for future expansion, and lower capital labor costs.

# Hybrid Feeder & Jumper assembly

# Hybrid Distribution Box

## Push/Pull Series (distribute parts)

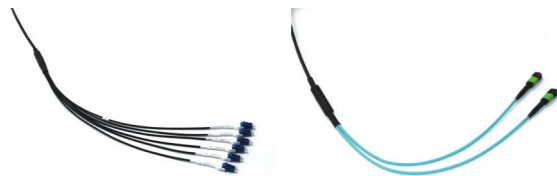
Parameter		Value
Dimension	3way distribute	100(W) x 125(H) x 270(L)
	6way distribute	100(W) x 125(H) x 420(L)
Main cable	3way	3/3 Hybrid cable (6SQ/6C, 6fibers)
	6way	6/6 Hybrid cable (6SQ/12C, 12fibers)
Connectivity of Distribute parts ( x 3 or 6)		2C/4fibers Hybrid connector(Push/Pull type) -Power, 1pairs(2C),dc -Optic, 4fibers MAX. 1.25mm UPC, Zirconia
Mounting Pole diameter		< 600mm
Mating durability		100 matings
Pulling force		1500N(short-term during installation)
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
UV resistance		ok
RoHS compliant		ok
Material (Outside)	Box	AL6061 or ALDC12.1 / Powder Coating
	Connectors	Brass, Special plating
	Brackets & Screws	STS304
Data		
Optic	Insertion Loss	-1.4dB @1310nm/1550nm, typical(with Jumper)
	Return Loss	-45dB @1310nm/1550nm, typical
Power	Working current	23A
	Conductor resistance	3.08Ω/Km @20°C (nominal)



Hybrid connector is path-breaking technology for Hybrid junction box, and designed to integrate both fiber and power contact within single connector. Hybrid distribution box is plug and play solution with factory pre-terminated ports, and designed to support latest composite feeder cable solution. We used hybrid screw type and push-pull type connector as an input and output ports for fast and easy installation. It allows also simple short connection between hybrid jumpers and RRU side.

-LC or MPO connector BBU side

-Jumper for RU side



# Hybrid Distribution Box

## Screw Series (distribute parts)



- Easy, and safety installation
- Robust housing and coupling mechanism
- Compact Design
- Fiber and power output within single connector

Parameter		Value
Dimension	2way distribute	100(W) x 108(H) x 161(L)
	4way distribute	100(W) x 108(H) x 285(L)
Connectivity	Main part	8C/12fibers Hybrid connector(Screw type) -Power, 4pairs(8C),dc -Optic, 12fibers MTP or MPO, APC
	Distribute parts( x 2 or 4)	2C/4fibers Hybrid connector(Screw type) -Power, 1pairs(2C),dc -Optic, 4fibers MAX. 1.25mm UPC, Zirconia
Mounting Pole diameter		< 600mm
Mating durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
UV resistance		Compliant
RoHS compliant		Compliant
Material (Outside)	Box	AL6061 or ALDC12.1 / Powder Coating
	Connectors	Brass, Special plating
	Brackets & Screws	STS304
Data		
Optic	Insertion Loss	-1.1dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Working current	30A
	Working voltage	250V

# Hybrid Distribution Box

## Push/Pull Series (distribute parts)



- Easy, and safety installation
- Robust housing and coupling mechanism
- Compact Design
- Fiber and power output within single connector

Parameter		Value
Dimension	2way distribute	100(W)x 108(H) X 161(L)
	4way distribute	100(W)x 108(H) X 237(L)
Connectivity	Main part	8C/12fibers Hybrid connector(Push/Pull type) -Power, 4pairs(8C),dc -Optic, 12fibers MTP or MPO, APC
	Distribute parts( x 2 or 4)	2C/4fibers Hybrid connector(Push/Pull type) -Power, 1pairs(2C),dc -Optic, 4fibers MAX. 1.25mm UPC, Zirconia
Mounting Pole diameter		< 600mm
Mating durability		100 matings
Temperature range		-40 °C~ 80 °C
Ingress protection		IP67
Corrosion resistance(salt 5%)		720hrs
UV resistance		ok
RoHS compliant		ok
Material (Outside)	Box	AL6061 or ALDC12.1 / Powder Coating
	Connectors	Brass, Special plating
	Brackets & Screws	STS304
Data		
Optic	Insertion Loss	-1.1dB @ 1310nm/1550nm, typical
	Return Loss	-45dB @ 1310nm/1550nm, typical
Power	Working current	30A
	Working voltage	250V





## Company Products



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