

STANDARD CONNECTOR SERIES
SMALL FORM FACTORS
SPECIALTY PRODUCTS
FERRULES AND SLEEVES
POLISHING SYSTEMS

pg. 02
pg. 24
pg. 58
pg. 68
pg. 74

STANDARD CONNECTOR SERIES

SC-UPC Premium Connector	pg. 04	ST Premium Connector	pg. 16
SC-APC Premium Connector	pg. 04	ST Standard Connector	pg. 16
SC Standard Connector	pg. 05	ST Adapter	pg. 16
SC Connector Kit	pg. 05	SC-ST Hybrid Adapter	pg. 17
SC Duplex Clip	pg. 05	FC-SC Hybrid Adapter	pg. 17
SC Connector 1.2mm	pg. 06	FC-ST Hybrid Adapter	pg. 17
SC Connector 4.8mm	pg. 07	DIN Connector & Adapter	pg. 18
SC Crimp Tool	pg. 07	D4 Connector & Adapter	pg. 18
SC Secure	pg. 08	SMA 905 Connector & Adapter	pg. 18
SC Flex Angle Boot	pg. 09	SC Connector Boot	pg. 19
SC TOP Adapter	pg. 10	ST & FC Connector Boot	pg. 20
SC Premium Series	pg. 12	E 2000 Connector	pg. 21
SC Adapter Series	pg. 13	E 2000 Accessories	pg. 22
FC UPC Premium Connector	pg. 14	E 2000 Adapter	pg. 22
FC APC Premium Connector	pg. 14		
FC Standard Connector	pg. 15		
FC Adapter	pg. 15		

SC FC ST DIN D4

SENKO Connector and Adapter Series

SENKO Offers **3 Product Grades** to Meet Customer Needs

PREMIUM 1 PC Connector Series



Pre-assembled 1pc Type Connector

This premium connector is available in SC, FC, ST, DIN and D4. This connector was designed to meet the highest requirements in the market.

The premium SC and FC Connector is designed to meet and exceed the Verizon FOC TPR requirement, for the OSP application, or for anywhere customers need a high quality product. Premium SM and Premium Low Loss SM (LS) are available. Typical IL of 0.05 for LS SM Ferrule, and 0.08 for Premium UPC. Various option for boots are available.

STANDARD 1 PC Connector Series



Pre-assembled 1pc Connector

This connector series (SC, FC, and ST) gives value for cost. Using high quality components, these connectors meet IEC, and the general requirement of GR-326.

The same crimp and boot can be interchanged for all the Standard Connector Series (SC, FC, ST).

CONNECTOR KIT Multi-Piece Connector



Multi-Piece Connector Kit

(Ferrule to be Purchased Separately)

Manufactured to the original NTT designed SC Connector kit, it is supplied as a multi-piece unassembled connector. Using high quality components, this connector meets IEC, and the general requirement of GR-326.

Ferrule with Flange are to be ordered separately.

FEATURES COMPARISON CHART

For SC Premium and SC Standard	PREMIUM LS CONNECTOR	PREMIUM SM CONNECTOR	STANDARD CONNECTOR	CONNECTOR KIT
IL Average Against Master (UPC)	0.05	0.08	0.12	***
IL Mean Value Random Mating (UPC)	0.07	0.12	0.25	***
Verizon FOC TPR-9409	○	○		
GR-326 Core Issue 4	○	○	△	
IEC, TIA/EIA JIS Spec	○	○	○	○
IEC Random Mating Grade A*	○			***
IEC Random Mating Grade B*	○	○		***
IEC Random Mating Grade C*	○	○	○	***
RoHS Compliant	○	○	○	○
UL 94V-0	○	○	○	○
4 Position Tuning After Assembly (SC, FC)**	○	○		
MINI Boots	○	○		
Standard Boots	○	○	○	
Long Boots	○	○		○
Premium Crimp Ring	○	○		
Standard Crimp Ring			○	
Pre-assembled 1pc Body	○	○	○	
Push Pull Mechanism	○	○	○	○
Free Floating Ferrule	○	○	○	○
Metal Back Post	○	○	○	○
Premium Duplex Clip	○	○		
Standard Duplex Clip			○	○
Crimp Tool CRT-401	○	○	○	CRT-501

Note: *Based on IEC 61753-1 **Only for UPC Connector ***Depend on ferrule selected

TECHNICAL SPECIFICATIONS Premium and Standard Connector

PRODUCT SERIES	TYPE OF CONNECTOR SENKO P/N	IL AGAINST MASTER (dB)		IL RANDOM MATING (dB)	
		Average IL	Maximum IL	Mean IL	Maximum IL
Premium Low Loss SM	SC (254-199-xxx), FC (351-109-xx), (215-109-xx)	0.05	0.15	0.07	0.15 ^{*1}
Premium SM	SC (254-193-xxx), FC (351-103-xx), ST (215-103-xx)	0.08	0.20	0.12	0.25 ^{*2}
Premium Low Loss APC	SC APC (291/294-199-xx), FC APC (292/293-209-xx)	0.07	0.15	0.09	0.20
Premium APC	SC APC (291/294-193-xx), FC APC (292/293-203-xx)	0.10	0.25	0.14	0.30
Premium MM Connector	SC (254-291-xxx), FC (351-201-xx), ST (215-201-xx)	0.10	0.20	-	-
Standard SM	SC (231-191-xxx), FC (341-101-xx), (233-101-xx)	0.12	0.30	0.25	0.50 ^{*3}
Standard MM	SC (231-291-xxx), FC (341-201-xx), (233-201-xx)	0.15	0.30	-	-
	Singlemode	Multimode			
Operating Temperature	-40°C to +75°C	-40°C to +75°C			
Durability	<0.1dB typical change, 500 matings*	<0.1dB typical change, 500 matings*			

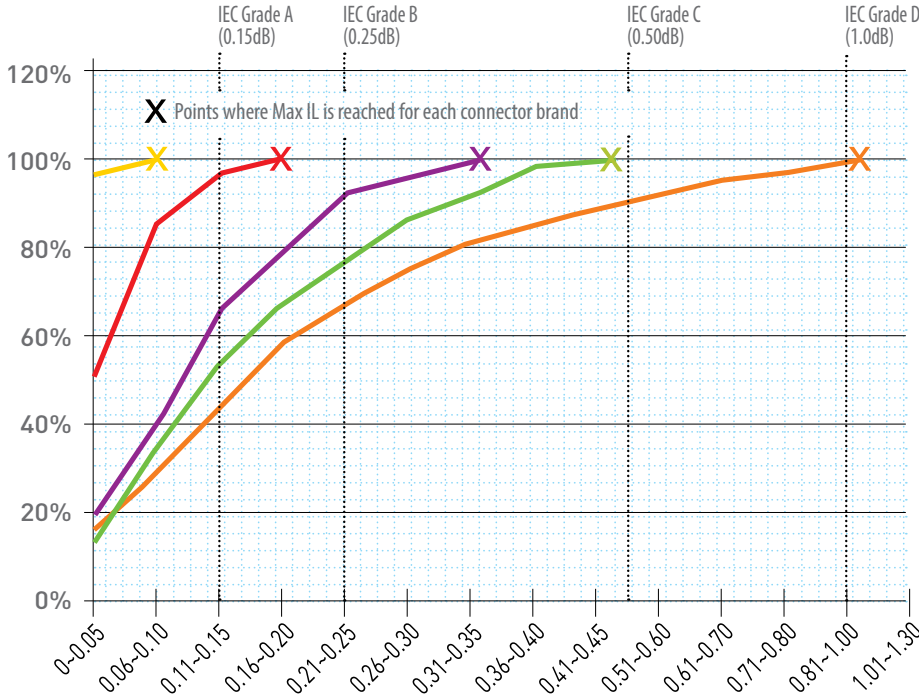
IEC Random mating test IEC 61753-1
 1 - To meet IEC Random Mating Grade A (≤ 0.07 dB mean, ≤ 0.15 dB max for >97% of sample).
 Grade A Spec is not finalized, above is a recommendation
 2 - To meet IEC Random Mating Grade B (≤ 0.12 dB mean, ≤ 0.25 dB max for >97% of sample)
 3 - To meet IEC Random Mating Grade C (≤ 0.25 dB mean, ≤ 0.50 dB max for >97% of sample)

Random Mating IL

SENKO has categorized its connectors to reflect the IEC Random Mating specified grades A*, B, and C, allowing the end-user to make an informed decision when selecting connectors, of how finished patchcords using SENKO connectors will perform.

Random mating Insertion Loss

- SENKO Low Loss
- SENKO Premium
- SENKO Standard
- High quality Competitor
- Low quality Competitor



1 PC Connector (254 Series)



900µm MINI Boot



2.0mm MINI Boot



3.0mm MINI Boot

SC UPC PREMIUM

CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
254 Premium	193 SM: Premium 125µm	5 Aqua	7 Long 3.0mm	1 Blue
	199 SM: Low Loss 125µm	6 Blue	A Long 2.0mm	2 Black
	291 MM: Premium 127µm	7 Black	M Standard 900µm	3 Green
		8 Red	N Standard 2.0mm	4 Red
		9 Beige	P Standard 3.0mm	6 Yellow
			J MINI 900µm	7 White
			K MINI 2.0mm	8 Beige
			L MINI 3.0mm	9 Aqua
			F Flex Angle Boot 3.0mm	
			G Flex Angle Boot 2.0mm	

254 - 193 - 6F1 ORDER CODE example

Note: Other ferrule ID size are available
SM 81µm SM 125.5µm MM 230µm MM 144µm

Features:

- SENKO's flagship Premium Connector series
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirements
- Premium Low Loss SM, typical IL against Master 0.05dB
- Premium Low Loss SM to meet IEC 61753-1 Grade A random mating requirement of Max 0.15dB
- Premium SM typical IL against Master 0.08dB
- Premium SM to meet IEC 61753-1 Grade B random mating requirement of Max 0.25dB
- 4 direction tuning feature to improve random mating IL
- Crimp tool to be used CRT-401

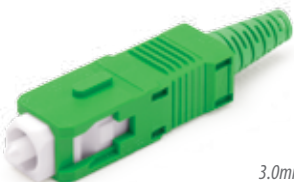
1 PC Connector (291/294 Series)



900µm MINI Boot



2.0mm MINI Boot



3.0mm MINI Boot

SC APC PREMIUM

CONNECTOR	FERRULE TYPE	POLISH	BOOT TYPE
291 Premium Step	193 SM: Premium 125µm	1 No Angle	7 Long 3.0mm
294 Premium Cone	199 SM: Low Loss 125µm	2 8° Pre-Angle	A Long 2.0mm
			M Standard 900µm
			N Standard 2.0mm
			P Standard 3.0mm
			J MINI 900µm
			K MINI 2.0mm
			L MINI 3.0mm
			F Flex Angle Boot 3.0mm
			G Flex Angle Boot 2.0mm

291 - 193 - 1F ORDER CODE example

Note: Other ferrule ID size are available
SM 81µm SM 125.5µm

Features:

- SENKO's flagship Premium Connector series
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirement
- Premium Low Loss SM, typical IL against Master 0.07dB
- Premium SM typical IL against Master 0.08dB
- Cone Ferrule type and Step Ferrule type available
- Option of an 8 degree pre-angle cut available
- Crimp tool to be used CRT-401



SC UPC STANDARD

1 PC Connector (231 Series)

CONNECTOR		FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
231	Standard	191 SM: Standard 125.5µm	5 Aqua	P Standard 3.0mm	1 Blue
		291 MM: Standard 127µm	6 Blue	N Standard 2.0mm	2 Black
			7 Black	M Standard 900µm	4 Red
			8 Red	J MINI 900µm	6 Yellow
			9 Beige		8 Beige

231 - 191 - 7N4 ORDER CODE example

Features:

- Pre-assembled one piece design to reduce assembly time
- Meets and exceeds the TIA/EIA, IEC and JIS SC Specification
- Typical IL against master to be 0.12dB Max 0.3dB
- Crimp tool to be used CRT-401



SC CONNECTOR KIT

NTT Kit Style (132 Series)

CODE	OUTER HOUSING	BOOT TYPE	BOOT COLOR
132	A11 Blue with White Line	7 3.0mm Cable Long	1 Blue
	B11 Black with White Line	9 2.0mm Cable Long	2 Black
	C11 Beige with White Line	D 900µm MINI Fiber Boot	3 Green
	D11 Green with White Line		4 Red
			8 Beige

132 - A11 - 71 ORDER CODE example

Features:

- The original NTT Style Connector Kit design (*Multi Piece Connector*)
- Meets and exceeds the TIA/EIA, IEC and JIS SC Specification
- Various housing and boot color to meet customer need.
- Ferrule to be ordered separately
- Crimp tool to be used CRT-501



SC DUPLEX CLIP

CLIP	CLIP COLOR
224 SC Duplex Clip for Premium Connector	591 Black
274 SC Duplex Clip for Standard & Connector Kit	592 Green
	593 Blue
	594 Beige
	595 Red
	596 Aqua

224 - 591 ORDER CODE example



SC CONNECTOR 1.2

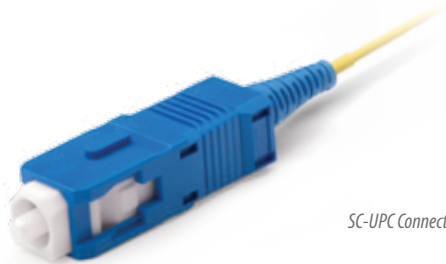
The new SC Connector is as strong as a 3mm cable. Reduce your cable size, but keep the strength. The SC Connector for 1.2mm cable is fully compliant to GR-326-Core for Media 1.



SC Connector

CONNECTOR	FERRULE SIZE	HOUSING COLOR	BOOT SIZE	BOOT COLOR
556 SC Premium 1.2mm Assembled	193 Premium SM	4 Violet (OM4)	R 1.2mm	1 Blue
557 SC Premium 1.2mm Un-Assembled	291 MM 127µm	5 Aqua (OM3)		7 White
		6 Blue		
		7 Black		
		8 Red		
		9 Beige		

556 - 193 - 4R7 ORDER CODE example



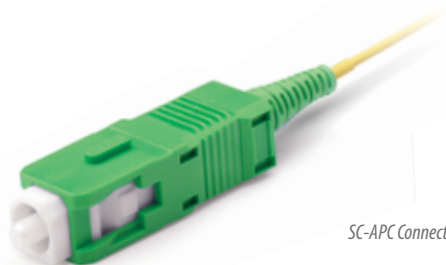
SC-UPC Connector

CONNECTOR	FERRULE SIZE	FERRULE POLISH	BOOT SIZE
596 SC APC Step 1.2mm Assembled	193 Premium SM	1 No angle	R 1.2mm
597 SC APC Step Premium 1.2mm Un-Assembled		2 Pre-angle	
598 SC APC Cone Premium 1.2mm Assembled			
599 SC APC Cone Premium 1.2mm Un-Assembled			

596 - 193 - IR ORDER CODE example

Features:

- Meets the same GR-326 mechanical requirements as a conventional 3mm and 2mm cable
- Exceeds 15lb Proof Test Objective as per GR-326-Core section 1.4.4.3.4
- Passes the GR-326 TWAL Test for Media 1 (ruggedized cable) as per section 4.4.3.5
- Reduces cable congestion without sacrificing mechanical strength



SC-APC Connector



Duct containing 48 x Ø 3mm cable



Duct containing 48 x Ø 2mm cable



Duct containing 48 x Ø 1.2mm cable

Note: Duct size reduced by 1/6 (approx 16%) compared to a 3mm cable

SC CONNECTOR 4.8

SPECIFICATION	SINGLEMODE	MULTIMODE
For SC Connector 4.8	Typical	Typical
Insertion Loss	Premium Connector UPC	0.08dB
	Premium Connector APC	0.10dB
Return Loss	≥ 55dB typical (PC) ≥ 68dB typical (APC)	
Durability	< 0.1dB change, 500 matings	
Operating Temperature	-40 to +75°C	

Note: Specifications shown above were obtained using SENKO recommended products and procedures.



4.8mm APC Connector



4.8mm UPC Connector



4.8mm MM Connector

CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
554 SC Premium PC	193 SM: Premium 125µm	6 Blue	1 4.8mm Boot	1 Blue
	199 SM: Low Loss 125µm	8 Beige		8 Beige
	291 MM: 127µm			

554 - 193 - 611 ORDER CODE example

Note: Other ferrule ID size are available
 SM 81µm SM 126µm SM 125.5µm

CONNECTOR	FERRULE TYPE	POLISH	BOOT TYPE
591 SC Premium APC Step	193 SM: Premium 125µm	1 No Angle	1 4.8mm Boot
594 SC Premium APC Cone	199 SM: Low Loss 125µm	2 8° Pre-Angle	

591 - 193 - 11 ORDER CODE example

Note: Other ferrule ID size are available
 SM 81µm SM 126µm SM 125.5µm

Features:

- Compliance with Telcordia, TIA/IEA, IEC and JIS interface specifications
- Low insertion loss & back reflection*
- One-piece construction & pull-proof design
- Free-floating ceramic ferrule
- Precision anti-rotation key and corrosion resistant body
- UL-rated plastic housing and boots in a variety of colors
- Telcordia style boots
- Adapters with choice of metal or plastic housing, mount styles & flange options

SC CRIMP TOOL

CODE	CONNECTOR TYPE
CRT	401 SC, FC, ST One Piece Connectors
	501 SC Connector Kit 132 series
	705 SC/LC 1.2mm Connector

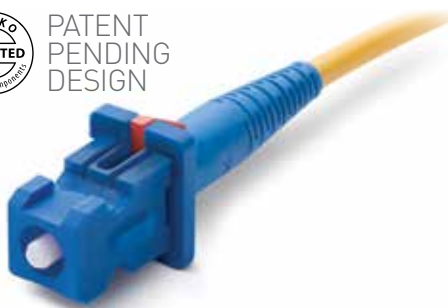
CRT - 401 ORDER CODE example



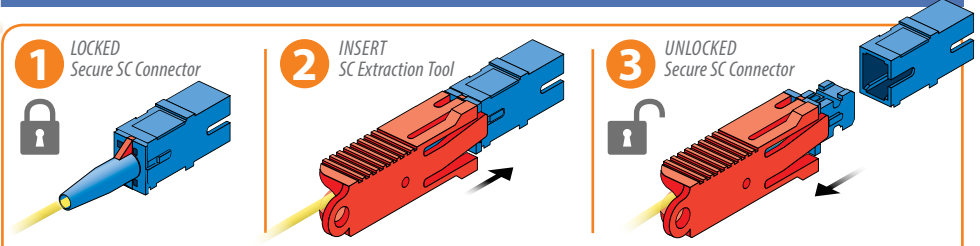
Locking Connector



PATENT PENDING DESIGN



SC SECURE



Allows user to plug into any Conventional SC adaptor but requires extraction tool for removal

SENKO's patent pending Secure SC connectivity solution is designed to prevent unauthorized or inadvertent changes to cabling networks in highly sensitive applications such as data centers, telecom rooms, enterprise networks including financial, educational, secure IT and military networks, where multiple physical layer access classifications are critical. SENKO's unique 'tamper proof' Secure SC connectivity solution is compatible and can be fitted to any industry-standard SC ports in active network equipment, patch panels and customer premise equipment.

OPTICAL SPECIFICATION AND CONNECTOR OPTIONS

Insertion Loss	0.1dB Typical for SM UPC, SM APC, MM PC
Return Loss	55dB for SM UPC, 65dB for SM APC
Lock Key Options	4 Key configuration in 4 colors Red, Yellow, Black and White
Boot / Cable Option	3mm, 2mm boot Flex angle boot also available
Operating Temperature	-40°C to +75°C
Mechanical Requirement	To meet and exceed GR-326 Core Issue 4

Features:

- True locked keyed connector security
- Multiple key configurations of access control and tamper-proofing
- Compatible with all industry standard passive and active SC ports
- Industry standard color coding of housings for easy identification and administration of SM and MM Port
- Blockers available for 'protecting' unused ports

CODE	KEY TYPE	FERRULE SIZE	HOUSING	BOOT TYPE	BOOT COLOR
581 Secure SC UPC	A Key Type A- Black	193 SM 125µm	6 Blue	K 2.0mm Mini Boot	1 Blue
	B Key Type B- White	199 Low Loss SM 125µm	9 Beige	L 3.0mm Mini Boot	2 Black
	C Key Type C- Yellow	291 MM 127µm			5 Red
	D Key Type D- Red				

CODE	KEY TYPE	FERRULE SIZE	FERRULE POLISHING	BOOT TYPE
582 Secure APC	A Key Type A- Black	193 SM 125µm	1 No Angle	K 2.0mm Mini Boot
	B Key Type B- White	199 Low Loss SM 125µm	2 8° Pre-Angle	L 3.0mm Mini Boot
Green Cone	C Key Type C- Yellow			
	D Key Type D- Red			

582A - 193 - 2K ORDER CODE example

SECURE-SC PORT BLOCKER



CODE	KEY TYPE	HOUSING
SK-PBK Secure SC Port Blocker	A Key Type A- Black	G Green
	B Key type B- White	B Blue
	C Key Type C- Yellow	T Beige
	D Key Type D- Red	

SK-PBK - A - G ORDER CODE example

SECURE-SC KEYED EXTRACTION TOOL

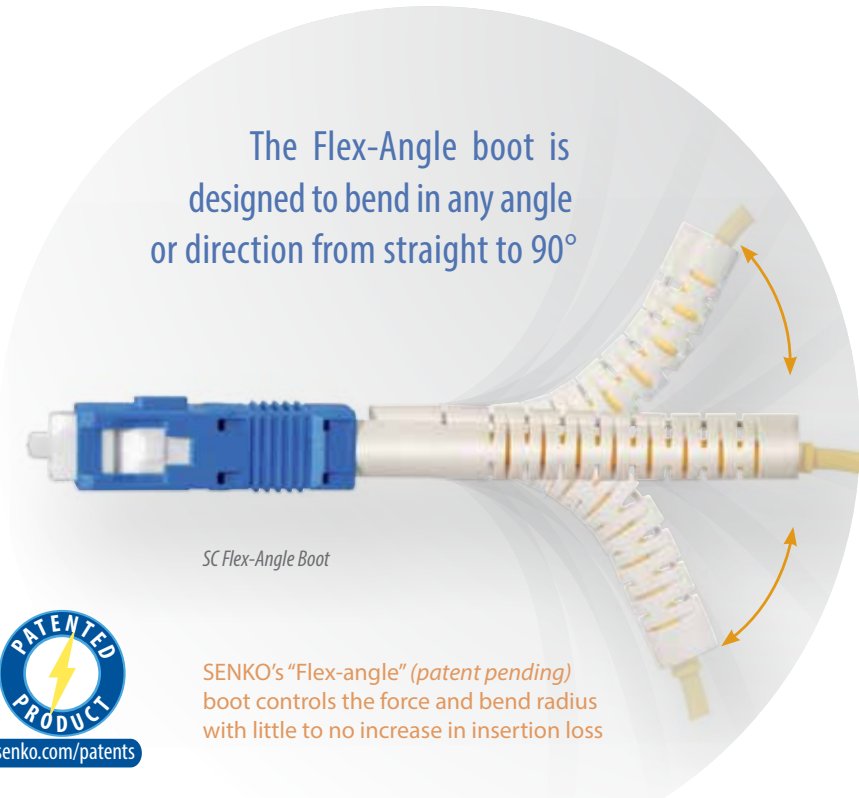


EXTRACT KEY	COLOR CODE	HOUSING
SK-KEY Secure SC Port Blocker	A Key Type A- Black	(None) Standard Type
	B Key type B- White	1 Side Road Type
	C Key Type C- Yellow	
	D Key Type D- Red	

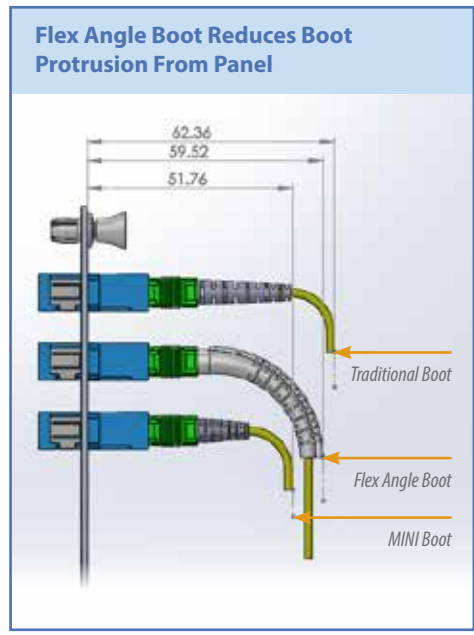
SK - KEY - A ORDER CODE example

SC FLEX ANGLE BOOT

SENKO's new 2.0mm and 3.0mm boot addition for the Premium SC connectors. The Flex-Angle boot is designed to bend and maintain any angle or direction from straight to 90°. The boot is molded over a single stainless steel wire and can be easily positioned by hand. The internal wire holds the boot at the desired angle or direction.



SC Flex-Angle Boot



PRODUCT SERIES	BOOT	TYPE OF CONNECTOR
Premium SC 2.0mm	HW-25001-xx	254-xxx-xGx
Premium SC 3.0mm	HW-25002-xx	254-xxx-xFx
Standard SC 2.0mm	HW-25001-xx	231-xxx-xGx
Standard SC 3.0mm	HW-25002-xx	231-xxx-xFx

TOP (True One Piece) Adapter 243/248 series

SC TOP SIMPLEX ADAPTER



CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
243 Flange	1 Simplex	0 Blue	1 Zirconia	1 High Tg	N No Shutter
248 No Flange		1 Green	2 Metal		
		2 Beige			
		3 Black			
		9 Aqua			



SC TOP Simplex Adapter



SC TOP Simplex Adapter without Flange

Note: 1. Custom colors available upon request
 2. High TG Hook meets GR326 TG100 requirements

243 - 101 - 1N ORDER CODE example



SC One Piece Adapter, No Weld Type



SC Standard Adapter, Welded Type

The new patented one piece housing design prevents breakage of the adapter due to the absence of ultrasonic weld type construction.

TOP (True One Piece) Adapter 243/248 series

SC TOP DUPLEX ADAPTER



CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
243 Flange	2 Duplex	0 Blue	1 Zirconia	1 High Tg	N No Shutter
248 No Flange		1 Green	2 Metal		
		2 Beige			
		3 Black			
		9 Aqua			



SC TOP Duplex Adapter



SC TOP Duplex Adapter without Flange

243 - 201 - 1N ORDER CODE example

Features:

- One piece solid body, no welding point (patent pending)
- Built in panel mounting plate
- Rattle free wings to support tight fit in the panel (patent pending)
- Inner shutter and Outer shutter ready for eye safety
- Flange type, and No flange type available

SC TOP ADAPTER WITH SHUTTER

SC Adapter with Shutter (Internal and External)

CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
243	Flange	1 0 Blue	1 Zirconia	1 High Tg	A Internal Shutter (w/o mark)
248	No Flange	2 1 Green	2 Metal		C Internal Shutter (w/mark)
		3 Beige			
		9 Aqua			

248 - 121 - 1C ORDER CODE example

CODE	DESCRIPTION
222-2-0S	External Shutter for SC Adapter (Outer Shutter Only)

222 - 2 - 0S ORDER CODE examp

Note: Works with: P/N 243/248 pg.10



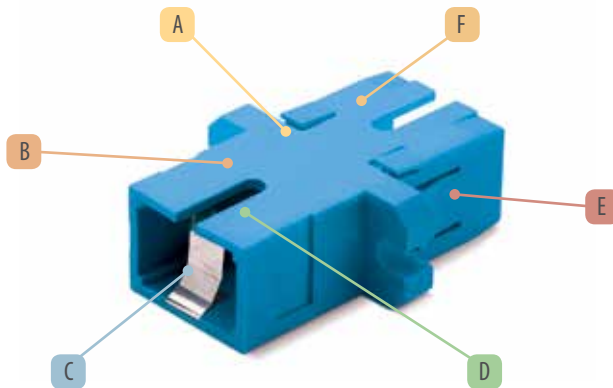
SC TOP Adapter with Internal Shutter



SC Simplex with Flange and External Shutter



SC TOP ADAPTER FEATURES



Features:

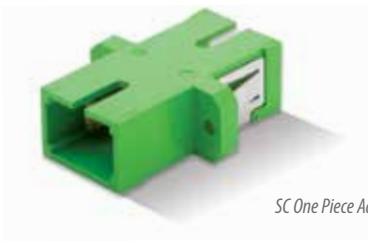
- Four (4) Anti-Rattle “wings” prevent the freedom of the adapter to wiggle in a top-to-bottom direction when snapped into adapter panels
- An integrated panel clip is molded into the adapter’s plastic housing which eliminates the need for any added metallic panel clip
- The integral panel clips have the dual role of also preventing the adapter to wiggle in a side-to-side direction
- Recesses on both sides of the adapter allow the current external shutter to be used

- A** Rattle Free Wings
- B** One Piece Solid Body
- C** Shutter Ready
- D** High TG Hook meets GR326 TG100 requirements
- E** Integrated Mount Clip
- F** Anti Fungus Plastic UL 94V-0

Premium Adapter 242/247 series

SC PREMIUM ONE PIECE SIMPLEX ADAPTER

The SENKO patented design, one piece adapter is stronger than the conventional, seam-welded SC adapter giving improved side loading strength and the preventing adapter breakage. SC Simplex adapters have been tested to the Verizon FOC TPR 9409 standard and sleeves used in this adapter have been tested and passed the TRP requirements. High TG hooks are used to meet the GR-326 requirements. Shuttered versions are also available.



SC One Piece Adapter



SC One Piece Adapter without Flange

ADAPTER SPECIFICATION	ZIRCONIA SLEEVE		METAL SLEEVE	
	Typical	Max	Typical	Max
For SC, FC and ST Adapters				
Insertion Loss	0.05	0.20	0.10	0.30
Sleeve / Ferrule Withdraw Force	200gf - 600gf			
Operating Temperature	-40° to +75°			
Durability	<0.1 dB typical change, 500 matings*			

Note: Zirconia tested with SMF Fiber, metal sleeve tested with MMF

CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
242 Flange	1 Simplex	0 Blue	1 Zirconia	1 High Tg	N No Shutter
247 No Flange		1 Green	2 Metal		
		2 Beige			
		3 Black			
		9 Aqua			

247 - 101 - 1N ORDER CODE example

Note: Custom colors available upon request

Features:

- SENKO's highest quality adapter series
- Patented one piece housing design prevents housing breakage
- Designed to exceed the requirement of the Verizon FOC TPR 9409 requirement
- High TG hook prevents unwanted hook opening in OSP application
- Typical insertion loss under 0.05dB and Max IL of 0.20dB
- Various housing color to meet customer's requirement
- Shutter option ready for eye safety

Premium Adapter 242/247 series

SC PREMIUM ONE PIECE DUPLEX ADAPTER



SC Duplex with Flange



SC One Piece Adapter, No Weld Type

CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
242 Flange	2 Duplex	0 Blue	1 Zirconia	1 High Tg	N No Shutter
247 No Flange		1 Green	2 Metal		
		2 Beige			
		3 Black			
		9 Aqua			

247 - 202 - 1N ORDER CODE example

Note: Custom colors available upon request



SC One Piece Adapter, No Weld Type



Conventional Adapter Welded type

The new one piece housing design prevents breaking of the adapter due to the absence of ultrasonic weld type construction.

SC PREMIUM ONE PIECE ADAPTER WITH SHUTTER

Internal Shutter

CODE	TYPE	COLOR	SLEEVE TYPE	HOOK MATERIAL	SHUTTER
242	Flange	1 Blue	1 Zirconia	1 High Tg	A Internal Shutter (w/o mark)
247	No Flange	1 Green	2 Metal		C Internal Shutter (w/mark)
		2 Beige			
		3 Black			
		9 Aqua			

242 - 121 - 1C ORDER CODE example



SC Duplex with Internal Shutter



SC Simplex without Flange and Internal Shutter



SC METAL ADAPTER

TYPE	SLEEVE TYPE	HOOK MATERIAL
226 Simplex	101 Zirconia	1 Hi-Tg
228 Duplex	102 Metal	

226 - 101 - 1 ORDER CODE example

SC Simplex Metal Adapter



SC Duplex Metal Adapter



SC SIMPLIFIED CONNECTOR AND ADAPTER

CONNECTOR CODE	FERRULE TYPE	BOOT TYPE	BOOT COLOR
774 SC Simplified Connector	191 SM: 125.5µm	2 1.0mm Fiber	2 Black

774 - 191 - 22 ORDER CODE example

ADAPTER CODE	TYPE	SLEEVE	HOUSING COLOR
229 SC Simplified Adapter	1 Simplex	1 Zirconia Straight Split	1 Blue
	2 Duplex	2 Metal Straight Split	
	3 8 Ways		
	4 10 Ways		

229 - 111 ORDER CODE example



1 PC Connector (351 Series)

FC UPC PREMIUM



CONNECTOR	FERRULE TYPE	BOOT TYPE	BOOT COLOR
351 Premium	103 SM: Premium 125µm	7 Long 3.0mm	1 Blue
	109 SM: Low Loss 125µm	A Long 2.0mm	2 Black
	201 MM: Premium 127µm	M Standard 900µm	3 Green
		N Standard 2.0mm	4 Red
		P Standard 3.0mm	6 Yellow
		J MINI 900µm	7 White
		K MINI 2.0mm	8 Beige
		L MINI 3.0mm	9 Aqua
		F Flex Angle Boot 3.0mm	

351 - 103 - L6 ORDER CODE example

Note: Other ferrule ID size are available
SM 81µm SM 126µm SM 125.5µm MM 230µm MM 144µm

Features:

- SENKO's flagship highest quality Premium Connector Series
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirement
- Premium Low Loss SM, typical IL against Master 0.05dB
- Premium SM typical IL against Master 0.08dB
- Premium SM to meet IEC 61753-1 Grade B random mating requirement of Max 0.25dB
- Premium Low Loss to meet IEC 61753-1 Grade A random mating requirement of Max 0.15dB
- 4 directions tuning ferrule to improve random mating IL
- Crimp tool to be used CRT-401
- Narrow key width 2.00mm+/-0.02mm

1 PC Connector (292/293 Series)

FC APC PREMIUM



CONNECTOR	FERRULE TYPE	FERRULE POLISH	BOOT TYPE
292 Premium Step	203 SM: Premium 125µm	1 No Angle	7 Long 3.0mm
293 Premium Cone	209 SM: Low Loss 125µm	2 8° Pre-Angle	A Long 2.0mm
			M Standard 900µm
			N Standard 2.0mm
			P Standard 3.0mm
			J MINI 900µm
			K MINI 2.0mm
			L MINI 3.0mm
			F Flex Angle Boot 3.0mm

293 - 203 - 2A ORDER CODE example

Note: Other ferrule ID size are available
SM 81µm SM 126µm SM 125.5µm

Features:

- SENKO's flagship highest quality Premium Connector Series
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirement
- Premium Low Loss SM, typical IL against Master 0.07dB
- Premium SM typical IL against Master 0.08dB
- Cone ferrule type and Step ferrule type available
- Option of an 8 degree pre-angle cut available
- Various choices of boots types
- Crimp tool to be used CRT-401
- Narrow key width 2.00mm+/-0.02mm



FC STANDARD

1 PC Connector (343/331 Series)

CONNECTOR	FERRULE TYPE	BOOT TYPE	BOOT COLOR
343 Preassembled 1pc	101 SM: 125.5µm	P Standard 3.0mm	1 Blue
331 Unassembled Key Ring	201 MM: 127µm	N Standard 2.0mm	2 Black
332 Unassembled Inner Key		M Standard 900µm	4 Red
		J MINI 900µm	6 Yellow
			8 Beige

343 - 101 - J1 ORDER CODE example

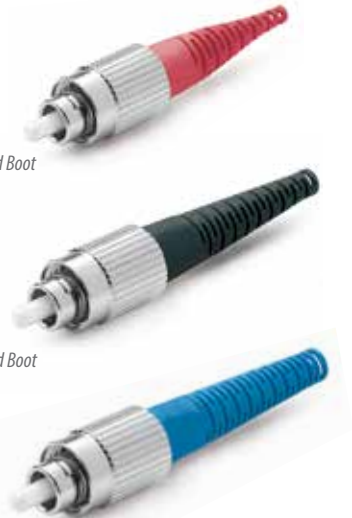
Features:

- SENKO's Standard Connector series gives the highest value for cost
- Pre-assembled one piece design and Connector Kit available
- Meets and exceeds the TIA/EIA, IEC and JIS SC Specification
- Typical IL against master to be 0.12dB Max 0.3dB
- Various boot color to meet customer need
- Crimp tool to be used CRT-401
- Narrow key width 2.00mm+/-0.02mm

900µm Standard Boot

2.0mm Standard Boot

3.0mm Standard Boot

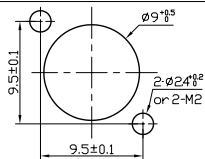


FC ADAPTER

Square (297) and Oval (298)

ADAPTER TYPE	SLEEVE	KEY WIDTH
297 Solid Body	1 Zirconia Straight Split	01 For PC Connector 2.15 +0.05/-0
298 FC Oval Adapter "HD"	2 Metal Straight Split	02 For APC Connector 2.05+/-0.02

297 - 101 ORDER CODE example



Mounting Hole Dimensions

FC Square, Standard Body and Oval Adapter, HD Style

Features:

- FC Square, High Density Oval and Round type available
- UPC type Adapter have Wide key of 2.15mm
- APC type Adapter have Narrow key of 2.05mm
- Typical insertion loss under 0.05dB and Max IL of 0.20dB
- High quality and durable Ni-Plated Brass body

FC Square Adapter, Solid Body

FC Oval Adapter, HD Style

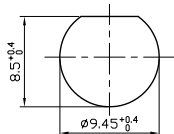


FC ROUND ADAPTER

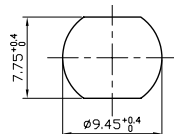
Round (253 type)

CODE	SLEEVE	KEY WIDTH	FLANGE
253 FC Round Adapter "D" & "DD"	1 Zirconia Straight Split	0 For PC Connector 2.15 +0.05/-0	3 D: Ø8.85mm x 7.95mm
	2 Metal Straight Split	2 For APC Connector 2.05 +/- 0.02	4 DD: Ø9.35mm x 7.65mm

253 - 103 ORDER CODE example



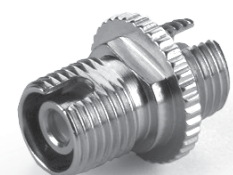
FC Round Adapter D Style



FC Round Adapter DD Style

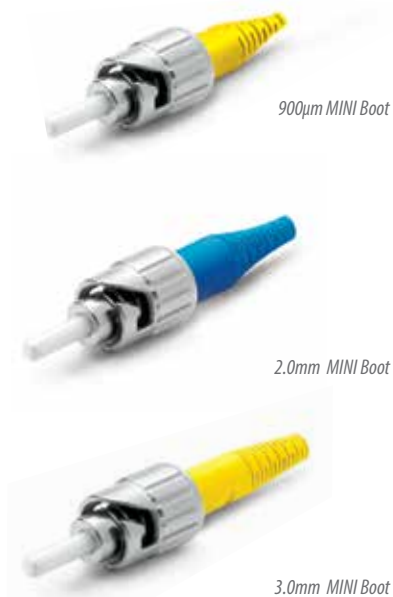
Mounting Hole Dimensions

FC Round Adapter, D Style



1 PC Connector (215 Series)

ST PREMIUM



CONNECTOR	FERRULE TYPE	BOOT TYPE	BOOT COLOR
215	103 SM: Premium 125µm	7 Long 3.0mm	1 Blue
	109 SM: Low Loss 125µm	A Long 2.0mm	2 Black
	201 MM: Premium 127µm	M Standard 900µm	3 Green
		N Standard 2.0mm	4 Red
		P Standard 3.0mm	6 Yellow
		J MINI 900µm	7 White
		K MINI 2.0mm	8 Beige
		L MINI 3.0mm	9 Aqua
		F Flex Angle Boot 3.0mm	

215 - 103 - 76 ORDER CODE example

Note: Other ferrule ID size are available
SM 81µm SM 126µm SM 125.5µm MM 230µm MM 144µm

1 PC Connector (233 Series)

ST STANDARD



CONNECTOR	FERRULE TYPE	BOOT TYPE	BOOT COLOR
233	ST Standard	101 SM: 125.5µm	P Standard 3.0mm
		201 MM: 127µm	N Standard 2.0mm
			M Standard 900µm
			J MINI 900µm

233 - 101 - P6 ORDER CODE example

ST ADAPTER



CODE	SLEEVE
216 Simplex Metal Housing	101 Zirconia Straight Split
316 Duplex Horizontal Metal Housing	102 Metal Straight Split

216 - 101 ORDER CODE example

CODE	SLEEVE	COLOR
317L Duplex Horizontal Plastic Housing	101 Zirconia Straight Split	E Blue

317L - 101 - E ORDER CODE example

CODE	SLEEVE	COLOR
317T Duplex Horizontal Plastic Housing	101 Zirconia Straight Split	E Beige

317T - 101 - E ORDER CODE example

SC-ST HYBRID ADAPTER

CODE		APPLICATION	SLEEVE
283	Square Flange Simplex (<i>metal</i>)	1 For PC Connector	01 Zirconia Straight Split
286	Rectangular Flange, Simplex (<i>metal</i>)		02 Metal Straight Split
288	Rectangular Flange, Duplex (<i>metal</i>)		
289L	Rectangular Flange, Duplex, Blue* (<i>plastic</i>)		
289T	Rectangular Flange, Duplex, Beige* (<i>plastic</i>)		

288 - 102 ORDER CODE example

Note: All adapters listed above are made with metal housing with the exception of the 289 Series, which is made with polymer housing



SC-ST Simplex Adapter with Rectangular Flange



SC-ST Duplex Adapter with Flange



SC-ST Adapter with Square Flange

FC-SC HYBRID ADAPTER

CODE		KEY WIDTH	SLEEVE
282	Square Flange	1 For PC Connector: 2.15+0.05/-0	01 Zirconia Straight Split
285	Rectangular Flange	2 For APC Connector: 2.05 +/- 0.02	02 Metal Straight Split

282 - 101 ORDER CODE example



FC-SC Adapter with Square Flange



FC-SC Adapter with Rectangular Flange

FC-ST HYBRID ADAPTER

CODE		KEY WIDTH	SLEEVE
284	Square Flange	1 For PC Connector: 2.15+0.05/-0	01 Zirconia Straight Split
287	Rectangular Flange		02 Metal Straight Split

284 - 101 ORDER CODE example



FC-ST Adapter with Square Flange



FC-ST Adapter with Rectangular Flange

1 PC Connector and Adapter

DIN PREMIUM



DIN Connectors

DIN Adapter

CONNECTOR CODE		FERRULE TYPE		BOOT TYPE		BOOT COLOR	
213	DIN Connector PC	103	SM: 125µm	M	Standard 900µm	1	Blue
		201	MM: 127µm	N	Standard 2.0mm	2	Black
				P	Standard 3.0mm	7	White
						8	Beige

CONNECTOR CODE		FERRULE TYPE		FERRULE POLISH		BOOT TYPE	
203	DIN Connector APC Conical Ferrule	103	SM: 125µm	1	No Angle	M	Standard 900µm
						N	Standard 2.0mm
						P	Standard 3.0mm

203 - 103 - 1N ORDER CODE example

ADAPTER CODE		SLEEVE	
214		101	Zirconia Straight Split
		102	Metal Straight Split

214 - 101 ORDER CODE example

Note: Add 1.6 to order code to specify 1.6 mm cable

Connector and Adapter

D4 PREMIUM



D4 Connectors

D4 Adapter

CONNECTOR		FERRULE TYPE		BOOT TYPE		BOOT COLOR			
272	D4 Crimp Style	101	SM: 125.5µm	M	Standard 900µm	1	Blue	5	Gray
				N	Standard 2.0mm	2	Black	6	Yellow
				P	Standard 3.0mm	3	Green	7	White
						4	Red	8	Beige

272 - 101 - N1 ORDER CODE example

ADAPTER CODE		SLEEVE	
273	D4 Adapter	201	Metal Straight Split

273 - 201 ORDER CODE example

Note: Add 1.6 to order code to specify 1.6 mm cable option

Connector and Adapter

SMA 905 STANDARD



SMA Connector

SMA Adapter

CONNECTOR CODE		FERRULE TYPE				BOOT TYPE		BOOT COLOR	
211	SMA with Hex Nut	201	MM: 127µm	205	MM: 250µm	P	Standard 3.0mm	1	Blue
		202	MM: 230µm	206	MM: 360µm			2	Black
		203	MM: 144µm	207	MM: 460µm				
		204	MM: 245µm	208	MM: 240µm				

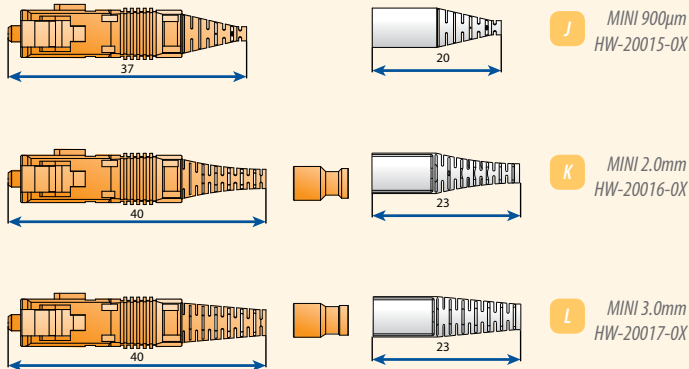
211 - 201 - P2 ORDER CODE example

ADAPTER CODE		ADAPTER TYPE	
212	SMA Adapter	101	SMA Adapter

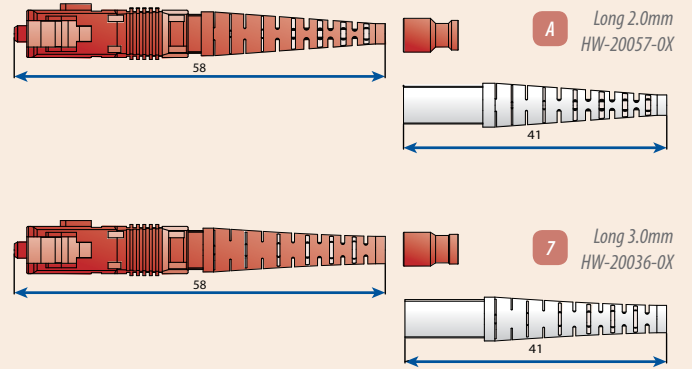
212 - 101 ORDER CODE example

SC CONNECTOR BOOT OPTIONS

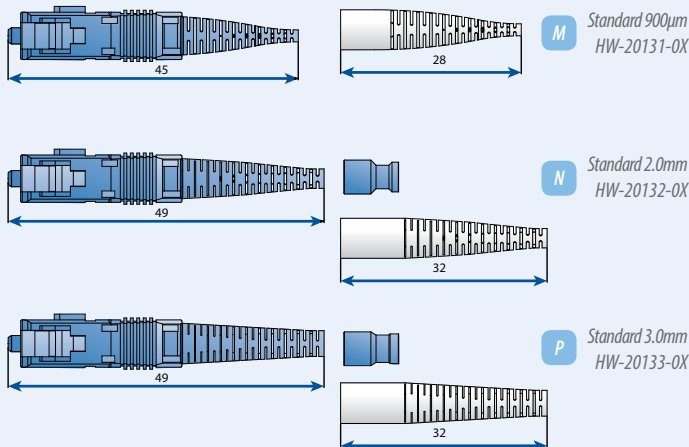
Premium Connector MINI Boots

Recommended for R7.5 & R15 Fiber


Premium Connector Long Boots

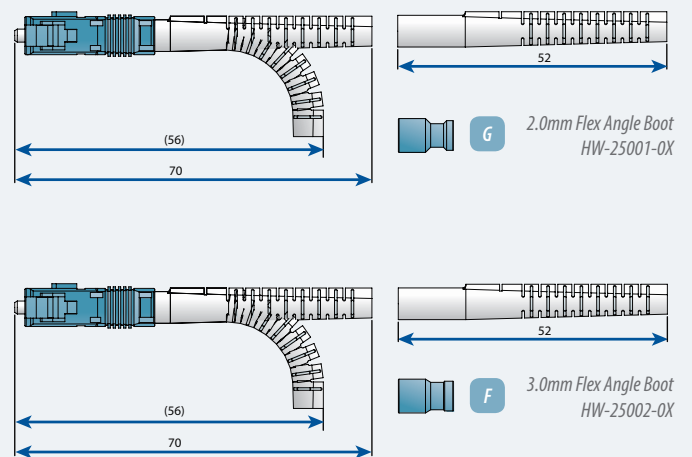


Standard Boots*

Recommended for R15 & R30 Fiber


*These boots are for Premium and Standard connectors

Flex Angle Boots



FEATURES COMPARISON CHART

For SC Connector Boots	BOOT PART NUMBER	BOOT ORDER CODE	R-7.5 FIBER	R-15 FIBER	R-30 FIBER
MINI Boot 900µm	HW-20015-0X	J	●	▲	
MINI Boot 2.0mm*	HW-20016-0X	K	●	▲	
MINI Boot 3.0mm	HW-20017-0X	L	●	▲	
Standard Boot 900µm	HW-20131-0X	M	●	●	▲
Standard Boot 2.0mm*	HW-20132-0X	N	●	●	▲
Standard Boot 3.0mm	HW-20133-0X	P	●	●	▲
SC Long Boot 2.0mm*	HW-20057-0X	7	●	●	●
SC Long Boot 3.0mm	HW-20036-0X	A	●	●	●
Flex Angle Boot 2.0mm*	HW-25001-0X	G	●	▲	
Flex Angle Boot 3.0mm	HW-25002-0X	F	●	▲	

BOOT TYPE		BOOT COLOR	
7	Long 3.0mm	1	Blue
A	Long 2.0mm	2	Black
M	Standard 900µm	3	Green
N	Standard 2.0mm	4	Red
P	Standard 3.0mm	6	Yellow
J	MINI 900µm	7	White
K	MINI 2.0mm	8	Beige
L	MINI 3.0mm	9	Aqua
F	Flex Angle Boot 3.0mm		
G	Flex Angle Boot 2.0mm		

CRIMP RING CODE

Premium Crimp Ring (Supplied with Premium Connector)

1.6mm Premium Crimp Ring	HW-20061
2mm Premium Crimp Ring	HW-20026
3mm Premium Crimp Ring	HW-20001

Standard Crimp Ring (Supplied with Standard Connector)

2mm Standard Crimp Ring	HW-23025
3mm Standard Crimp Ring	HW-23026

● Complies with GR-326 issue 4 TWAL test with 4 wavelength ▲ Good for general usage

* Also available in 1.6mm

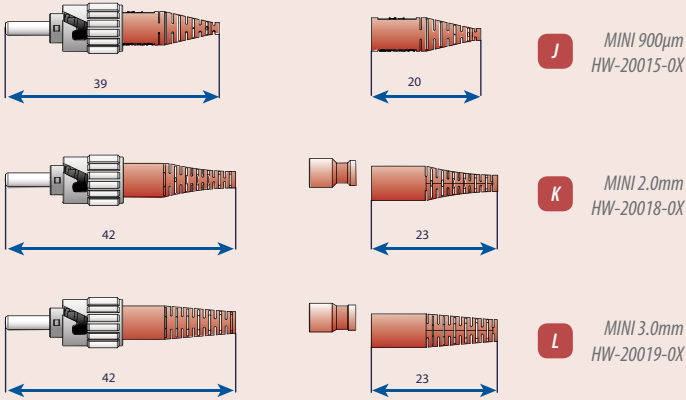
Note: X=Color Code

1=Blue, 2=Black, 3= Green, 4=Red, 5=Gray, 6=Yellow, 7=White, 8=Beige

ST, FC CONNECTOR BOOT OPTIONS

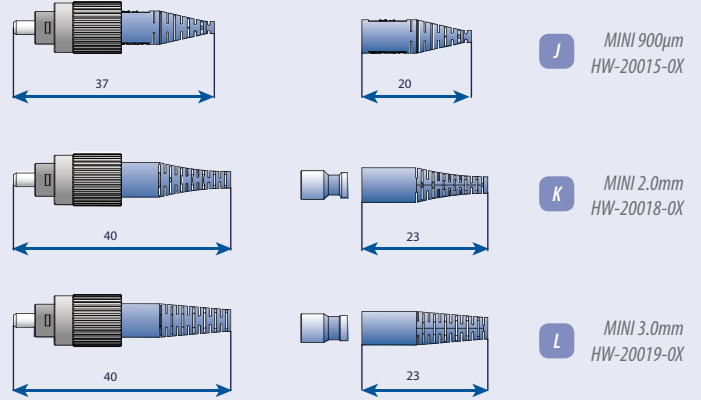
ST Premium MINI Boot

Recommended for R7.5 & R15 Fiber



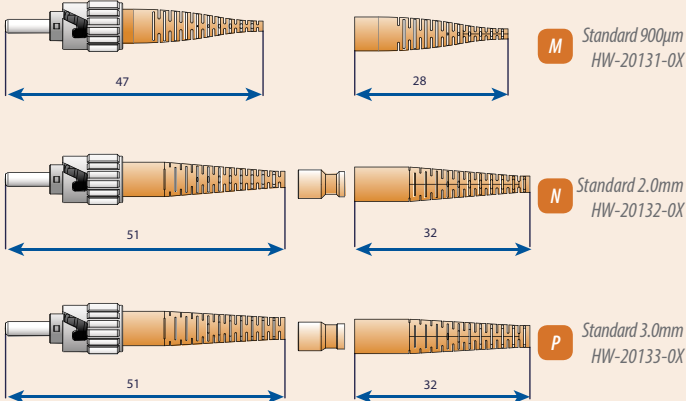
FC Premium MINI Boot

Recommended for R7.5 & R15 Fiber



ST Premium Standard Boot

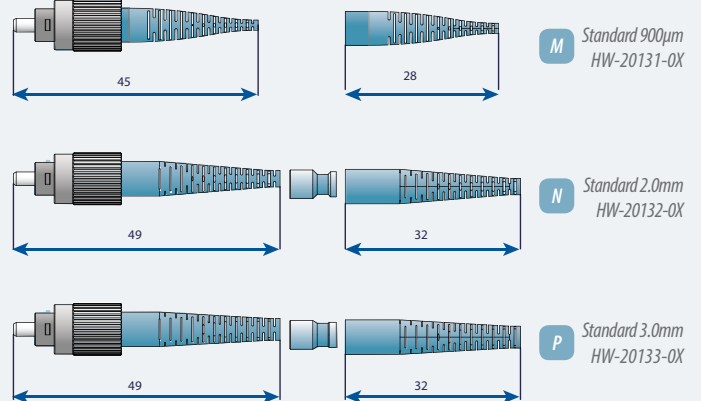
Recommended for R15 & R30 Fiber



Note: These boots are for Premium and Standard Connectors

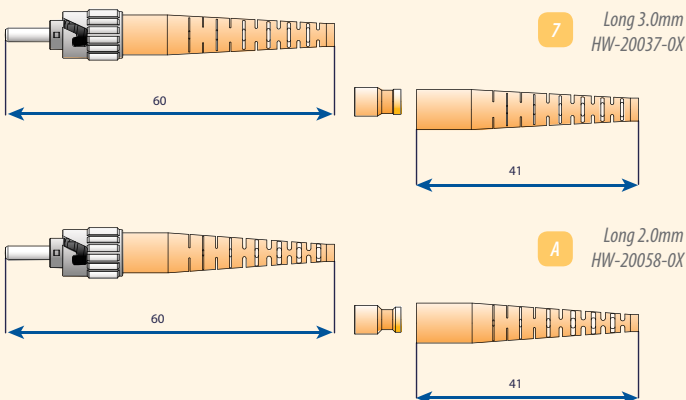
FC Premium Standard Boot

Recommended for R15 & R30 Fiber

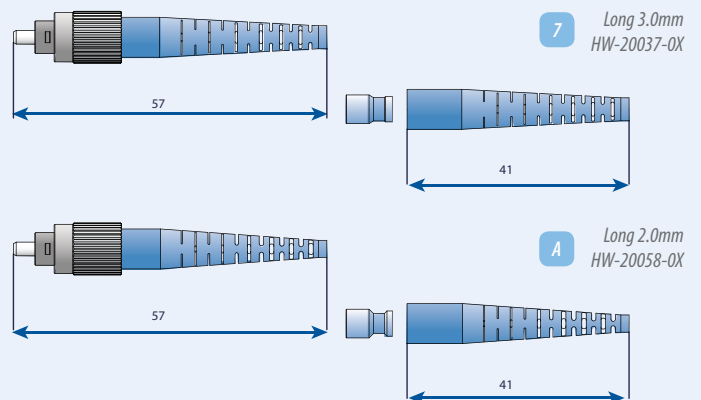


Note: These boots are for Premium and Standard Connectors

ST Premium Long Boot



FC Premium Long Boot



CRIMP RING CODE

Premium Crimp Ring (Comes with Premium Connector)

1.6mm Premium Crimp Ring	HW-20061
2mm Premium Crimp Ring	HW-20026
3mm Premium Crimp Ring	HW-20001

CRIMP RING CODE

Standard Crimp Ring (Comes with Standard Connector)

2mm Standard Crimp Ring	HW-23025
3mm Standard Crimp Ring	HW-23026

E-2000™ CONNECTOR

INSERTION LOSS

For E-2000™	Typical	Maximum
Multimode	0.20dB	0.30dB
Singlemode, PC	0.20dB	0.40dB
Singlemode, APC 8°	0.20dB	0.40dB

Return Loss

Singlemode, PC	50dB	45dB
Singlemode, APC 8°	-	60dB

Mechanical Properties

Mating Cycles	1000	
Temperature Cycling	-25 to +70°C, 12 cycles	

Materials

Housing, Protective Cap and Tension Relief	PBT/UL94 V-0
--	--------------

Each E-2000 Connector comprises the following three sub components:

- Connector Body
- Lever
- Boot & Crimp set

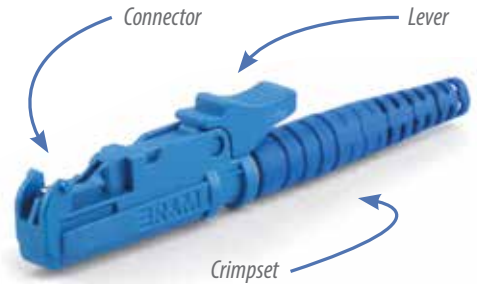
This allows you to customize the boot and lever color of the finished connector. Please see the order code example, below, for more details.

CONNECTOR BODY CODES		LEVER CODES	BOOT & CRIMPSET CODES		
R314618	Simplex, PC, Multimode, Black	R304403	White	R504383	For Pigtail, Black
R305495	Simplex, PC, Singlemode, Blue	R307017	Blue	R504441	For Pigtail, Blue
R309549	Simplex, APC, Singlemode, Green	R304405	Brown	R504126	For Pigtail, Green
		R307018	Green	R504066	For Pigtail, Red
		R308035	Violet	R502985	For Pigtail, Beige
		R304407	Orange	R812805	FO Crimpset for 1.7-2.3 Cable, Green
		R304408	Red	R812806	FO Crimpset for 1.7-2.3 Cable, Blue
		R309210	Black	R812807	FO Crimpset for 1.7-2.3 Cable, Black
		R304832	Yellow	R812808	FO Crimpset for 1.7-2.3 Cable, Red
		R308034	Turquoise	R812809	FO Crimpset for 2.4-2.8 Cable, Green
				R812810	FO Crimpset for 2.4-2.8 Cable, Blue
				R813158	FO Crimpset for 2.4-2.8 Cable, Black
				R813159	FO Crimpset for 2.4-2.8 Cable, Red
				R813160	FO Crimpset for 2.9-3.2 Cable, Green
				R813161	FO Crimpset for 2.9-3.2 Cable, Blue
				R813162	FO Crimpset for 2.9-3.2 Cable, Black
				R813163	FO Crimpset for 2.9-3.2 Cable, Red
				R813164	FO Crimpset for 2.9-3.2 Cable, White

R309549 - R307018 - R813160 ORDER CODE example



E-2000 APC



E-2000 UPC



E-2000 Multimode

Features:

- Secure transmission of high bit-rate protocols
- Zirconia ceramic ferrule fully protected by spring loaded shutter
- Push-pull locking mechanism for easy installation
- Color coded release levers
- Compliant with European (EN 186270) and International (IEC 61754-15) standards
- Tested and approved by Swisscom

Accessories



E-2000™ Compact APC Connector



E-2000™ Compact Adapter Duplex

Two E-2000 connectors can be joined together to make a duplex connector by using the COMPACT DUPLEX CLIP and the DUPLEX CONNECTOR LEVER.

COMPACT (RJ) DUPLEX CONNECTOR LEVER		COMPACT (RJ) HOUSING CLIP CODE	
R305513	Blue	R305542	Compact (RJ) Duplex Clip for Connector Housing
R305514	Green		
R305515	Orange		
R309004	Turquoise		
R305517	Black		
R305518	White		

Features:

- Secure transmission of high bit-rate protocols
- Spring loaded shutter
- Compliant with European (EN 186270) and International (IEC 61754-15) standards
- Tested and approved by Swisscom

E-2000™ SIMPLEX ADAPTER



E-2000™ APC Simplex Adapter



E-2000™ APC Simplex Adapter

SIMPLEX ADAPTER CODE	
R508019	Black, SC footprint, with Flange
R504511	Blue, SC footprint, with Flange
R504541	Green, SC footprint, with Flange
R504503	Beige/white, Flangeless, SC Footprint
R504512	Blue, Flangeless, SC Footprint
R504562	Green, Flangeless, SC Footprint

R508019 ORDER CODE example

Features:

- Spring loaded shutter
- High quality split ceramic sleeve
- Injection molded PBT housing UL94V-01 Rated
- High performance over 1000 matings

E-2000™ COMPACT DUPLEX ADAPTER

E-2000™ APC Compact Adapter



E-2000™ MM Compact Adapter



E-2000™ Snap-in Frame Supplied with Compact Adapter

COMPACT (RJ) ADAPTER	
R313001	Compact Adapter & Snap-in Frame, Pb, Black
R313011	Compact Adapter & Snap-in Frame, Zr, Blue
R313009	Compact Adapter & Snap-in Frame, Zr, Green

R313001 ORDER CODE example

Features:

- Spring loaded shutter
- High quality split ceramic sleeve
- Injection molded PBT housing UL94V-01 Rated
- High performance over 1000 matings

STANDARD CONNECTOR SERIES
SMALL FORM FACTORS
SPECIALTY PRODUCTS
FERRULES AND SLEEVES
POLISHING SYSTEMS

pg. 02
pg. 24
pg. 58
pg. 68
pg. 74



SMALL FORM FACTORS

LC-UPC Unibody	pg. 26	MPO Plus Connector	pg. 42
LC-APC Unibody	pg. 26	MT Ferrule	pg. 43
LC Connector	pg. 27	MPO Plus Premium Connector	pg. 44
LC Connector 1.2mm	pg. 27	MPO Plus Push Pull Tab	pg. 44
LC Switchable Uniboot	pg. 28	MPO Plus Premium Boot	pg. 45
LC-HD Connector	pg. 30	MPO Plus Mini Connector	pg. 46
LC-HD Uniboot	pg. 31	MPO Plus Mini Boot	pg. 47
LC-HD UPC Connector	pg. 31	MPO Plus Latch Connector & Adapter	pg. 49
LC-HD APC Connector	pg. 31	MPO Plus Bayonet Connector	pg. 50
LC Flex Angle Boot	pg. 32	MPO Plus Micro Connector & Adapter	pg. 50
LC Connector Boots	pg. 33	MPO Plus Guide Pin	pg. 51
LC Adapter Series	pg. 34	MPO Plus Gender Changeable Pin	pg. 51
LC-MU Hybrid Adapter	pg. 35	MPO One Piece Connector	pg. 52
LC-SC Hybrid Adapter	pg. 35	MPO Metal Adapter	pg. 52
LC TOP Adapter Series	pg. 37	MPO SC Footprint Adapter	pg. 52
LC Keyed Connector & Adapter	pg. 38	MPO Stackable Adapter	pg. 53
LC Mini Connector	pg. 39	MPO Plus Latch Ready Adapter	pg. 54
LC Crimp Tool	pg. 39	MPO Plus Crimp Tool	pg. 54
MU One Piece Connector	pg. 40	MPO Plus Boot Comparison	pg. 55
MU Connector Kit	pg. 40	MT-RJ Connector & Adapter	pg. 56
MU Adapter	pg. 41	MT-RJ Ferrule	pg. 56
MU Backboard & Package Housing	pg. 41	MT-RJ Crimp Tool	pg. 56



SENKO's Long Standing LC Connector License Offers Various Styles of LC Connectors and Adapters to Meet the Customers Need



LC PREMIUM UNIBODY Connector



The LC Premium Unibody Connector molded with a Single body delivers maximum strength against mechanical tests including side loading test and TWAL tests. Manufactured to the highest standard, the LC Unibody connector is designed to meet and exceed the Verizon FOC TPR requirement and designed for the usage for the OSP application or where customers needs the highest quality product.

- Premium SM and Premium Low Loss SM (LS) are available
- Typical IL of 0.05 for LS SM and 0.08 for Premium SM Ferrule
- Various option of boots are available to meet your need
- PC Type and APC Type available



LC STANDARD (2PC) Connector



The Original LC designed connector gives the maximum value for cost. Using high quality components, this connector meets IEC, TIA/EIA and the general requirement of GR-326.

- Available with Pre-assembled 1pc style or in a Multi piece kit
- Typical IL of 0.12 for Standard ferrules
- Various options of boots are available to meet your demand

FEATURES COMPARISON CHART

For LC Premium and LC Standard	PREMIUM UNIBODY LOW LOSS SM FERRULE	PREMIUM UNIBODY SM FERRULE	STANDARD 2PC SM FERRULE
LC License Holder	○	○	○
IL Average Against Master (UPC)	0.05	0.08	0.12
IL Mean Value Random Mating (UPC)	0.07	0.12	0.25
Verizon FOC TPR-9409	○	○	
GR-326 Core Issue 4	○	○	△
IEC, TIA/EIA JIS Spec	○	○	○
IEC Random Mating Grade A*	○		
IEC Random Mating Grade B*	○	○	
IEC Random Mating Grade C*	○	○	○
ROHS Compliant	○	○	○
UL 94V-0	○	○	○
Ruggedized Unibody Structure	○	○	
Universal Body For Sim-Dup-BTW	○	○	
6 Position Tuning After Assembly (UPC)	○	○	○
LC MINI Boots	○	○	○
Standard Boots	○	○	○
TWAL Proof 900µm Boots	○	○	○
Pre-assembled 1pc Style	○	○	○
Free Floating Ferrule	○	○	○
Metal Back Post	○	○	○
Crimp Tool CRT-701**	○	○	○

Note: *IEC 61753-1 **CRT-705 to be used for 1.2mm Unibody

TECHNICAL SPECIFICATIONS

Unibody Premium and Standard 2pc Connector

PRODUCT SERIES	TYPE OF CONNECTOR	IL AGAINST MASTER (dB)		IL RANDOM MATING (dB)	
		Average IL	Maximum IL	Mean IL	Maximum IL
Unibody Premium Low Loss SM	931-159-1xx, 932-159-1xx	0.05	0.15	0.07	0.15 ^{*1}
Unibody Premium SM	931-153-1xx, 932-153-1xx	0.08	0.20	0.12	0.25 ^{*2}
Unibody Premium APC Low Loss	931-159-3xx, 932-159-3xx	0.07	0.15	0.09	0.20
Unibody Premium APC	931-153-3xx, 932-153-3xx	0.10	0.25	0.14	0.30
Unibody Premium MM	931-251-2xx, 932-251-2xx	0.10	0.20	-	-
Standard 2pc + Standard SM Ferrule	911-151-1xx, 912-151-1xx	0.12	0.30	0.25	0.50 ^{*3}
Standard MM	911-251-2xx, 912-251-2xx	0.15	0.30	-	-
Singlemode					
Operating Temperature	-40°C to +75°C				
Durability	<0.2dB typical change, 500 matings*				

IEC Random mating test IEC 61753-1

1 - To meet IEC Random Mating Grade A (≤ 0.07 dB mean, ≤ 0.15 dB max for >97% of sample. Grade A Spec is not finalized, above is a recommendation.

2 - To meet IEC Random Mating Grade B (≤ 0.12 dB mean, ≤ 0.25 dB max for >97% of sample)

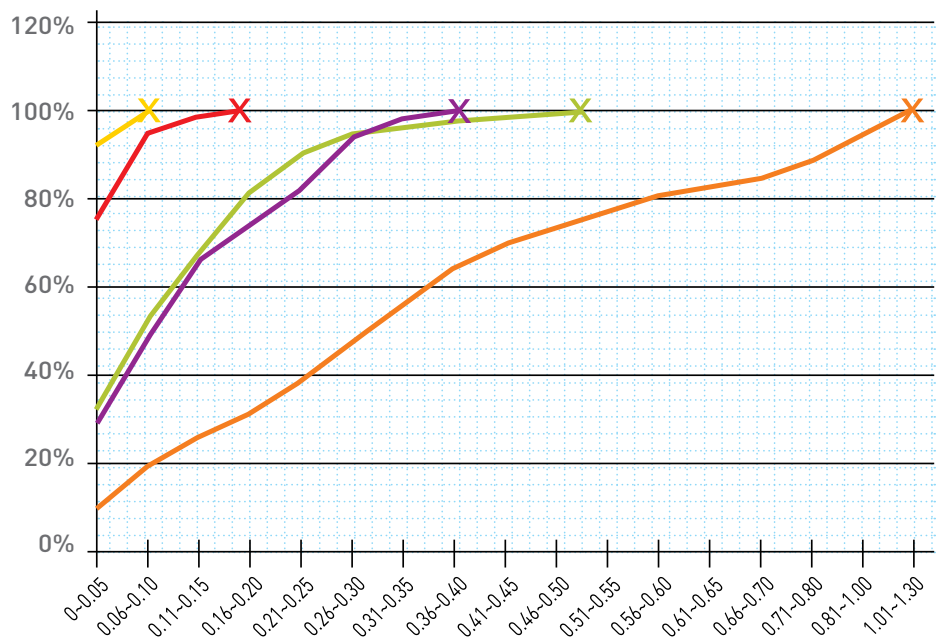
3 - To meet IEC Random Mating Grade C (≤ 0.25 dB mean, ≤ 0.50 dB max for >97% of sample)

Random Mating IL

SENKO has categorized its connectors to reflect the IEC Random Mating specified grades A*, B, and C, allowing the end-user to make an informed decision when selecting connectors, of how finished patchcords using SENKO connectors will perform.

Random mating Insertion Loss

- SENKO Low Loss
- SENKO Premium
- SENKO Standard
- High quality Competitor
- Low quality Competitor



931, 932 Series

LC PREMIUM UNIBODY



900µm MINI Boot



2.0mm MINI Boot



3.0mm MINI Boot

CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
931 LC Unibody Simplex	153 SM: Premium 125µm	1 SM: Blue	B MINI Boot 900µm	1 White
932 LC Unibody Duplex	159 SM: Low Loss 125µm	2 MM: Beige	C MINI Boot 2.0mm	2 Blue
	251 MM: Premium 127µm	5 MM OM3: Aqua	D MINI Boot 3.0mm	3 Black
		6 MM OM4: Heather Violet	1 BTW Boot	4 Yellow
			4 2.0mm Round	5 Red
			5 2.0mm Boot Short	
			6 3.0mm Boot	
			7 Flex-Angle 2.0mm	
			9 Flex-Angle 3.0mm	

931 - 153 - 141 ORDER CODE example

Note: Other ferrule ID size are available
SM 126µm SM 125.5µm

Features:

- SENKO's flagship highest quality LC connector Series
- Solid body robust design to improve mechanical strength.
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirement
- Premium Super Low loss, typical IL against Master 0.05dB
- Premium Super Low Loss to meet IEC 61753-1 Grade A random mating requirement of Max 0.15dB
- Premium SM typical IL against Master 0.08dB Max
- Premium SM to meet IEC 61753-1 Grade B random mating requirement of Max 0.25dB
- 6 direction tuning feature to improve random mating IL
- Wide choice of boot types
- Crimp tool to be used CRT-701

931, 932 Series

LC PREMIUM UNIBODY



900µm MINI Boot



2.0mm MINI Boot



3.0mm MINI Boot

CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
931 LC Unibody Simplex	153 SM: Premium 125µm	3 APC: Green	B MINI Boot 900µm	6 Green
932 LC Unibody Duplex	159 SM: Low Loss 125µm		C MINI Boot 2.0mm	
			D MINI Boot 3.0mm	
			1 BTW Boot	
			4 2.0mm Round	
			5 2.0mm Boot Short	
			6 3.0mm Boot	
			7 Flex-Angle 2.0mm	
			9 Flex-Angle 3.0mm	

931 - 153 - 316 ORDER CODE example

Note: Other ferrule ID size are available
SM 126µm SM 125.5µm

Features:

- SENKO's flagship highest quality LC connector Series
- Solid body robust design to improve mechanical strength
- Designed to exceed the requirement of Verizon FOC TPR 9409 requirement
- Premium Super Low loss, typical IL against Master 0.07dB
- Premium SM typical IL against Master 0.10dB
- Wide choice of boot types
- Crimp tool to be used CRT-701

LC STANDARD 2PC

911, 912, 921, 922 Series

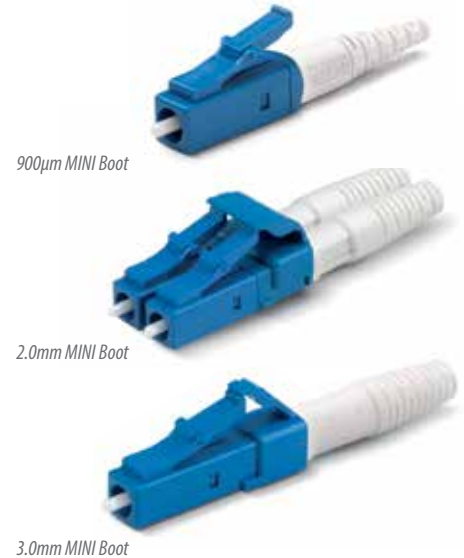
CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
911 Preassembled Simplex	151 SM: Standard 125.5µm	1 SM: Blue	B MINI Boot 900µm	1 White
912 Preassembled Duplex	251 MM: Standard 127µm	2 MM: Beige	C MINI Boot 2.0mm	2 Blue
921 Kit Simplex		5 MM OM3: Aqua	D MINI Boot 3.0mm	3 Black
922 Kit Duplex		6 MM OM4: Heather Violet	2 2.0mm Original	4 Yellow
			6 3.0mm Boot	5 Red

912 - 151 - 121 ORDER CODE example

Note: Other ferrule ID size are available
 SM 126µm SM 125µm MM 230µm MM 144µm

Features:

- The original 2pc LC Design
- SENKO's Standard Connector series gives the highest value for cost
- Pre-assembled one piece design and Connector Kit style available
- Meets and exceeds the TIA/EIA, IEC and JIS LC Specification
- Standard SM Ferrule typical IL against Master 0.12dB
- Crimp tool to be used CRT-701



LC CONNECTOR 1.2mm

The new LC Connector is as strong as a 3mm cable. Reduce your cable size, but keep the strength. The LC Connector for 1.2mm cable is fully compliant to GR-326-Core for Media 1.



CONNECTOR PC	FERRULE SIZE	HOUSING COLOR	CABLE SIZE	BOOT COLOR
931 LC Unibody Pre-Assembled Simplex	153 125µm	1 Blue	G 1.2mm	1 White
932 LC Unibody Pre-Assembled Duplex	251 MM 127µm	2 Beige		
933 LC Unibody Un-Assembled Simplex		5 Aqua		
934 LC Unibody Un-Assembled Duplex		6 Heather Violet		

931 - 153 - 1G1 ORDER CODE example

CONNECTOR APC	FERRULE SIZE	HOUSING COLOR	CABLE SIZE	BOOT COLOR
931 LC Unibody Pre-Assembled Simplex	153 125µm	3 Green	G 1.2mm	6 Green
932 LC Unibody Pre-Assembled Duplex				
933 LC Unibody Un-Assembled Simplex				
934 LC Unibody Un-Assembled Duplex				

931 - 153 - 3G6 ORDER CODE example

Features:

- Meets the same GR-326 requirements as a conventional 3mm and 2mm cable
- Exceeds 15lb Proof Test Objective as per GR-326-Core section 4.4.3.4
- Passes the GR-326 TWAL Test for Media 1 (ruggedized cable) as per section 4.4.3.5
- Reduces cable congestion without sacrificing mechanical strength



LC-UPC Connector



LC-APC Connector



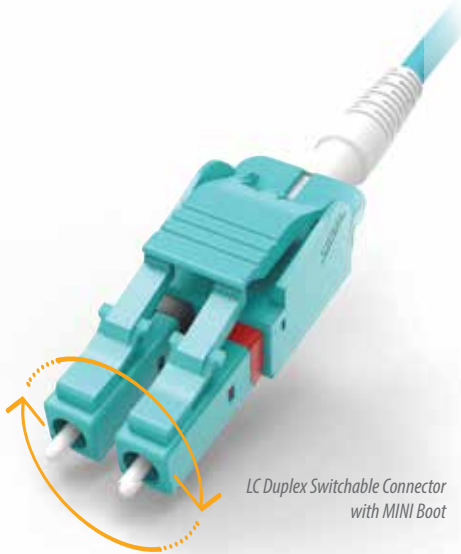
E-3.1

Note: Duct size reduced by 1/6 (approx 16%) compared to a 3mm cable

948 Series

LC SWITCHABLE UNIBOOT

SENKO LC Duplex Switchable Connector is a unique design that allows the use of round style, 2.0mm or 3.0mm jacketed cable instead of the traditional zipcord duplex cable for a more compact design. The housing of the LC Duplex Switchable Connector can be taken apart in the field without the use of any special tooling. This duplex LC allows the fiber polarity to be switched at the time of cable assembly installation without having to re-terminate the connectors.



CODE	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
948	151 SM: Standard 125.5µm	1 Blue	C MINI Boot 2.0mm	1 White
	251 MM: Standard 127µm	2 Beige	D MINI Boot 3.0mm	2 Blue
		3 Green	7 Flex-Angle 2.0mm	3 Black
		5 Aqua	9 Flex-Angle 3.0mm	5 Red
		6 Heather Violet	T 90d Boot	6 Green
			V 3.0mm Boot, Cable feed through back post*	7 Aqua
			G MINI Boot 1.2mm	
			L 3.6mm Boot*	
			M 4.5mm Boot*	
			N 5.0mm Boot*	
			P 5.5mm Boot*	

948 251 5D1 ORDER CODE example

Note*: Standard boot color black.

Features:

- Uniboot connector aids cable management
- Switchable Connector to change polarity
- NEW- Latch Lock Ready
- MINI Boot ready
- Right Angle Clip for better panel management
- Flex angle boot ready
- Red / Black color indication for easy Polarity Check



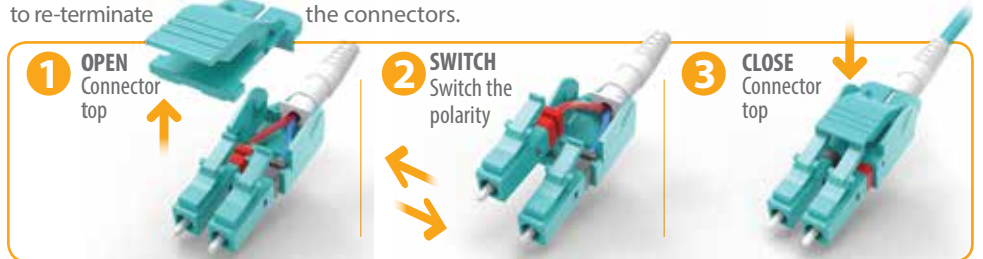
CONNECTOR

948-LOCK-01 LC Switchable Uniboot Latch Lock Key Insert

948 LOCK 01 ORDER CODE example

SWITCH POLARITY

Allows the fiber polarity to be switched at the time of cable assembly installation without having to re-terminate the connectors.



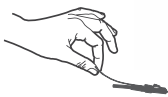
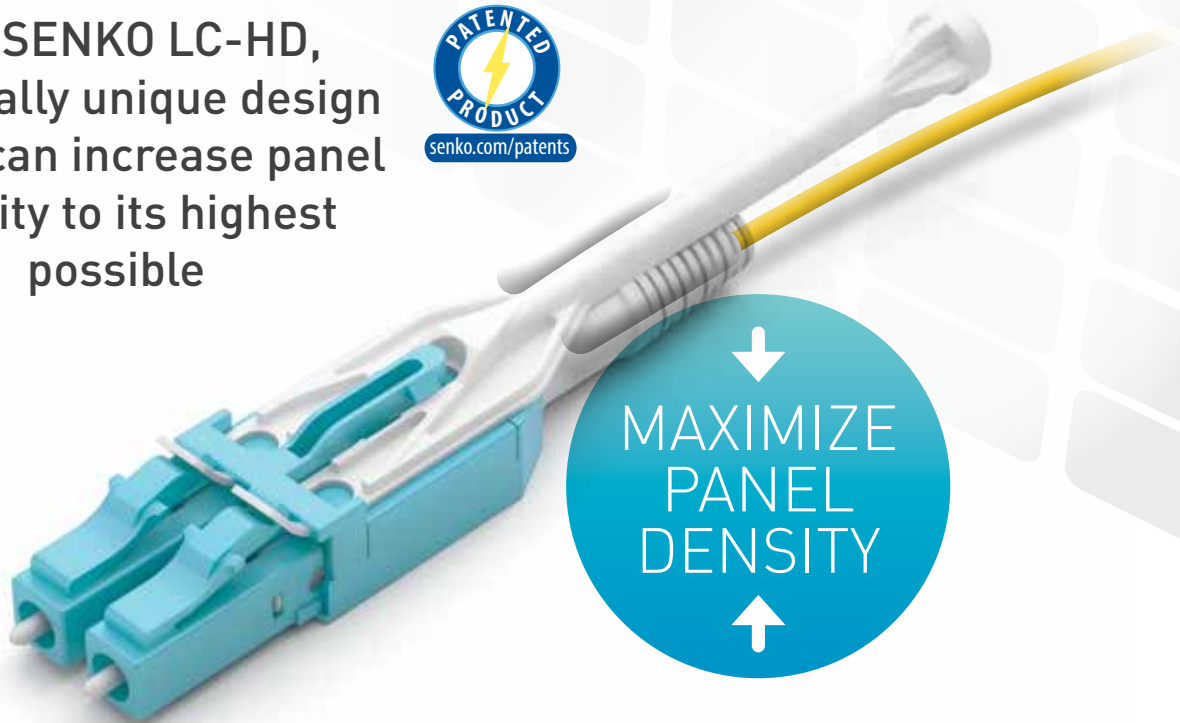
LATCH LOCK

With Add-on key insert, still connects to any conventional adapter but prevents accidental disconnection. Key insert can be removed with no tool.



LC-HD | HIGH DENSITY CONNECTOR

The SENKO LC-HD, is a totally unique design which can increase panel density to its highest possible



Easy to release trigger connector

The Senko LC-HD's lever design utilizes a flexible "pull-tab" allowing for the connector to be disengaged easily from densely loaded panels without the need for special tools.

"Pull-Tabs" are available in three standard lengths and multiple colors.



Stackable adapters

In the days before the Senko LC-HD connector, the LC adapter spacing was limited by the room required to reach LC connectors with the human fingers or with special tools. The overall height of standard LC connectors also required a small vertical space above and below the LC adapters. The low profile Senko LC-HD, together with its pull tab allow the LC adapter to be stacked with absolutely no vertical space.

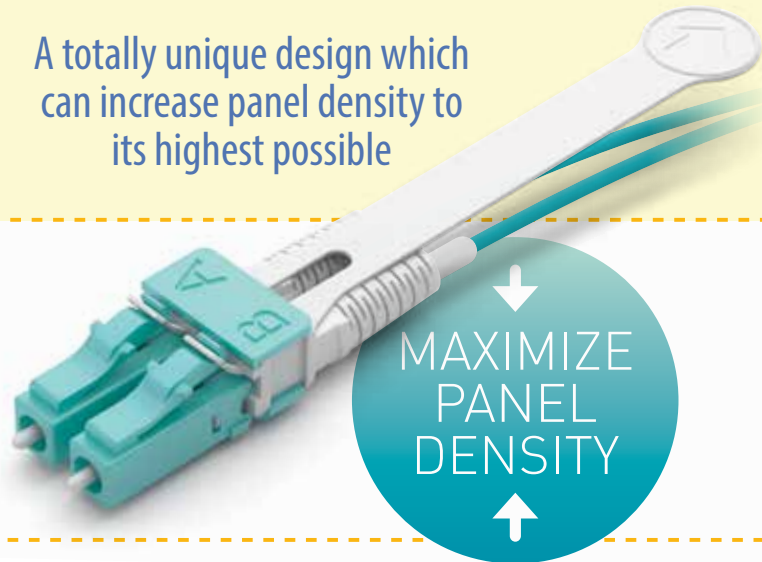


60% increase in density

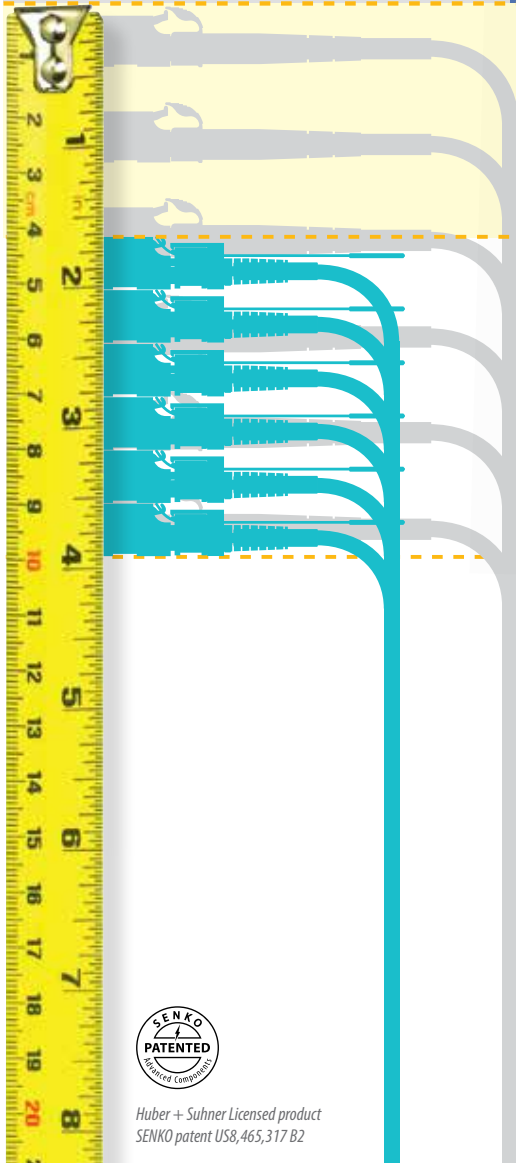
Because the Senko LC-HD connector can be removed using a simple pull tab, it eliminates the need for finger access to the LC connectors latch mechanism, therefore LC adapters can now be mounted much closer than spacing required in the past.

LC-HD HIGH DENSITY CONNECTOR

A totally unique design which can increase panel density to its highest possible



The SENKO LC-HD, is a totally unique design which can further increase panel density over currently available solutions and allow for the highest density possible. A gentle pull on the tab will disengage it from an extremely dense fiber optical panel. The pull tab is a perfect location to affix a connector label to help in the quick identification of the connector.

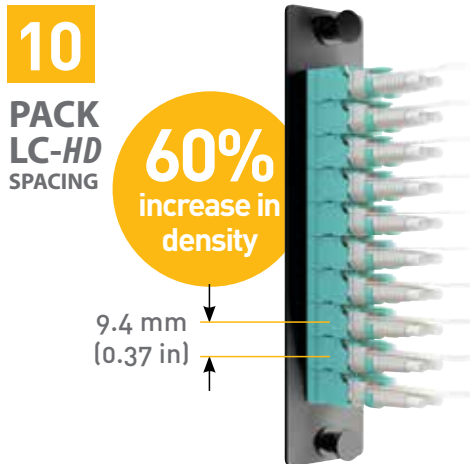


Huber + Suhner Licensed product
SENKO patent US8,465,317 B2

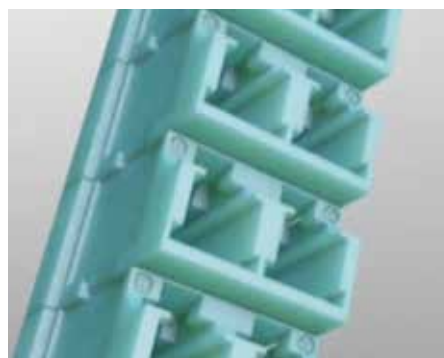
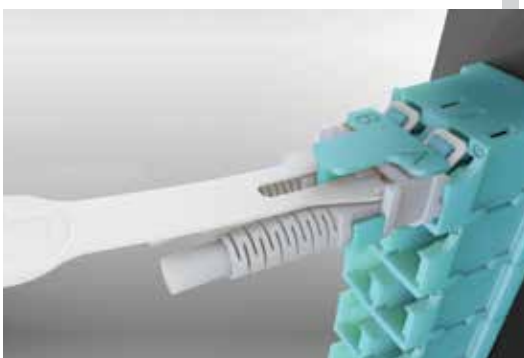
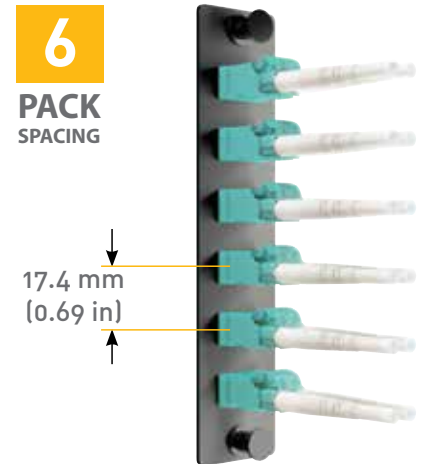
Features:

- Easy to release trigger connector
- 60% increase in density
- Stackable adapters

HIGH DENSITY RACK



CONVENTIONAL RACK



LC-HD CONNECTOR FEATURES

Easy to release trigger connector

The Senko LC-HD's lever design utilizes a flexible "pull-tab" allowing for the connector to be disengaged easily from densely loaded panels without the need for special tools. "Pull-Tabs" are available in three standard lengths and multiple colors.

60% increase in density

Because the Senko LC-HD connector can be removed using a simple pull tab, it eliminates the need for finger access to the LC connectors latch mechanism, therefore LC adapters can now be mounted much closer than spacing required in the past.

Stackable adapters

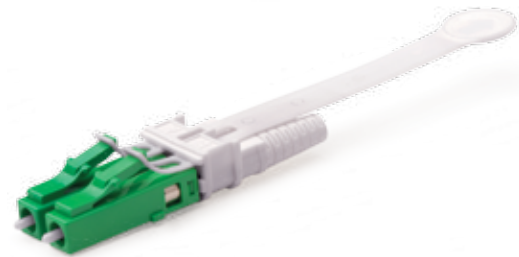
In the days before the Senko LC-HD connector, the LC adapter spacing was limited by the room required to reach LC connectors with the human fingers or with special tools. The low profile Senko LC-HD, together with its pull tab allow LC adapters to be stacked with no vertical space.

LC-HD

CONNECTOR TYPE	FERRULE ID	HOUSING COLOR	BOOT TYPE	BOOT COLOR
913 LC-HD Simplex	153 SM: Premium 125	1 SM: Blue	B LC-HD MINI 900µm	1 White
914 LC-HD Duplex	251 MM: Premium MM	2 MM: Beige	C LC-HD MINI 2.0mm	2 Blue
		3 SM APC: Green	U LC-HD 2.0mm Duplex	3 Black
		5 MM: OM3 Aqua	G LC-HD 1.2mm Boot	4 Yellow
		6 MM: OM4 Heather Violet		5 Red

913 - 153 - 1B1 ORDER CODE example

Note: Pull tab must be purchased separately to complete the set



LC-HD Connector with Pull Tab

LC-HD UNIBOOT

CONNECTOR TYPE	FERRULE ID	HOUSING COLOR	BOOT TYPE	BOOT COLOR
946 LC-HD Uniboot	251 MM: Premium MM	1 SM: Blue	C MINI Boot 2.0mm	1 White
		2 MM: Beige	D MINI Boot 3.0mm	2 Blue
		3 SM APC: Green		3 Black
		5 MM: OM3 Aqua		4 Yellow
		6 MM: OM4 Heather Violet		5 Red

946 - 153 - 1C1 ORDER CODE example

Note: Pull tab must be purchased separately to complete the set



LC-HD Uniboot with Push Pull Tab

PULL TAB

TYPE	CONNECTOR TYPE TO USE WITH	TAB LENGTH	TAB COLOR
HDPT LC-HD Pull Tab	S Simplex	44 44mm	W White
	D Duplex/Uniboot	64 64mm	
		84 84mm	

HDPT-S-44-W ORDER CODE example

LC-HD Pull Tab



PUSH PULL TAB

TYPE	CONNECTOR TYPE TO USE WITH	TAB LENGTH	TAB COLOR
HDPP LC-HD Push Pull Tab	S Simplex	44 44mm	W White
	D Duplex/Uniboot	64 64mm	
		84 84mm	

HDPP-S-BTW-W ORDER CODE example

Note: Push Pull Tab for LC-HD Uniboot only

LC-HD Push Pull Tab



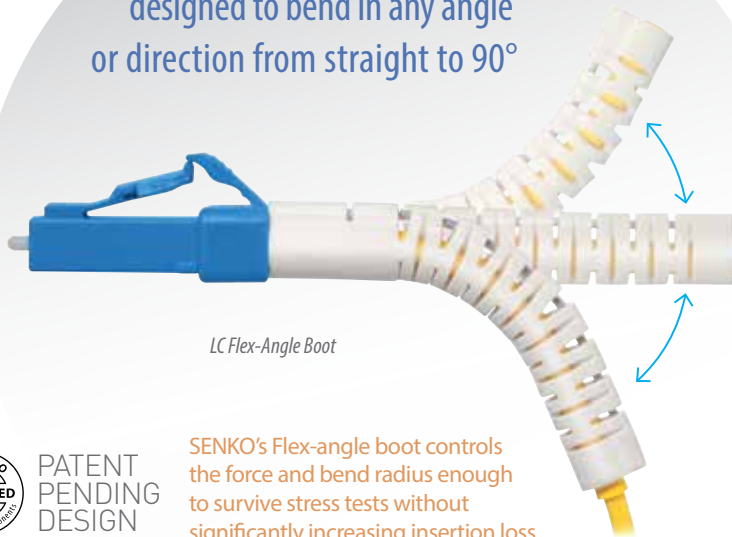
LC FLEX ANGLE BOOT



LC Flex-Angle Boot

SENKO's new 2.0mm and 3.0mm boot addition for the Premium LC connectors. The Flex-Angle boot is designed to bend and maintain any angle or direction from straight to 90°. The boot is molded over a single stainless steel wire and can be easily positioned by hand. The internal wire holds the boot at the desired angle or direction.

The Flex-Angle boot is designed to bend in any angle or direction from straight to 90°



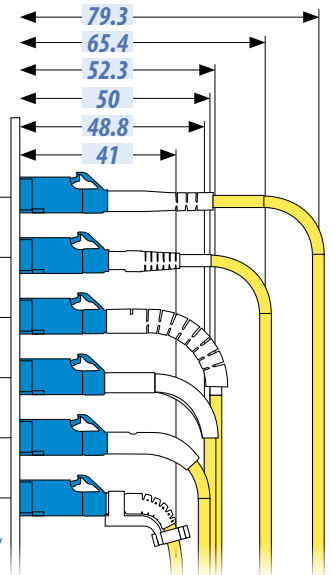
LC Flex-Angle Boot



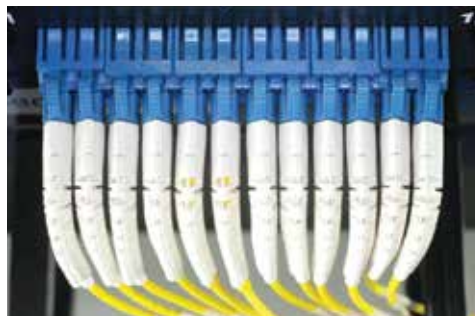
PATENT PENDING DESIGN

SENKO's Flex-angle boot controls the force and bend radius enough to survive stress tests without significantly increasing insertion loss.

- LC Conventional Boot
- LC MINI Boot
- LC w/Flex-Angle Boot
- LC w/90 Degree Boot
- LC w/50 Degree Boot
- LC +MINI Boot+Right Angle Clip



High density patch panels can be tricky to maneuver around when they are fully populated with rigid 90° boots, and the boots can interfere with a technician's access to the panel. SENKO's Flex-Angle boot allows bending in any direction and freedom of movement around other connectors. Also, removing a jumper is made easy; simply straighten out the boot and remove it without worrying about it affecting other connectors in the panel.



LC ANGLE BOOTS

TYPE	ITEM NUMBER
LC 50 Angle Boot	BTLC-2-50-x
LC 90 Angle Boot	BTLC-2-90-x
LC 2mm Flex Angle Boot	931-JCBF-x
LC 3mm Flex Angle Boot	931-JCBF3-x
LC Right Angle Clip	931-CLIP-RAB-W

BTLC-2-50-X ORDER CODE example

Highlight: The Angle boots are assembled using the same termination procedure established for the 2.0mm or 3.0mm connector (same crimp ring and crimp tool), and can be used on simplex and duplex connector configurations.

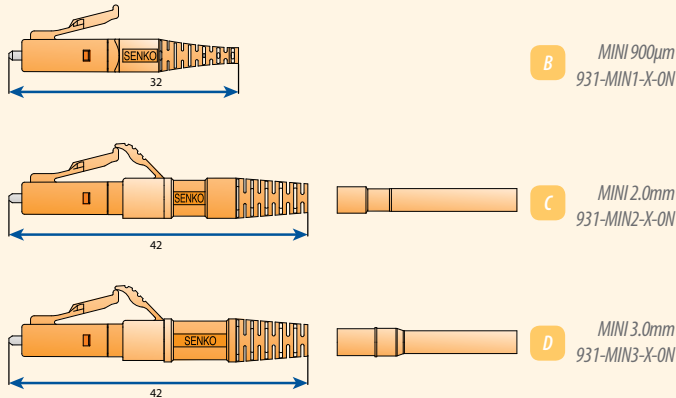
- Provide fixed and flex angle positioning for better cable management
- Made of RoHS material and UL94-V0 rated type

Note: Custom configurations available upon request

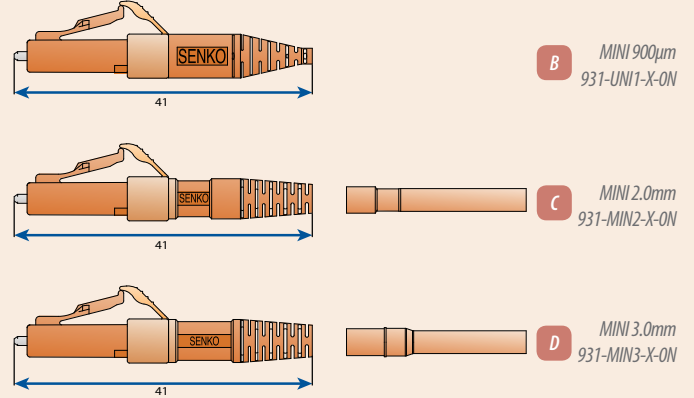
Note: Right Angle Clip for 2mm only

LC CONNECTOR BOOT OPTIONS

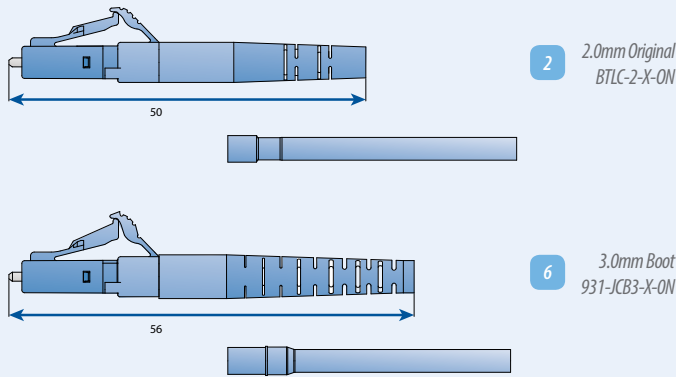
Standard Connector MINI Boots



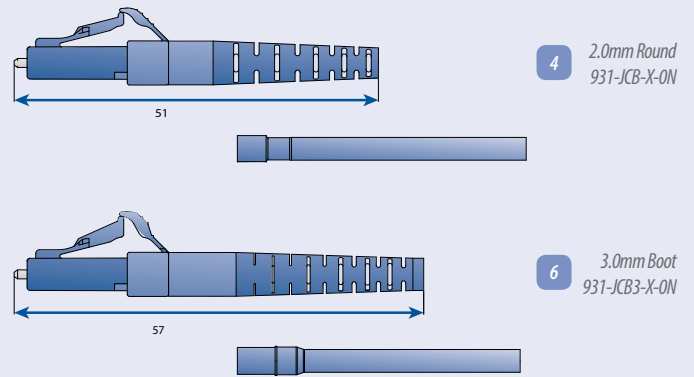
Unibody Connector MINI Boots



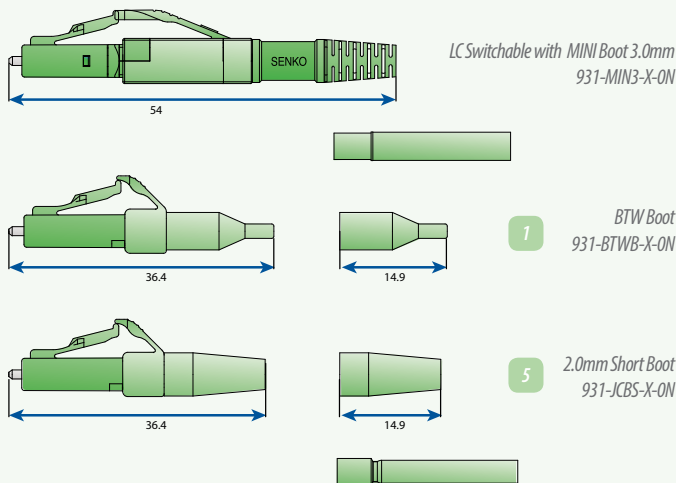
Standard Connector Boots



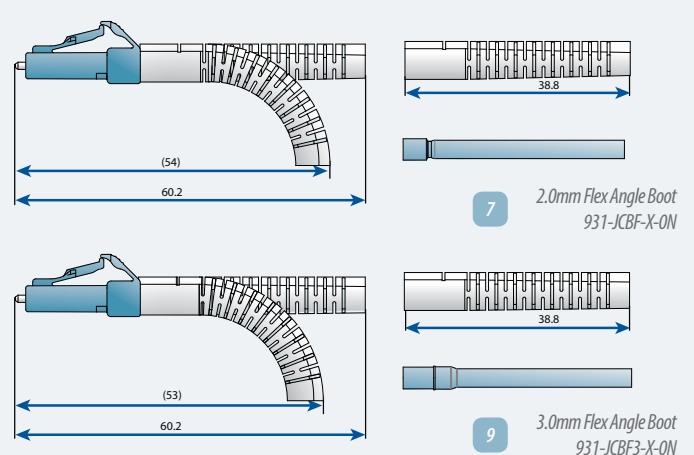
Unibody Connector Boots



More Boots Options



Flex Angle Boots



Note: X=Color Code
W=White, G=Green, L=Blue, B=Black, A=Aqua, R=Red

999 Series

LC ADAPTER STANDARD



LC Adapter Simplex



LC Adapter Simplex



LC Adapter Duplex

CODE	TYPE	COLOR	SLEEVE TYPE
999	1 Simplex	1 Blue	1 Zirconia Straight Split
	2 Duplex	2 Black	2 Metal Straight Split
		3 APC Green	
		8 Beige	
		9 Aqua	

999 - 191 ORDER CODE example

Features:

- Compact design
- RJ-45 Style Interface
- Simplex and duplex type available
- Telcordia, ANSI, TIA/EIA, and IEC compliance*
- Color coding
- High precision alignment with zirconia sleeve or metal sleeve

988 Series (SC Footprint SNR-SNR)

LC ADAPTER (SC FOOTPRINT STYLE) SYMMETRICAL DESIGN



LC Quad Adapter, with SC Footprint, without Flange, Senior-Senior



LC Duplex Adapter, with SC Footprint, with Flange, Senior-Senior

CODE	TYPE	COLOR	SLEEVE TYPE	SHUTTER
988	3S Duplex with Flange	1 Blue	1 Zirconia Straight Split	N No Shutter
	4S Duplex with No Flange	2 Black	2 Metal Straight Split	
	5S Quad with Flange	3 APC Green		
	6S Quad with No Flange	8 Beige		
		9 Aqua		

988 - 3S11 - N ORDER CODE example

Features:

- SC Foot print design allows to use the LC Adapter in a SC panel and double the density
- Premium One piece housing design / no welding point
- Telcordia, ANSI, TIA/EIA and IEC Compliance
- Internal shutter available
- SC Foot print type, Senior - Junior type also available
- High precision alignment with zirconia sleeve or metal sleeve



LC One Piece Adapter, No Weld Type



LC Two Piece Adapter, Welded Type

The new one piece housing design prevents breaking of the adapter due to the absence of ultrasonic weld type construction.

LC ADAPTER WITH SHUTTER

SENKO offers internal shutters for adapters to shield potentially harmful light. SENKO's patented internal shutter is a retractable shutter inside the adapter body and is only actuated by inserting the connector in to the

body, designed specifically to prevent end face damage of the ferrule. The internal shutter is fully automatic and provides an alternative to external shutter solutions.

CODE	TYPE	COLOR	SLEEVE TYPE	SHUTTER
988	3S Duplex with Flange	1 Blue	1 Zirconia Straight Split	A Internal Shutter (w/o mark)
	4S Duplex with No Flange	2 Black	2 Metal Straight Split	
		3 APC Green		
		8 Beige		
		9 Aqua		

988 - 3S11 - A ORDER CODE example

988 Series



LC One Piece Adapter with SC Foot Print



LC One Piece Adapter with SC Foot Print (SNR/SNR)

LC-MU & LC-SC HYBRID ADAPTER

PART NUMBER	DESCRIPTION
M90-101	LC-MU Simplex Hybrid Adapter with Zirconia Sleeve
990-113-M	LC-SC Simplex Hybrid Adapter with Zirconia Sleeve

990 - 113 - M ORDER CODE example



LC-MU Hybrid Adapter



LC-SC Hybrid Adapter

LC METAL ADAPTER

LC one piece duplex metal adapters are available in symmetrical SC foot print design with or without flanges. They can be ordered with internal shutters to provide much needed eye safety by shielding the potentially harmful laser light. These adapters have color coded

dust cap and sleeve holder to ensure right adapter is used for the correct application (PC SM: Blue, PC MM: Beige, APC: Green). Both zirconia and phosphor bronze alignment sleeves are available on this product.

CODE	TYPE	DUST CAP/INTERNAL COLOR	SLEEVE TYPE	SHUTTER
988M	3S Duplex with Flange	1 Blue	1 Zirconia	N No Shutter
	4S Duplex without Flange	2 Green	2 Metal	A Internal Shutter
		3 Beige		

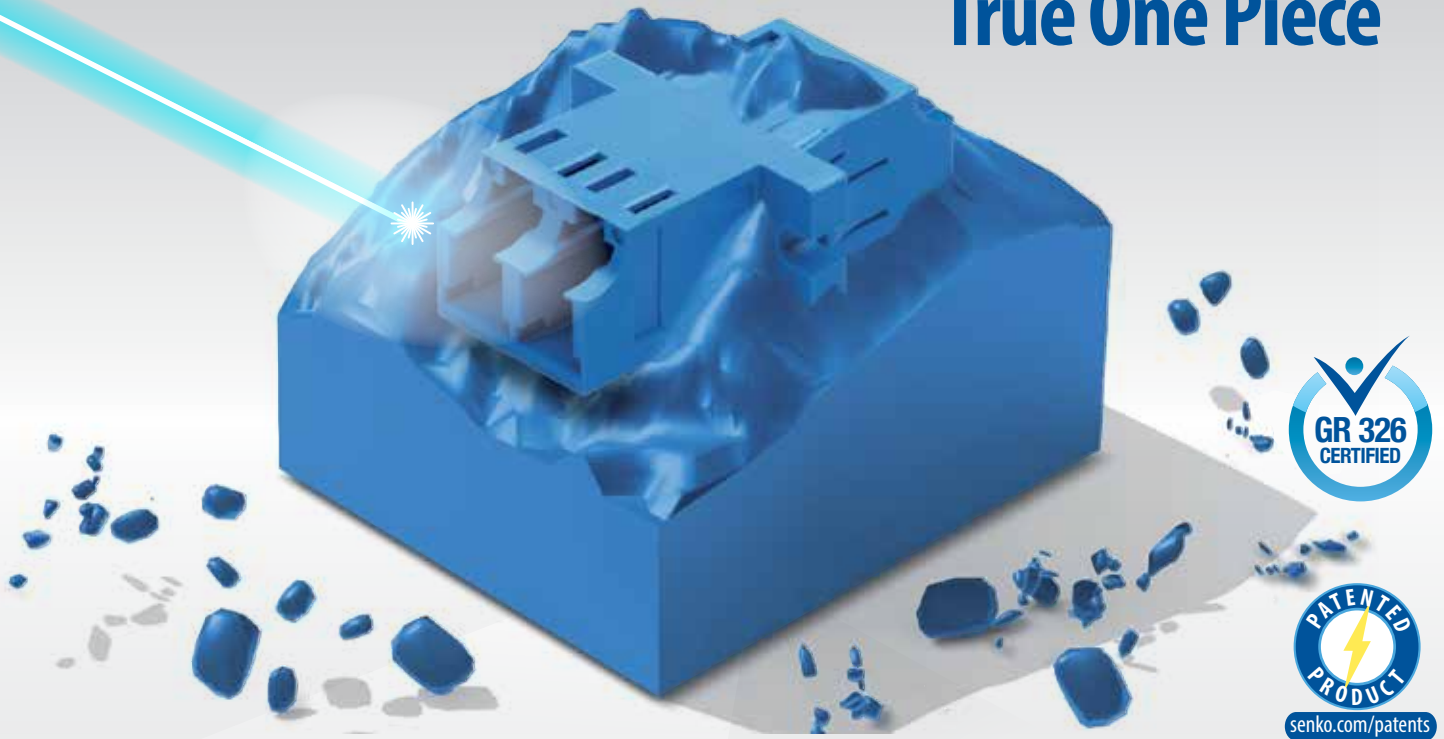
988M - 3S11 - N ORDER CODE example



LC One Piece Duplex Adapters

LC TOP ADAPTER

True One Piece



Meet the New, More Rugged, True One Piece (TOP) Design

FEATURES



4 anti-rattle wings
Significantly reduce movement when snapped into panel



Integrated non metallic panel clip



External/Internal shutter capable



LC TOP Adapter with flange



LC TOP Adapter no flange

SENKO introduces its new line of True One Piece adapters with enhanced Rattle Free wings. Available in both flange and no flange configurations. The True One Piece design has proven increased side loading performance over conventional adapters.

FUNGUS RESISTANCE

Over a period of time it is possible that Polymeric materials can grow fungus on the surface, (see image of a Polymeric sample with fungus growth present) but according to the requirements of Telcordia GR-326 it stipulates that samples shall not support fungus growth per ASTM G21-96. A rating of 0 (zero) is required.

NOTE: This requirement applies to the connector (including boots) and adapter plastic components. SENKO premium connectors are manufactured using materials that do not support this fungus growth, after independent testing of SENKO connectors are rated at 0 (zero).



LC TOP ADAPTER WITH SC FOOT PRINT

TOP (True One Piece) Adapter 987 series

Senko introduces its new line of True One Piece adapters with enhanced Rattle Free wings. Available in both flange and no flange

configurations. The True One Piece design has proven increased side loading performance over conventional adapters.



CODE	TYPE	COLOR	SLEEVE TYPE	SHUTTER
987	3S Duplex with Flange	1 Blue	1 Zirconia	N No Shutter
		2 Black		A Internal Shutter (<i>without mark</i>)
		3 Green		
	4S Duplex No Flange	7 Violet OM4 (<i>MOQ Req</i>)	2 Metal	
		8 Beige		
		9 Aqua OM3		

987 - 3511 - N ORDER CODE example

Note: For External Shutter, please refer to page 11.
Part Number: 222-2-OS



LC One Piece Adapter, No Weld Type



LC Standard Adapter, Welded Type

The new one piece housing design prevents breaking of the adapter due to the absence of ultrasonic weld type construction.

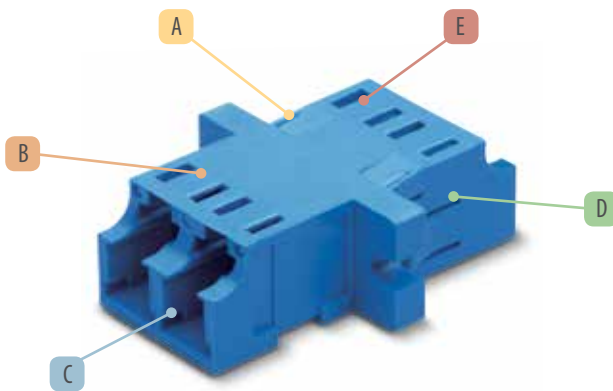


LC TOP Adapter without Flange



LC TOP Adapter with Flange

LC TOP ADAPTER FEATURES



Features:

- Four (4) Anti-Rattle “wings” prevent the freedom of the adapter to wiggle in a top-to-bottom direction when snapped into adapter panels
- An integrated panel clip is molded into the adapter’s plastic housing which eliminates the need for any added metallic panel clip
- The integral panel clips have the dual role of also preventing the adapter to wiggle in a side-to-side direction
- Recesses on both sides of the adapter allow the current external shutter to be used

- A** Rattle Free Wings
- B** One Piece Solid Body
- C** Shutter Ready
- D** Integrated Mount Clip
- E** Anti Fungus Plastic UL 94-V-0

LC KEYED CONNECTOR AND ADAPTER



LC Keyed Connectors and Matching Adapters

SENKO Keyed LC Connector Solution offers mechanical network security for organizations wanting to segregate networks due to privacy or security concerns.

Features:

- LC Keyed connectors and adapters prevent improper connection of separate networks with common access points
- LC Keyed products feature twelve color-coded, keyed designs to limit improper connections networks
- Each LC Keyed connector will mate only with same-color LC Keyed adapter

CODE	TYPE	FERRULE I.D.	COLOR/CLIP	HOUSING COLOR & KEY	BOOT	BOOT COLOR		
93	LC Keyed Connector	5	SM: 125µm	1 Blue	A Pink	K Turquoise	B MINI Boot 900µm	1 White
		6	MM: 127µm	2 Beige	B White	L Magenta	C MINI Boot 2.0mm	
		7		9 Aqua	C Yellow	M Olive	D MINI Boot 3.0mm	
		8			D Red		4 2.0mm Round	
					E Orange		6 3.0mm Boot	
					F Violet		7 Flex-Angle 2.0mm	
					G Gray		9 Flex-Angle 3.0mm	
					H Cobalt			
				J Brown				

936 - 251 - 2A41 ORDER CODE example

CODE	TYPE	COLOR & KEY	SLEEVE TYPE	
977	LC Keyed Adapter	3S Duplex with Flange	1 Zirconia Straight Split	
		4S Duplex with No Flange		
		A Pink	H Cobalt	
		B White	J Brown	
		C Yellow	K Turquoise	
		D Red	L Magenta	
		E Orange	M Olive	
	F Violet	U Black (Universal)		
	G Gray			

977 3SD1 ORDER CODE example

MINI LC CONNECTOR (5.25mm PITCH TYPE)

The Mini LC Connector is designed with a narrow ferrule pitch to work with the Mini SFP (mSFP) transceiver. This accommodates the need of higher port densities provided by the transceivers without compromising performance. The change in pitch was introduced to create a more compact transceiver footprint. With this reduction, port density can be increased without changes to overall enclosure dimensions.

The MINI LC Duplex Connector looks virtually identical to standard LC Duplex connector distinguishable with its black Duplex clip and its 5.25mm pitch versus the 6.25mm used in standard LC Duplex connector.

CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
916	LC Pre-Assembled	1 SM: Blue	2 2.0mm	1 White
	1 PC, 5.25mm Pitch	2 MM: Beige	Round Boot	
		5 MM OM3: Aqua		
		6 MM OM4: Heather Violet		

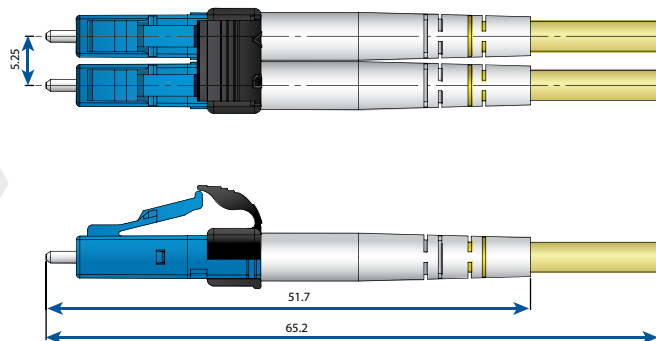
916 - 151 - 121 ORDER CODE example

Note: Other ferrule ID size are available
 SM 126µm SM 125µm MM 230µm MM 144µm

Features:

- Increase the density
- Extremely compact design
- Easy assembly
- Ferrule to ferrule pitch reduced from 6.25 to 5.25
- Same spec as the Standard LC Connector

MINI LC Connector
 5.25mm Pitch



MINI LC 2.0mm
 Duplex Connector, Aqua



MINI LC 2.0mm
 Duplex Connector, Blue

LC CRIMP TOOL

CODE	CONNECTOR TYPE
CRT	701 LC/MU Dual Crimp Tool
	705 SC/LC 1.2mm Connectors

CRT - 701 ORDER CODE example



1 PC Connector (510 Series)

MU ONE PIECE CONNECTOR



CONNECTOR	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
510 MU Connector	113 SM: 125µm	1 Blue	1 2.0mm Cable	1 Blue
	211 MM: 127µm	2 Black	2 1.0mm Fiber	2 Black
		3 Red	4 1.6mm Cable	3 Green
		4 Beige	5 1.0 Fiber Short	4 Red
		5 Brown		5 Gray
		6 Yellow		6 Yellow
		0 MU-J*		7 White
				8 Beige
				9 Lavender

510 - 113 - 519 ORDER CODE example

Note: Other ferrule ID size are available
SM 126µm SM 125.5µm

Features:

- NTT-MU hardware compatibility
- NTT & JIS compliance
- Pre assembled 1pc style
- Compact, pull-proof design
- One piece construction
- Tunable zirconia connector ferrule
- Corrosion resistant body
- UL-rated plastic housing and boot
- Universal Duplex Clip
- Low insertion loss & back reflection

Connector Kit (511 Series)

MU CONNECTOR KIT

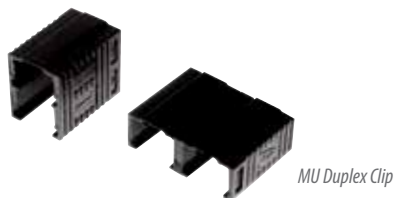


CODE	FERRULE TYPE	HOUSING	BOOT TYPE	BOOT COLOR
511 MU Kit	xxx	5 Brown	1 2.0mm Cable	9 Lavender
		0 MU-J*	3 1.0mm Fiber Short Body	

511 - xxx - 519 ORDER CODE example

Note: 1. Custom configurations available upon request
2. Ferrule to be ordered separately

MU DUPLEX CLIP



CODE	CLIP TYPE	BOOT COLOR
512 MU Kit	1 Vertical	12 Black
	2 Horizontal	15 Brown

512 - 215 ORDER CODE example

Note: Custom configurations available upon request

MU ADAPTER

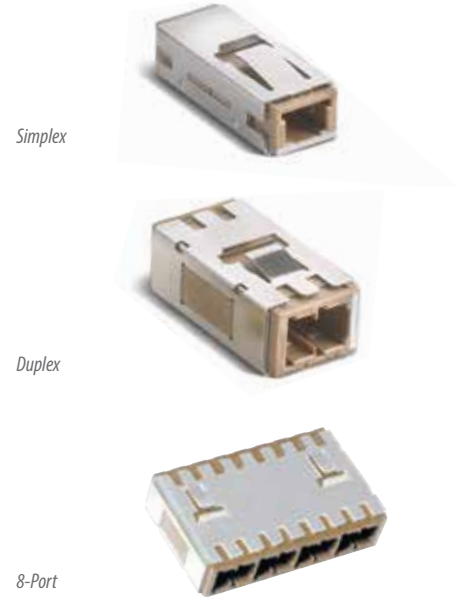
MU Adapter

CODE	TYPE	SLEEVE
MUA	1 Simplex	ZA Zirconia
	2 Duplex	
	3 8-Port	

ORDER CODE example: MUA - 1 - ZA

Features:

- Compact design
- NTT-MU hardware compatibility
- NTT & JIS compliance
- High precision alignment
- Low insertion and return loss and back reflection*
- Corrosion resistance reflection



MU BACKBOARD AND PACKAGE HOUSING

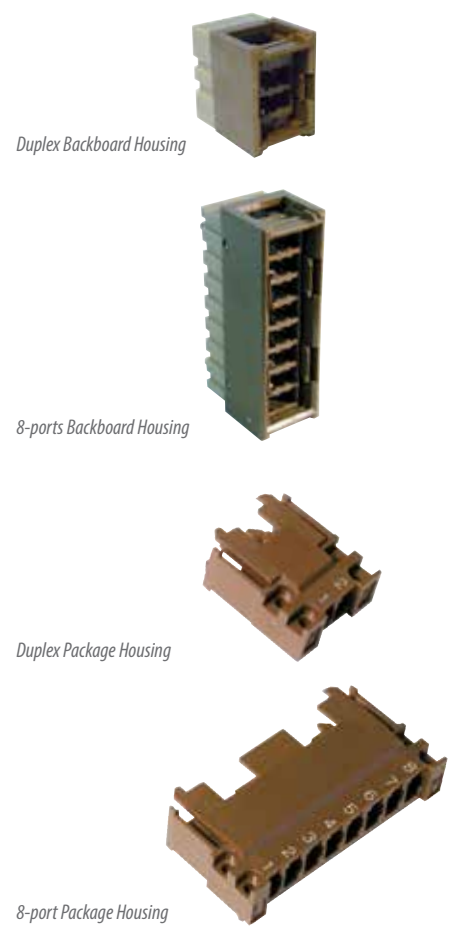
MU Back Board

CODE	TYPE	HOUSING TYPE
MUB	2 Duplex	1 2.4mm Back Board Thickness
	8 8-Port	2 3.2mm Back Board Thickness
		3 Package Housing

ORDER CODE example: MUB - 2 - 1

Features:

- Compact design
- NTT-MU hardware compatibility
- NTT & JIS compliance
- High precision alignment
- Low insertion and return loss and back reflection*
- Corrosion resistance reflection



CODE	TYPE
MU Sleeve Holder	SH

ORDER CODE example: MU - SH

CODE	TYPE
MU Removable Tool	JRT

ORDER CODE example: MU - JRT

Types and Loss Data

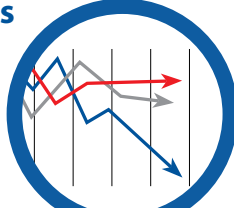
MPO PLUS CONNECTOR

MPO PLUS[®]

Removable Housing



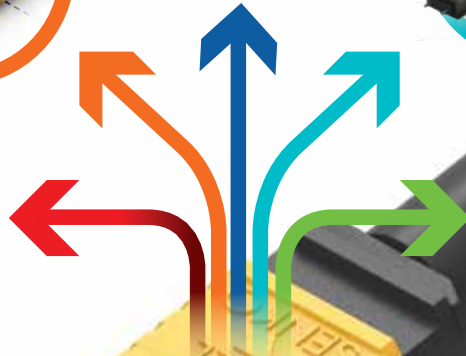
Low Insertion Loss



MPO-HD
Maximize panel density



IP-MPO
Weatherproof
Connector



Various Boot
Styles



New MPO Plus: More Features compared to Conventional MPO

- Lower Insertion loss on SM Typical 0.1dB
- Lower Insertion loss on MM Typical 0.08dB
- Meets and exceeds Telcordia GR-1435
- Removable Housing
- Metal Pin Holder
- Oval Spring
- 20N Spring for 24F MM Ferrule
- Spring Push with Slit for easier assembly
- MPO-HD for High Density Application
- Flex angle boot and other boot styles
- IP-MPO Outdoor rated IP-68 housing
- Stackable MPO Adapter

MPO-HD
HIGH-DENSITY CONNECTOR



MAXIMIZE
PANEL
DENSITY

IP-MPO
WEATHERPROOF CONNECTOR



MPO
FLEX ANGLE BOOT



BEND
ANY
ANGLE

MPO
ADAPTERS



Features:

- High precision guide pins for exact alignment
- Compact design, up to 24 fiber ribbons
- IEC 61754-7 Compliant*
- Telcordia GR-1435-CORE compliant*
- Polishing does not require diamond film

MT FERRULE

The MPO connector offers up to 24 times the density of standard connectors, providing significant space and cost savings. MPO Connectors utilize precision molded MT Ferrules, with metal guide pins and precise housing dimensions to ensure fiber alignment when mating. MPO Connector housing are available in

Green (for SM) Yellow (for SM Super Low loss), Beige (for MM) and Aqua (for OM3 Fiber). Ferrule available in 4, 8, 12 and 24 fiber hole configuration. Ferrules are available for SM Standard, SM Super Low Loss, MM Standard and MM Low Loss. Boots are available for Ribbon Cable, Ribbon fiber, Round boot and the patent SENKO Flex angle boot.

MPO+PLUS®

TYPE	DESCRIPTION	IL MAX	IL TYPICAL	BACK REFLECTION
------	-------------	--------	------------	-----------------

SM Super Low Loss MT Ferrule



SLS-12	Super Low Loss SM 12 Fiber	0.25dB	0.10dB	0.25dB
SLS-8	Super Low Loss SM 8 Fiber	0.25dB	0.10dB	0.25dB
Operating Temperature		-40°C ~ +85°C		

Note: 1. All numbers are only achievable when using SENKO recommended reference jumper, splicing process and testing method
 2. SM Low Loss Max IL 0.25dB to be 95% of all fiber
 3. To use SM Low Loss Guide Pin

TYPE	DESCRIPTION	IL MAX	IL TYPICAL	BACK REFLECTION
------	-------------	--------	------------	-----------------

SM Standard MT Ferrule



SM-24	SM Standard 24 Fiber	1.0dB	0.25dB	25dB
SM-12	SM Standard 12 Fiber	0.70dB	0.20dB	25dB
SLS-8	SM Standard 8 Fiber	0.70dB	0.20dB	25dB
Operating Temperature		-40°C ~ +85°C		

Note: All numbers are only achievable when using SENKO recommended reference jumper, splicing process and testing method

TYPE	DESCRIPTION	IL MAX	IL TYPICAL	BACK REFLECTION
------	-------------	--------	------------	-----------------

MM Super Low Loss MT Ferrule



SLM-24	Super Low Loss MM 24 Fiber	0.35dB	0.15dB	25dB
SLM-12	Super Low Loss MM 12 Fiber	0.25dB	0.08dB	25dB
SLM-8	Super Low Loss MM 8 Fiber	0.25dB	0.08dB	25dB
Operating Temperature		-40°C ~ +85°C		

Note: 1. All numbers are only achievable when using SENKO recommended reference jumper, splicing process and testing method
 2. MM Low Loss Max IL 0.25dB to be 95% of all fiber
 3. To use SM Guide Pin

TYPE	DESCRIPTION	IL MAX	IL TYPICAL	BACK REFLECTION
------	-------------	--------	------------	-----------------

MM Standard MT Ferrule



MM-32	MM Standard 32 Fiber	0.60dB	0.25dB	25dB
MM-16	MM Standard 16 Fiber	0.60dB	0.20dB	25dB
MM-24	MM Standard 24 Fiber	0.50dB	0.20dB	25dB
MM-12	MM Standard 12 Fiber	0.50dB	0.15dB	25dB
MM-8	MM Standard 8 Fiber	0.50dB	0.15dB	25dB
Operating Temperature		-40°C ~ +85°C		

Note: All numbers are only achievable when using SENKO recommended reference jumper, splicing process and testing method

MPO RIBBON CABLE SUPER LOW LOSS Single Mode



MPO RIBBON FIBER Single Mode



MPO MINI RIBBON Multi Mode



MPO ROUND 3mm BOOT Multi Mode



Kit with Ferrule

MPO PLUS PREMIUM CONNECTOR

MPO PLUS®



PATENT PENDING DESIGN



MPO Green with Flat Ribbon Cable Boot



MPO Yellow with Bare Ribbon Short Boot



MPO Beige with Bare Ribbon Boot



MPO Violet with 3.0mm Boot



MPO Aqua with 3.0mm Flex Angle Boot

4F ~ 24F TYPE	GENDER/PIN		FERRULE TYPE		FIBER COUNT		HOUSING COLOR		BOOT/CABLE		
702F	F	Female	SS	SM Standard	04	4F	Y	SM Low Loss Yellow	01	Bare Ribbon Fiber	Bare Ribbon Boot
	M	Male	SL	SM Super Low Loss	08	8F	G	SM Green	02	Bare Ribbon Fiber	Bare Ribbon Short Boot
			MS	MM Standard	12	12F	V	MM OM4 Heather Violet	11	Flat Ribbon Cable	Flat Ribbon Cable Boot
			ML	MM Super Low Loss	24	24F	A	MM OM3 Aqua	21	2.0mm Round	2.0mm Boot with Crimp
						T	MM Beige	22	2.0mm Boot without Crimp		
							B	MM Black	31	3.0mm Round	3.0mm Boot
									A1	3.0mm Round	3.0mm Boot (GR Metal Back Post)
									32		3.0mm Flex Angle Boot
									41	3.6mm Round	3.6mm Boot
								42	3.6mm Flex Angle Boot		
									51	Other Round	4.5mm Round Boot
								52	5.0mm Round Boot		
								53	5.5mm Round Boot		

702F - F - MS12 - A31 ORDER CODE example

- Note:**
1. Custom configurations available upon request.
 2. Gender changeable pins sold separately. Two pins required for one MPO connector.
 3. Please visit Senko.com/mposelect for other combinations.
 4. 3.8mm and 4.0mm boot option available.

MPO PLUS PUSH PULL TAB



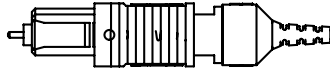
TYPE	
703-HDPP-34-W	MPO Plus Mini Push Pull Tab 34mm White
703-HDPP-50-W	MPO Plus Mini Push Pull Tab 50mm White
703-HDPP-64-W	MPO Plus Mini Push Pull Tab 64mm White

703-HDPP-50-W ORDER CODE example

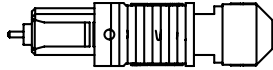
- Note:**
1. Gender Changeable Tool available - see P.51 for details.
 2. Push Pull tab can be used for the following connector series: MPO-Plus Premium, MPO-Plus Premium 16F/32F and MPO-Plus Mini.

Ribbon Boots

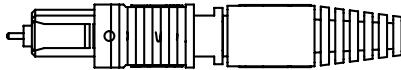
01 Bare Ribbon



02 Bare Ribbon Short

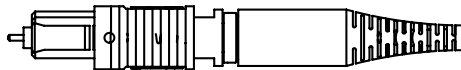


11 Flat Ribbon Cable



2.0mm Round Boots

21 2.0mm Boot with Crimp

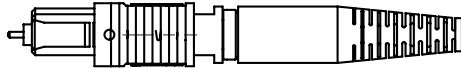


22 2.0mm Boot without Crimp

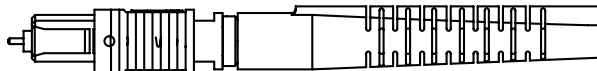


3.0mm Round Boots

31 3.0mm Boot

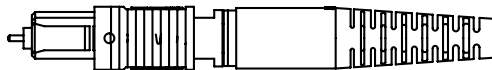


32 3.0mm Flex Angle

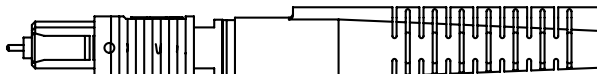


3.6mm Round Boots

41 3.6mm Boot

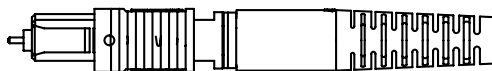


42 3.6mm Flex Angle



4.5/5.0/5.5 Round

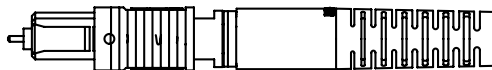
51 4.5mm Boot



52 5.0mm Boot



53 5.5mm Boot



MPO PLUS MINI CONNECTOR

MPO+PLUS[®]



senko.com/patents



MPO Mini Connector Aqua with Bare Ribbon Short Boot



MPO Mini Connector Aqua with Bare Ribbon Boot



MPO Mini Connector Aqua with 3.0mm Short Boot



MPO Mini Connector Aqua with 3.6mm Short Boot



MPO Mini Connector Violet with 3.0mm Flex Boot

MPO MINI	GENDER/PIN		FERRULE TYPE		FIBER COUNT		HOUSING COLOR		BOOT/CABLE		
703F	G	Female	SS	SM Standard	04	4F	Y	SM Low Loss Yellow	00	Bare Ribbon Fiber	Bare Ribbon "No" Boot
		Gender Changeable	SL	SM Super Low Loss	08	8F	G	SM Green	01		Bare Ribbon Boot
			MS	MM Standard	12	12F	V	MM OM4 Heather Violet	21	2.0mm Round	2.0mm Boot without Crimp
			ML	MM Super Low Loss	24	24F	A	MM OM3 Aqua	22		2.0mm Boot with Crimp
							B	MM Black	32	3.0mm Round	3.0mm Flex Angle Boot
									33		3.0mm Short Boot
									42	3.6mm Round	3.6mm Flex Angle Boot
									46		3.6mm Short Boot
									51		4.5mm Round Boot
									52	Other Round	5.0mm Round Boot
									53		5.5mm Round Boot

703F - G - SS12 - G33 ORDER CODE example

- Note:**
1. Custom configurations available upon request.
 2. Gender changeable pins sold separately. Two pins required for one MPO connector. See P.51 for details.
 3. MPO-HD push pull tab option sold separately.
 4. Please visit Senko.com/mposelect for other combinations.
 5. 3.8mm and 4.0mm boot option available.

MPO PLUS PUSH PULL TAB



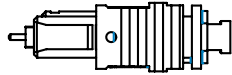
TYPE	
703-HDPP-34-W	MPO Plus Mini Push Pull Tab 34mm White
703-HDPP-50-W	MPO Plus Mini Push Pull Tab 50mm White
703-HDPP-64-W	MPO Plus Mini Push Pull Tab 64mm White

703-HDPP-50-W ORDER CODE example

- Note:**
1. Gender Changeable Tool available - see P.51 for details.
 2. Push Pull tab can be used for the following connector series: MPO-Plus Premium, MPO-Plus Premium 16F/32F and MPO-Plus Mini.

Ribbon Boots

00 Bare Ribbon



01 Bare Ribbon Short

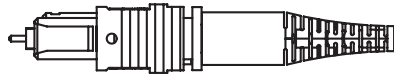


2.0mm Round Boots

21 2.0mm Boot with Crimp

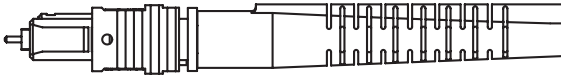


22 2.0mm Boot without Crimp



3.0mm Round Boots

32 3.0mm Flex Angle

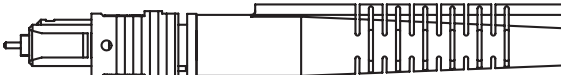


33 3.0mm Short

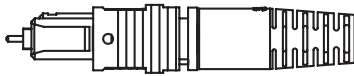


3.6mm Round Boots

42 3.6mm Flex Angle

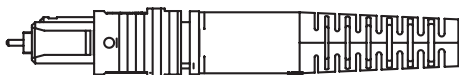


46 3.6mm Short

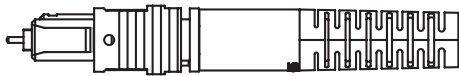


4.5/5.0/5.5 Round

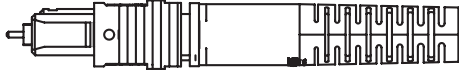
51 4.5mm Boot



52 5.0mm Boot



53 5.5mm Boot



16F / 32F Type

MPO PLUS PREMIUM AND MINI CONNECTOR

MPO+PLUS®



senko.com/patents



MPO Mini Connector Aqua with 3.0mm Short Boot



MPO Mini Connector Aqua with 3.6mm Short Boot



MPO Mini Connector Aqua with 4.5mm Boot



16 Fibers MPO Connector with 3.6mm Flex Angle Boot



16 Fibers MPO Connector with Bare Ribbon Boot



16 Fibers MPO Connector with 3.6mm Boot

16/32 TYPE	GENDER/PIN	FERRULE TYPE	FIBER COUNT	HOUSING COLOR	BOOT/CABLE
712F Premium	F Female	SS SM Standard	16 16F	Y SM Low Loss Yellow	01 Bare Ribbon Fiber Bare Ribbon Boot
713F Mini	M Male	SL SM Super Low Loss	32 32F	G SM Green	02 Bare Ribbon Fiber Bare Ribbon Short Boot
		MS MM Standard		V MM OM4 Heather Violet	31 3.0mm Boot 3.0mm Boot
		ML MM Super Low Loss		A MM OM3 Aqua	A1 3.0mm Boot 3.0mm Boot (GR Metal Back Post)
				T MM Beige	32 3.0mm Boot 3.0mm Flex Angle Boot
				B MM Black	33 3.0mm Boot 3.0mm Short Boot
					41 3.6mm Boot 3.6mm Boot
					42 3.6mm Boot 3.6mm Flex Angle Boot
					46 3.6mm Boot 3.6mm Short Boot
					51 Other Round 4.5mm Round Boot
					52 Other Round 5.0mm Round Boot
					53 Other Round 5.5mm Round Boot

712F - F - MS16 - A31 ORDER CODE example

- Note:**
1. Custom configurations available upon request.
 2. MPO-HD Mini & MPO Plus Mini Push Pull Tab option sold separately.
 3. Please visit Senko.com/mposelect for other combinations.
 4. 3.8mm and 4.0mm boot option available.

MPO-HD MINI & MPO PLUS MINI PUSH PULL TAB



TYPE	
703-HDPP-34-W	MPO Plus Mini Push Pull Tab 34mm White
703-HDPP-50-W	MPO Plus Mini Push Pull Tab 50mm White
703-HDPP-64-W	MPO Plus Mini Push Pull Tab 64mm White

703-HDPP-50-W ORDER CODE example

Note: Gender Changeable Tool available RMT-604.

MPO PLUS LATCH CONNECTOR

MPO+PLUS®



MPO Latch Connector with 3.0mm Short Boot



MPO Latch Connector with Bare Ribbon Boot



MPO Latch Connector with Flex Angle Boot

MPO LATCH	GENDER/PIN	FERRULE TYPE	FIBER COUNT	HOUSING COLOR	BOOT/CABLE
704F	F Female	SS SM Standard	04 4F	B MM Black	00 Bare Ribbon Fiber Bare Ribbon "No" Boot
	M Male	SL SM Super Low Loss	08 8F		01 Bare Ribbon Fiber Bare Ribbon Boot
	G Female Gender Changeable (pin sold separately)	MS MM Standard	12 12F		21 2.0mm Round 2.0mm Boot without Crimp
		ML MM Super Low Loss	24 24F		22 2.0mm Round 2.0mm Boot with Crimp
					32 3.0mm Round 3.0mm Flex Angle Boot
					33 3.0mm Round 3.0mm Short Boot
					41 3.6mm Round 3.6mm Boot
					42 3.6mm Round 3.6mm Flex Angle Boot
					46 3.6mm Round 3.6mm Short Boot
					51 Other Boot 4.5mm Boot
					52 Other Boot 5.0mm Boot
					53 Other Boot 5.5mm Boot

704F - M - SS12 - B32 ORDER CODE example

- Note:**
1. Custom configurations available upon request.
 2. Gender changeable pins sold separately. Two pins required for one MPO connector.
 3. Please visit Senko.com/mposelect for other combinations.
 4. 3.8mm and 4.0mm boot option available

MPO PLUS LATCH READY ADAPTER

ADAPTER FLANGE	ADAPTER COLOR
7L7 Flange (Standard Flange)	1 Black
7L8 No Flange (Reduced Flange)	2 OM3 Aqua
	3 OM4 Heather Violet
	K Gray Aligned Key

7L7 - 1 ORDER CODE example



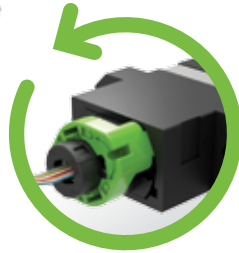
Note: Latch Ready MPO Adapter can accommodate Latch MPO Connector and Conventional MPO Connector.

MPO PLUS BAYONET CONNECTOR

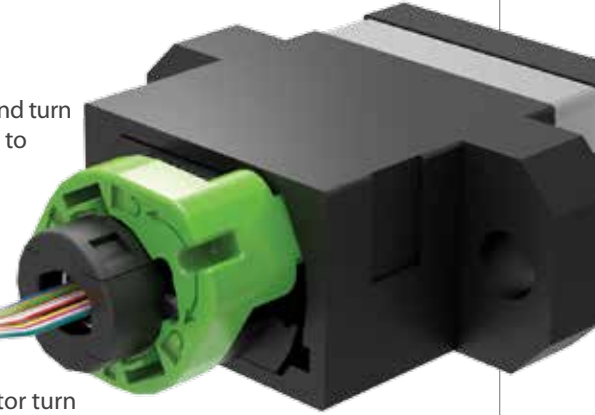
MPO PLUS®



Plug in Connector and turn Bayonet **clockwise** to **ENGAGE**



To remove Connector turn Bayonet **counter clockwise** to **DISENGAGE**



BAYONET	GENDER/PIN	FERRULE TYPE	FIBER COUNT	HOUSING COLOR	BOOT/CABLE
705F	F Female	SS SM Standard	04 4F	Y SM Low Loss Yellow	00 No Boot
	M Male	SL SM Super Low Loss	08 8F	G SM Green	
		MS MM Standard	12 12F	V MM OM4 Heather Violet	
		ML MM Super Low Loss	24 24F	A MM OM3 Aqua	
				T MM Beige	
				B MM Black	

705F - M - SS12 - G00 ORDER CODE example

Note: 1. Custom configurations available upon request.

MPO PLUS MICRO LATCH CONNECTOR



MICRO	GENDER/PIN	FERRULE TYPE	FIBER COUNT
706F	F Female Pin Clamp	SS SM Standard	04 4F
	M Male Pin Assembly	SL SM Super Low Loss	08 8F
		MS MM Standard	12 12F
		ML MM Super Low Loss	24 24F

706F - F - SS12 ORDER CODE example

MICRO ADAPTER	ADAPTER COLOR
7L7 Flange (Standard Flange)	1 MM Black
7L8 No Flange (Reduced Flange)	

7L7 - 1 ORDER CODE example

MPO PLUS MT FERRULE

MT FERRULE	TYPE	FERRULE TYPE	FIBER COUNT
MT	01	MT Ferrule for MPO	SS SM Standard
	02	MT Style Ferrule Thin Type	SL SM Super Low Loss
			MS MM Standard
			ML MM Super Low Loss
			SR Master

MT - 01 - SL12 - 2 ORDER CODE example

Note: Super Low Loss Ferrules are available only for 12 fiber.

MPO+PLUS®



MPO PLUS GUIDE PIN

PIN KEEPER CODE	TYPE
701-PC Guide Pin Assembly	MM Multimode (Premium, Mini, Latch Series)
	SM Singlemode (Premium, Mini, Latch Series)
	LL SM Low Loss (Premium, Mini, Latch Series)
	MM-32-01 Multimode (Premium 32F/16F)
	SM-32-01 Singlemode (Premium 32F/16F)
	LL-32-01 Singlemode Low Loss (Premium 32F/16F)

701-PCMM ORDER CODE example



MPO PLUS GENDER CHANGEABLE PIN

GUIDE PIN CODE	TYPE
701-PIN-G MPO Gender Changeable Pin	MM MM Pin (Premium, Mini, Latch Series)
	SM SM Pin (Premium, Mini, Latch Series)
	LL Low Loss Pin (Premium, Mini, Latch Series)
	32MM-01 MM Pin (Premium 32F/16F)
	32SM-01 SM Pin (Premium 32F/16F)
	32LL-01 Low Loss Pin (Premium 32F/16F)

701-PIN-G-SM ORDER CODE example

- Note:**
- Two Gender Changeable pins required for one MPO connector.
 - Gender changeable pins can be used with Gender Changeable Female pin keeper for MPO-Plus Premium, MPO-Plus for Mini and MPO-Plus Latch connectors.



MPO PLUS ONE PIECE ADAPTER



MPO One Piece Adapter No Flange



MPO One Piece Adapter with Flange No Shutter

ADAPTER FLANGE		ADAPTER COLOR		SHUTTER	
777	Flange (Standard Flange)	1	Black	None	No Shutter
778	No Flange (Reduced Flange)	2	OM3 Aqua	A	Inner Shutter
7W7	MPO 16/32F, Standard Flange	3	OM4 Heather Violet		
7W8	MPO 16/32F, No Flange	K	Gray Aligned Key		
		K1	Black Aligned Key		
		K2	Aqua Aligned Key		

777 - 1 ORDER CODE example

Note: Other adapter colors are available (*Blue, Green, Beige*).

Features

- One-piece design
- Flange and Non-Flanged Types
- Regular and Reversed Key Options

MPO PLUS METAL ADAPTER



MPO Adapter EMI with Internal Shutter



MPO Adapter EMI No Flange

ADAPTER FLANGE		ADAPTER COLOR		SHUTTER	
7M7	Flange (Standard Flange)	1	Regular Key	None	No Shutter
7M8	No Flange (Reduced Flange)	K	Aligned Key	A	Inner Shutter

7M7 1 A ORDER CODE example

Features

- One-piece design
- Flange and Non-Flanged Types
- Superior shielding effectiveness
- Protects against dust, provides eye safety and reduces EMI when no connector is installed

MPO PLUS SC FOOTPRINT ADAPTER



MPO Adapter SC Footprint with Flange



MPO Adapter SC Footprint with Shutter**

ADAPTER FLANGE		ADAPTER COLOR		SHUTTER	
775	Flange (Standard Flange)	1	Black	None	No Shutter
776	No Flange (Reduced Flange)	2	OM3 Aqua	A	Inner Shutter
7W5	MPO 16/32F, Standard Flange	3	OM4 Heather Violet		
7W6	MPO 16/32F, No Flange	K	Gray Aligned Key		

775 - 1 ORDER CODE example

Note: **External shutter sold separately - part number 775-OSHU-01.

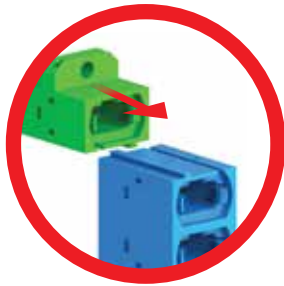
Features

- One-piece design
- Flange and Non-Flanged Types
- Regular and Reversed Key Options
- SC Footprint
- External and Internal shutter option

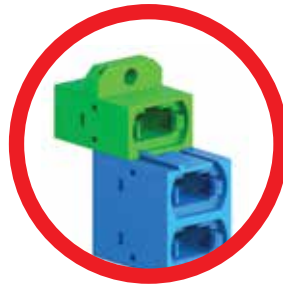
MPO PLUS 90° STACKABLE ADAPTER

STACKABLE ADAPTER		STYLE		SHAPE		ADAPTOR COLOR		SHUTTER	
780	MPO Stackable	1	90° Type	T	Top Adapter Simplex	1	Black	None	No Shutter
				B	Bottom Adapter Simplex	2	OM3 Aqua	A	Inner Shutter
				1	Center Adapter Simplex	3	OM4 Heather Violet		
				2	Center Adapter Duplex	K	Gray Aligned Key		

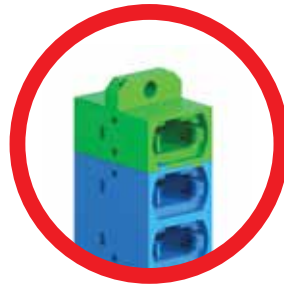
780 1T 1A ORDER CODE example



1 Insert Adapter



2 Slide Adapter



3 Finish



Top Adapter Simplex



Center Adapter Duplex



Center Adapter Simplex



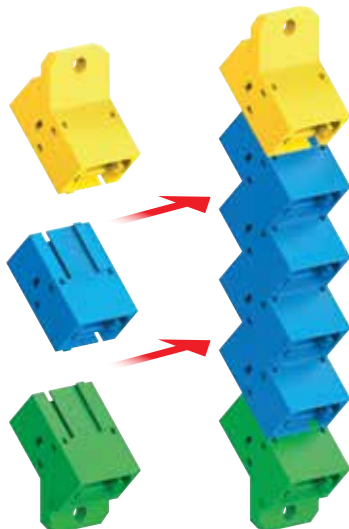
Bottom Adapter Simplex



MPO PLUS 45° STACKABLE ADAPTER

STACKABLE ADAPTER		STYLE		SHAPE		ADAPTOR COLOR		SHUTTER	
780	MPO Stackable	2	45° Type	T	Top Adapter Simplex	1	Black	None	No Shutter
				B	Bottom Adapter Simplex	2	OM3 Aqua	A	Inner Shutter
				1	Center Adapter Simplex	3	OM4 Heather Violet		
						K	Gray Aligned Key		

780 2T 1A ORDER CODE example



Use the 45° angled flange to create a staggered array to assist with fiber management in densely populated panels.



Top Adapter Simplex



Center Adapter Duplex



Bottom Adapter Simplex



MPO+PLUS®



MPO PLUS LATCH READY ADAPTER

ADAPTER FLANGE		ADAPTER COLOR	
7L7	Flange (Standard Flange)	1	Black
7L8	No Flange (Reduced Flange)	2	OM3 Aqua
		3	OM4 Heather Violet
		K	Gray Aligned Key

7L7 - 1 ORDER CODE example

Note: Latch Ready MPO Adapter can accommodate Latch MPO Connector and Conventional MPO Connector.

Features

- One-piece design
- Flange and Non-Flanged Types
- Regular and Reversed Key Options

MPO PLUS TOOLS



TYPE	
RBN-601	MPO Plus Ribbonizer Tool

RBN-601 ORDER CODE example



TYPE	
RMT-603	MPO Plus Disassemble Tool

RMT-603 ORDER CODE example

TYPE	
RMT-604	Gender Changeable Pin Assembly/Removal Tool

RMT-604 ORDER CODE example

MPO PLUS CRIMP TOOL



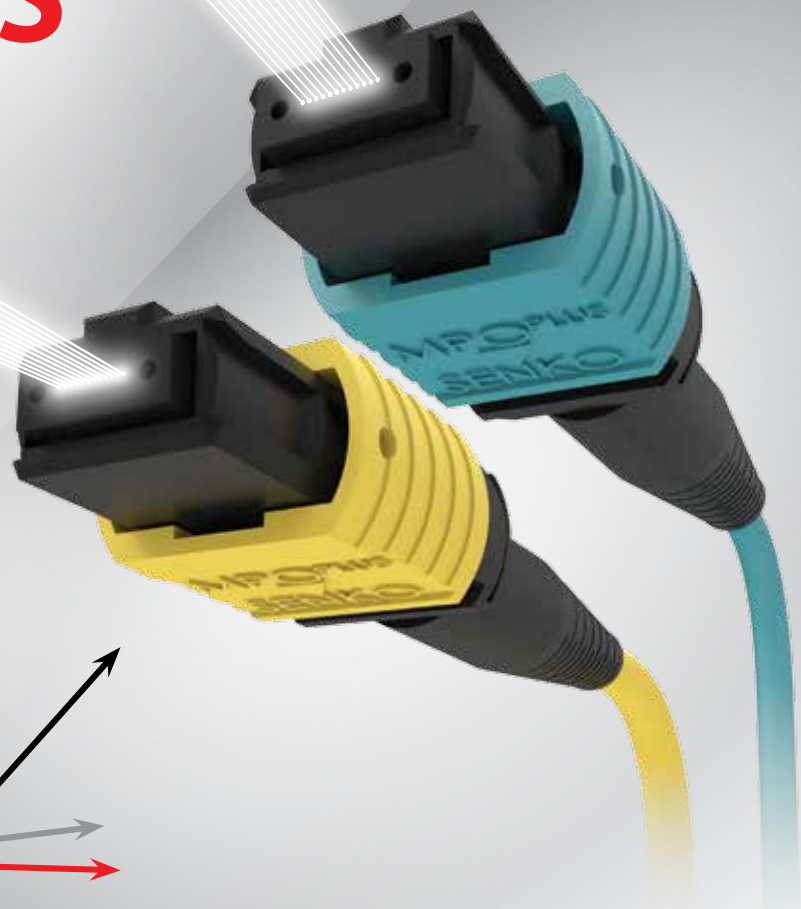
TYPE	
CRT-605	Crimp Tool for MPO Plus Connector (Oval)
CRT-606	Crimp Tool for MPO Plus 3.0 - 5.5mm round crimp (for thick jacket crimp)
CRT-607	Crimp Tool for MPO Plus 3.0 - 5.5mm round crimp

CRT-607 ORDER CODE example

MPO+PLUS

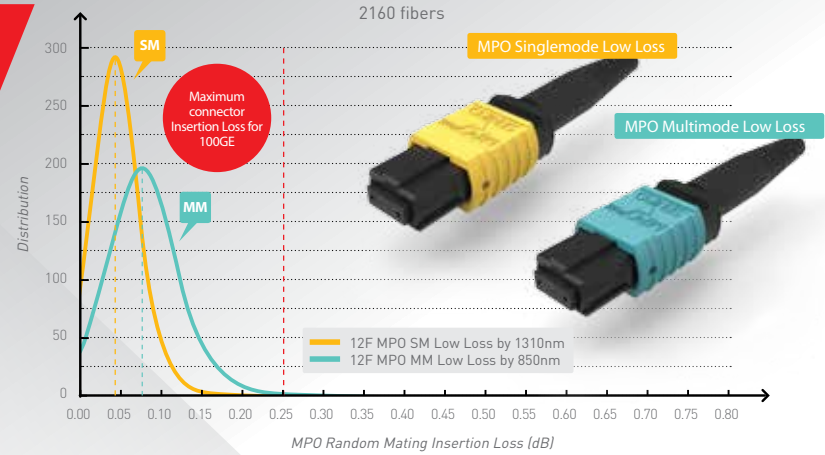
The Best Insertion Loss in the Market

0.25 dB



Senko's MPO Plus MT ferrules are the most common used MT Ferrule in the market which gives the best combination of easy-to-use and low insertion loss. The SM Low Loss and MM Low Loss now guarantees the industries lowest insertion loss of 0.25dB, which exceeds the IEC 61755-3-31 Grade B Requirement. Quality, Price, durability and ease of assembly makes Senko's MPO Plus MT ferrules your best choice.

SENKO Low Loss 12F MPO Connectors - Made for 100GE and beyond 2160 fibers



MT-RJ CONNECTOR



SPECIFICATION	SINGLEMODE	MULTIMODE
For MT-RJ	Typical	Typical
Insertion Loss	0.20dB	< 0.25dB typical
Return Loss	≥ 45dB for Singlemode PC	
Durability	< 0.1dB change, 500 matings	
Operating Temperature	-40 to +75°C	

Note: Specifications shown above were obtained using SENKO recommended products and procedures.

CONNECTOR	HOUSING COLOR	BOOT TYPE	BOOT COLOR
801 MT-RJ Female	1 Black	1 3.0mm Cable Round	1 Black
802 MT-RJ Male		4 1.8mm Duplex Zip Cable Boot	
		5 2.0mm Duplex Zip Cable Boot	

801 - 141 ORDER CODE example

Note: When terminated using SENKO recommended procedures

MT-RJ ADAPTER



MT-RJ Standard Adapter



MT-RJ Adapter with SC Footprint

ADAPTER CODE	COLOR
888 Standard	1 Black
890 SC Footprint with Flange	2 Beige
891 SC Footprint with No Flange	3 Blue

891 - 1 ORDER CODE example

MT-RJ FERRULE AND GUIDE PIN



MT-RJ ferrule

CONNECTOR TYPE	TYPE	MATERIAL
MTRJ	S Singlemode	P Thermoplastic (PPS)
	M Multimode	

PIN CODE	TYPE	TOLERANCE	MATERIAL
GP	2 MT-RJ	1 Multimode	1 Stainless Steel
		2 Singlemode	

GP - 21 - 1 ORDER CODE example

Note: To make one male connector please order 2 pin's

MT-RJ CRIMP TOOL



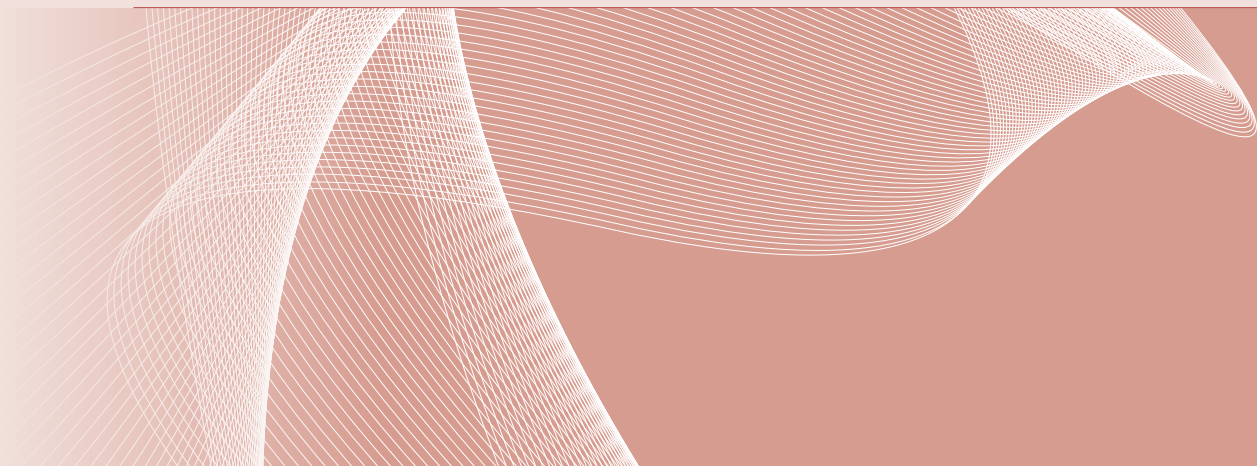
103 MT-RJ Connector, 3.0 mm and Zip Cables

CODE	TYPE
CRT	103 MT-RJ Connector 3.0mm Round and Zip Cable

CRT - 103 ORDER CODE example

STANDARD CONNECTOR SERIES
SMALL FORM FACTORS
SPECIALTY PRODUCTS
FERRULES AND SLEEVES
POLISHING SYSTEMS

pg. 02
pg. 24
pg. 58
pg. 68
pg. 74



SPECIALTY PRODUCTS

Q-XP Connector SC	pg. 52
XP Fit Plus Connector SC	pg. 53
XP Fit Plus Connector LC	pg. 54
XP Fit Plus Termination Kit	pg. 55
XP Fit Plus Connector Tools	pg. 55
Premium Attenuators	pg. 56
Terminators	pg. 57
LC Loopback	pg. 58
MPO Loopback	pg. 58
Inline Attenuator	pg. 59
Switchable Adapter	pg. 60

Field Installable

Q-XP PREMIUM SC CONNECTOR

Q-XP is SENKO's highest performing field installable connector. This GR-1081 tested connector provides Telecom grade performance while yielding maximum mechanical and optical characteristics.

SPECIFICATION	SINGLEMODE
For Q-XP Fit	Typical
Insertion Loss	≤ 0.25dB
Return Loss	≥65dB
Durability	<0.1dB change, 500 matings
Operating Temperature	-40°C to +75°C
Storage Temperature	-40°C to +85°C
Tensile	TIA/EIA 568-C.3
Intermateability	IEC 61754-4



Highlight:

- No Polishing
- No Crimp Tools
- No Adhesives
- No expensive fusion splicer

Note: Specifications shown above were obtained using SENKO recommended products and procedures.



Q-XP Fit SC Connector

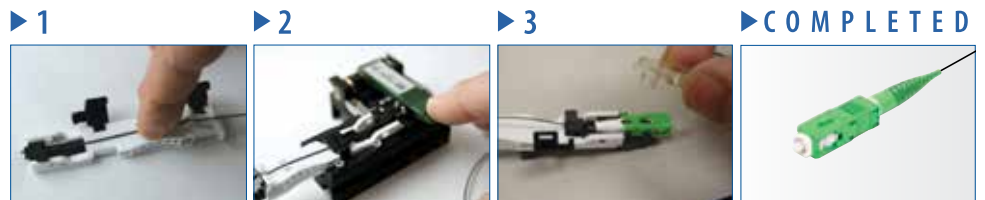
CODE	FERRULE TYPE	OUTER HOUSING	BOOT TYPE	BOOT COLOR
QXP	Q-XP SC Connector	091 SM: APC	4 Green	3 Green
			1 900µm	
			2 1.65mm	
			3 2.0mm	
			4 3.0mm	

QXP 091 413 ORDER CODE example

- Note:**
1. The connector performance specifications include an internal mechanical splice
 2. Typical specification values are at 23°C ±5°C

Features:

- Mechanical Splice (index matching gel)
- Highly Stable & Reliable
- RoHS Compliant
- GR-1081 completed
- Termination under 3 minutes
- Finished Connector meets UL94-V0 Flammability Rated
- 92% yield
- TIA/EIA 568-C.3 Compliant



XP FIT PLUS SC CONNECTOR

Field Installable

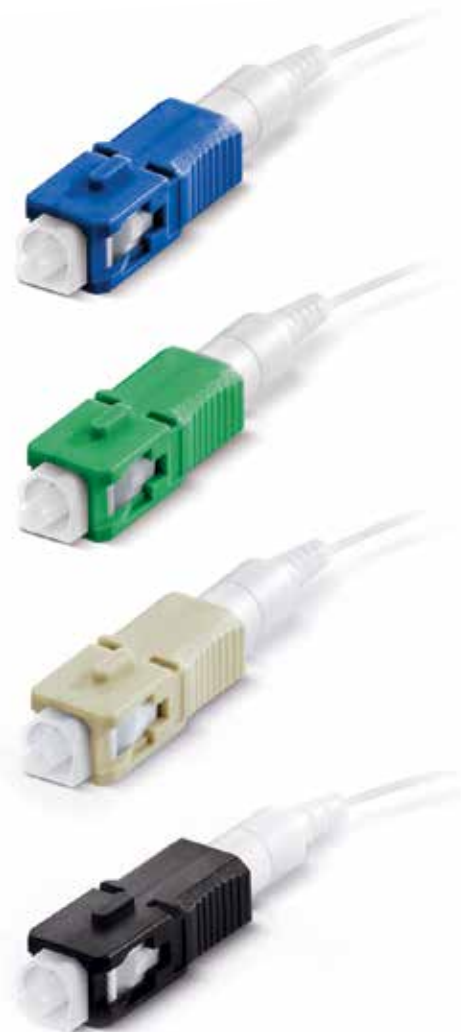
The XP Fit Plus is a pre-polished, pre-assembled connector compatible with the standard SC connector. In place of epoxy, an internal mechanical grip gently but effectively holds the fiber in place and can be installed in under

two minutes. Without polishing or adhesives, the XP Fit Plus makes field installations quick and easy, eliminating the need for epoxy curing and hand polishing at the work site.



SPECIFICATION	SINGLEMODE	MULTIMODE
For XP Fit Plus SC	Typical	
Insertion Loss	0.2dB (PC) and 0.3dB (APC)	0.1dB
Return Loss	55dB (PC) 60dB (APC)	35dB
Durability	<0.1dB change, 500 matings	
Operating Temperature	-40°C to +75°C	
Tensile	TIA/EIA 568-C.3	
Intermateability	IEC 61754-4	

Note: Specifications shown above were obtained using SENKO recommended products and procedures.



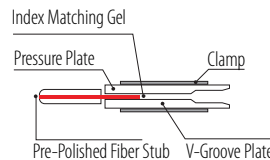
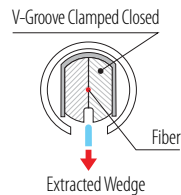
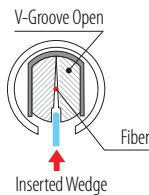
PART NUMBER	DESCRIPTION	HOUSING	BOOT COLOR
318-191-627	XPFit Plus SC Connector SM: PC 900µm/250µm 120pack*	Blue	White
318-091-427	XPFit Plus SC Connector SC: APC 900µm/250µm 120pack*	Green	White
318-291-727	XPFit Plus SC Connector MM: 50/125 900µm/250µm 120pack*	Black	White
318-391-927	XPFit Plus SC Connector MM : 62.5/125 900µm/250µm 120pack*	Beige	White
318-491-527	XPFit Plus SC Connector MM: 50/125 10G OM3900µm/250µm 120pack*	Aqua	White
318-091-452	XPFIT Plus SC Connector SC: APC Drop Cable 120pack*		

318-191-627 ORDER CODE example

- Note:**
1. 12 pack available. Add -12 to existing part number
 2. Typical specification values are at 23°C ±5°C
 3. The connector performance specifications include an internal mechanical splice

ASSEMBLY PROCEDURE

- NO EPOXY
- NO POLISHING



XP Fit Plus SC Field Installable Connector

XP FIT PLUS LC CONNECTOR



FIT PLUS

The XP Fit Plus is a pre-polished, pre-assembled connector compatible with the standard LC connector. In place of epoxy, an internal mechanical grip gently but effectively holds the fiber in place and can be installed in under

two minutes. Without polishing or adhesives, the XP Fit Plus makes field installations quick and easy, eliminating the need for epoxy curing and hand polishing at the work site.

SPECIFICATION	SINGLEMODE	MULTIMODE
For XP Fit Plus LC	Typical	
Insertion Loss	0.2dB (PC)	0.1dB
Return Loss	55dB (PC)	35dB
Durability	<0.1dB change, 500 matings	
Operating Temperature	-40°C to +75°C	
Tensile	TIA/EIA 568-C.3	
Intermateability	IEC 61754-20	

Note: * Specifications shown above were obtained using SENKO recommended products and procedures.

PART NUMBER	DESCRIPTION	HOUSING	BOOT COLOR
951-191-111	XPFit Plus LC Connector SM: PC 900µm/250µm 120pack*	Blue	White
951-291-411	XPFit Plus LC Connector MM: 50/125 900µm/250µm 120pack*	Black	White
951-391-211	XPFit Plus LC Connector MM : 62.5/125 900µm/250µm 120pack*	Beige	White
951-491-511	XPFit Plus LC Connector MM: 50/125 10G OM3 900µm/250µm 120pack*	Aqua	White

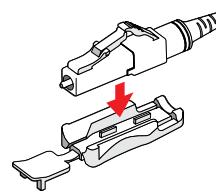
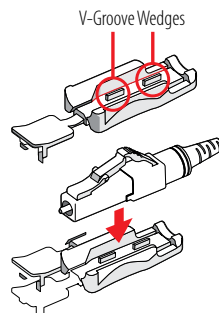
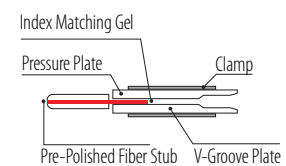
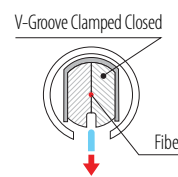
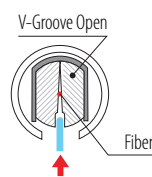
951-191-111 ORDER CODE example

Note: The connector performance specifications include an internal mechanical splice

Note*: 1. 12 pack available. Add -12 to existing part number
2. Typical specification values are at 23°C ±5°C

Features:

- Mechanical Splice (*index matching gel*)
- Highly Stable & Reliable
- Perfect Performance
- Compact Package
- RoHS Compliant
- Finished Connector meets UL94-V0 Flammability Rated
- TIA/EIA 568-C.3 Compliant



XP Fit Plus LC Field Installable Connector

XP FIT PLUS TERMINATION KIT

The Connector Installation Tool Kit contains everything needed for installation of the SC and LC XP FIT PLUS connectors. No epoxy,

polishing film, or other consumables are required, and there is no need to plug into electrical outlets, allowing installers to get in and out of installation sites quickly.



Easy installation
in under 2 minutes



ORDER CODE	DESCRIPTION
XPF-P-F	XP Fit Field Installation Kit with Flat Cleaver - Premium
XPF-S-F	XP Fit Field Installation Kit with Flat Cleaver - Standard
XPF-P-A	XP Fit Field Installation Kit with Angled Cleaver

Content for XP Fit Field Installation Kit with Flat Cleaver - Premium - XPF-P-F	SENKO PN
Jacket and 250µm Fiber Stripper + 125µm Buffer Remover	AFT-T-223-S
Thermal Buffer Removal Tool	AFT-T-TBR
Replacement Blade Set	AFT-T-TBR-R
Precision Cleave Tool (Flat) - Premium	AFT-T-CL-SMT
Lint Free Dry Wipes	AFT-A-KW
Fiber Optic Cleaning Pen	AFT-A-EWP
Kevlar Scissors	AFT-T-KS
Fiber Disposal Unit	AFT-A-FU
Fine Permanent Marker Pen	AFT-A-PMB
Fiber Checker	AFT-G-FC
2.5mm to 1.25mm Adapter	AFT-G-CAC
Launch Cables	XPF-TEST-KIT
Soft Case	AFT-A-CS-XP

Content for XP Fit Field Installation Kit with Flat Cleaver- Standard - XPF-S-F	SENKO PN
Precision Cleave Tool (Flat) - Standard	AFT-T-CL-01

Note: The contents of this Kit are the same as the XPF-P-F, with substitution of Standard Precision Flat Cleaver

Content for XP Fit Field Installation Kit with Angled Cleaver - XPF-P-A	SENKO PN
Precision Cleave Tool (Angled)	SE-AFC-08

Note: The contents of this Kit are the same as the XPF-P-F, with substitution of Precision Angled Cleaver



Premium Cleaver Flat



Standard Cleaver Flat



Precision Cleaver Angled

Features:

- Fast installation to Minimize onsite labour costs
- Compatible with conventional LC & SC connectors and adapters
- Easy operation
- Quick assembly in under 2 minutes
- No adhesive or polishing required
- Compact tool without electric power

XP FIT PLUS CONNECTOR TOOLS

The XP Fit Plus Connectors are supplied in conjunction with specific tools for easy termination in the field.

TYPE	ITEM NUMBER
LC version	XPF-LCB-900-FH
SC version	XPF-SCB-900-FH

XPF-SCB-900-FH ORDER CODE example



PREMIUM ATTENUATORS

SENKO's Premium Attenuators are GR 910 certified by Expor Laboratories (SC APC and LC UPC). The Premium Attenuator passed all required mechanical testing including the extended life 5,000 hour environmental testing, and the solid body LC Attenuator has a stronger

design for greater mechanical strength. The Compact LC Housing reduces the overall length, while the wavelength independent premium fiber allows a wide range of usage including existing PON Network.



SC Attenuator



SC APC Attenuator



FC Attenuator



FC APC Attenuator



ST Attenuator



LC Attenuator



MU Attenuator

SPECIFICATION

For Attenuators

Return Loss	≥ 55dB (UPC) ≥ 65dB (APC)
Attenuation Tolerance	1 to 10dB : ±0.5, 11 to 30 dB : ±5% (for 3 wavelength)
Operational Wavelengths	1310 ± 40nm, 1490 ± 20nm, 1550 ± 40nm
Operating Temperature	-40 to +75°C
Maximum Power	500mw

Note: For full wavelength type (1270 ~ 1650) Attenuation tolerance will be 1db to 10db 0.7db and 11db to 30db ±10%.

CODE		TYPE	ATTENUATOR LEVEL		ATTENUATOR TOLERANCE	
ATN	Dope Fiber Attenuators	432 SC / APC	01	1dB	1	Premium
		532 FC / APC	02	2dB		
		632 SC / UPC	03	3dB		
		732 FC / UPC	04	4dB		
		832 ST / UPC	05	5dB		
		1432 MU / UPC	06	6dB		
		1532 LC / UPC	07	7dB		
		1732 LC/APC	08	8dB		
			09	9dB		
			10	10dB		
			12	12dB		
			15	15dB		
			20	20dB		
			25	25dB		

ATN - 632 - 04 - 1 ORDER CODE example

Note: Custom configurations available upon request

Features:

- SC and LC GR910 Certified
- Dope Fiber Technology
- Wide Operating Wavelength (1270 ~ 1650)
- Low Back Reflection
- High Durability over High Power
- One piece housing construction including LC & MU for better side load performance
- Metal-ion doped fiber (continuous)
- Attenuation levels ranging from 1dB to 30dB

TERMINATORS

SENKO fiber optic terminators use doped fiber designs to eliminate unwanted back-reflection. The terminators are available in FC and SC with

UPC or APC polishes, and also in small form factor design including LC and MU with APC and UPC Polishes.

SPECIFICATION

For Terminators

Return Loss	≥ 55dB (UPC) ≥ 65dB (APC)
Operating Temperature	-40 to +75°C
Operating Wavelength	1250-1650
Maximum Power	500mw

Note: Specifications shown above were obtained using SENKO recommended products and procedures.

CODE	TYPE	POLISH	DESIGN
TRM	1 SC	2 UPC	1 Doped fiber
	2 FC	3 APC	
	3 ST		
	4 LC		
	5 MU		

TRM - 1 - 3 - 1 ORDER CODE example

Note: Custom configurations available upon request

Features:

- Dope Fiber Technology
- Wide Operating Wavelength
- Low Back Reflection
- High Durability over High Power



FC Terminator



SC Terminator



ST Terminator



MU Terminator



LC Terminator

LC LOOPBACK

Senko's Loopback is designed to provide a media of return patch for a fiber optic signal; typically it is used for fiber optic testing applications or network restorations. For the

testing applications, the loopback signal is used for diagnosing a problem. Sending a loopback test to network equipment, one at a time, is a technique for isolating a problem.



LC Attenuation Loopback SM Blue, 5dB

SPECIFICATION			
Return Loss	≥ 55dB (SM-UPC)		≥ 65dB (SM-APC)
Attenuation Tolerance	0dB type - Max 0.5dB	1dB - 5dB ±0.5dB	6dB - 20dB ±10%
Operational Wavelengths	SM: 1310 / 1550 ±40nm		MM: 850 / 1300 ±40nm
Operating Temperature	-40° to 75°C		
Maximum Power	500mw		

TYPE				ATTENUATION*	
LPB-LC	LC Loopback	A	APC Green	A	Attenuator
		S	SM Blue		
				00	0dB +0.5dB/-0dB
				05	5dB +/-0.5dB
				10	10dB +/-10%
				20	20dB +/-10%

LPB - LC - SA05 ORDER CODE example

*Note: Other values available upon request

MPO LOOPBACK



MPO Loopback

SPECIFICATION	
IL for 0dB Type MPO Loopback Connector	
Low Loss Type	Max 0.75dB
Standard Type	Max 1.50dB
Attenuation	1 ~ 10dB: ± 1dB 11 ~ 20dB: ± 10%

CODE		HOUSING COLOR/FIBER TYPE		HOUSING COLOR/FIBER TYPE		"FIBER COUNT (WHEN 12F MT BEING USED IN 8F)"		PINTYPE		ATTENUATION		CHANNEL TYPE	
LPB-MPO	MPO Loopback	11	Green (SM)	22	SM 8F Standard	(None)		(None)	Female Pin	(None)	0dB	S	Standard Channel Setting
		32	Beige (MM OM2 50/125)	32	SM 8F Low Loss	08	12F MT use 8 Channel	M	Male Pin	01	1dB	Q	QSFP Channel Setting
		41	Yellow (SM LL / SM)	23	SM 12F Standard					~	~		
		52	Aqua (MM OM3 50/125)	33	SM 12F Low Loss					20	20dB		
		62	Heather Violet (MM OM4 50/125)	25	SM 24F Standard								
				35	SM 24F Low Loss								
				42	MM 8F, Flat								
				43	MM 12F, Flat								
				44	MM 12F, Flat Low Loss								
				45	MM 24F, Flat								

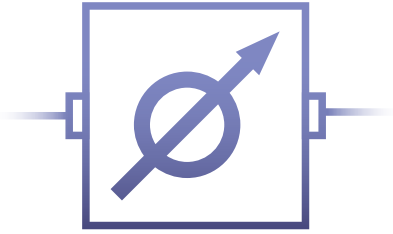
LPB - MPO - 1123 - S ORDER CODE example

INLINE ATTENUATOR

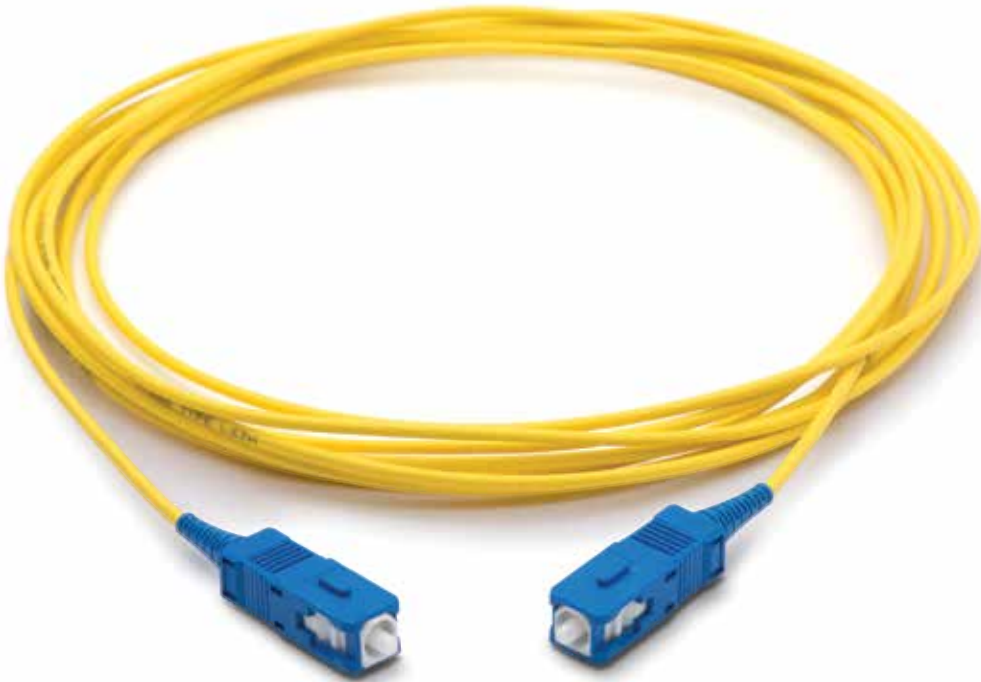
Senko's Inline Attenuator is designed for easy handling as it works as a jumper. Compared to adding the FIXED attenuator to a normal jumper overall length will become shorter and will be more stable as a product. The Inline Attenuator is constructed all of fiber (no air

gap utilized) and is Telcordia Compliant for Endface Geometry and mechanical strength. With no protected fiber splice area on the cable (It looks like a standard jumper), Senko's Inline Attenuator is easy to handle and environmentally stable.

SPECIFICATION		
Return Loss	>55(UPC) >65 (APC)	Tested at 1310nm and 1550nm
Attenuation	1 to 10±1 11 to 25±10%	Tested at 1310nm and 1550nm



The Senko in-line optical attenuator is integrated into a standard connectorized fiber optic jumper cable.



SC Inline Attenuator Jumper Style Patch Cord

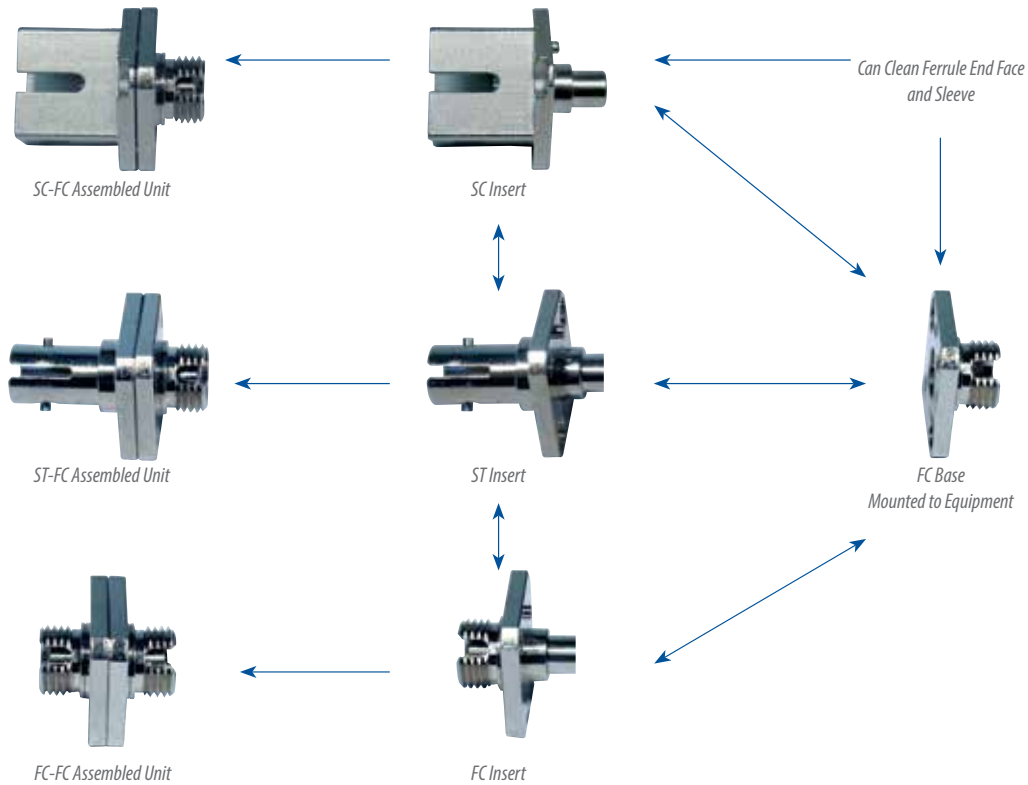
ORDERING

TYPE	CONNECTOR TYPE	dB	CABLE TYPE	LENGTH
ATN-IN	Inline Attenuator SM	SCU SC/UPC Both Side	W009 900µm White	001M 1 Meter
		SCA SC/APC Both Side	Y020 2mm Yellow	
		LCU LC/UPC Both Side		
		LCA LC/APC Both Side		
		SCULCU SC/UPC - LC/UPC		

ATN-IN - SCULCU - 05 - Y020 - 001M ORDER CODE example

- Features:**
- Compact Design
 - Custom assemblies available
 - Custom colors available
 - Variable Range 0-20dB

SWITCHABLE ADAPTER



EASY SWITCHING ADAPTER INTERFACE

The switchable adapter allows test equipment and optical module manufacturers to easily change the output adapter interface from FC to SC to ST.

For FC and SC, PC type and APC type are available.

EASY TO CLEAN

While changing the adapter interface the Switchable Adapter allows the end user to properly clean both the end face of the jumper on both of the adapters as well as the adapter sleeve without removing the entire adapter from the panel.

ADAPTER CONFIGURATION

- FC PC to FC PC
- FC APC to FC APC
- FC PC to SC PC
- FC APC to SC APC
- FC PC to ST PC

CODE	SLEEVE CODE	KEY WIDTH CODE
321 FC to FC Switchable Adapter	1 Zirconia Straight Split	01 For PC Connector 2.15 +0.05/-0
322 FC to ST Switchable Adapter	2 Metal Straight Split	02 For APC Connector 2.05 ±0.02
323 FC to SC Switchable Adapter		

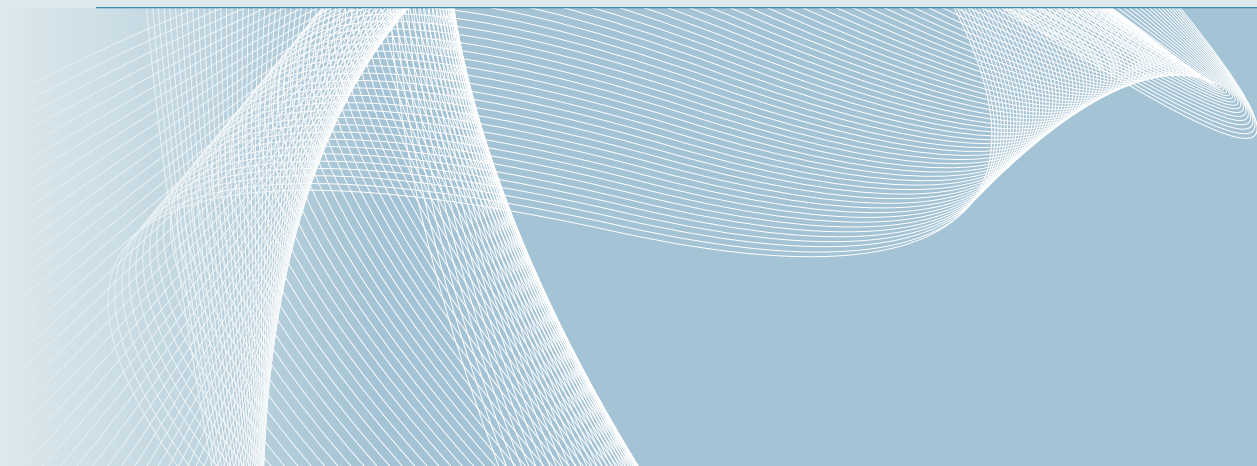
321-102 ORDER CODE example

CODE	PART NUMBER	SLEEVE	KEY WIDTH
FC Switchable Adapter Insert	UA-50007-101	Zirconia	2.15/2.20
FC APC Adapter Insert	UA-50007-102	Zirconia	2.03/2.07
ST Switchable Adapter Insert	UA-50008-101	Zirconia	
SC PC Switchable Adapter Insert	UA-50009-101	Zirconia	
SC APC Adapter Insert	UA-50009-102	Zirconia	

UA-50007-101 ORDER CODE example

STANDARD CONNECTOR SERIES
SMALL FORM FACTORS
SPECIALTY PRODUCTS
FERRULES AND SLEEVES
POLISHING SYSTEMS

pg. 02
pg. 24
pg. 58
pg. 68
pg. 74



FERRULE AND SLEEVES

Zirconia Ferrules SC-APC and FC-APC	pg. 62
Zirconia Ferrules SC and FC Singlemode	pg. 62
Zirconia Ferrules SC and FC Multimode	pg. 63
Zirconia Ferrules ST Singlemode and Multimode	pg. 63
Zirconia Ferrules LC and MU Multimode	pg. 64
Zirconia Ferrules LC and MU Singlemode	pg. 64
Zirconia Sleeves	pg. 65
Phosphor Bronze Sleeves	pg. 66

SC-APC and FC-APC

SC/FC APC ZIRCONIA FERRULE

SPECIFICATION

For Zirconia Ferrules SC-APC and FC-APC

Material	Zirconia
Concentricity (Standard)	Singlemode ≤ 1 micron
Inner Diameter Tolerance	Singlemode $+1/-0$ micron
Outer Diameter Tolerance	Singlemode ± 0.5 micron
Length Tolerance (No flange)	10.5 ± 0.05 mm
V-Groove	$60/90 \pm 5$ degrees

Note: When following SENKO recommended procedures



Step Zirconia Ferrule
SC-APC and FC-APC



Cone Zirconia Ferrule
SC-APC and FC-APC

CONNECTOR	TYPE	END FACE	ID	FLANGE
C SC & FC Connectors	S Singlemode	AS APC Step	125 125 μ m	NN No Flange*
		AC APC Conical	1255 125.5 μ m	FA APC Flange*
			126 126 μ m	*Flange key width 1.35mm

CSAS - 1255 - NN ORDER CODE example

- Note:** 1. Custom length, inner and outer diameter dimensions available upon request
2. *0.5 μ m concentricity also available

Features:

- High performance and durability
- Low insertion loss
- Low back reflection
- Standard and custom configuration
- APC type with various endface configurations, as well as pre-angled endface for quick polishing and ultra low back-reflection

SC and FC Singlemode

SC/FC SM UPC ZIRCONIA FERRULE

SPECIFICATION

For Zirconia Ferrules SC and FC Singlemode

Material	Zirconia
Concentricity (Standard)	Singlemode ≤ 1 micron
Inner Diameter Tolerance	Singlemode $+1/-0$ micron
Outer Diameter Tolerance	Singlemode ± 0.5 micron
Length Tolerance (No flange)	10.5 ± 0.05 mm
Spherical Radius (Pre-Dome)	$20 + 5/-10$
V-Groove	$60/90 \pm 5$ degrees

Note: When following SENKO recommended procedures



Zirconia Ferrule
SC Singlemode



Zirconia Ferrule SC
Singlemode No Flange

CONNECTOR	TYPE	END FACE	ID	FLANGE
C SC & FC Connectors	S Singlemode	PC Pre-dome	125 125 μ m	NN No Flange
			1255 125.5 μ m	F4 4 Slot Flange
			126 126 μ m	

CSPC - 1255 - NN ORDER CODE example

SC/FC MM PC ZIRCONIA FERRULE

SC and FC Multimode

SPECIFICATION

For Zirconia Ferrules SC and FC Multimode

Material	Zirconia
Concentricity (Standard)	Multimode ≤ 4 micron
Inner Diameter Tolerance	Multimode +4/-0 micron
Outer Diameter Tolerance	Multimode ±1 micron
Length Tolerance (No flange)	10.5 ±0.1mm
Spherical Radius (Pre-Dome)	20 + 5/-10
V-Groove	60/90 ±5 degrees

Note: When following SENKO recommended procedures



Zirconia Ferrule
SC and FC Multimode

CONNECTOR	TYPE	END FACE	ID	FLANGE
C SC & FC Connectors	M Multimode	PC Pre-dome	127 127µm	NN No Flange
			144 144µm	F4 4 Slot Flange
			230 230µm	

CMPC - 127 - NN ORDER CODE example

Note: Custom length, inner and outer diameter dimensions available upon request



Zirconia Ferrule
SC and FC Multimode No Flange

ST SM/MM ZIRCONIA FERRULE

ST Singlemode and Multimode

SPECIFICATION	SINGLEMODE	MULTIMODE
---------------	------------	-----------

For Zirconia Ferrules ST

Material	Zirconia	
Concentricity (Standard)	≤1 micron	≤ 4 micron
Inner Diameter Tolerance	+1/-0 micron	+4/-0 micron
Outer Diameter Tolerance	±0.5 micron	±1 micron
Length Tolerance (No flange)	12.7 +/- 0.05	12.70 +/-0.1
Spherical Radius (Pre-Dome)	20 + 5/-10	
V-Groove	60/90 ±5 degrees	

Note: When following SENKO recommended procedures

CONNECTOR	TYPE	END FACE	ID	FLANGE
T ST	S Singlemode	PC Pre-dome	125 125µm	NN No Flange
	M Multimode		126 126µm	
			127 127µm	

TSPC - 125 - NN ORDER CODE example

For ST Singlemode Connector
ø 2.499mm No Flange



LC and MU Singlemode

LC/MU SM ZIRCONIA FERRULE

SPECIFICATION

For Zirconia Ferrules LC and MU Singlemode

Material	Zirconia
Concentricity (Standard)	Singlemode ≤1 micron
Inner Diameter Tolerance	Singlemode +1/-0 micron
Outer Diameter Tolerance	Singlemode ±0.5 micron
Length Tolerance (No flange)	6.5 ±0.5mm (MU) 6.5 ±0.7mm (LC)
V-Groove	60/90 ±5 degrees

Note: When following SENKO recommended procedures



Zirconia Ferrule
LC Singlemode



Zirconia Ferrule
MU Singlemode

CONNECTOR	TYPE	END FACE	ID	FLANGE
M MU Connectors	S Singlemode	FL Flat	125 125µm	NN No Flange
L LC Connectors			1255 125.5µm	FM MU Flange
			126 126µm	FL LC Flange

LSFL - 126 - FL ORDER CODE example

LC and MU Multimode

LC/MU MM ZIRCONIA FERRULE

SPECIFICATION

For Zirconia Ferrules LC and MU Multimode

Material	Zirconia
Concentricity (Standard)	Multimode ≤4 micron
Inner Diameter Tolerance	Multimode +4/-0 micron
Outer Diameter Tolerance	Multimode ±1 micron
Length Tolerance (No flange)	6.5 ±0.5mm (MU) 6.5 ±0.7mm (LC)
V-Groove	60/90 ±5 degrees

Note: When following SENKO recommended procedures



Zirconia Ferrule
LC Multimode



Zirconia Ferrule
MU Multimode

CONNECTOR	TYPE	END FACE	ID	FLANGE
M MU Connectors	M Multimode	FL Flat	127 127µm	NN No Flange
L LC Connectors			144 144µm	FM MU Flange
				FL LC Flange

LMFL - 127 - FL ORDER CODE example

Note: Custom length, inner and outer diameter dimensions available upon request

ZIRCONIA SLEEVES

Zirconia sleeves and tubes are precision manufactured according to strict quality and performance standards. They are available for singlemode and multimode applications. Reliable mating is assured with strictly controlled

dimensions and withdrawal force. Standard styles for FC include SC, FC, ST, D4, LC and MU, with custom designs also available. Diagonal split sleeves are available for superior durability requirements. Tubes are also available.

SPECIFICATION	ST	SC, FC	LC, MU
For Zirconia Sleeves ST, SC, FC, LC and MU			
Material	Zirconia		
Withdrawal Force	200gf~600gf		100gf~250gf
Insertion Loss	Max 0.5dB, 0.1dB typical or better		
Durability	<0.02dB deviation after 1000 matings, <0.02dB after temperature cycle test		
Outer Diameter	3.2 ±0.02mm		1.62 ±0.01mm
Inner Diameter	(2.49)mm		(1.246)mm
Length	10.1 ±0.1mm	11.4 ±0.1mm	6.8 + 0/-0.1mm
Slit Width	Max 0.5 ±0.01mm		Max 0.2 ±0.01mm
Chamfer	2 x R0.1		

Note: When following SENKO recommended procedures

SLEEVE CODE	INNER DIAMETER	LENGTH
ZRS Straight Split Sleeve	25 (2.49)mm	101 10.1mm ST
		114 11.4mm SC & FC

ZRS - 25 - 114 ORDER CODE example

- Note:** 1. Outer and inner diameter dimensions in () are to be considered as references, which shall be adjusted to the required withdrawal force as specified
2. Zirconia tubes also available
3. Custom configurations and dimensions available upon request

SLEEVE CODE	INNER DIAMETER	LENGTH
ZRS Straight Split Sleeve	12 (1.25)mm	680 6.8mm for LC/MU

ZRS - 12 - 680 ORDER CODE example

- Note:** 1. Outer and inner diameter dimensions in () are to be considered as references, which shall be adjusted to the required withdrawal force as specified
2. Zirconia tubes also available
3. Custom configurations and dimensions available upon request



For LC and MU Adapters Straight Split and High Performance Diagonal Split



For SC and FC Adapters Straight Split and High Performance Diagonal Split

PHOSPHOR BRONZE SLEEVES

Metal split sleeves are used in adapters for aligning the connector ferrule. They are manufactured for both singlemode and multimode applications. The high quality phosphor bronze material delivers a spring-like property which ensures a strictly controlled withdrawal force of 200 to 600 grams. Tolerance specifications are also well controlled, resulting in a typical insertion loss of 0.1dB* or less.



For SC and FC Adapters



For ST Adapters



For D4 Adapter



For LC and MU Adapters

SPECIFICATION	ST	SC, FC	D4	LC
---------------	----	--------	----	----

For Phosphor Bronze Sleeve ST, SC, FC, D4 and LC

Material	Phosphor Bronze C5210H			
Withdrawal Force	200gf~600gf			100gf~300gf
Insertion Loss	Max 0.5dB, typical 0.1 dB or better			
Outer Diameter	(3.08)mm		(2.48)mm	(1.62)mm
Inner Diameter	(2.48)mm		(1.98)mm	(1.25)mm
Length	10.1 ±0.1mm	11.4 ±0.1mm	10.4 ±0.1mm & 9.88 ±0.1mm	6.8 ±0.1mm
Slit Width	Max 0.5mm			Max 0.2mm
Chamfer	2 x 0.1 +0.1/-0			

Note: When following SENKO recommended procedures

SLEEVE CODE	INNER DIAMETER	LENGTH
PBS Phosphor Bronze	25 (2.48)mm	101 10.1mm ST
		114 11.4mm SC & FC

PBS - 25 - 114 ORDER CODE example

SLEEVE CODE	INNER DIAMETER	LENGTH
PBS Phosphor Bronze	12 (1.25)mm	680 6.80mm

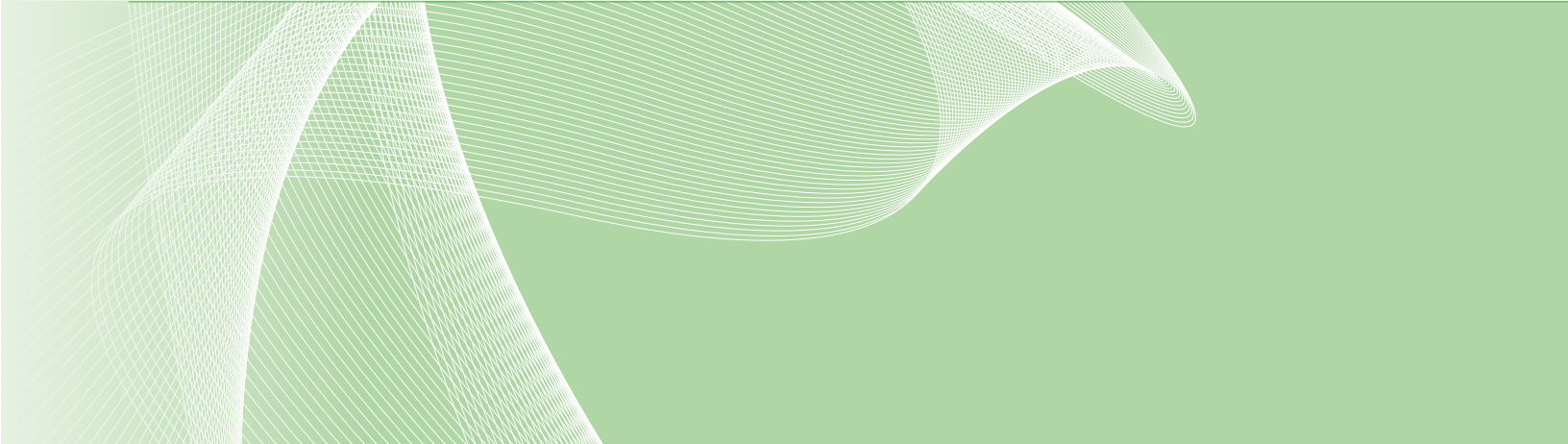
PBS - 12 - 680 ORDER CODE example

Features:

- High quality phosphor bronze material
- Low insertion loss*
- High performance and superior durability

STANDARD CONNECTOR SERIES
SMALL FORM FACTORS
SPECIALTY PRODUCTS
FERRULES AND SLEEVES
POLISHING SYSTEMS

pg. 02
pg. 24
pg. 58
pg. 68
pg. 74



POLISHING SYSTEMS

APC-8000 High Volume Polisher	pg. 68
Polishing Fixture Package	pg. 69
Polishing Rubber Pads	pg. 69
Polishing Films	pg. 70
Interferometers	pg. 72

High Volume Polisher

APC-8000

The APC-8000 features a touch screen Human Machine Interface (HMI). The touch screen User interface (UI) layout provides a fast and smooth user experience, improving operations efficiency for both programmer and operator. The APC-8000 software capabilities and safety features make it easy and safe to use. The automated on-screen step-by-step guidance system helps reduce operator errors.

The combination of a loadcell, variable platten speed, 35 polishing recipe storage capacity, and ability to apply force per ferrule makes the APC-8000 a very accurate and versatile polisher. The loadcell constantly monitors the force applied allowing the APC-8000 to adjust polishing pressure on the fly, providing constant even pressure throughout the polishing process. These attributes mean the APC-8000 can easily achieve endface geometry requirements as specified by the GR-326 and IEC industry standards. Ideally suited for multi fiber (MPO and MTP) as well as single connector types.

Semi-automatic (*manual*) mode is useful in allowing the programmer to tweak existing polishing recipes or create new ones by altering platten speed, pressure, time and film type.

Please contact a SENKO representative for more information.

Features:

- Surpasses GR-326 and IEC endface geometry specifications
- Ideal for MPO and MTP polishing
- Touch screen HMI provides an intuitive user interface for both programmer and operator
- Step-by-step guidance and on-screen warning system
- Wide range or speeds for greater control over polishing process and throughput
- Semi-automatic (*manual*) mode for program fine tuning and creation
- 35 polishing recipe storage capacity, with each recipe containing up to 10 steps
- Polishing pressure calculated per ferrule
- Enhanced fixture-to-platten alignment mechanism for elimination unwanted motion in horizontal plane

Connector Capability:

- LC-UPC, LC-APC
- MU-UPC
- SC-UPC, SC-APC
- FC-UPC, FC-APC
- ST-UPC
- E2000™, E2000™-APC
- MT-RJ, MT, Angled MT
- SMA



APC-8000

PART NUMBER

APC-8000

APC-8000 ORDER CODE example



Fixture to Platten Locking Mechanism

- Fixture incorporates 3 locator posts which mate firmly with slots in the safety cover assembly during locked position
- Locking mechanism confines motion to a vertical plane, eliminating unwanted horizontal motion
- Offers consistent polishing results even at high platten speeds
- User can polish as little as three connectors at a time



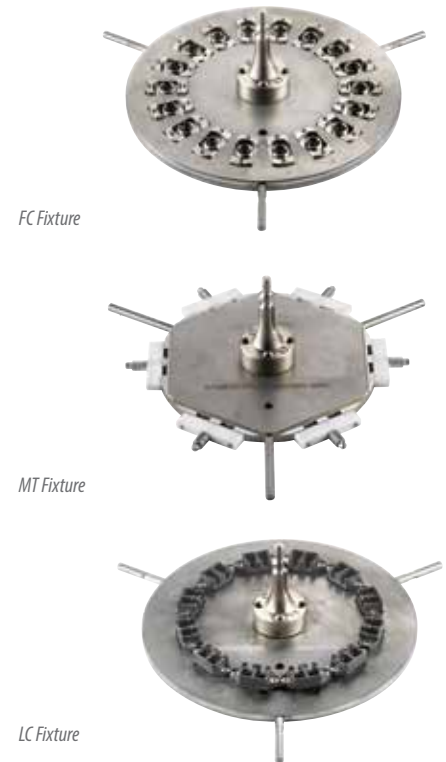
Safety Features

- CE Approval
- Sensor detects when cover is open and prevent operation
- Emergency stop button with key-operated release
- Machine does not operate unless fixture posts are aligned with cover and fixture is in contact with rubber pad and platten
- Polishing machine stalls if it senses an obstruction between the fixture and the platten before the 3 locator posts are in place

POLISHING FIXTURES

PART NUMBER	POLISHING FIXTURE	CONNECTOR CAPACITY
Connector Polishing Jigs		
MU-PC1.25-24-8	MU One-Piece Connector Fixture	24
LC-PC1.25-24-8	LC One-Piece Connector Fixture	24
LC-APC1.25-18-8	LC APC One-Piece Connector Fixture	18
E-2000-APC-12-8	E-2000 APC Connector Fixture	12
SC-APC2.5-18-X-8 (X=C for Cone, X=S for Step)	SC/APC One-Piece, 2.5mm Connector Fixture	18
FC-APC2.5-18-X-8 (X=C for Cone, X=S for Step)	FC/APC One-Piece, 2.5mm Connector Fixture	18
SC-UPC2.5-18-8	SC/UPC One-Piece, 2.5mm Connector Fixture	18
FC-UPC-2.5-18-8	FC/UPC One-Piece, 2.5mm Connector Fixture	18
ST-UPC2.5-18-8	ST/UPC One-Piece, 2.5mm Connector Fixture	18
SMA-12-8	SMA Fixture, Only for 1-Piece Connectors	12
Ferrule Polishing Jigs		
UPC-1.25-36-8	LC/MU Locking Ferrule Fixture	36
UPC-2.5-24-8	2.5mm UPC Locking Ferrule Fixture	24
UPC-LF	Universal Loading Fixture	
MT/MPO Jigs		
MT-12-8	MT Fixture	12
AMT-12-8	Angled MT Fixture	12
MT-RJ-24-8	MT-RJ Fixture	24

MU-1.25-24-8 ORDER CODE example



RUBBER POLISHING PADS

All rubber pad consumables are certified for hardness and parallelism. Pads are available with durometer specifications and color coding found below.

SPECIFICATION

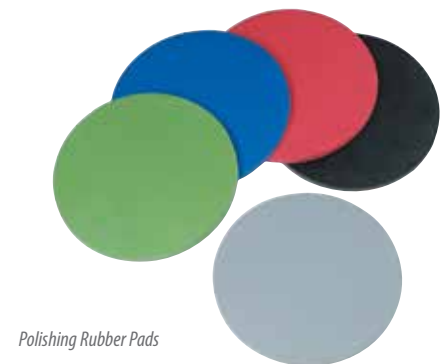
For Polishing Rubber Pads

Thickness	0.5mm ~ 5.5mm
Parallelism	± 0.05mm
Durometer	40 ~ 90
Durometer Tolerance:	± 2.5

Note: 4.8mm, 4.9mm thicknesses and custom types available upon request.

PART NUMBER	COLOR	DESCRIPTION
RUGNG55.0-90	Black	5" x 5mm 90 Duro
RUGNG55.0-85	Grey	5" x 5mm 85 Duro
RUGNG55.0-80	Green	5" x 5mm 80 Duro
RUGNG55.0-75	Brown	5" x 5mm 75 Duro
RUGNG55.0-70	Violet	5" x 5mm 70 Duro
RUGNG55.0-65	Dark Blue	5" x 5mm 65 Duro
RUGNG55.0-60	Blue	5" x 5mm 60 Duro
RUGNG55.0-55	Rust	5" x 5mm 55 Duro
RUGNG55.0-50	Red	5" x 5mm 50 Duro
RUGNG55.0-45	Burgundy	5" x 5mm 45 Duro
RUGNG55.0-40	Orange	5" x 5mm 40 Duro

RUGNG55.0-90 ORDER CODE example



Polishing Rubber Pads

Polishing Films

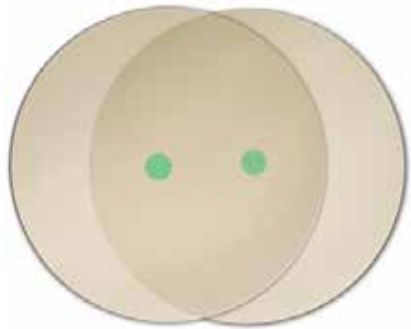
POLISHING FILMS

SENKO Polishing Films are available with surface textures and particle density to suit the end user's performance requirements. Films are lot tested for quality, consistency and longevity.

A range of films are available for epoxy removal, grinding, fine polish and cleaning of industry standard fiber optic connectors and ferrules.



LFD Diamond



LFD Diamond



MT Polishing Films

Features:

- Consistent particle deposition
- Various film diameters
- Various particle sizes

POLISHING FILMS PRODUCT NUMBER	DESCRIPTION	DIAMETER
LFC010-XN	Silicon Carbide, 30.0µm	(X) Specify 4" or 5"
LFC030-XN	Silicon Carbide, 15.0µm	(X) Specify 4" or 5"
LFC050-XN	Silicon Carbide, 9.0µm	(X) Specify 4" or 5"
LFD09-XN	Diamond, 9.0µm	(X) Specify 4" or 5"
LFD06-XN	Diamond, 6.0µm	(X) Specify 4" or 5"
LFD03-XN	Diamond, 3.0µm	(X) Specify 4" or 5"
LFD01-XN	Diamond, 1.0µm	(X) Specify 4" or 5"
LFOS01-XN	UPC Final Polishing Film	(X) Specify 4" or 5"
LFF500-5N	Cleaning Film	5 inches

LFC010-XN ORDER CODE example

MT POLISHING FILMS PRODUCT NUMBER	DESCRIPTION
LFC010-5NP	PSA Type, Silicon Carbide, 30.0µm
LFC030-5NP	PSA Type, Silicon Carbide, 15.0µm
LFC200-5NP	PSA Type, Silicon Carbide, 3.0µm
LFFC200-5NP	PSA Type, Flocked Silicon Carbide, 3.0µm
LFFA0250-5NP	PSA Type, Flocked Aluminum Oxide, 1.0µm
LFFA0300-5NP	PSA Type, Flocked Aluminum Oxide, 0.5µm
LFFC0300-5NP	PSA Type, Flocked Cerium Oxide, 0.5µm
LFF500-5N	Non-PSA Type Buffing Film
LSS-1	Colloidal Silica Suspension

LFC010-5NP ORDER CODE example

POLISHING FILMS

FOS-01 Final Polish Series

Final Polishing Film, FOS-01 is a highly efficient final polishing film manufactured using an advanced coating technology. This superior polishing film is formulated using ultra-fine particles which are uniformly deposited on a

polyester film surface, without irregular height protrusions. FOS-01 is specifically designed for polishing fiber optic connector ferrules used in high performance applications.

SPECIFICATION

For FOS-01

Particle Size	< 0.1 μ m
Coating Weight	6.0g/m ²
Film Surface Roughness	0.15 μ m
Polisher	All SENKO APC Series Polishers
Return Loss	< - 55dB
Fiber Height	0~50nm
Radius of Curvature	10~25mm
Apex Offset	< 50 μ m

Note: U.S. Patented

Features:

- Easy to use
- Clean (slurry-free) work environment
- Simplified polishing process
- Polishes without scratching, ideal for connectors used in high performance applications
- Special binder containing ultra-fine polishing particles <0.1 μ m in size
- Excellent uniformity of particle deposition



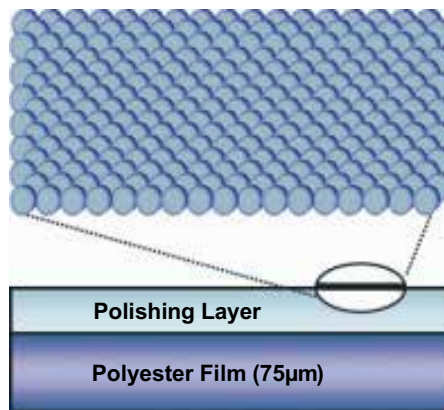
FOS-01 Series

POLISHING FILM FOS-01 and LFD SERIES PRODUCT NUMBER

DESCRIPTION

LFOS-01-5	UPC Final Polishing Film, 5 Inch Diameter
LFOS-01-6x6	UPC Final Polishing Film — 6 x 6 Inch Square

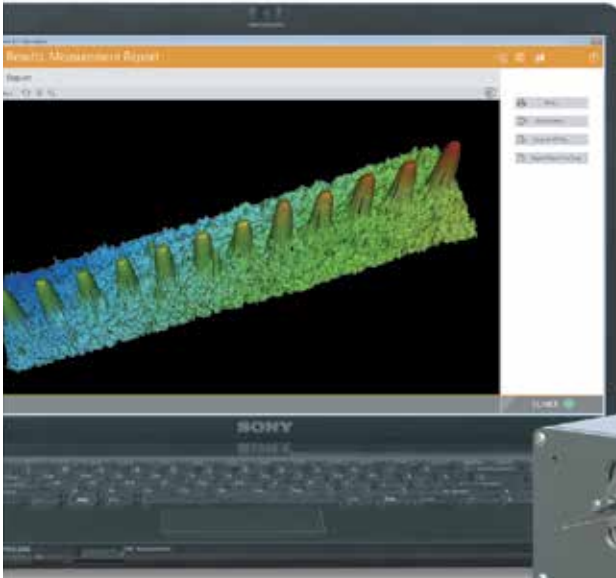
LFOS-01-5 ORDER CODE example



FOS-01 Series

Sumix Interferometers

INTERFEROMETERS



3D MICROSCOPY INTERFEROMETERS

for Fiber Optic Connector Surface Inspection



New MaxInspect™ software

Device Features and Benefits:

High resolution optics

Resolve surface details as small as 0.53µm on single fiber and 1.4µm on multi-fiber connectors

Largest field of view up to 5700µm

Measure connector from guide hole to guide hole

50µm scan range (white light mode)

Measure large height differences

High Contrast Optics

Inspect buffer zones, plastic and metal surfaces

Wide Range of Fixtures

Inspect single and multi-fiber connectors, ferrules, bare fibers, MS termini, both PC and APC

Compact and Portable Design

Make high quality measurements in the field

Fast Measurements

Measure single fiber connector as quickly as 1 second and multi-fiber connector as quickly as 6 seconds

Microscopy Mode

Visually inspect connector endface prior to measurement

Software Features and Benefits:

Highly automated inspection process

Optimize your workflow

One-Click operation

Save time testing large quantities of connectors in Express Mode

Compliance to industry standards

Test radius of curvature, apex offset, fiber height, core dip and other parameters per IEC, Telcordia or your own Pass/Fail criteria

IEC pass fail scratch detection integrated into software

Customizable administrator and user levels

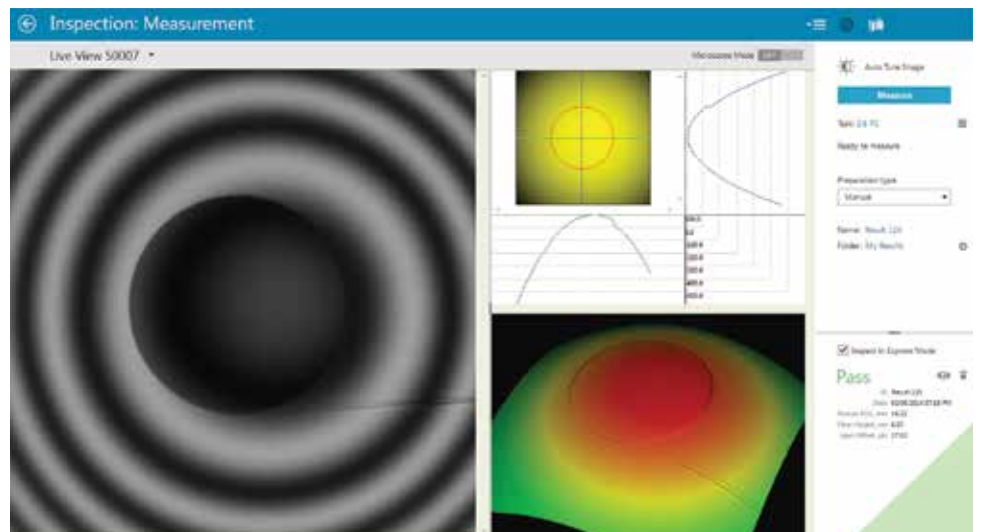
Tune inspection process as per your requirements

Configurable report generation and data archival

Document your results your way

Interactive 2D and 3D surface profiles

Rotate, zoom, scale images to explore surface details



INTERFEROMETERS

Sumix Interferometers

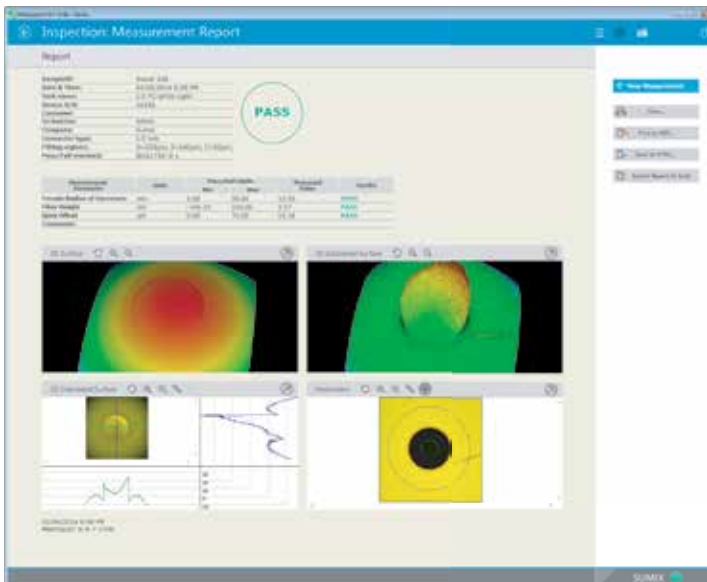
SPECIFICATION					
Optimal for Connectors/ Applications	Laboratory	Production line			
		Single fiber		Both	Multi-fiber
Models	SMX-QS04-B	SMX-7QS	SMX-7QS-T	SMX - 8QM-B	SMX - 8QM
Field of View	d = 0.4 mm	d = 0.85 mm	d = 1 mm	3.5 × 1.8 mm	5.2 × 3.8 mm
Lateral Resolution	0.53μm	1.1μm	1.3μm	1.4μm	2.2μm
Best Suitable for Connectors/ Ferrules (PC and APC)	ST, FC, SC, MU, LC, E2000, MS Termini	ST, FC, SC, MU, LC, E2000, MT-RJ, MS Termini	ST, FC, SC, MU, LC, E2000, MT-RJ, SMA 905, MS Termini	MT, MTP/MPO, MT-RJ, SMA 905, MS Termini, ST, FC, SC, MU, LC, E2000	MT, MTP/MPO, MT- RJ, SMA 905
Measurement Mode	Phase Shift	Phase Shift and White Light	Phase Shift and White Light	Phase Shift and White Light	White Light
Maximum Image Size	1940 × 2590px	2590 × 1940px	1280 × 1024px	2590 × 1940px	2590 × 1940px
Power Supply	External; Built-in Battery	External; Two USB 2.0 Cables	External; Two USB 2.0 Cables	External; Two USB 2.0 Cables	External; Two USB 2.0 Cables
Weight	3.7 kg (8.16lbs)	2.2 kg (4.8lbs)	2.2 kg (4.8lbs)	2.3 kg (5.1lbs)	2.3 kg (5.1lbs)
Dimensions (H × W × L)	110 × 145 × 240mm (4.33 × 5.7 × 9.45 in)	93 × 130 × 150mm (3.66 × 5.12 × 5.90 in)	93 × 130 × 150mm (3.66 × 5.12 × 5.90 in)	92 × 128 × 170mm (3.62 × 5.04 × 6.69 in)	92 × 128 × 170mm (3.62 × 5.04 × 6.69 in)
Focus	Auto	Manual and Short Range Auto	Manual and Short Range Auto	Manual and Short Range Auto	Manual and Short Range Auto

TEST SINGLE FIBER AND MULTIFIBER WITH ONE UNIT

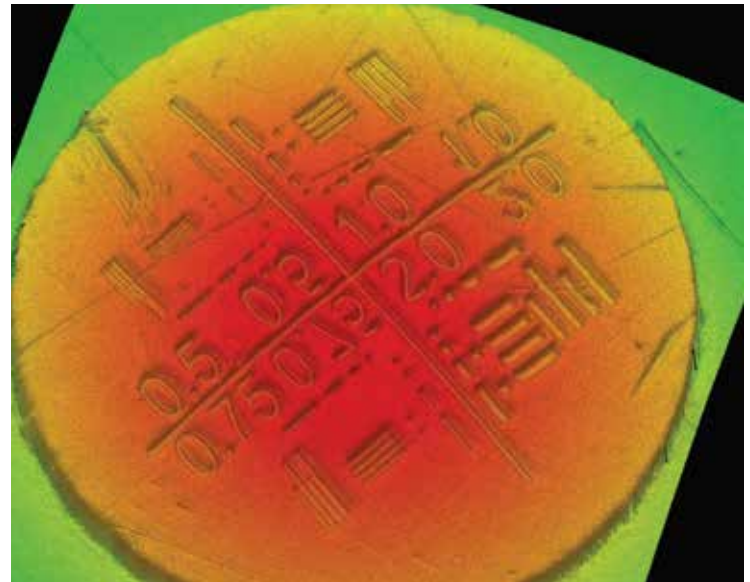
With the industry's ever increasing need for bandwidth, it will be required that all factory terminations be 100 percent geometrically inspected to proper radius, offset and fiber height, to assure the demanding requirements for the lowest possible losses are achieved.



Measurement report of SC/PC connector endface



0.5, 0.75, 1, 2μm lines etched on fiber by X-Ray lithography





SENKO Advanced Components, Incorporated is a recognized global leader in the design, production, sales, marketing and distribution of over 1000 fiber optic products. It is headquartered in Boston, Massachusetts, USA and is the fiber optic division of the Japan based SENKO Group.

The SENKO Group is a family of companies serving clients in the Electronic / Electrical, Telecom / Fiber Optic, and Automotive / Industrial industries. We continually expand our product line to suit your business needs, both through innovations in product design and via international partnerships. Our top quality products are backed with superior technical support and logistic services provided by our worldwide facilities.



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