

# DATASHEET

## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

Ideal for Data Center High Density Cabling System



12F Straight length fanout 2.0mm  
12x SC APC simplex



OMC INDUSTRY CO.LIMITED

2018|En version1.0



## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### Description

The 3-144F micro-fiber cable pigtail is a pre-terminated with a OD of 3.0mm Unit micro-fiber cable. The fanout cable OD is available with 0.9mm/2.0mm. A fanout kits will be installed at the junction of main cable and fanout cable. This new design cable is with small OD but comes with 24F, Save your Optical Cabling space, Lower down cabling difficult, save time and cost. It's A good solution for HD Data center cabling assemblies.

### Products details.



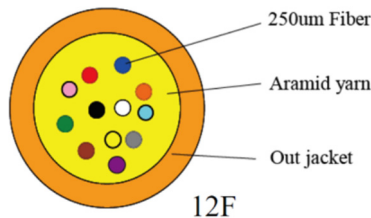
High quality SM Ceramic ferrule, Good concentricity<0.3um  
High quality MM Ceramic ferrule, Good concentricity<4.0um



Standard connectors LC, SC, ST, FC, E2000, MU, D4, Din, LX.5, SMA are available  
High precious connector guarantee Good Repeatability and Interchangeability  
OEM Housing kits Color, OEM boot Colors  
Customized Design for special demand

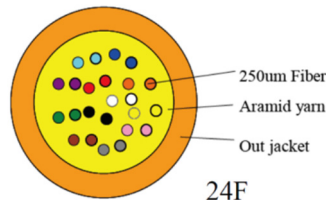
- SC: TIA/EIA, FOCIS3, GR-326.NTT-SC IEC61754-4 and JIS C5973.
- LC: TIA/EIA, FOCIS10, GR-326 EIA/TIA-604-10, IEC61754-20 and JIS C5973.
- FC: EIA /TIA-604-04, FOCIS4, NTT-FC, GR-326. IEC61754-13 and JIS C5973
- ST: TIA/EIA, FOCIS2, GR-326. IEC61754-2 and JIS C5973 Etc.
- MU: TIA/EIA-604-3A, GR-326.NTT-MU, JIS and IEC.
- MTRJ: TIA/EIA, FOCIS12, GR-326. IEC and JIS C5973.
- DIN: IEC61754-3

### Cable Parameters-12F Microfiber cable



Fiber Count	OD(mm)	Minimum allowable Tensile Strength (N)	minimum allowable Crush Load(N/100mm)	Minimum Bending Radius(MM)
2-12	3.0±0.15	Short-term: 180; Long-term: 90	Short-term: 500; Long-term: 150	Static: 10D Dynamic: 20D

### Cable Parameters-24F Microfiber cable



Fiber Count	OD(mm)	Minimum allowable Tensile Strength (N)	minimum allowable Crush Load(N/100mm)	Minimum Bending Radius(MM)
2-24	3.0±0.15	Short-term: 180; Long-term: 90	Short-term: 500; Long-term: 150	Static: 10D Dynamic: 20D



# 3-144F Pre-terminated Micro-Fiber fanout Pigtail

## Products details-Fanout Cable length



Straight length fanout 2.0mm  
12x LC APC simplex

### Type 1 :Straight fanout length

Fanout length: 0.5m or Customization  
Max 1.5m

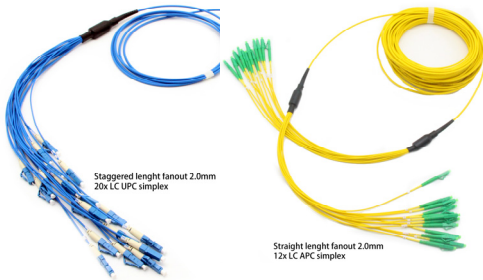


Staggered length fanout 2.0mm  
20x LC UPC simplex

### Type 2 :Staggered fanout length

Fanout length: 0.1m - 1.5m

## Products details-Fanout Cable OD



Staggered length fanout 2.0mm  
20x LC UPC simplex

Straight length fanout 2.0mm  
12x LC APC simplex

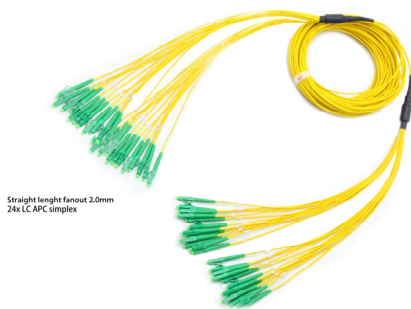
### Type 1 : Fanout 2.0mm OD leg.



Straight length fanout 0.9mm  
20x LC APC simplex

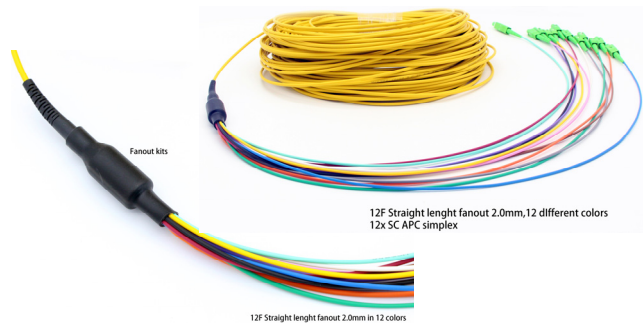
### Type 2 : Fanout 0.9mm OD leg.

## Products details-Fanout Cable Color



Straight length fanout 2.0mm  
24x LC APC simplex

### Type 1 : Fanout Same color as main cable



12F Straight length fanout 2.0mm,12 different colors  
12x SC APC simplex

12F Straight length fanout 2.0mm in 12 colors

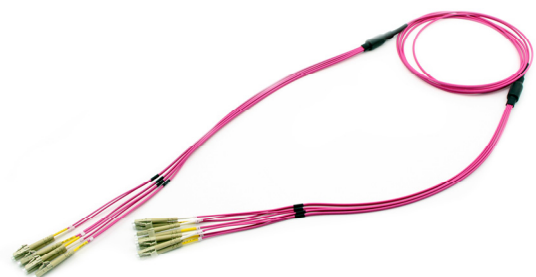
### Type 2 : Fanout Different color cable

## Products details-Fanout LC&SC connector



Straight length fanout 2.0mm  
12x LC APC simplex

### Type 1 : Fanout Simplex SC&LC



Straight length fanout 2.0mm  
4x LC PC Duplex

### Type 2 : Fanout Duplex SC&LC



## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### Optical Specifications-Standard quality

Insertion loss	$\leq 0.3\text{dB}$ Mean (Standard)	Interchangeability	$\leq 0.2\text{dB}$
Return loss	SM UPC $\geq 50\text{dB}$ SM APC $\geq 60\text{dB}$ MM PC $\geq 35\text{dB}$	Vibration	$\leq 0.2\text{dB}$
Polarity	A(Tx) to B(Rx)	Maximum pulling force	100N

### Optical Specifications-IEC Grade B quality

Insertion loss	$\leq 0.12\text{dB}$ mean, $\leq 0.25\text{dB}$ max. for >97% of sample	Interchangeability	$\leq 0.2\text{dB}$
Return loss	SM UPC $\geq 50\text{dB}$ SM APC $\geq 60\text{dB}$ MM PC $\geq 35\text{dB}$	Vibration	$\leq 0.2\text{dB}$
Polarity	A(Tx) to B(Rx) 12F	Maximum pulling force	100N

### Geometric Specification( only available after customer requested)

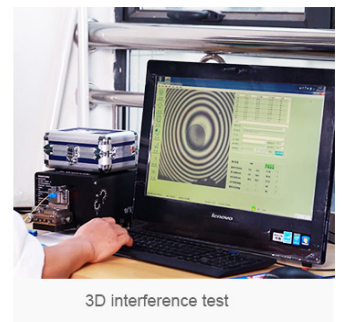
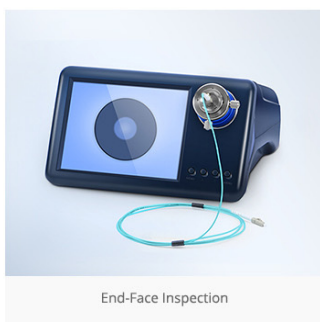
Items	Parameter	
Polishing	PC	APC
ROC	SC/FC/ST	10 ~ 25
	LC/MU	7~ 25
Apex Offset	$\leq 50$	
Fiber Spherical Height	$\pm 100$	
Angle	$\pm 0.5$	$8 \pm 0.5$

### OME service

1. Cable color, printing word, material of cable jacket, connector's color
2. OEM Label, Identify ring, cable's label, box, shipping marks
3. Different quality Level. Different fanout cable OD, color, length and connectors

### High Quality Fiber Optic Cable Guarantee

Comprehensive performance testing makes sure the cable work more secure and data transmission more reliable and stable in your network.





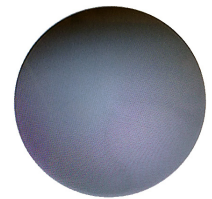
## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### End-face Quality (SM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 25	None	None	IEC 61300-3-35:2015
B: Cladding	25 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	



SM UPC



SM APC

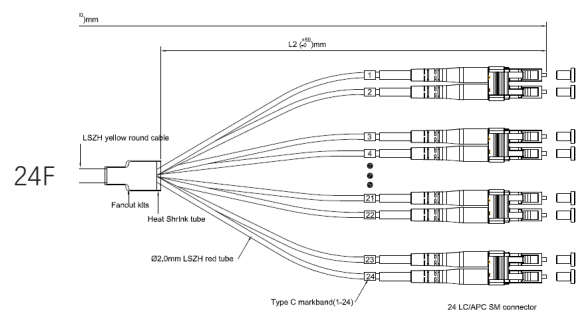
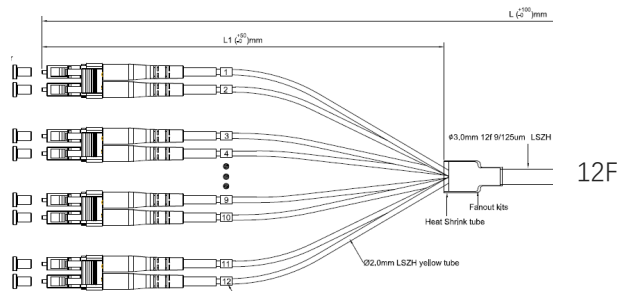
### End-face Quality (MM)

Zone	Range (μm)	Scratches	Defects	Reference
A: Core	0 to 65	None	None	IEC 61300-3-35:2015
B: Cladding	65 to 115	None	None	
C: Adhesive	115 to 135	None	None	
D: Contact	135 to 250	None	None	
E: Rest of ferrule		None	None	



MM PC

### Length Tolerance



Overall Length(L)(m)	length of tolerance(cm)
0<L<1	+5/-0
1<L<10	+10/-0
10<L<40	+15/-0
40<L	+0.5% x L/-0

### Application

9/125 OS2 single mode fiber optic cable is ideal for connecting 1G/10G/40G/100G/400G Ethernet connections. It can transport data for up to 10km at 1310nm, or up to 40km at 1550nm.

62.5/125 OM1 multimode fiber optic cable is ideal for connecting 100/1000BASE-SX transceivers etc. for fast Ethernet, gigabit Ethernet and fiber channel applications.

50/125 OM2 multimode fiber optic cable is ideal for connecting 1000BASE-SX, SFP transceivers etc. for gigabit Ethernet and fiber channel applications.

50/125 OM3 multimode fiber optic cable is ideal for connecting 10G SR, 10G LRM, SFP+ transceivers etc. for 10G/40G/100G Ethernet connections and is the preferred fiber specification for 10G Ethernet connections.

50/125 OM4/OM5 multimode fiber optic cable is ideal for connecting 40G BIDI SR, 10G SR, QSFP+, SFP+ transceivers etc. for 10G/40G/100G Ethernet connections and is the preferred fiber specification for 40G/100G applications.



## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### Packaging

This easily taken and well-protected fiber optical cable package has been labelled and marked by OMC as default .Standard carton size : 34\*22\*15 cm; 44\*34\*24 cm ; 54\*39\*34 cm . Which carton to be used depends on goods Qty . Packing can be customized.



1, PE Wrapped or PE Bag



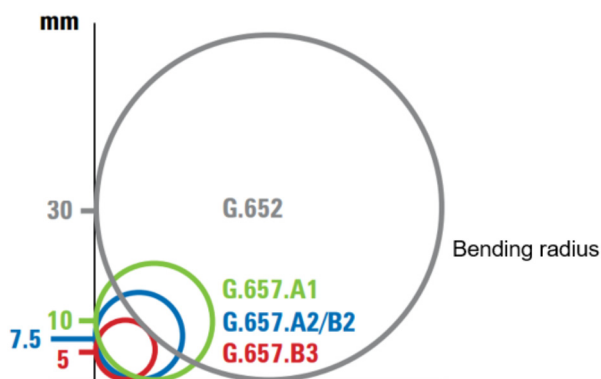
2, Paper Carton



3, fumig-free Pallet

### Optical fiber technical parameters-SMF

Item	Unit	Specification
Attenuation	dB/km	1310nm ≤ 0.4 ; 1550nm ≤ 0.3
Dispersion	Ps/nm. km	1285~1330nm ≤ 3.5, 1550nm ≤ 18.0
Zero dispersion wavelength	Nm	1300~1324
Zero dispersion slope	Ps/nm. km	≤ 0.095
Fiber cutoff wavelength	Nm	≤ 1260
Mode field diameter	Um	9.2±0.5
Mode field concentricity	Um	≤ 0.8
Cladding diameter	um	125±1.0
Cladding non-circularity	%	≤ 1.0
Coating/cladding concentricity error	Um	≤ 12.5
Coating diameter	um	245±10
Bending, dependence induced attenuation	1550nm, 1turns,32mm diameter 100turns,60mm diameter	≤ 0.5 dB
Proof test	kpsi	≥ 100



ITU recommendation G.657 specifies two classes of single-mode bend insensitive fiber patch cables: G.657 A and G.657 B. Each category (A and B) is then divided into two sub-categories: G.657.A1, G.657.A2 and G.657.B1, G.657.B2. The minimum bend radius of G.657.A1 fibers is 10 mm, of the G.657.A2 and G.657.B1 fibers is 7.5 mm and of the G.657.B2 fibers is 5 mm. Among, ITU-T G.657.A1 and ITU-T G.657.A2 fibers are fully compliant with ITU-T G.652.D fibers.



## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### Order Instruction

Pigtail	Fiber count	Fiber Grade	Connector	Fanout cable OD	Out jacket	Cable Color	length	
E	Standard Quality, No Geometric request	1 - G652D	A LC UPC	1-0.9mm	H - LSZH	A Blue	1=1m ...	
		2 - G657A1	B SC UPC	2-1.2mm	C - PVC	B Orange		
		X002- 2cores	3 - G657A2/B2	C FC UPC	3-1.6mm	R - OFNR	C Green	
		X004- 4cores	4 - G657B3	D ST UPC	4-1.7mm	P - OFNP	D Brown	
	.....							
	Standard Quality+ Geometric request	5 - OM1 BIF	E LC APC	5-1.8mm		E Grey		
		Y002- 2cores	6 - OM2 BIF	F SC APC	6-2.0mm		F White	
		Y004- 4cores	7 - OM3 BIF	G FC APC	7-2.4mm		G Red	
		Y006- 6cores	8 - OM4 BIF	H ST APC	8-2.6mm		H Black	
	.....							
	IEC Grade B Quality, No Geometric request	9 - OM5 BIF	I E2000 UPC	9-2.8 (3.0) mm		I Yellow		
		A - Corning G652D	J E2000 APC			J Purple		
		K002- 2cores	B -Corning G657A1	L DIN UPC		K Pink		
		K004- 4cores	C -Corning G657A2/B2	M DIN APC		L aqua		
	.....							
	IEC Grade B Quality+ Geometric request	K006- 6cores	D -Corning G657B3	N D4		M Magenta		
		L002- 2cores	E - OM1 Corning	O MU UPC		X- other		
		L004- 4cores	F - OM2 Corning	P MU APC				
		L006- 6cores	G - OM3 Corning	R LX.5 UPC				
	.....							
		H - OM4 Corning	S LX.5 APC					
		I - OM5 Corning	Q uniboday LC UPC					
			T uniboday LC APC					



### 3-144F Pre-terminated Micro-Fiber fanout Pigtail

#### Transmission Distance Comparison

Data Rate	Interface Type	Fiber Mode	Wavelength	Maximum Distance
1G	1000BASE-LX	OM5	850nm	550m
		OM4	1300nm	550m
		OM3	1300nm	550m
		OM2	1300nm	550m
		OM1	1300nm	550m
		SMF	1310nm	10km
	1000BASE-SX	OM4	850nm	550m
		OM3	850nm	550m
		OM2	850nm	550m
		OM1	850nm	275m
10G	10GBASE-SR	OM4	850nm	400m
		OM3	850nm	300m
		OM2	850nm	82m
		OM1	850nm	33m
	10GBASE-LRM	OM5	850nm	220m
		OM3	1300nm	220m
		OM2	1300nm	220m
		OM1	1300nm	220m
	10GBASE-LR	SMF	1310nm	10km
	10GBASE-ER	SMF	1550nm	30-40km
	10GBASE-ZR	SMF	1550nm	80-100km
	40G	40G-BIDI	OM5	850nm
OM4			850nm	150m
OM3			850nm	100m
40GBASE-SR4		OM5	850nm	150m
		OM4	850nm	150m
		OM3	850nm	100m
40G-SWDM4		OM5	850nm	440m
		OM4	850nm	350m
		OM3	850nm	240m
40GBASE-LR4		SMF	1310nm	10km





## 3-144F Pre-terminated Micro-Fiber fanout Pigtail

### Transmission Distance Comparison

Data Rate	Interface Type	Fiber Mode	Wavelength	Maximum Distance
100G	100GBASE-SR4	OM5	850nm	100m
		OM4	850nm	100m
		OM3	850nm	70m
	100G-SWDM4	OM5	850nm	150m
		OM4	850nm	100m
		OM3	850nm	75m
	100GBASE-SR10	OM4	850nm	125m
		OM3	850nm	100m
	100GBASE-LR4	SMF	1310nm	10km
100GBASE-ER4	SMF	1310nm	40km	

### How to Choose The Right Fiber Optic Cable Type?

Designation	Fiber Dia. (µm)	Type	Fast Ethernet 100BASE-FX	1 Gigabit Ethernet 1000BASE-SX	1 Gigabit Ethernet 1000BASE-LX	10Gbps Ethernet 10GBASE	40Gbps Ethernet 40GBASE SR4	100Gbps Ethernet 100GBASE SR4
OM1	62.5/125	Multi-mode	2000 Meters	275 Meters	550 Meters	33 Meters	Not supported	Not supported
OM2	50/125	Multi-mode	2000 Meters	550 Meters	550 Meters	82 Meters	Not supported	Not supported
OM3(Laser Optimized)	50/125	Multi-mode	2000 Meters	550 Meters	550 Meters	300 Meters	100 Meters (SR4)	100 Meters (SR4)
OM4(Laser Optimized)	50/125	Multi-mode	2000 Meters	550 Meters	550 Meters	400 Meters	150 Meters (SR4)	150 Meters (SR4)
Singlemode	9/125	Single-	2000 Meters	5km at	5km at	10km at	N/A	N/A

PS: The difference of OM4 and OM3 fiber mode as the following

1. OM4 was developed specifically for VCSEL laser transmission and allows 10 Gig / second link distances of up to 550 Meters (compared to 300M with OM3).
2. The effective modal bandwidth for OM4 is more than double that of OM3.
3. For OM4 patch cable it is 4700 MHz.km while for OM3 it is 2000 MHz.km.