Pre-Connectorized Fibre Unit

PRODUCT DESCRIPTION:

Lite Access fibre unit terminated with optical connectors and wound onto reels allowing shipping and dispensing from an un-powered spindle

APPLICATION

Fibre Optic Systems, FTTH, FTTX. Designed for dispensing Lite Access Fibre Unit when fitted to a free turning, un-powered spindle

AVAILABLE PRODUCTS

Standard finished products with associated codes are given in Table 1, including the relevant fibre and fibre unit specification. For alternative lengths, fibre, and connector types, please consult Lite Access for further details

TABLE 1

Fibre Type			Singlemode G652d					
Fibre Unit Specification			MHT1201					
Length (m)	2 Fibre with 1 Connector				2 Fibre with2 Connectors			
	SC/UPC	SC/APC	LC/UPC	LC/APC	SC/UPC	SC/APC	LC/UPC	LC/APC
30	9430	9437	9444	9451	9360	9367	9374	9381
50	9431	9438	9445	9452	9361	9368	9375	9382
70	9432	9439	9446	9453	9362	9369	9376	9383
100	9433	9440	9447	9454	9363	9370	9377	9384
150	9434	9441	9448	9455	9364	9371	9378	9385
200	9435	9442	9449	9456	9365	9372	9379	9386
250	9436	9443	9450	9457	9366	9373	9380	9387
Length (m)	4 Fibre with 4 Connectors							
	SC/UPC	SC/APC	LC/UPC	LC/APC				
30	9388	9395	9402	9409				
50	9389	9396	9403	9410				
70	9390	9397	9404	9411				
100	9391	9398	9405	9412				
150	9392	9399	9406	9413				
200	9393	9400	9407	9414				
250	9394	9401	9408	9415				

GENERAL INSTALLATION INSTRUCTIONS

Installation instructions will be specific to the type of termination point used. The user should consider the following:

- Equipment for paying off
- The sequence of fitting reel, blowing head and prior placement of any connectors
- Storage of fibre unit and fan-out inside closures

CONNECTOR– FAN-OUT ASSEMBLY

A diagram of the connector fan-out assembly is shown in Figure 1.
The 250 micron fibres from the fibre unit are individually broken out and fed through standard 900 micron PTFE buffer tubes. The fibres are terminated with connectors at the end of the buffer tube.

- The connector fan-out assembly contains no fibre joints
- PTFE 900µm Buffer Tube (transparent) for installation of 250µm optical fibre
- Fanned out length (L) = 0.5m
- The fan-out has dimensions not exceeding 70mm (length) and 3mm (diameter)
- The terminated connectors and fan-out meet the specification given in Table 2

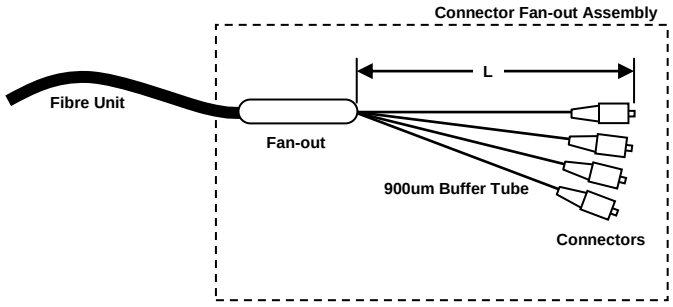


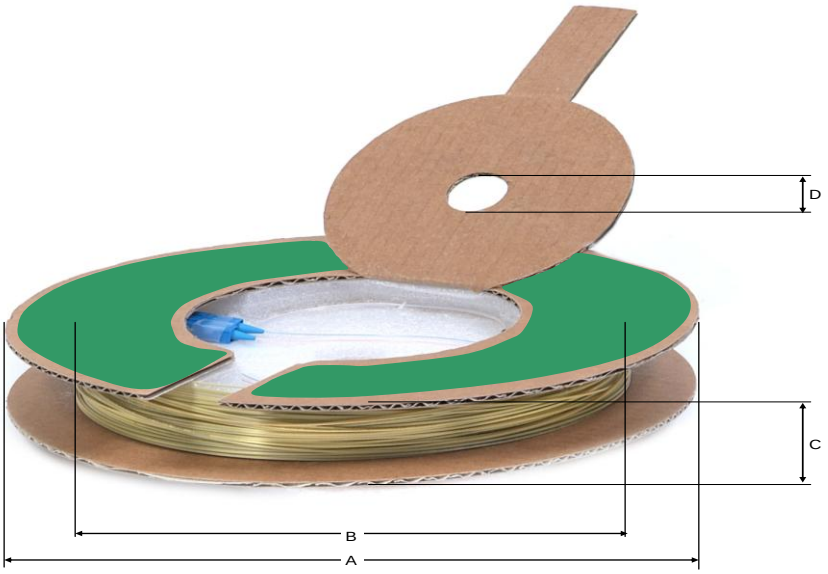
Figure 1

Table 2

Parameter	Requirement				Applies to	
	SC/UPC	SC/APC 8º	LC/PC	LC/APC 8º	Connector	Fan-out
Specification	IEC 60874	IEC 60874	IEC 61754	IEC 61754	●	
Test Methods	IEC 61300	IEC 61300	IEC 61300	IEC 61300	●	
Connector Body Colour	Blue	Green	Blue	Green	●	
Connector Boot Colour	Blue	Green	Blue	Green	●	
Insertion Loss, typical (dB)	0,20	0.30	0.20	0.20	●	
Insertion Loss, maximum (dB)	0,30	0.40	0.30	0.30	●	
Return Loss, typical (dB)	52	62	52	62	●	
Return Loss, minimum (dB)	50	60	50	60	●	
Temperature, in operation (°C)	-40 ~ +75				●	●
Temperature, storage (°C)	-55 ~ +85				●	●

REEL

The foam barrel incorporates a recess designed for fibre unit routing and storage of the fan out assembly. A foam retainer placed under the reel's lid is used to protect the fan-out assembly. See Figure 2 for the reel's design and dimensions.



Part	Description	Dimension (nominal)
A	Flange diameter	265mm
B	Barrel diameter	201mm
C	Barrel width (outside / inside)	45mm / 38mm
D	Central hole diameter	25.5mm

PACKAGING AND LABELLING

Connectors are individually identifiable and are capped (sealed) against dust and damage to the ferrule. The connectors and fan-out are contained in the reel's cavity and secured with tape. The fibre unit is then fed through the gap in the flange and wound onto the reel.

The reels should be stored and shipped with their axis horizontal i.e. with each reel standing on the flange rims

The completed reel with pre-connectorized fibre unit is shipped in a protective box (8 reels per box) while maintaining correct orientation. The reels are labeled with product description, product code and test results.

Pre-Connected drop Microduct

PRODUCT DETAILS

Overall

Outer diameter	8.0mm nominal
Inner diameter	4.0mm nominal
Mass	36 g/m nominal
Minimum bend radius	110 mm in preferential direction
Supply	Supplied in coil form of various length

Pre-installed fibre

Number and size	x1, 2F G657A1, pre-connected at one end with SC/APC connectors and LC/APC at the other end
Fibre specification	2F G657A1

Supply Length	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 30 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 35 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 40 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 45 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 50 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 55 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 60 Metres Long	
2 Fibre Blown Cable G657A1 - SC/APC to LC/APC - 65 Metres Long	

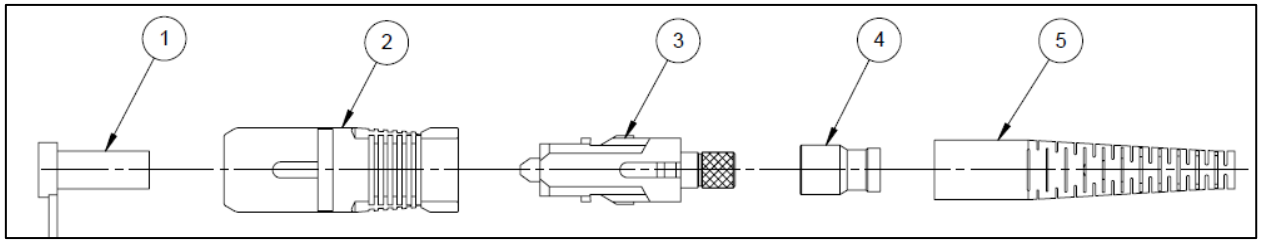
Note 1: Diameters and thicknesses are measured to nearest 0.1mm.
Note 2: 'nominal' data is based on middle-spec, and is for information only, not for inspection purposes.

SC Connector Technical Data

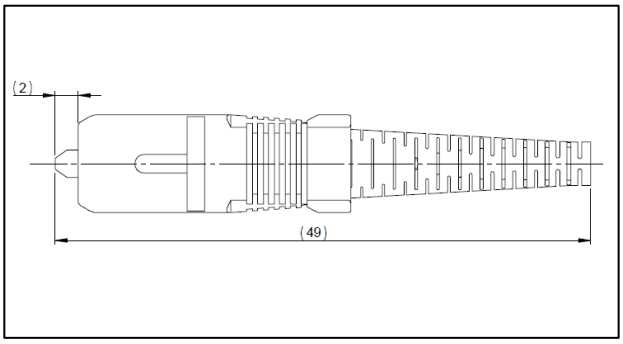
Optical Characteristics

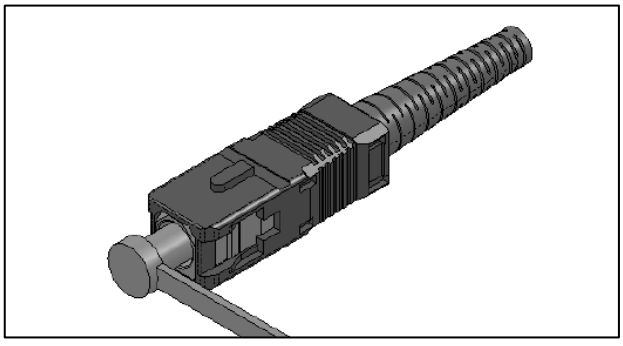
The SC Connectors exhibit the following characteristics and shall be on the inside of the reel.

	Single Mode
Insertion Loss	0.08dB Typical (PC)
	0.10dB Typical (APC)
Return Loss	≥ 55dB typical (PC)
	≤ 68dB typical (APC)
Durability	< 0.1dB typical change, 500 matings
Operating Temperature	-40°C to +75°C
Ferrule Hole Size	126µm +1/-0 Concentricity: ≤ 1µm
	125µm +1/-0 Concentricity: ≤ 1µm
	125.5µm +1/-0 Concentricity: ≤ 1µm

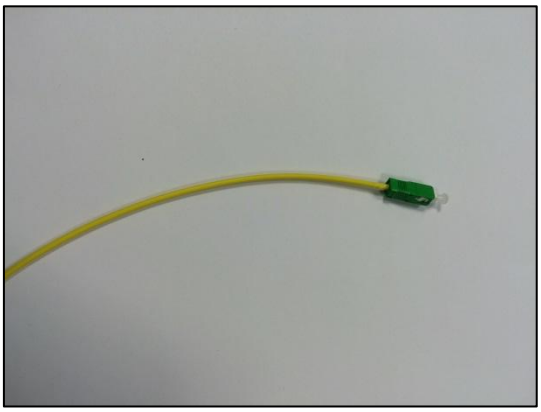


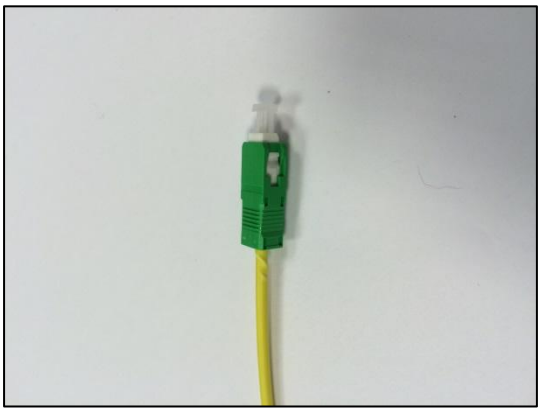
ITEM NO.	DESCRIPTION	QTY.
1	Dust cap	1
2	SC premium outer housing, green	1
3	SC APC conical premium connector body, PBT, Zr and nickel plated brass	1
4	3mm crimp ring, nickel plated brass	1
5	Standard 3mm boot, green, TPR	1





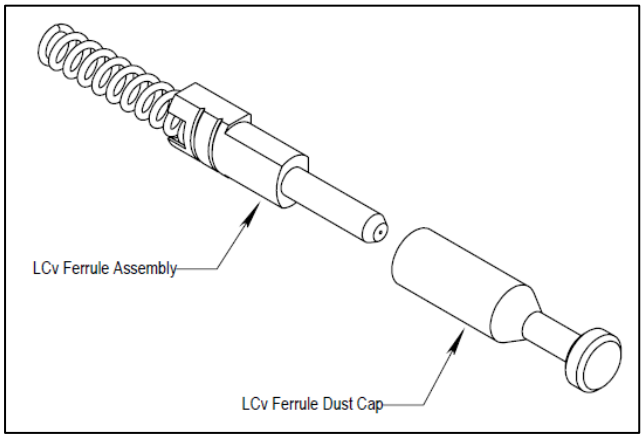
The SC connector will have 900mm of protective sheath, as shown below.





LC Ferrule Technical data

Parameter	Performance	Specification
Grade	Segment 2	
Connector End A	LC APC	IEC Interface Standard – Green
Ferrule End A	Zirconia Ferrule	LC Singlemode 1.25mm OD
Connector Boot End A	N/A	N/A
Optical Performance		
Insertion Loss (Max)	≤0.25dB	IEC 61300-3-4 (1310nm & 1550nm) Meth. B
Insertion Loss (Mean)	<0.12dB	IEC 61300-3-4 (1310nm & 1550nm) Meth. B
Repeatability/Durability	±0.2dB/500 Matings	IEC 61300-3-6
Return Loss (Back Reflection)	APC>60dB	IEC 61300-3-6
End Face Symmetry	Radius, Apex Offset, Fibre Height	IEC 61755-2-1
Visual	Standard	X200 Magnification
Materials		
Connector	Stainless Steel	SUS316
Optical Fibre	SMF28e Grade G652d	Corning SMF28e, or OFS & Fujikura equivalent
Dust Cap	Plastic Cap	Black
Mechanical		
Fibre Retention	>5N	Secondary Coated fibre 600um Epoxy: Epotec 353ND or Resin Tech RT153



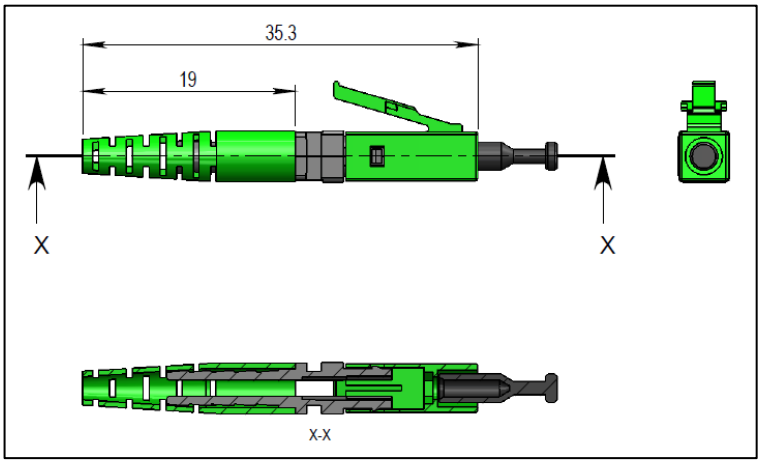
The assembly of the ferrule shall be to the following requirements.

Assembly and Test Characteristics	
Strain Relief (Fibre)	5N – fibre (only)
Strain Relief (Fibre and Protective Sheath)	Varies – to be determined and compared at test
Operating Temperature	-40°C to +75°C, conditioned by type of cable
Durability	500 matings/connections/cycles minimum
Ferrule Assembly Procedure	Glue and polish
Connection	Physical contact
Lock Mechanism	Latch
Ferrule Material	Full ceramic zirconia
Connector Material	UL 94-VO
Adapter Material	UL 94-VO

For a full specification refer to BS EN 61754-20 – LC Connector Family.

LC Field Terminated Connector Technical data

LC Venturi Simplex Connector	Specification
Standards	TIA/EIA 604-10A & IEC 61754-20
Mechanical Latching	Latching [Pull Proof]
Applications	Telcon, OEM, FTTH
Ferrule	Zirconia 1.25mm
Ferrule Carriage	Stainless Steel
Ferrule Size	Singlemode ID 125.5um
LC Connector Body	PBT UL94 V0 Materials
Spring	Stainless Steel
Fibre Sizes	125um Cladding
Fibre Coatings	250um, 0.6mm, 0.9mm, 1.1mm
Connector Length	36mm
Typical Insertion Loss	<0.2dB
Typical Return Loss	UPC >50dB, APC >60dB
Repeatability	<0.2dB
Operating Temperature	-20°C to +70°C
Durability [Matings]	>500 [0.2db change]
Fibre/Cable Retention	10N [Dependant on Fibre Type]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19
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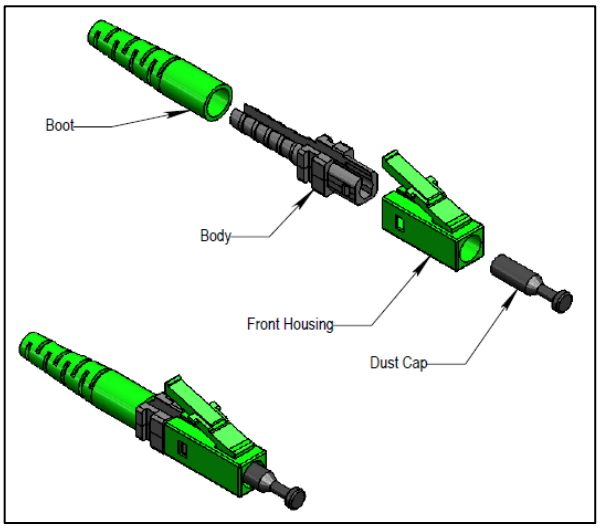
Boot
Body
Front Housing
Dust Cap