FC UPC Fiber Optic Connectors

This connector was first developed by Japan NTT. FC is the abbreviation of Ferrule Connector, indicating that the external reinforcement method is to use a metal sleeve, and the fastening method is a screw buckle. The earliest, FC type connector, the mating end face of the ceramic pin used is a planar contact method (FC). This type of connector is simple in structure, easy to operate, and easy to manufacture, but the fiber end is more sensitive to dust, and Fresnel reflection is easy to produce, and it is more difficult to improve the return loss performance. Later, this type of connector was improved, using a spherical pin (PC) with a mating end face, and the external structure was not changed, which made the insertion loss and return loss performance greatly improved.

Product Specifications:

Insertion Loss	<=0.20dB(APC), <=0.30dB(PC)
Return Loss	>=60dB(APC), >=50dB(PC)
Durability	<=0.20dB typical change, 1000 matings
Operating Temperature	-40℃ to +85℃

Ferrule Hole Sizes	125.0+1/-0μm, Concentricity: <=0.5μm
125.5+1/-0μm, Concentricity: <=0.5μm	
126.0+1/-0μm, Concentricity: <=0.5μm	

Applications:
CATV
Metro
Test equipment
Premise installations
Data processing networks
Telecommunication networks
Local Area Networks (LANs)
Wide Area Networks (WANS)
Active device termination

Features:
Low insertion loss and high return loss
Nickel plated brass body
Telcordia style boots
High precision alignment
Free-floating ceramic ferrule
Precision anti-rotation key and corrosion resistant body

Common fiber optic connectors in the laboratory are FC / PC and FC / APC. FC here refers to ferrule contactor, which is a metal sleeve made of steel (one difference between optical fiber connectors and cable connectors is the metal texture, cable connectors are mostly made of copper, for good conductivity; and optical fiber connectors There is no electricity, and copper is soft, expensive, and rusty). For connectors that are all metal, these two abbreviations are often ignored. For example, FC / PC can be conventionally called PC, while APC refers to FC / APC. PC refers to close contact (physical contact), which is also close contact. According to the difference of return loss, the connector is divided into PC, SPC, UPC and APC. SPC refers to super physical contact, UPC refers to ultra physical contact. The return loss specified by the PC, SPC and UPC industry standards are -35dB, -40dB and -50dB (return loss refers to how much of the light is reflected by the end face of the connector, the smaller the return loss, the better, of course You can also say that the greater the value of the return loss, the better, regardless of the minus sign in front). Different connectors cannot be mixed in principle, but the fiber end faces of PC, SPC and UPC are all flat, and the difference is in the quality of the grinding. Therefore, the mixed connection of PC, SPC and UPC will not form a permanent connector. Physical damage. APC is completely different. Its end face is ground to an 8-degree angle, which is to reduce reflection. Its industry-standard return loss is -60dB. The APC connector can only be connected to APC. Because the structure of APC is completely different from that of PC, if these two connectors are connected with a flange, the fiber end face of the connector will be damaged. The method to connect APC to PC is realized by the fiber jumper converted from PC to APC. In addition, it should be noted that APC connectors are usually green (yellow fibers are only single-mode fibers), and the human eye can see the tilt of the fiber end surface. Therefore, in order to avoid confusion in the use of connectors during the experiment (to avoid destroying input ports such as spectrometers), when purchasing lasers, jumpers, etc., the manufacturer should be uniformly required to provide APC connectors. FC / PC FC / UPC FC / APC can be mixed connection, the signal attenuation will not be very large, according to the national standard insertion loss should be less than 0.5dB. The application mainly depends on the type of adapter. Generally, there are many FCs for communication ODF racks, many SCs for equipment optical ports, and many STs in LANs and broadcasting.

Certifications:

CE

CPR

ISO

RoHS

Factory Workshop: