

# LC 光纤现场物理连接器技术规格书

Technical specification for LC optical fiber field physical connector

物料名称: LC-UPC/APC 光纤现场物理连接器

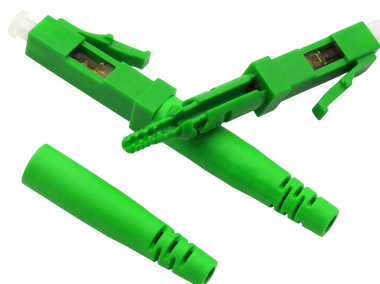
Material name: LC-UPC / APC optical fiber field physical connector

规格型号: LC-LT-900R

Specification and model: LC-LT-900R



LC/UPC



LC/APC

产品概述: LC 光纤现场物理连接器是一种物理性连接的现场快速接头,用特种光学硅脂填充物替代易流失的匹配膏,用于小型设备的现场快速物理连接(非匹配膏连接),自带光纤标准工具组成系统方案,简便精准完成光纤标准成端,实现光纤物理稳定连接,步骤简单、低技术要求“傻瓜”化组装,成功率近乎 100%,使用寿命大于 20 年。

Product overview: LC optical fiber field physical connector is a kind of field quick connector for physical connection. It uses special optical silicone grease filling to replace the easily lost matching paste. It is used for field quick physical connection (non matching paste connection) of small equipment. It is equipped with a system scheme of optical fiber standard tools. It is simple and accurate to complete the standard end of optical fiber and realize the physical stable connection of optical fiber. The steps are simple and low technical requirements of "fool" assembly, the success rate is nearly 100%, and the service life is more than 20 years.

技术参数 Technical parameter:

特性 Characteristic

器件长度 Device length	46.6mm, 适合嵌入式小型设备连接 46.6mm Suitable for embedded small device connection
工作波长 Working wavelength	单模 SM: 1310nm/1550nm
适用光缆 Applicable optical cable	2.0mm、3.0mm、900 μ m
插入损耗 Insertion loss	单头≤0.4dB, 双头≤0.7dB Single head ≤ 0.4db, double head ≤ 0.7dB
回波损耗 Return loss	≥50dB (UPC) ≥55dB (APC)
端面性能 End face performance	符合 YD T 2341.1-2011

机械耐久性 Mechanical durability	1000 次
光缆拉力 Cable tension	2.0mm、3.0mm $\geq$ 30N, 900 $\mu$ m $\geq$ 10N
光缆扭力 Torsion of optical cable	2.0mm、3.0mm $\geq$ 15N
跌落性能 Drop performance	允许 H=1.5m, 10 次跌落, 性能无异常 Allow H = 1.5m, 10 drops, no abnormal performance
一次组装成功率 One time assembly success rate	$\geq$ 98%
可重复组装性 Repeatable assembly	10 次
器件工作温度 Device operating temperature	-40 $^{\circ}$ C $\sim$ +80 $^{\circ}$ C
工作湿热环境 Hot and humid working environment	相对湿度 90% 70 $^{\circ}$ C 长期 Relative humidity 90% 70 $^{\circ}$ C long term
自带光纤标准工具替代第三方切割刀 Standard optical fiber tool replace third-party cutter	确保连接器物理性永久稳定对接 Ensure that the connector is physically and permanently docked
光纤标准工具跌落性能 Drop performance of optical fiber standard tools	1.5m 硬地面跌落 5 次成端性能不变 The end forming performance of 1.5m hard ground dropped 5 times remains unchanged

#### 关键辅料 Key accessories

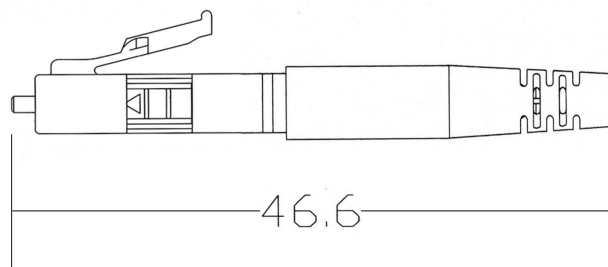
光纤填充物 Fiber filler	特种光学硅脂（非普通易流失的常规匹配膏） Special optical silicone grease (non ordinary and easy to lose conventional matching paste)
物质填充量 Material filling quantity	0.5X1.5X3mm=2.25mm <sup>3</sup> （光纤端面万倍用量填充） 0.5X1.5X3mm=2.25mm <sup>3</sup> (filled with 10000 times of fiber end face)
-40 $^{\circ}$ C 至 80 $^{\circ}$ C 温循 300h 挥发性实验 Volatilization test at -40 $^{\circ}$ C to 80 $^{\circ}$ C for 300h	挥发重量 < 5%（模拟自然界可工作 40 年） Volatilization weight < 5% (simulation nature can work for 40 years)

#### 材料、工艺、成型 Material, process and forming

成型材料 Molding material	PEI、PC、PESU
阻燃等级 Flame retardant grade	UL94 V-0

#### 产品符合 RoHS (RoHS compliant products)

#### ■外形展示图 Outline drawing



## 1 器件和工具 Devices and tools

现场快速 LC 光纤连接器主要由主体和尾护套组成（图 1），现场操作所需工具如图 2 所示 200: 1 配送（除皮缆开剥钳）。其中涂层开剥次数 $\geq 1000$ 次，光纤成端次数 $\geq 3000$ 次。

The on-site fast LC optical fiber connector is mainly composed of the main body and the tail sheath (Figure 1). The tools required for on-site operation are distributed as shown in Figure 2 (200:1) (stripper for stripped cable). The number of coating peeling  $\geq 1000$  times, and the number of fiber termination  $\geq 3000$  times.



图 1 (Fig.1)

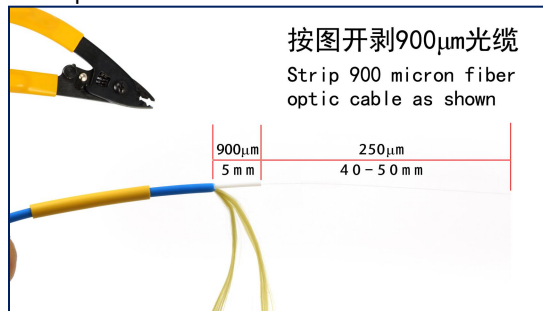


图 2 (Fig.2)

## 2 组装说明 Assembly instructions

### 2.1 光纤成端制作 Fiber termination

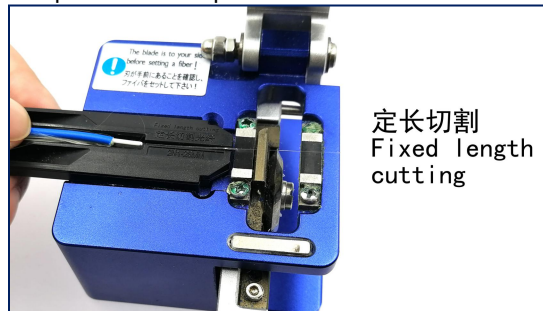
1、按下图开剥 2mm 光缆和 900  $\mu\text{m}$  光缆，保留 900  $\mu\text{m}$  光缆包层约 5mm。(Peel the 2mm fiber optic cable and 900 $\mu\text{m}$  fiber optic cable as shown in the figure below, and retain the coating of 900 $\mu\text{m}$  fiber optic cable about 5mm.)



2、使用定长标尺和米勒钳剥除 250  $\mu\text{m}$  光纤涂层。(Remove 250 $\mu\text{m}$  optical fiber coating with a fixed length ruler and Miller's pliers.)



3、用无尘纸清洁光纤，将光缆放入光纤切割刀，完成光纤标准成端制作。(Clean the optical fiber with dust-free paper, put the optical cable into the optical fiber cutter, and complete the standard end production of optical fiber.)



注意：必需使用切割刀切割光纤，要求如图所示：  
(Note: it is necessary to use a cutter to cut the optical fiber, as shown in the figure:)



切割后裸纤不要超过 8mm，可降低断纤故障率  
After cutting, the bare fiber shall not exceed 8mm, It can reduce the failure rate of fiber breakage

## 2.2 组装 Assemble

1、插入光纤，至定位点，保持光纤微弯。

(Insert the optical fiber to the positioning point and keep the optical fiber slightly bent.)



2、推入尾套至卡点锁紧皮缆，上移开关对接光纤，组装完成。

(Push in the tail sleeve to the clamp point to lock the sheath cable, move up the switch to connect the optical fiber, and complete the assembly.)



## 2.3 重复组装 Repetitive assembly

步骤：打开开关，按住尾套卡点，拔出尾套，抽出光缆。

(Step: turn on the switch, press and hold the tail sleeve clamp point, pull out the tail sleeve and pull out the optical cable)

