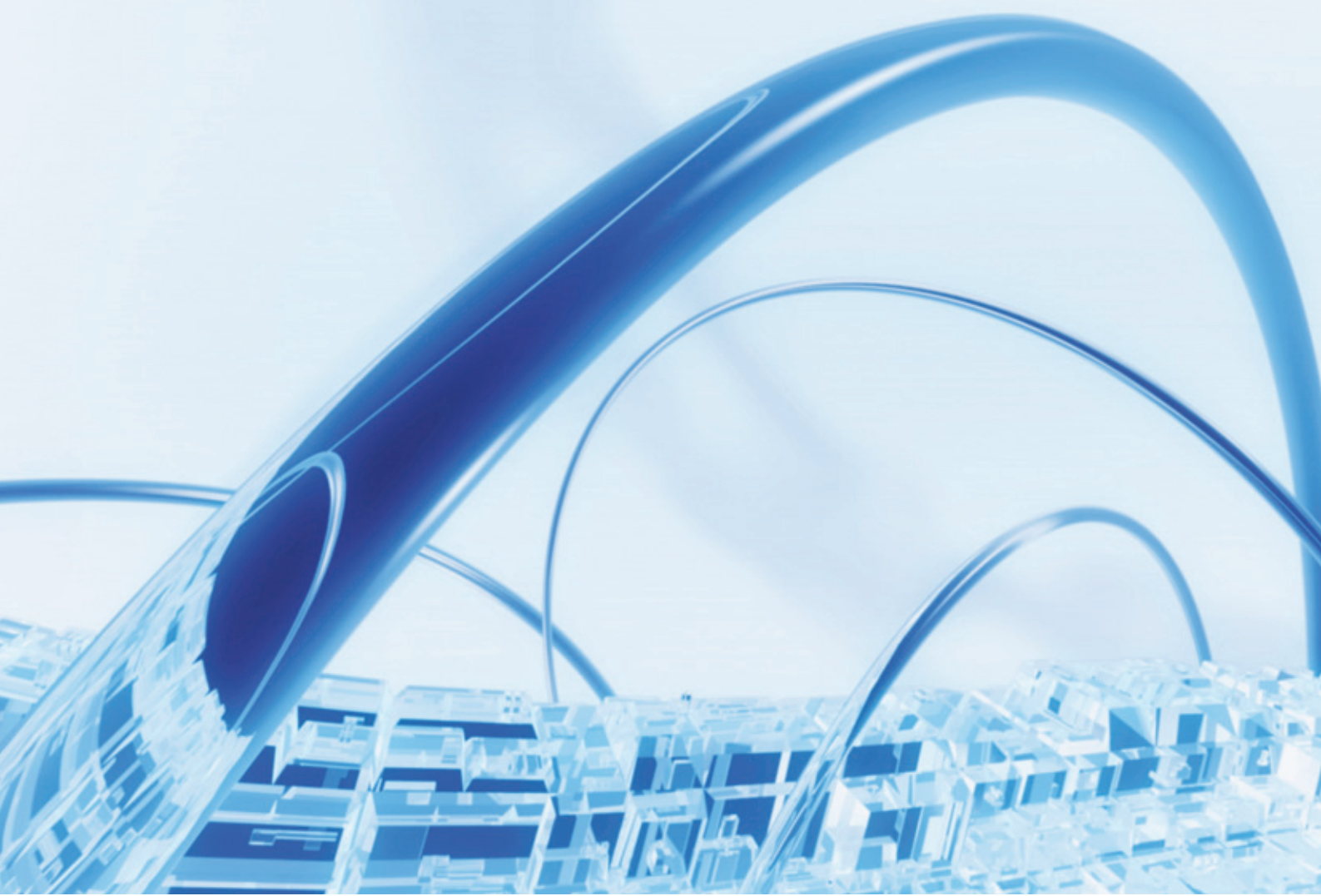
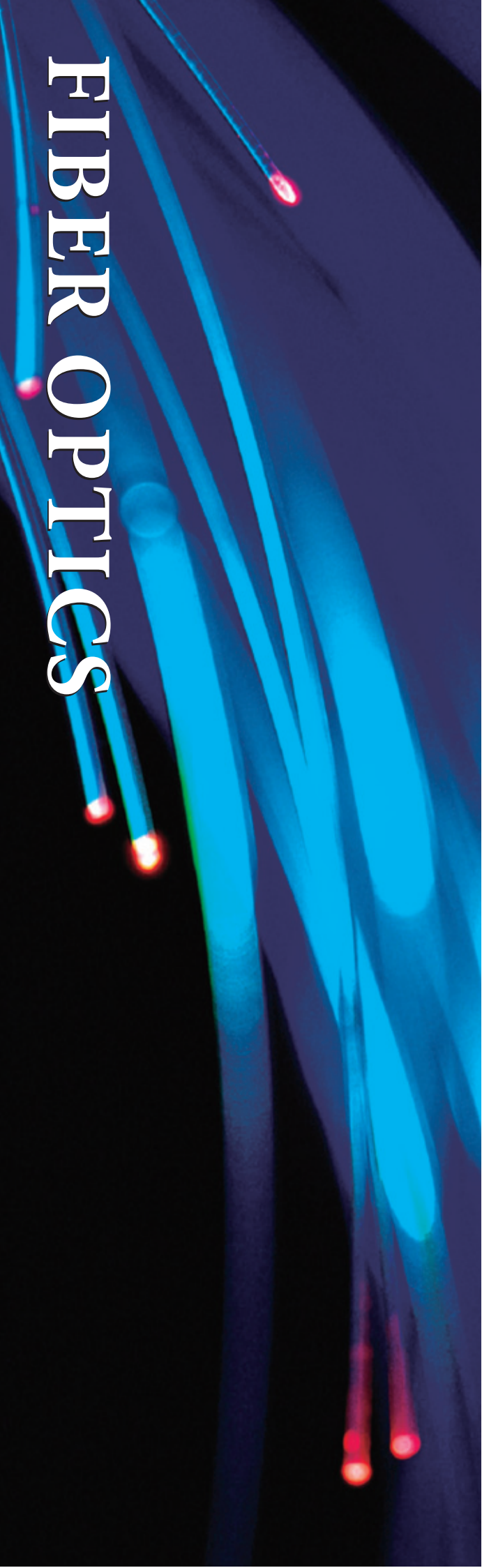




Fiber Optics Product Catalogue





FIBER OPTICS

The optical communication technology of the next generation will be of increasing importance and extremely diversified. SEIKOH GIKEN Co., Ltd. uses revolutionary technology that leads the world. Their optical communications Products have received international acclaim in every field.

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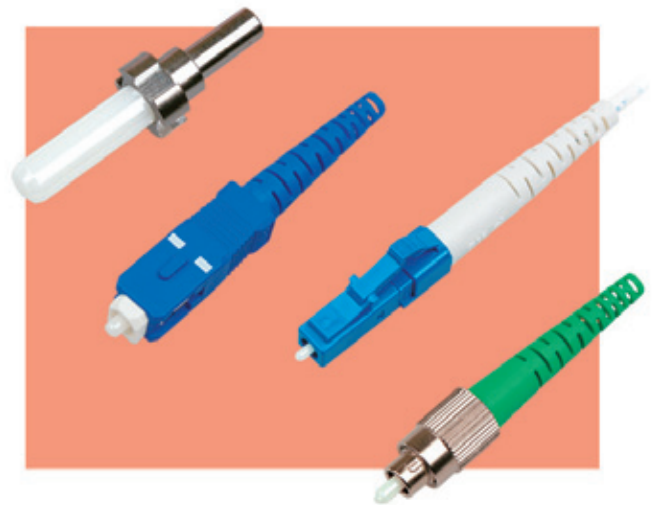
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INTERCONNECT

FERRULE
CONNECTOR
ADAPTOR
JUMPER
LENSED FIBER
FIBER ARREY
ATTENUATOR



[Ferrule for Fiber Optic Connectors]

- High-quality and high-performance zirconia ceramic ferrules are offered through consistent production extending from material molding to machining and inspection
- Using precision injection mold process provides high density molecular structure and near flawless surface ferrule
- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

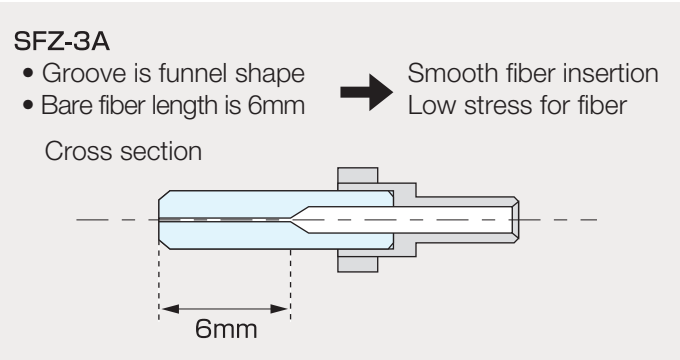
ø2.5mm Zirconia Ferrule for Single Mode



- For SC and FC connectors
- SZ-1A: Flat
 - SZ-3A: Pre-radius
 - SFZ-3A: Pre-radius & FUNNEL inner shape

ORDERING INFORMATION

SZ-1A	a	b	c	d
SZ-3A				
SFZ-3A				
Ex.)				
SZ-3A	14	12F	8	0G



a	Flange I.D.	φ1.0mm	14
b	Ferrule I.D.	125μm	125
		125.5μm	12F
		126μm	126
c	Eccentricity	0.5μm or less	8
d	Required		0G

U.S. Pat. No. 5,464,361

ø2.5mm Zirconia Ferrule for Single Mode Angle PC



- For SC-APC and FC-APC connectors
- SNZ: Conical shape**
- SNZ-1A: Flat
 - SNZ-3A: Pre-angle
- SGZ: Step shape**
- SGZ-1A: Flat
 - SGZ-3A: Pre-angle

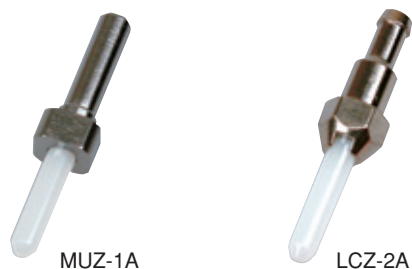
ORDERING INFORMATION

SNZ-1A	a	b	c	d
SNZ-3A				
SGZ-1A				
SGZ-3A				
Ex.)				
SNZ-1A	14	12F	0	0G

U.S. Pat. No. 5,140,660

a	Flange I.D.	φ1.0mm	14
b	Ferrule I.D.	125μm	125
		125.5μm	12F
		126μm	126
c	Eccentricity	0.5μm or less	0
d	Required		0G

ø1.25mm Zirconia Ferrule for Single Mode



MUZ-1A: for MU connector

- Complies with JIS C5983, IEC 61754-6

LCZ-2A: for LC connector

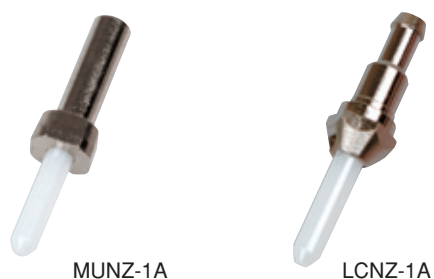
- Complies with IEC 61754-20

ORDERING INFORMATION

MUZ-1A	a	b	c	d
LCZ-2A				
Ex.)				
MUZ-1A	14	12F	8	00G
LCZ-2A	14	12F	8	01G

a	Flange I.D.	φ1.0mm	14
b	Ferrule I.D.	125μm	125
		125.5μm	12F
		126μm	126
c	Eccentricity	0.5μm or less	8
d	Required		00G MUZ-1A
			01G LCZ-2A

ø1.25mm Zirconia Ferrule for Single Mode Angle PC



MUNZ-1A: for MU-APC connector

- Conical shape ferrule for Angle PC application
- Applicable housing: SMU-CN1, SMU-CN2

LCNZ-1A: for LC APC connector

- Conical shape ferrule for Angle PC application
- Applicable housing: SLC-CN1, SLC-CN2

ORDERING INFORMATION

MUNZ-1A	a	b	c	d
LCNZ-2A				
Ex.)				
MUNZ-1A	14	125	0	00G
LCNZ-2A	14	125	0	01G

a	Flange I.D.	φ1.0mm	14
b	Ferrule I.D.	125μm	125
		125.5μm	12F
		126μm	126
c	Eccentricity	0.5μm or less	0
d	Required		00G MUNZ-1A
			01G LCNZ-2A

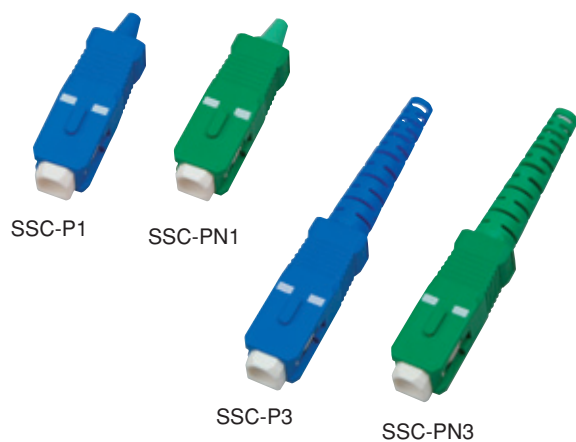
U.S. Pat. No. 6,886,990

[SC Type Fiber Optic Connectors]

- Equivalent to NTT specifications (SC)
- Complies with IEC 61754-4 and JIS C 5973
- Models meet Telcordia test specification GR-326-CORE are available
- Models satisfy Vertical Burning Test for Classifying Materials UL94V-0 are available
- Available precision crimping tool
Part Number: MDTK-02-120G
- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

SC Housing for $\phi 0.9\text{mm}$ Buffer Cable

SC Housing for $\phi 2\text{mm}$ / $\phi 3\text{mm}$ Cable



■ SC $\phi 0.9\text{mm}$

- Using plastic stop ring offering low cost, light weight and easy assembly
- Total length of 33mm is optimum for use inside system equipment and devices

	Part Number
For PC	SSC-P1511F3151G
For Angle PC	SSC-PN1811G3151G

■ SC $\phi 2\text{mm}/\phi 3\text{mm}$

- Complies with Telcordia GR-326-CORE

	Part Number
$\phi 2\text{mm}$ for PC	SSC-P25B1F30*G
$\phi 2\text{mm}$ with short boot for PC	SSC-P2S5D1F30*G
$\phi 2\text{mm}$ for Angle PC	SSC-PN28B1G30*G
$\phi 2\text{mm}$ with short boot for Angle PC	SSC-PN2S8D1G30*G
$\phi 2.4\text{mm}$ for PC	SSC-P45A1F30*G
$\phi 2.4\text{mm}$ for Angle PC	SSC-PN48A1G30*G
$\phi 3\text{mm}$ for PC	SSC-P35C1F30*G
$\phi 3\text{mm}$ for Angle PC	SSC-PN38C1G30*G

SC Plug for PC



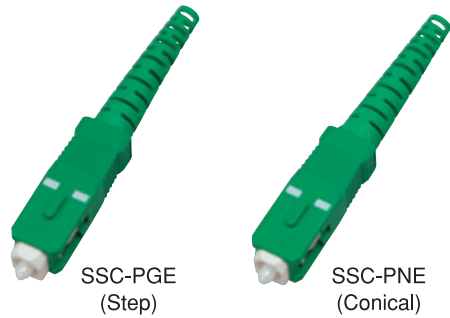
- One-piece design for easy assembly
- Pre-radius Zirconia ferrule enables easy polishing
- Plastic boot complies with Telcordia GR-326-CORE

ORDERING INFORMATION

SSC-PE a b c d e f g
 Ex.) SSC-PE 5 C 125 1 F 3 00G

a	Boot Color	Blue	5
b	Boot I.D.	$\phi 0.9\text{mm}$ (flame-resistant rubber)	1
		$\phi 0.9\text{mm}$ (plastic)	9
		$\phi 2\text{mm}$ (plastic)	B
		$\phi 3\text{mm}$ (plastic)	C
c	Ferrule I.D.	125 μm	125
		126 μm	126
d	Marking of Grip	SG/SSC-P	1
e	Cap	Blue	F
f	Package	Bulk	3
g	Required		0*G

SC Plug for Angle PC



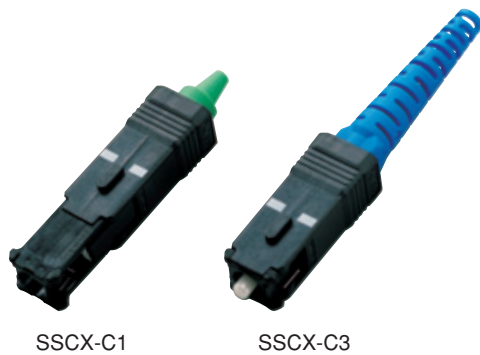
- One-piece design for easy assembly
- Pre-angle Zirconia ferrule enables easy polishing
- Plastic boot complies with Telcordia GR-326-CORE
- SSC-PNE: Conical ferrule type
- SSC-PGE: Step ferrule type

ORDERING INFORMATION

SSC-PNE a b c d e f g
 SSC-PGE
 Ex.)
 SSC-PNE 8 B 125 1 G 3 00G

a	Boot Color	Green	8
b	Boot I.D.	φ0.9mm (flame-resistant rubber)	1
		φ0.9mm (plastic)	9
		φ2mm (plastic)	B
		φ3mm (plastic)	C
c	Ferrule I.D.	125μm	125
		126μm	126
d	Marking of Grip	SG/SSC-P	1
e	Cap	Green	G
f	Package	Bulk	3
g		Required	0*G

SC Shuttered Housing



- Auto shutter for eye-safety & dust-proof
- Fully compatible with the standard SC connectors
- Same performance as the standard SC connectors
- Metal shutter enables to block the high-power outgoing beam
- No ferrule included
- SSCX-C1 : for φ0.9mm
- SSCX-C2 : for φ2mm
- SSCX-C3 : for φ3mm

ORDERING INFORMATION

SSCX-C1 a b c d e f
 SSCX-C2
 SSCX-C3
 Ex.)
 SSCX-C1 5 1 1 F 3 00G

a	Boot Color	Blue	5
		Green	8
b	Boot I.D.	φ0.9mm(flame-resistant rubber)	1
		φ2mm(Plastic)	B
		φ3mm(plastic)	C
c	Marking of Grip	SG	1
d	Cap	Blue	F
		Green	G
e	Package	Bulk	3
f		Required	0*G

U.S. Pat. No. 7,093,983
 U.S. Pat. No. 7,153,035

[FC Type Fiber Optic Connectors]

- Equivalent to NTT specification (FC)
- Complies with IEC 61754-13 and JIS C 5970
- Models achieve Telcordia optic connector test specification GR-326-CORE are available
- Models satisfy Vertical Burning Test for Classifying Materials UL94V-0 are available
- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

Keying width		Unit: mm	
	PC	Wide key (N-type) Angle PC	Narrow key (R-type) Angle PC
Housing Plug	2.0 ±0.15	2.14 ⁰ _{-0.05}	2.02 ⁰ _{-0.05}
Adaptor	2.4 ±0.2	2.15 ^{+0.05} ₀	2.03 ^{+0.05} ₀

FC Housing for PC & Angle PC



- Plastic boot complies with GR-326
- Applicable for standard PC and Angle PC (Wide key type, Narrow key type) by selection of plug frame and boot color
- Possible to use plug frame of Narrow key type for standard PC application
- Possible to use same crimping assembly method as SC (crimping tool part number: MDTK-02-120G)
- Satisfies Vertical Burning Test for Classification Materials UL94V-0 (excluding cap)
- SAP-3: for ø2, ø2.4, ø3mm
- SAP-6: for ø0.9mm

ORDERING INFORMATION
SAP-3 a b c d e f g
SAP-6
Ex.)
SAP-3 1 7 1 A 0 D OG

a	Boot Color	Black	1
		Green	8
b	Boot I.D.	ø0.9mm (flame-resistant rubber)	8
		ø2mm (plastic)	6
		ø3mm (plastic)	7
		ø2.4mm (plastic)	A
c	Marking of Boot	SG (SAP-3)	1
		No marking (SAP-6)	0
d	Cap	Black ferrule cap	A
		Green ferrule cap	B
e	Package	Bulk	0
f	Keying Width	Wide key	D
		Narrow key	K
g		Required	*G

FC Housing for PC

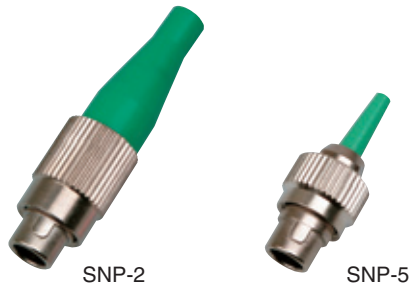


- Equivalent to NTT specifications(FC-P)(SAP-1)
- Total length of 24mm is optimum for use inside system equipment and devises(SAP-4)
- Models Satisfy Vertical Burning Test for Classifying Materials UL94V-0 are available(SAP-4)
- Widely used for LD/PD modules
- SAP-1 : for ø2mm, ø3mm
- SAP-4 : for ø0.9mm

ORDERING INFORMATION
SAP-1 a b c d e f
SAP-4
Ex.)
SAP-4 1 8 0 3 1 OOG

a	Boot Color	Black	1
b	Boot I.D	ø0.9mm(flame-resistant rubber)	8
		ø2mm(rubber)	2
		ø3mm(rubber)	3
c	Marking of Boot	No Marking	0
d	Cap	White (Plastic)	3
		Black ferrule cap	A
e	Package	Bulk	1
f		Required	OOG

FC Housing for Angle PC



- Housing designed for Angle PC application
- Total length of 24mm is optimum for use inside system equipment and devices (SNP-5)
- Wide and narrow key width are available
- SNP-2: for $\phi 2$, $\phi 3$ mm
- SNP-5: for $\phi 0.9$ mm

ORDERING INFORMATION

SNP-2	a	b	c	d	e	f	g
SNP-5							
Ex.)							
SNP-2	8	3	0	B	1	D	1G

a	Boot Color	Green	8
b	Boot I.D.	$\phi 0.9$ mm (rubber)	1
		$\phi 0.9$ mm (flame-resistant rubber)	8
		$\phi 2$ mm (rubber)	2
		$\phi 3$ mm (rubber)	3
c	Marking of Boot	No marking	0
d	Cap	Green (PVC)	8
		Green ferrule cap	B
		White (plastic)	3
e	Package	Bulk	0
		Pre-assy	1
f	Keying Width	Wide key	D
		Narrow key	K
g	Required		1G

FC Housing with 360° Variable Tuning



- 360° variable tuning
- Uses same crimping assembly method as SC (crimping tool part number: MDTK-02-120G)
- Satisfies Vertical Burning Test for Classification Materials UL94V-0
- SGP-3, 4: for PC application. Ferrule SZ-3A15 series (Flange o.d. $\phi 4.7$ mm, pre-radius) should be used together.
- SGP-N3, N4: for APC application. Narrow key type is available as standard. If wide key type is required, please contact us. Ferrule SGZ-1A15 series (Flange o.d. $\phi 4.7$ mm, step type) should be used together.

U.S. Pat. No. 5,946,436

	Part Number
$\phi 0.9$ mm for PC (flame-resistant rubber)	SGP-418011K0G
$\phi 0.9$ mm for Angle PC (flame-resistant rubber)	SGP-N488081K0G
$\phi 2$ mm for PC	SGP-356011K0G
$\phi 2$ mm with short boot for PC	SGP-3S5D011K0G
$\phi 3$ mm for PC	SGP-357011K0G
$\phi 2$ mm for Angle PC	SGP-N386081K0G
$\phi 2$ mm with short boot for Angle PC	SGP-N3S8D081K0G
$\phi 3$ mm for Angle PC	SGP-N387081K0G

FC Plug for PC



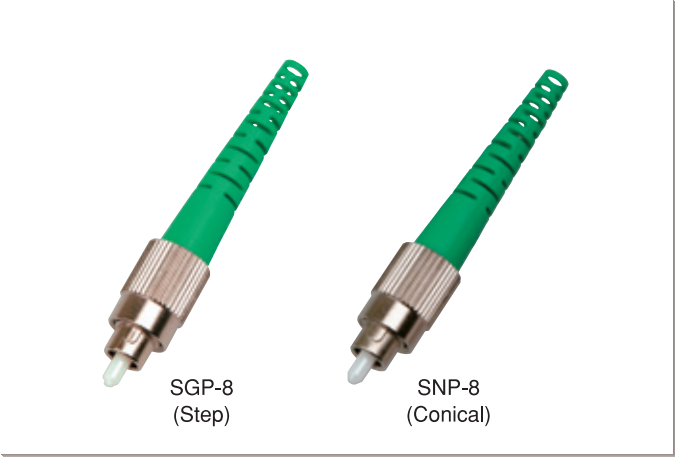
- One-piece design for easy assembly
- Pre-radius Zirconia ferrule enables easy polishing
- Plastic boot complies with Telcordia GR-326-CORE
- Uses same crimping assembly method as SC (crimping tool Part Number: MDTK-02-120G)
- Satisfies Vertical Burning Test for Classification Materials UV94V-0.

ORDERING INFORMATION

SAP-8	a	b	c	d	e	f	g	h
Ex.) SAP-8	1	3	125	1	A	3	D	OG

a	Boot Color	Black	1
b	Boot I.D.	ϕ 0.9mm (flame-resistant rubber)	1
		ϕ 0.9mm (plastic)	9
		ϕ 3mm (plastic)	3
		ϕ 2mm (plastic)	6
c	Ferrule I.D.	125 μ m	125
		126 μ m	126
d	Marking of Boot	No marking- ϕ 0.9 (flame-resistant rubber)	0
		SG- ϕ 0.9~3 (plastic)	1
e	Cap	Black (PVC)	1
		Black ferrule cap	A
f	Package	Bulk	3
g	Frame	Machined	0
		Molded	D
h	Required		*G

FC Plug for Angle PC



- One-piece design for easy assembly
- Pre-angle Zirconia (step shape or conical shape) enables easy polishing
- Plastic boot complies with Telcordia GR-326-CORE
- Uses same crimping assembly method as SC (crimping tool Part Number: MDTK-02-120G)
- Wide and narrow key width available
- Satisfies Vertical Burning Test for Classification Materials UV94V-0.
- SGP-8: Step ferrule type
- SNP-8: Conical ferrule type

ORDERING INFORMATION

SNP-8	a	b	c	d	e	f	g	h
SGP-8								
Ex.) SNP-8	8	3	125	1	B	3	D	1G

a	Boot Color	Green	8
b	Boot I.D.	ϕ 0.9mm (flame-resistant rubber)	1
		ϕ 0.9mm (plastic)	9
		ϕ 3mm (plastic)	7
		ϕ 2mm (plastic)	6
c	Ferrule I.D.	125 μ m	125
		126 μ m	126
d	Marking of Boot	No marking- ϕ 0.9 (flame-resistant rubber)	0
		SG- ϕ 0.9~3 (plastic)	1
e	Cap	Green (PVC)	8
		Green ferrule cap	B
f	Package	Bulk	3
g	Keying Width	Wide key (SNP-8 Only)	D
		Narrow key	K
h	Required		*G

[ST™ Intermateable Fiber Optic Connectors]

- Intermateable with OFS ST connector
- Easy connection with bayonet housing
- Applicable to LAN systems and equipment
- Available precision crimping tool
Part Number: MDTK-02-110G
- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

ST™ Plug for PC



SLP-1

- SLP-1: for Single-mode
- SLP-2: for Multi-mode

ORDERING INFORMATION

SLP-1	a	b	c	d	e	f	g
SLP-2							
Ex.)							
SLP-2	4	0	127	1	0	3	00G

a	Ferrule Type	Flat (SLP-1)	2
		Pre-radius (SLP-1)	8
		Flat (SLP-2)	4
b	Boot I.D.	φ3mm	0
		φ0.9mm	1
		φ3mm+φ0.9mm	2
c	Ferrule I.D.	125μm (SLP-1)	125
		126μm (SLP-1)	126
		127μm (SLP-2)	127
d	Boot Color	Black	1
e	Marking of Body	SG	0
f	Package	Bulk	3
g	Required		00G

[Crimping Tool]

- Easy and reliable crimping tool



MDTK-02-120G

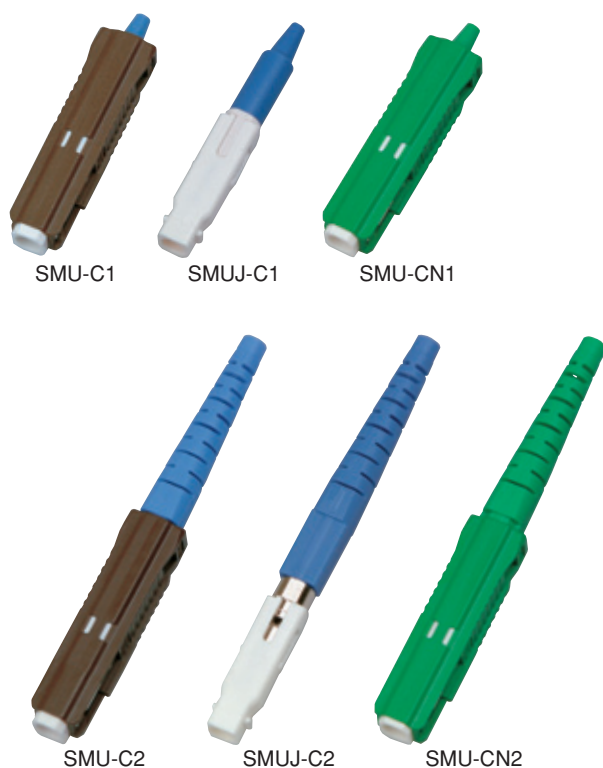
ST Crimping Tool	MDTK-02-110G
SC Crimping Tool	MDTK-02-120G
MU Crimping Tool	MDTK-02-130G
LC Crimping Tool	MDTK-02-140G
LC Short Connector Crimping Tool	SCT-L010

[MU Type Fiber Optic Connectors]

- Complies with IEC 61754-6 and JIS C 5983
- Models meet Telcordia test specification GR-326-CORE are also available
- Satisfies Vertical Burning Test for Classifying Materials UL94V-0 (excluding cap)
- Unique design for quick assembly while maintaining high performance
- Satisfies MU connector intermateability test by NTT-AT
- Available precision crimping tool
Part Number: MDTK-02-130G
- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

MU Housing for PC

MU Housing for Angle PC



■MU Housing for PC

- Total length of 28mm is optimum for use inside system equipment and devices (SMU-C1)
- Use of plastic stop ring offers low cost, light weight and easy assembly (SMU-C1)
- Use of heat-shrink tube with adhesive offers compatibility with $\phi 1.5\sim 2\text{mm}$ cables (SMU-C2)
- Connect to MU Package Housing and our FA140 series high density MU plug attenuators (SMUJ-C1, SMUJ-C2)
- SMU-C1: for $\phi 0.9\text{mm}$
- SMU-C2: for $\phi 1.5\sim 2\text{mm}$
- SMUJ-C1: for $\phi 0.9\text{mm}$ jack housing
- SMUJ-C2: for $\phi 1.5\sim 2\text{mm}$ jack housing

	Part Number
$\phi 0.9\text{mm}$	SMU-C1910C30*G
$\phi 1.5\sim 2\text{mm}$	SMU-C2920C30*G
$\phi 0.9\text{mm}$ Jack Housing	SMUJ-C191C30*G
$\phi 1.5\sim 2\text{mm}$ Jack Housing	SMUJ-C292C30*G

■MU Housing for Angle PC

- Total length of 28mm is optimum for use inside system equipment and devices (SMU-CN1)
- Use of plastic stop ring offers low cost, light weight and easy assembly (SMU-CN1)
- Use of heat-shrink tube with adhesive offers compatibility with $\phi 1.5\sim 2\text{mm}$ cables (SMU-CN2)
- SMU-CN1: for $\phi 0.9\text{mm}$
- SMU-CN2: for $\phi 1.5\sim \phi 2.0\text{mm}$

	Part Number
$\phi 0.9\text{mm}$	SMU-CN1810C30*G
$\phi 1.5\sim 2\text{mm}$	SMU-CN2820C30*G

MU Plug for PC



SMU-P

- One-piece design with Zirconia MU ferrule for easy assembly
- Connector series equipped with core adjust capability
- Use of heat-shrink tube with adhesive offers compatibility with $\phi 1.5 \sim \phi 2\text{mm}$ cables ($\phi 2\text{mm}$)
- Total length of 28mm is optimum for use inside system equipment and devices ($\phi 0.9\text{mm}$)

ORDERING INFORMATION

SMU-P	a	b	c	d	e	f	g
Ex.)							
SMU-P	9	1	125	1	C	3	00G

a	Boot Color	Lavender	9
b	Boot I.D.	$\phi 0.9\text{mm}$	1
		$\phi 2\text{mm}$	2
c	Ferrule I.D.	$125\mu\text{m}$	125
		$125.5\mu\text{m}$	12F
		$126\mu\text{m}$	126
d	Marking of Grip	SG/SMU-P	1
e	Cap	White frame cap	C
f	Package	Bulk	3
g	Required		0*G

MU Plug for Angle PC



SMU-PN

- One-piece design with Zirconia MU ferrule for easy assembly
- Connector series equipped with core adjust capability
- Use of heat-shrink tube with adhesive offers compatibility with $\phi 1.5 \sim \phi 2\text{mm}$ cables ($\phi 2\text{mm}$)
- Total length of 28mm is optimum for use inside system equipment and devices ($\phi 0.9\text{mm}$)

ORDERING INFORMATION

SMU-PN	a	b	c	d	e	f	g
Ex.)							
SMU-PN	8	1	125	1	E	3	00G

a	Boot Color	Green	8
b	Boot I.D.	$\phi 0.9\text{mm}$	1
		$\phi 2\text{mm}$	2
c	Ferrule I.D.	$125\mu\text{m}$	125
		$125.5\mu\text{m}$	12F
		$126\mu\text{m}$	126
d	Marking of Grip	SG/SMU-P	1
e	Cap	Green frame cap	E
f	Package	Bulk	3
g	Required		0*G

[LC Type Fiber Optic Connectors]

- Complies with IEC 61754-20, TIA/EIA-604-10-A and JIS C 5964-20
 - Models meet Telcordia test specification GR-326-CORE are also available
 - Satisfies Vertical Burning Test for Classifying Materials UL94V-0
 - Unique design for quick assembly while maintaining high performance
- Duplex Clip can combine two simplex ϕ 2.0mm connectors as duplex connector (6.25mm pitch)
 - Available precision crimping tool
Part Number: MDTK-02-140G (except Short Length type)
 - For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

LC Housing for PC

LC Housing for Angle PC



LC Housing for PC

- SLC-C1: for ϕ 0.9mm
- SLC-C2: for ϕ 1.6~ ϕ 2.0mm

	Part Number
ϕ 0.9mm	SLC-C1310C30*G
ϕ 1.6~2.0mm	SLC-C2320C30*G

LC Housing for Angle PC

- SLC-CN1: for ϕ 0.9mm
- SLC-CN2: for ϕ 1.6~ ϕ 2.0mm

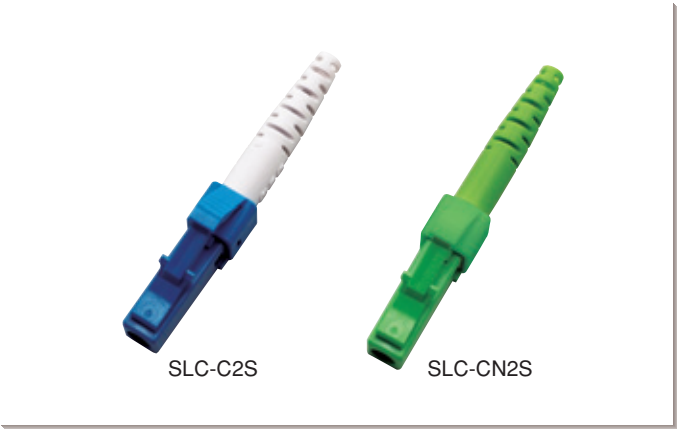
	Part Number
ϕ 0.9mm	SLC-CN1810C30*G
ϕ 1.6~2.0mm	SLC-CN2820C30*G



Duplex Clip
Part Number: DK24920013G

LC Housing for PC Short Length

LC Housing for Angle PC Short Length



- Total 40.5mm short length LC connector
- Available for only 2mm O.D. cable
- Uses crimping assembly method and not require heat-shrink tube
- Original crimping tool is needed
- Available precision crimping tool Part Number : SCT-L010

LC Short Housing for 2mm Cable

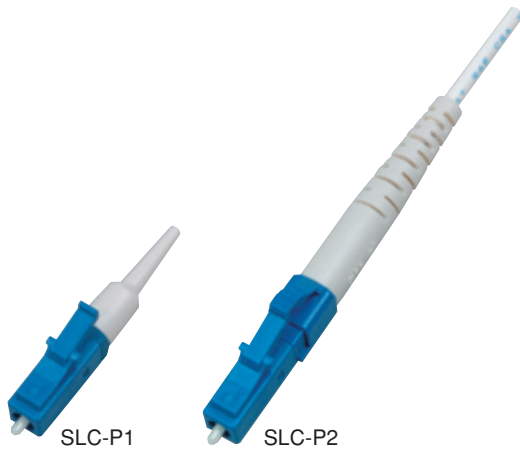
	Part Number
ϕ 1.6~2.0mm	SLC-C2S320F3B*G

LC Short Housing (Angled PC) for 2mm Cable

	Part Number
ϕ 1.6~2.0mm	SLC-CN2S820F3G*G

U.S. Pat. No. 7,377,699

LC Plug for PC



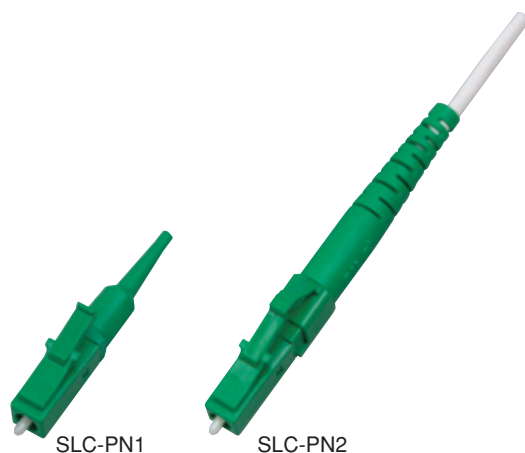
- One-piece design with Zirconia LC ferrule for easy assembly
- Connector series equipped with core adjust feature
- Use of heat-shrink tube for compatibility with $\phi 1.6\sim 2\text{mm}$ cables (SLC-P2)
- SLC-P1: for $\phi 0.9\text{mm}$
- SLC-P2: for $\phi 1.6\sim\phi 2\text{mm}$

ORDERING INFORMATION

SLC-P1	a	b	c	d	e	f	g
SLC-P2							
Ex.)							
SLC-P1	3	1	125	1	C	3	02G

a	Boot Color	White (SLC-P2)	3
		Light gray (SLC-P1)	
b	Boot I.D.	$\phi 0.9\text{mm}$	1
		$\phi 2.0\text{mm}$	2
c	Ferrule I.D.	$125\mu\text{m}$	125
		$125.5\mu\text{m}$	12F
		$126\mu\text{m}$	126
d	Marking of Boot	SG	1
e	Cap	White frame cap	C
f	Package	Bulk	3
g	Required		0*G

LC Plug for Angle PC



- One-piece design with Zirconia LC ferrule for easy assembly
- Connector series equipped with core adjust feature
- Use of heat-shrink tube for compatibility with $\phi 1.6\sim 2\text{mm}$ cables (SLC-PN2)
- SLC-PN1: for $\phi 0.9\text{mm}$
- SLC-PN2: for $\phi 1.6\sim\phi 2\text{mm}$

ORDERING INFORMATION

SLC-PN1	a	b	c	d	e	f	g
SLC-PN2							
Ex.)							
SLC-PN1	8	1	125	1	C	3	01G

a	Boot Color	Green	8
b	Boot I.D.	$\phi 0.9\text{mm}$	1
		$\phi 2.0\text{mm}$	2
c	Ferrule I.D.	$125\mu\text{m}$	125
		$125.5\mu\text{m}$	12F
		$126\mu\text{m}$	126
d	Marking of Boot	SG	1
e	Cap	White frame cap	C
f	Package	Bulk	3
g	Required		0*G

[Splice-On Connectors]

- Field-termination connector with no epoxy or polishing required
 - Fibers to be fusion-spliced
 - No matching gel enables low reflection and high reliability
 - Applicable for interconnection needing high reliability under environmental conditions
- Various types available such as FC, SC or PC, APC types
 - Comply with Telcordia GR-326-CORE Service Life Test

U.S.Pat. No.7,507,031 B2



SSCS-P3



SSCS-PN3

SC Single Mode

Type	Part Number	Applicable cable
SC/UPC	SSCS-P1	ϕ 0.9mm
	SSCS-P2	ϕ 2mm
	SSCS-P3	ϕ 3mm
SC/APC	SSCS-PN1	ϕ 0.9mm
	SSCS-PN2	ϕ 2mm
	SSCS-PN3	ϕ 3mm

FC Single Mode

Type	Part Number	Applicable cable
FC/UPC	SAPS-358	ϕ 0.9mm
	SAPS-356	ϕ 2mm
	SAPS-357	ϕ 3mm
FC/APC	SAPS-388	ϕ 0.9mm
	SAPS-386	ϕ 2mm
	SAPS-387	ϕ 3mm

LC Single Mode

Type	Part Number	Applicable cable
LC/UPC	SLCS-P1	ϕ 0.9mm
	SLCS-P2	ϕ 2mm
	SLCS-P3	ϕ 3mm
LC/APC	SLCS-PN1	ϕ 0.9mm
	SLCS-PN2	ϕ 2mm
	SLCS-PN3	ϕ 3mm

SC Multi Mode

Type	Part Number	Applicable cable
SC/PC	SSCS-P1M	ϕ 0.9mm
	SSCS-P2M	ϕ 2mm
	SSCS-P3M	ϕ 3mm

LC Multi Mode

Type	Part Number	Applicable cable
LC/PC	SLCS-P1M	ϕ 0.9mm
	SLCS-P2M	ϕ 2mm
	SLCS-P3M	ϕ 3mm

[MPO Type Fiber Optic Connectors]

- Complies with IEC 61754-7 and JIS C 5982
- High density multi channel (2, 4, 8, 12ch) connector
- Realized low I.L. with precision molding ferrule
- Expert flat and angle polishing technology

- Long boots design for ribbon cable gives excellent side pull performance in Telcordia 1435-CORE testing
- Widely support customer's requirement from parts supply to jumper assembly.
- Available to support MPO polishing machine too.

MT Ferrule



MTF-08A

ORDERING INFORMATION

MTF - a b 11 c d

Ex.) MTF - 08 A 11 1 00G

a	Hole (Channel)	4ch	04
		8ch	08
		12ch	12
		mini-MT 2ch	M2
b	Fiber, Insertion Loss	SM I.L. <= 0.35dB	A
		MM I.L. <= 0.50dB	B
		SM I.L. <= 0.50dB	C
		SM I.L. <= 0.70dB	D
c	Boot	With Ferrule Boot	1
d	Required		00G

MPO Connector



SMPO-CC

SMPO-CR

- No ferrule and No fiber included

ORDERING INFORMATION

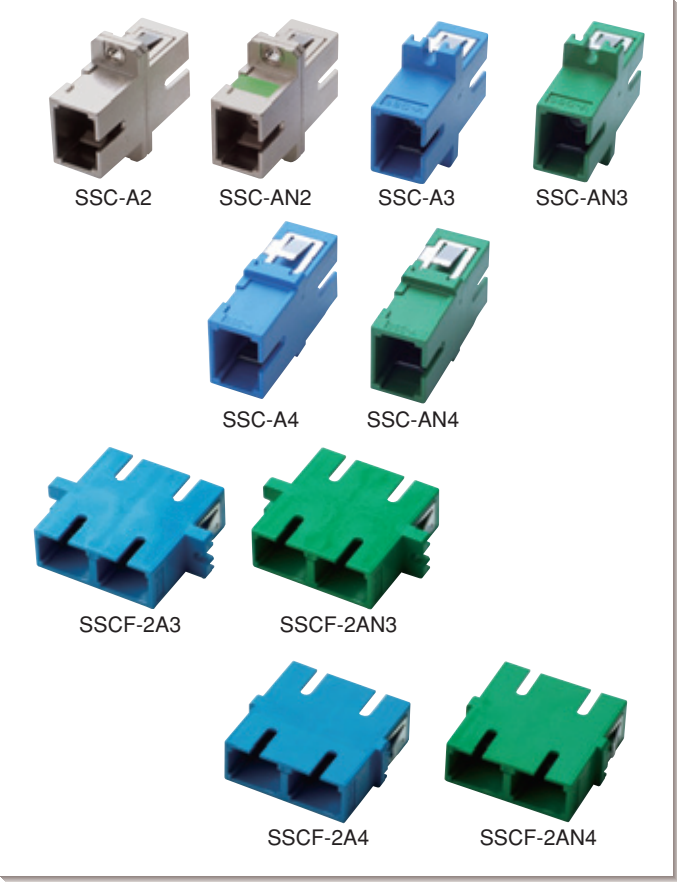
SMPO - a b c d e f g h i j

Ex.) SMPO - C R 7 M 1 1 1 1 3 00G

a	Plug	Plug Housing	C
b	Ribbon or Cord	Ribbon	R
		Cord	C
c	Housing Color	Black	1
		Yellow (I.L. 0.35dB)	7
		Green (I.L. 0.70dB)	8
		Beige (MM)	B
d	Male or Female	Male	M
		Female	F
e	Boot Color	Black	1
f	Boot	SG Standard	1
g	Logo	No Logo	0
		SG Logo	1
h	CAP	with CAP	1
i	Packing	100pcs/pack	3
j	Required		00G

[Adaptor]

SC Adaptor



- Complies with IEC 61754-4 and JIS C 5973
- Integrated solid body design for significant improvement in strength and durability over conventional design (excluding SSC-A2, SSC-AN2)
- Precision Zirconia split sleeve
- High-dense type with short flange available also (SSC-A4, SSC-AN4, SSCF-2A4, SSCF-2AN4)

	Part Number
Simplex for PC (Metal)	SSC-A222A02G
Simplex for Angle PC (Metal)	SSC-AN222B02G
Simplex for PC	SSC-A322701G
Simplex for Angle PC	SSC-AN322701G
Simplex short flange for PC	SSC-A4227C1G
Simplex short flange for APC	SSC-AN4227C1G
Duplex for PC	SSCF-2A322700G
Duplex for Angle PC	SSCF-2AN322700G
Duplex short flange for PC	SSCF-2A422700G
Duplex short flange for Angle PC	SSCF-2AN422700G

U.S.Pat. No.6,431,762

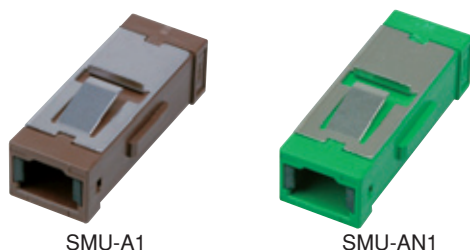
FC Adaptor



- Complies with IEC 61754-13 and JIS C 5970
- Precision Zirconia split sleeve
- Integrated solid body design for significant improvement in strength and durability over conventional design

	Part Number
Standard for PC	SAA-422200G
Standard for Angle PC (Wide key)	SNA-1224D0G
Standard for Angle PC (Narrow key)	SNA-1224K0G
Without flange for PC (D-hole type)	SAA-322200G
Without flange for Angle PC (D-hole Wide key)	SNA-3224D0G
Without flange for Angle PC (D-hole Narrow key)	SNA-3224K0G
Oval flange for PC	SAA-621A00G
Oval flange for Angle PC (Narrow key)	SNA-621BK0G
Without flange for PC	SAA-521A00G
Without flange for PC (D-hole with knurl)	SAA-721A00G

MU Adaptor



SMU-A1

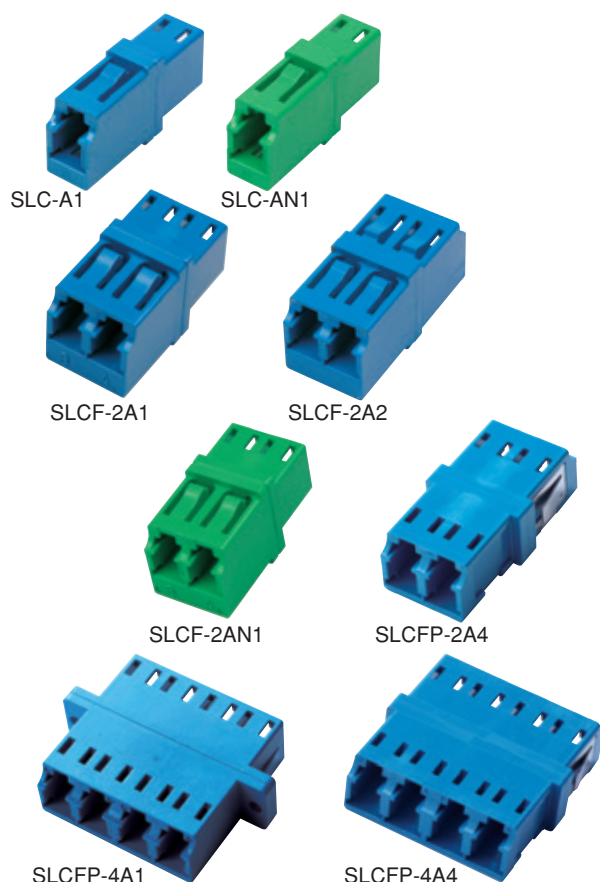
SMU-AN1

U.S.Pat. No.6,431,762

- Complies with IEC 61754-6 and JIS C 5983
- Integrated solid body design for significant improvement in strength and durability over conventional design
- Precision Zirconia split sleeve

	Part Number
PC	SMU-A1221100G
Angle PC	SMU-AN1221100G

LC Adaptor



SLC-A1

SLC-AN1

SLCF-2A1

SLCF-2A2

SLCF-2AN1

SLCFP-2A4

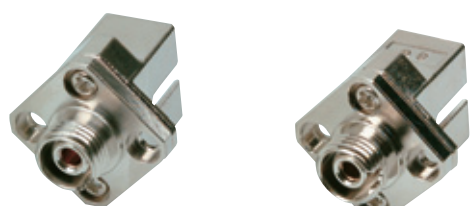
SLCFP-4A1

SLCFP-4A4

- Complies with IEC 61754-20, TIA/EIA-604-10-A and JIS C 5964-20
- Integrated solid body design for significant improvement in strength and durability over conventional design (SLCFP-2A1, SLCFP-2AN1, SLCFP-2A4, SLCFP-2AN4)
- Precision Zirconia Slit sleeve
- High-dense type with Flange available also (SLCFP-2A4, SLCFP-2AN4, SLCFP-4A4, SLCFP-4AN4)
- SLCFP series also available with internal metal shutter to shield light for safe

	Part Number
Simplex for PC	SLC-A121100G
Simplex for Angled PC	SLC-AN121100G
Duplex for PC	SLCF-2A221100G
Duplex Low Profile for PC	SLCF-2A121100G
Duplex Low Profile for Angled PC	SLCF-2AN121100G
Duplex SC-Footprint for PC	SLCFP-2A122701G
Duplex SC-Footprint for PC With Shutter On One End	SLCFP-2A1227X1G
Duplex SC-Footprint for PC With Shutter On Both Ends	SLCFP-2A1227W1G
Duplex SC-Footprint For Angled PC	SLCFP-2AN122701G
Duplex SC-Footprint For Angled PC With Shutter On One End	SLCFP-2AN1227X1G
Duplex SC-Footprint For Angled PC With Shutter On Both Ends	SLCFP-2AN1227W1G
Duplex SC-Footprint Short Flange for PC	SLCFP-2A422701G
Duplex SC-Footprint Short Flange for PC With Shutter On One End	SLCFP-2A4227X1G
Duplex SC-Footprint Short Flange for PC With Shutter On Both Ends	SLCFP-2A4227W1G
Duplex SC-Footprint Short Flange for Angled PC	SLCFP-2AN422701G
Duplex SC-Footprint Short Flange for Angled PC With Shutter On One End	SLCFP-2AN4227X1G
Duplex SC-Footprint Short Flange for Angled PC With Shutter On Both Ends	SLCFP-2AN4227W1G
Quad SC-Footprint for PC	SLCFP-4A121100G
Quad SC-Footprint Short Flange for PC	SLCFP-4A421100G

Conversion Adaptor



SSC-FC-A1

SSC-FC-AN1

- Precision Zirconia split sleeve

	Part Number
FC/SC	SSC-FC-A122A02G
FC/SC Angle PC (Narrow key)	SSC-FC-AN122BK1G

[Jumper Cable]

- Our precision optical cable manufacturing services can provide a wide range of standard and custom cables to meet a wide range of requirements
- Specialty cables, master reference and key adjust cables available
- All cables are tested, serialized, labeled in individual bags with complete test information
- Production facility meets the strictest quality control under ISO9001 and connector components meet or exceed industry standard performance levels

U.S. Pat. No. 5,668,905

Standard Jumper



ORDERING INFORMATION

SM, ø2.0mm, SC/PC-SC/PC, 6m length

Part Number **a** - **b** - **c** - **d** - **e**

Ex.)

JJ - SSCP2 - 2 - W - 6

a	Jumper Type	Jumper	JJ
		Pigtail	JP
		Master jumper	MJ
		Master pigtail	MP
b	Connector Type	See Table 1	
c	Fiber Diameter	ø0.9mm buffer	1
		ø2.0mm cable	2
		ø3.0mm cable	3
d	Fiber Type	Single-Mode	W
		Multi-Mode (50/125μm)	M1
		Multi-Mode (62.5/125μm)	M2
e	Length	5m	5
		10m	10

Hybrid Jumper



ORDERING INFORMATION

Duplex SM, ø2.0mm, SC/PC-LC/AP, 6m length

Part Number **a** - **b** / **c** - **d** - **e** - **f**

Ex.)

JJ - SSCP2 / SLCPN2 - 2 - W - 6

a	Jumper Type	Jumper	JJ
		Master jumper	MJ
b/c	Connector Type	See Table 1	
d	Fiber Diameter	ø0.9mm buffer	1
		ø2.0mm cable	2
		ø3.0mm cable	3
e	Fiber Type	Single-Mode	W
		Multi-Mode (50/125μm)	M1
		Multi-Mode (62.5/125μm)	M2
f	Length	5m	5
		10m	10

Table 1. Connector Type

	Type	ø 1	ø 2	ø 3
PC RL≥50dB	FC	SAP4 SGP4	SAP3 SGP3	SAP3 SGP3
	SC	SSCP1	SSCP2	SSCP3
	ST	SLP1	—	SLP1
	MU	SMUC1	SMUC2	—
	LC	SLCC1	SLCC2	—
Angle PC RL≥60dB	FC Narrow key (R)	SGPN4 (SNP5K)	SGPN3 (SNP3K)	SGPN3 (SNP3K)
	FC Wide key (N)	SNP5D	SNP3D	SNP3D
	SC(step)	SSCPG1	SSCPG2	SSCPG3
	SC(conical)	SSCPN1	SSCPN2	SSCPN3
	MU	SMUCN1	SMUCN2	—
	LC	SLCCN1	SLCCN2	—

Option

- Available custom designed jumper cable
- AR coating, and fiber metalization are available
- FC/Angle PC connector ferrule combination
 - Narrow key (R) ... Step ferrule
 - Wide key (N) ... Conical ferrule

PM Jumper

PM Hybrid Jumper



PM Jumper

ORDERING INFORMATION

SC/PC-SC/PC, Key=Free, 1310mm

ø2.0mm, 6m length

Part Number [a] - [b] - [c] - [d] - [e]

Ex.)

PJ-PC12B-F-13-6

a	Number of Connector	PM jumper	PJ
		PM pigtail	PP
b	Connector Type	See Table 2	
c	Axis (See Table 3)	Free (FC Only)	F
		Fast	X
		Slow	Y
		Other	O
d	Wavelength	1310nm	13
		1550nm	15
e	Length	10m	10

PM Hybrid Jumper

ORDERING INFORMATION

SC/PC-FC/APC, Key=X, 1550mm,

ø2.0mm, 8m length

Part Number [a] - [b] - [c] / [d] - [e] - [f] - [g]

Ex.)

PJ-PC12B-X / PF12C-X-15-8

a	Number of Connector	PM jumper	PJ
b	Connector Type	See Table 2	
c	Axis (See Table 3)	Free (FC Only)	F
		Fast	X
		Slow	Y
		Other	O
d	Connector Type	See Table 2	
e	Axis (See Table 3)	Free (FC Only)	F
		Fast	X
		Slow	Y
		Other	O
f	Wavelength	1310nm	13
g	Length	1550nm	15
		10m	10

· Available ER ≥30dB Jumper

Table 2. Connector Type

	Type	φ 1	φ 2
PC RL≥50dB	FC	PF11	PF12B
	SC	PC11	PC12B
	MU	PU11	PU12
	LC	PL11	PL12
Angle PC RL≥60dB	FC Narrow key (R)	PF11A	PF12C
	FC Wide key (N)	PF11AN	PF12CN
	SC	PC11A	PC12C

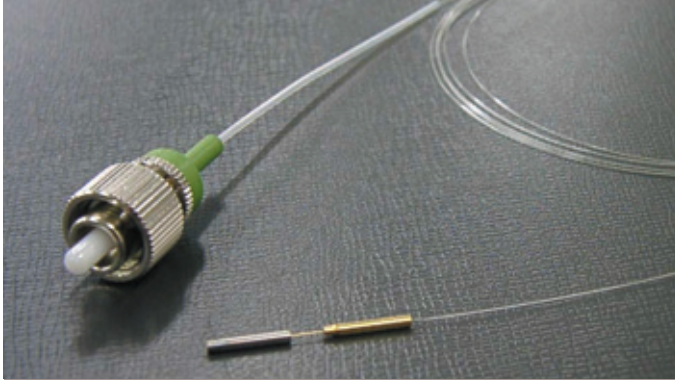
Table 3. Polarization Axis

Polarization	F (Free)	X (Fast)	Y (Slow)	O (Other)
Direction of the stress producing members against the key				
	The stress producing members are free to the key. (the key is not fixed)	The stress producing members are horizontal to the key : 0°±3°	The stress producing members are perpendicular to the key : 0°±3°	The stress producing members are at the designated angle to the key

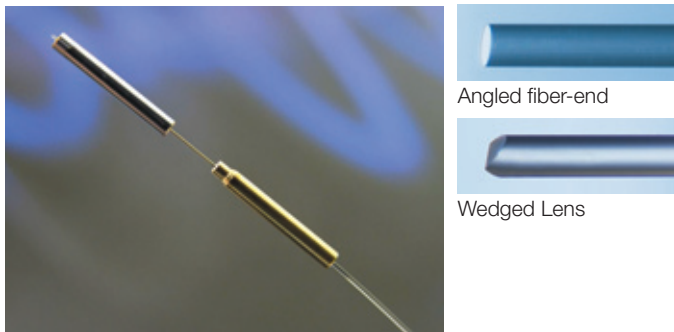
[Lensed Fiber Assembly]

Application:

- Perfect for coupling fiber to LD's and PD's for various applications such as DFB Lasers, pump lasers or receivers. Our high quality specialty pigtailed will improve coupling efficiency, increase product performance, and save you costs
- We offer total solution for photonic packaging with our completed fiber to chip assemblies



FC/APC Wedged Fiber Assembly For 980nm LD Coupling



Welding and hermetic ferrules

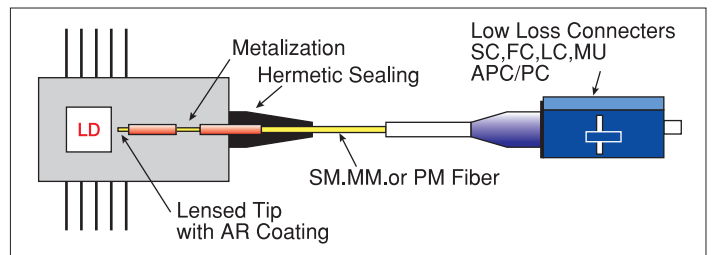
Key Feature:

- High precision fiber-end shaping
- Multiple lens shapes available for any application
- High quality AR coating for various wavelengths
- Kovar ferrules for welding and hermetic sealing
- Low insertion loss terminations
- Ni/Au Metalization for exceptional solderability

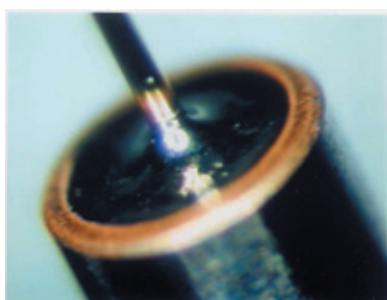
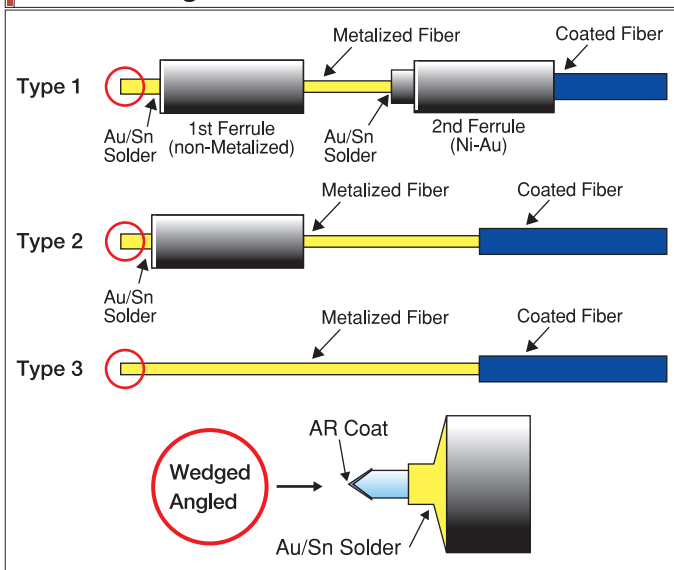
Options

Fiber to the chip assemblies may include:

- Fiber end-shaping
- AR coating
- Bare fiber metalization
- Hermetic and welding ferrules
- Low loss connector
- Singlemode, Multimode, and Polarization Maintaining Fiber



Basic Configuration



Soldering

AR Coating :

- Ion assisted deposition
- Low reflection
- Reflection ratio less then 0.3%, typically 0.1%
- High environmental stability
- Various wavelengths available 980nm,1310nm,1480nm,1550nm
- Single or broadband available

Metalization :

- Sputtering or plating process
- Ni based Au plating or sputtering
- High level of hermeticity and pull strength

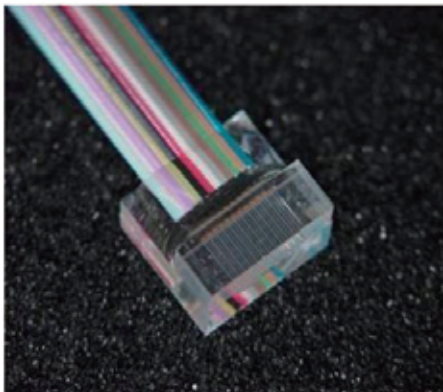
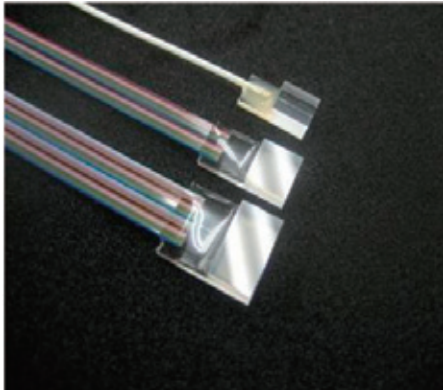
Specifications

Fiber Tip Shape	Wedge	Angle
Fiber Type	SMF28, HI1060, PANDA, MMF	
Fiber Buffer O.D.	250μm, 900μm	
Taper Angle	90 degree, 110 degree	0, 8, 45 deg
Lens Radius	3-10μm	N/A
Metalization	Ni / Au	
Soldering & Hermeticity	Au/Sn $\leq 1 \times 10^{-10} \text{ Pa} \cdot \text{m}^3/\text{sec}$ $\leq 1 \times 10^{-9} \text{ atm} \cdot \text{cc}/\text{sec}$	
AR Coating	980, 1310, 1480, 1550± 20nm Available broadband coating Reflection Ratio $\leq 0.3\%$	

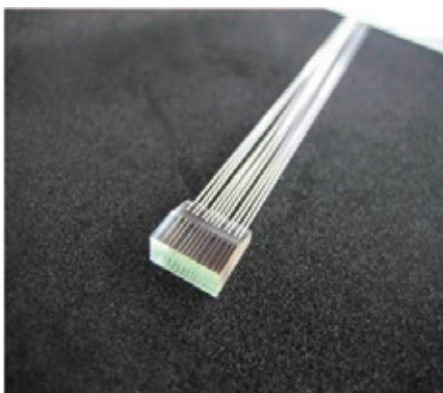
[Fiber Array]

Features

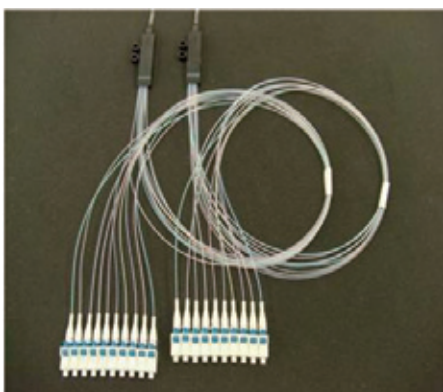
- Fiber array is an essential component used in the WDM systems to connect optical fiber and AWG chips
- Our precision processing technology, which we have developed for years, provides high fidelity, quality and core pitch accuracy
- High quality Seikoh-Giken connectors are available at the end of fibers



Miniature Size Fiber Array : Base Length 5mm



Available AR coating on Endface



Available Fanout Connectorization Assembly

- High precision core pitch accuracy
- High reliability

ORDERING INFORMATION

Ex.1 8ch, 250 μ m pitch, Tempax, 90-degree polishing,
8ch ribbon fiber, 2m length

SFA -

a	b	c	d	e	f	g	L	h
---	---	---	---	---	---	---	---	---

Ex.)
SFA - F 08 F T - 1 E 08 L 20

Ex.2 48ch, 127 μ m pitch, Silica glass, 98-degree polishing,
12ch ribbon fiber, $\times 4$ pcs, 2m length

SFA -

a	b	c	d	e	f	g	L	h
---	---	---	---	---	---	---	---	---

Ex.)
SFA - H 48 A S - 4 T 12 L 20

a	Pitch	250 μ m	F
		127 μ m	H
		1ch	N
b	channel	1ch	01
		8ch	08
		16ch	16
		32ch	32
		48ch	48
c	Polishing Angle	90 degree	F
		98 degree	A
		82 degree	R
d	Material	Tempax (Borofloat)	T
		Pyrex	P
		Silica glass	S
e	Q'ty of ribbon fiber	4pcs (example)	4
f	Fiber Type	$\phi 0.25$ UV	S
		4ch ribbon fiber	F
		8ch ribbon fiber	E
		12ch ribbon fiber	T
		$\phi 0.9$ (SMF-28)	B
g	channel per ribbon fiber	8ch ribbon fiber (example)	08
h	Length	2m (standard)	20

SPECIFICATION

Materials	Tempax (borofloat) (CTE : 3.3×10^{-6})
	Pyrex (CTE : 3.25×10^{-6})
	Silica Glass (CTE : 5×10^{-7})
Channel	1, 8, 16, 32, 48 (other channel available)
Pitch	127, 250 μ m
Pitch Accuracy	$\pm 0.5 \mu$ m
Fiber	SMF28e, Ribbon Fiber (4, 8, 12)
Polishing Angle	90, 98, 82 degree

[Plug Type Fixed Attenuator]

- Available in FC, SC, LC and MU plug type. They are suitable for connection through panel-mounted adapters.
- Precision polished endface are available for both PC and Angle PC types.
- Standard wavelength is 1310/1550nm and also C/L band or any other custom specifications are available.

U.S. Pat. No. 5,321,790

- For more details, please visit our web site <http://www.seikoh-giken.co.jp/en/index.html> to download the product specifications

FA100 Series (FC Plug Type)



FA100-HP



FA100-AP

- Key width for APC is narrow type.

ORDERING INFORMATION

FA100 - **a** - **b**

Ex.)

FA100 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP
		PC polishing / High grade	HP5
		Angle PC polishing / Standard	AP
		Angle PC polishing / High grade	AP5

FA110 Series (SC Plug Type / Plastic Housing)



FA110-HP



FA110-AP

ORDERING INFORMATION

FA110 - **a** - **b**

Ex.)

FA110 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP
		PC polishing / High grade	HP5
		Angle PC polishing / Standard	AP
		Angle PC polishing / High grade	AP5

FA115 Series (SC Plug Type / Metal Housing)



FA115-HP



FA115-AP

ORDERING INFORMATION

FA115 - **a** - **b**

Ex.)

FA115 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP
		PC polishing / High grade	HP5
		Angle PC polishing / Standard	AP
		Angle PC polishing / High grade	AP5

FA125 Series (LC Plug Type)



FA125-HP



FA125-AP

- 6.25mm of high-density mounting space

ORDERING INFORMATION

FA125 - a - b

Ex.)

FA125 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP
		PC polishing / High grade	HP5
		Angle PC polishing / Standard	AP
		Angle PC polishing / High grade	AP5

FA130 Series (ST Plug Type)



FA130-HP

ORDERING INFORMATION

FA130 - a - b

Ex.)

FA130 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP
		PC polishing / High grade	HP5

FA140 Series (MU Plug Type)



FA140-HP

- 4.5mm of high-density mounting space
- Compatible with MU-J plug from various manufacturers

ORDERING INFORMATION

FA140 - a - b

Ex.)

FA140 - 01 - HP

a	Attenuation	See Table 4	
b	Polishing	PC polishing / Standard	HP

U.S. Pat. No. 7,090,409

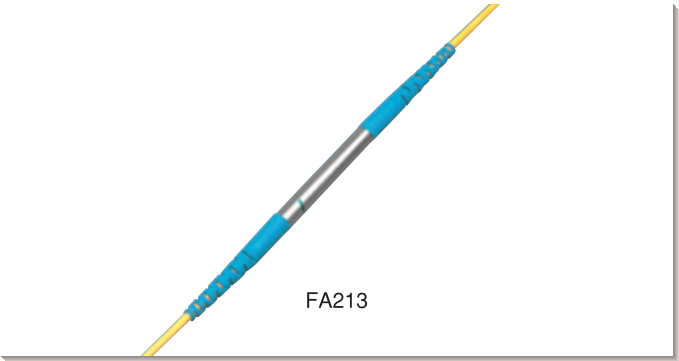
Table 4. Attenuation and corresponding notation

Attenuation (dB)	Notation	Attenuation (dB)	Notation	Attenuation (dB)	Notation
0	00	6	06	11	11
1	01	7	07	12	12
2	02	8	08	13	13
3	03	9	09	14	14
4	04	10	10	15	15
5	05	—	—	20	20

[Inline Type Fixed Attenuator]

- In-line type attenuator for S/M application
- Custom spec available in attenuation, wavelength and length

FA213 Series (ø3mm Cable Type)



ORDERING INFORMATION
FA213-35 - [a] - [b] - [c]
Ex.) FA213-35 - 01 - 2 - SSCP3

a	Attenuation	See Table 4 (P26)	
b	Connector Qty	None	0
		One side	1
		Both side	2
c	Connector Type	FC (PC)	SGP3
		FC (Angle PC narrow key)	SGPN3
		FC (Angle PC wide key)	SNP3D
		SC (PC)	SSCP3
		SC (Angle PC)	SSCPN3

INSTRUMENT

POLISHING MACHINE
POLISHING HOLDER
POLISHING FILM
CLEANER
MICROSCOPE
INTERFEROMETER
ELECTRIC FIELD SENSOR
OPTICAL REMOTE ANTENNA



[Polishing Machine]

- The widest range of production polishers utilizing our proprietary turntable design
 - With our exclusive rotation-revolution mechanism, polishing films and polishing processes, and with over two decades of connector polishing expertise all contribute to the highest quality optical performance
- U.S.Pat. No.5,351,445

SFP-550S



This top of the line polishing machine offers excellent production throughput of up to 48 ferrules simultaneously. Offering our widest versatility of connectors and ferrules including MT/MPO ferrules, Fiber array and Planar Lightwave Circuit chip processing, the SFP-550S is a high workability machine. It features a full function LCD touch panel for simplified programming of various polishing processes. Additionally, it features a slow start function, programmable turntable speed-controller and voltage-free power input for world-wide versatile installation. Best for use in high volume mass-production environments where critical geometry performance is required.

Application	High volume, Installation
Pressure Source	4 coil springs
Polishing Capacity (max)	48
Programmable Process	8 (maximum)
Number of Programs	12
Speed of Turntable	Rotation: 0.1-2rpm Revolution: 5-140rpm
Dimensions	310×230×295mm
Weight (approx.)	16.7kg
Input Voltage	100-240VAC, 50-60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC MT, mini-MT, Fiber array

OFL-15A



This model also offers excellent production throughput capability with up to 24 ferrules polishing simultaneously. Extremely versatile, the OFL-15A can polishing both connectors, ferrules and MT ferrules. It features a LCD touch panel for easy programming of various connector polishing processes which offers ease of operation. Additionally, it features an active polishing pressure control through it's closed-loop load-cell sensor and stepping motor. This combination provides excellent polishing results while exceeding industry specifications for geometry performance.

Application	High volume production
Pressure Source	Stepping motor with load-cell sensor
Polishing Capacity (Max)	24
Programmable Process	5(max)
Number of programs	15
Speed of Turntable	Revolution: 100~280rpm
Dimensions	240 x 390 x 510mm
Weight(approx.)	30kg (63lb)
Input Voltage	100/115/220/240 VAC, 50~60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC MT, mini-MT, Fiber array

U.S.Pat. No.5,516,328 / 5,743,787 / 6,126,519 / 6,439,973 / 6,280,293

SFP-550E



Offering features found in our SPF-550S, this model features 4 unique timers instead of a touch panel while still providing mass-production, adaptability and versatility. This allows for simple programming and operation and reduces operator error. It also features speed control of the turntable and voltage-free power input.

Application	High volume, Installation
Pressure Source	4 coil springs
Polishing Capacity (max)	48
Speed of Turntable	Rotation: 0-2rpm Revolution: 5-140rpm
Dimensions	310×230×295mm
Weight (approx.)	16kg
Input Voltage	100-240VAC, 50-60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC MT, mini-MT, Fiber Array

SFP-550B (120A)



This is our most reasonably price model with basic features from our top of the line models. Originally designed for the proprietary IPC (Individual Pressure Control) system, this polisher offers even pressure to each ferrule regardless of it's protrusion length while achieving stable, high-quality mass-polishing output. Highly recommended for multi-installation, large scale cable production factories. * Note that all polishing holders, films and pads of the SFP-550B (120A) series can be commonly used for these 3 polishers.

Application	High volume, Installation
Pressure Source	4 coil springs
Polishing Capacity (max)	48
Dimensions	230×255×230mm
Weight (approx.)	16 (23.5) kg
Input Voltage	100-120VAC, 50/60Hz or 220-240VAC, 50/60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC MT, mini-MT, Fiber Array

SFP-70D



This model is intended for light production capacity. The SFP-70D provides 6 axis simultaneous polishing and can be operated on AC or DC power for field use. Optional adhesive heaters are also available which can be attached to the polishing machines.

Application	Laboratory
Pressure Source	4 coil springs
Polishing Capacity (max)	6
Dimensions	130×145×130mm
Weight (approx.)	3.2kg
Input Voltage	100-240VAC, 50/60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC

SFP-70D2



This model provides 2 axis simultaneous polishing at competitively low cost and is most suitable for light production environments like field termination and laboratory use.

Application	Laboratory
Pressure Source	Holder weight
Polishing Capacity (max)	2
Dimensions	120×115×90mm
Weight (approx.)	3.2kg
Input Voltage	100-240VAC, 50/60Hz
Connector Type	φ2.5mm PC, APC φ1.25mm PC, APC

[Polishing Holder]

- Enables to polish 48 terminations at once and realize cost reduction
- Use of receptacle allows easy connector installation (SC, LC and MU)

- Holders for MT, MPO, MT-RJ and fiber array are also available
Please contact us for custom holders

U.S. Pat. No.5,640,475 / 7,369,737



for SFP-550
LC 48-axis



for OFL-15A
ø2.5mm ferrule 24-axis

		SFP-550 (S/E)	OFL-15A	SFP-70D	SFP-70D2
PC	ø2.5mm Ferrule	○	○	○	○
	FC Plug	○	○	○	○
	SC Plug	○	○	○	○
	ST Plug	○	○	○	○
	ø1.25mm Ferrule	○	○	○	○
	LC Plug	○	○	○	○
	MU Plug	○	○	○	○
Angle PC	ø2.5mm Ferrule	○	○	○	○
	FC Plug	○	○	○	○
	SC Plug	○	○	○	○
	LC Plug	○	○	○	○
	MU Plug	○	○	○	○
MT	MT	○	○	—	—
	MT8* (MPO)	○	○	—	—
	MiniMT (MT-RJ)	○	○	—	—
	Fiber Array	○	○	—	—

[Polishing Film]

For SFP series

Film P/N	Application	Material	Particle Size
GA5D / GA07	Adhesive removal	SiC	Large
GC5D			Small
GI5D	Polishing	Diamond	Large
GK5D			Small
DA5D			Large
DR5D-9u / DR07-9u			Small
DG5D-5u		Al ₂ O ₃	Large
DH5D-3u / DH07-3u			Small
DJ5D-1u / DJ07-1u		SiO ₂	Small
AR5D			Small
AJ5D	Final polishing	CeO ₂	Small
SF5D			Small
XF5D / XF07	Buff polishing	Buff	Small
EF5D			Small
BX5D	Cleaning	Buff	Small
CF5D / CF07			Small

※Please contact us for polishing consumables not listed in this page.

For OFL series

Film P/N	Application	Material	Particle Size
KJW100100G	Adhesive removal	SiC	Large
KJW100110G			
KJW101110G	Polishing	Al ₂ O ₃	—
KJW101200G			
KJW101300G			
KJW100240G			
KJW100300G		Diamond	
KJW100440G			
KJW100700G		Metal Bonded Sheet	
KJW100800G			
KJW101000G	Final polishing	CeO ₂	Small
KJW101530G		SiO ₂	
KJW100900G	Buff polishing	Buff	
KJW101601G	Cleaning		

[Repair Polishing Machine]

- Based on our proprietary rotation mechanism and with our long experience in polishing technology, this machine was specially designed for repolishing damaged connector endface

SFP-Lite (Repair Mate™)



Structure

- 1-axis polishing & portable (weight only 600g)
- User-friendly one touch button operation

Features

- New rotation mechanism enables the removal of fiber endface scratches while maintaining ferrule endface geometry
- Polishing holder equipped with IPC mechanism provides stable polishing result regardless of ferrule length
- Suitable for field use (AA battery operation)
- Polishing holders for various connector types are available

Application	Repolishing only
# of axis	1
Dimension	94 × 75 × 140mm
Weight	600g
Power	Size AA battery X 4pcs / AC/DC power adapter (100V ~ 240V)
Connector Type	SC, FC, ST, LC, MU (PC/APC)
Polishing Process	2 polishing steps

[END-FACE CLEANER]

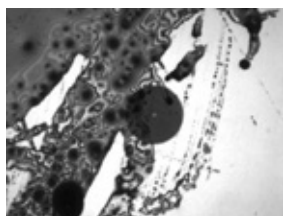
- Compact and reliable cleaner for connector end-face
- Easy cleaning in field installation or factory

SHM-501 (HandiMate™)

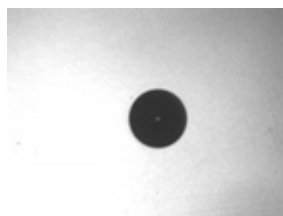


- Handy and high performance cleaner that fits in your hand and achieves cleaning more than 500 times
- Just one sliding motion enables to remove contamination such as dust or oil on optical connector end-face
- Connector to be set on guide holder enables stable and even cleaning result always

Part No.	SHM-501
Application	Clean simplex connector tip
Dimension	H110xW68xD28mm (Cap opened)
Weight	75g
Operation	Slide type
Life	More than 500 times
Applicable connector	SC, FC, ST, LC, MU



Before

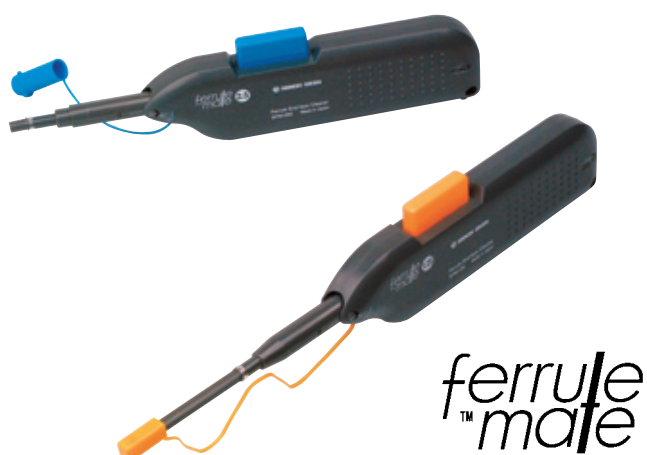


After

SFM-250/125 (Ferrule Mate™)

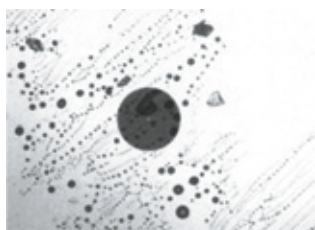
- Latest concept in endface cleaner
- Proprietary mechanism for simultaneously forwarding and rotating cleaning cloth provides effective endface cleaning

U.S.Pat. No.7,476,279

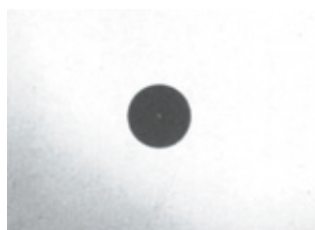


- Handy and high performance cleaner that fits in your hand and equips cleaning cloth achieves cleaning more than 300 times
- Originally developed mechanism for simultaneously forwarding and rotation of cleaning cloth removes contamination easily from ferrule endface
- Tapered tip is ideal for cleaning inside of adapter. Also, by using protection cap, single connector endface can be cleaned

Part Number	SFM-250 (φ2.5mm)	SFM-125 (φ1.25mm)
Application	Ferrule endface cleaning for inner adapter or single connector	
Dimension (body)	L163×W20×H44 mm	
Dimension (tip)	L=63mm	L=110mm
Weight	60g	
Operation	Push button operation	
Life	More than 300 times	
Connector/Adapter Type	SC, FC, ST (both PC and Angle PC)	MU, LC (both PC and Angle PC)



Before



After

Automatic Desktop Cleaner SPR-1 (Ferrule Pro™)



FerrulePro™ is the world's first fully automated desktop fiber connector cleaner for cable assembly production environments and laboratory. FerrulePro™ automates the cleaning of all types of terminated fiber products, a critical task where performance once depended largely on the production line worker's skill.

Dimensions	120(W)×260(D)×200(H)mm
Weight	Main unit:2kg, Replaceable cassette:0.5kg
PowerSupply	AC100-240V 50/60HZ
Cleaning Media	Cleaning paper, Replaceable cassette
Applicable Connector	SC/FC/ST/LC/MU connectors and ferrules PC, APC tips
Life pf Cleaning Cassete	10.000 times cleaning per cassette
Cleaning time	3sec. / connector
Standard set	Main unit(1pce), Cassete(1pce), Cleaning Holder(7pcs), AC power cable(1pce), Opetating Manual(1pce)

[Microscope]

Microscope for Mass Production Use (ME2503/3200)



ME2503

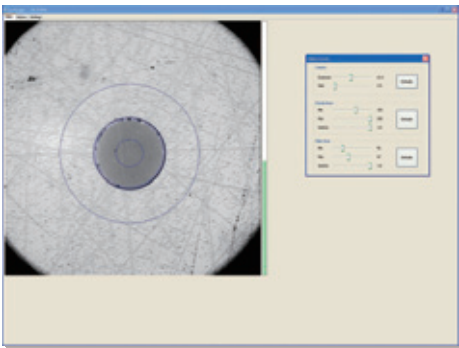
- These video microscope systems manufactured by Micro Enterprises Inc. are ideal for use in mass production line
- Key features are easy and quick setting of inspection area, focus and magnification
- Four common adapters are furnished as standard and mounted on to the stage at a time
- Various adapters are also available as option including MT, fiber array and APC endface
- Suitable adapter can be easily selected by sliding the stage to the objective lens position
- 12" monochrome monitor is equipped as standard. Upper grade ME3200 features halogen light source and higher resolution 2/3" CCD camera that enables to monitor micro scratch more clearly



ME3200

	ME2503	ME3200
Monitor	Monochrome 12" monitor	
Objective Lens	5X, 10X, 20X	5X, 10X, 20X, 40X
Magnification	200X, 400X, 800X	150X, 300X, 600X, 1200X
Connector Adapter (standard option)	φ2.5mmPC、φ2.5mmAPC、φ2.0mm、φ1.25mm	
Power	AC100V 50/60Hz	
Optional Adapter	MT, Mini-MT, MT-RJ, MPO, MPX, Array, SMA	

Microscope for Mass Production Use (D-Scope)



This unique microscope combines high quality optics with a modern and ergonomic design ideally suited to fiber optic inspection applications.

Until the D-Scope, most microscopes were suffering from poor illumination quality yielding variable and non-reproducible image quality even amongst scopes of the same kind.

- True Koehler optical design for perfectly homogeneous lighting
- D-Scope software detects in real-time the fiber location and overlays inspection zones
- Unique ability to define independent gain and contrast levels for the fiber and ferrule regions for optimized simultaneous viewing of both areas
- Adaptors for all PC & APC, SF & MF connectors
- High-speed USB 2.0 for live digital image
- Field-stop and Aperture-stop diaphragms
- Deep-blue long-life LED light source
- Ergonomic fine focus control
- Focus quality indicator in D-Scope software
- Software and Hardware automation capabilities
- Ergonomic fine focus control
- Real-time PM Fibers angular alignment measurement capability

CI-1000

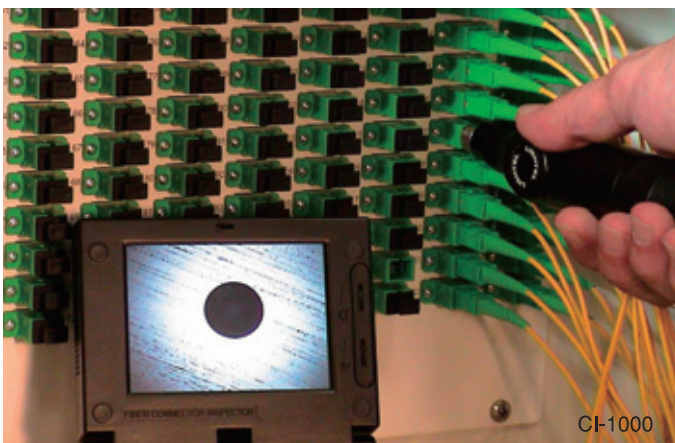


CI-1000

- Video microscope system ideal for installation site
- Enables the user to inspect mounted connector endface from the other side of adapter
- Connectable to a portable monitor, PC through USB and stationary monitor
- Easy adapter replacement allows the microscope to inspect a wide range of connector types

CI-1000	
Dimension(mm)/ Weight(kg) (Scope)	175×φ32 / 0.16
Dimension(mm)/ Weight(kg)(Monitor)	105×95×45 / 0.45
Magnifications	180x (3.5"LCD)
Light Source	Blue LED
Power	110-220V 50/60Hz 9.6V AC/DC adapter Internal rechargeable battery
Battery Life	4 hours 1 hours for charging
Monitor	3.5" LCD

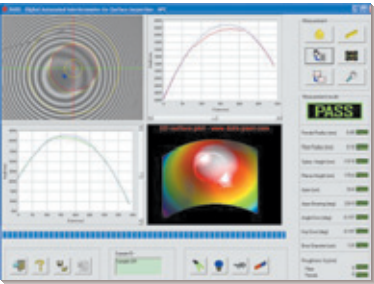
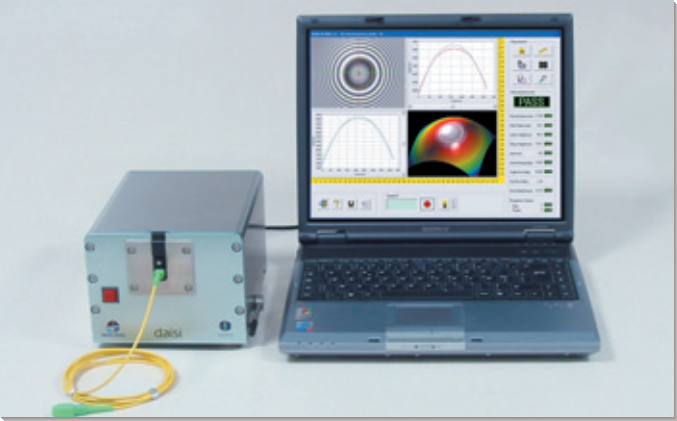
Optional Items	
USB Video Capture Device	Available
Connector Attachment	2.5mm ferrule,FC,SC,1.25mm ferrule,MU,LC,MTP,MPO,MT-RJ, MT ferrule
Bunkhead Attachment	FC,SC,MU,LC,ST,MTP,MPO,MT-RJ



CI-1000

[Interferometry Instrument]

DAISI



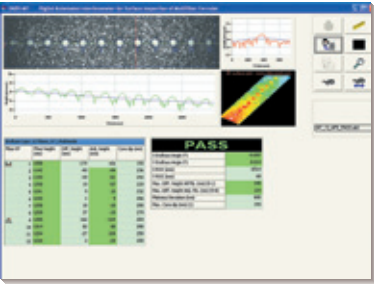
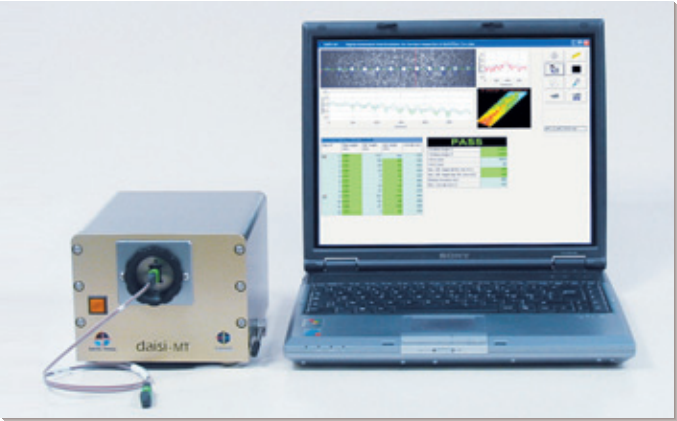
DAISI (Digital Automated Interferometer for Surface Inspection) achieves the high workability and repeatability with the features such as auto-focus function, auto-calibration function and auto connector fixing system. Measuring single ferrule fiber connectors also can be conducted as well as MT-RJ connector. The use of a USB2.0 interface enables to use this system on lap-top PC.

Accuracy of Geometry Measurement

Radius of Curvature	$\pm 0.2\%$
Fiber Height	$\pm 1.5\text{nm}$
Apex Offset	$\pm 1\mu\text{m}$

※One sigma values

DAISI-MT



DAISI-MT (Digital Automated Interferometer for Surface Inspection of MT) has same technologies as DAISI while adding high resolution CCD camera to achieve excellent accuracy and repeatability for MT geometry measurement.

Accuracy of Geometry Measurement

Flatness	$\pm 0.5\%$
Polishing Angle Error	$\pm 0.01^\circ$
Fiber Protrusion/Undercut	$\pm 0.01\mu\text{m}$

※One sigma values

[Eccentricity Measurement Instrument]

KONCENTRIK V2



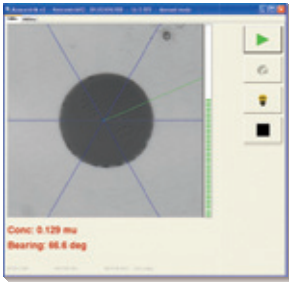
Ferrule concentricity
+ index measurement



Patchcord concentricity
+ index measurement

Multi-functional system for test and measurement of fiber optic ferrules & cable assemblies

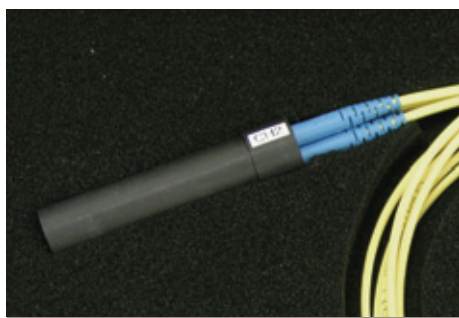
- Fast and automated measurements
- Measurement data exported in standard CSV format
- Easy calibration and simple Koncentrik software
- Magnification : x900 or x450
- Single Link Cable (USB2.0)



	Measured parameter (unit)	Range	Accuracy
Connector Module	Eccentricity (μm)	0 to 100	+/- 0.15 μm
	Indexing (degrees)	0 to 360	Up to 1°
	Measurement speed (seconds)	10 + (user variable)	
Ferrule Module	Eccentricity (μm)	0 to 100	+/- 0.15 μm
	Indexing (degrees)	0 to 360	Up to 1°
	Ferrule outside ϕ (mm)	1 to 4	
	Ferrule bore ϕ (μm)	5 to 500	
	Measurement speed (seconds)	3 + (user variable)	

[Optical Electric Field Sensor]

Miniaturized Isotropic Optical Electric Field Sensor OEFS-S1B



Miniaturized Isotropic Electric Field Sensor (OEFS-S1B) is developed for measuring 3D Electric Field of localized area with isotropy.

The sensor consists of a limited use of metal such as antenna elements and small mirror to avoid generating electric field noises by metal parts themselves.

This system therefore will not distort the surrounding electric field and is suitable for measuring the near field pattern of an antenna for high frequency.

Specifications

Sensitivity	0.5 ~ 1000 V/m
Frequency Response	200MHz ~ 10GHz
Maximum Input	10,000 V/m
Isotropy	±0.5 dB 3D(x, y,z) individual output
Sensor size	φ12×~70 mm
Output Connector (RF output)	N-J
Working Temperature range	0 to 40 degree C

Isotropic Optical Electric Field Sensor OEFS-NS



Optical Electric Field Sensor, OEFS-NS has 40dB higher sensitivity than OEFS-S1B. The reason is that the antenna length is longer and the electrode structure is improved.

Specifications

Sensitivity	5m ~ 10V/m
Frequency Response	100 kHz ~ 3GH
Maximum Input	100 V/m
Isotropy	±0.5 dB
Sensor size	φ30×75 mm
Output Connector (RF output)	N-J
Working Temperature range	0 to 40degree C

Resonance Type Isotropic Optical Electric Field Sensor OEFS-RC



This sensor resonates with a specific frequency and the sensitivity improves. For example key less entry signal (315MHz, 433MHz) of a car is measured with this OEFS-RC and it also measure the 3D distribution of inside of a car precisely. Working frequency is the one of 150MHz to 950MHz (3dB bandwidth: 10MHz).

Specifications

Sensitivity	30 μ ~100m V/m
Frequency Response	One specific frequency of 300MHz to 950M
Maximum Input	1 V/m
Isotropy	± 0.5 dB
Sensor size	$\phi 50 \times 190$ mm
Output Connector (RF output)	N-J
Working Temperature range	0 to 40 degree C

Optical Electric Field Sensor Probe OEFS-PR



This sensor has a SMA connector. It is good for evaluation of small antenna. An antenna connects this sensor and the electrical signal transforms the optical signal (E/O exchange) at that head.

The signal transmits in optical fiber and it can precisely measure because Common mode noise cannot into the fiber. The probe heads are three types depend on frequency range.

Specifications

Sensor size	10 × 10 × 50 mm
Measurement frequency range	300k ~ 2GHz (OEFS-Probe-2S)
	300k ~ 5GHz (OEFS-Probe-5S)
	300k ~ 6.5GHz (OEFS-Probe-6S)
Insertion Loss	5 $\pm$ 5dB (OEFS-Probe-2S)
	10 $\pm$ 5dB (OEFS-Probe-5S)
	15 $\pm$ 5dB (OEFS-Probe-6S)
Stability	± 0.2 dB (24degree C, 5h)

[Optical Remote Antenna System]



Transmitter (5WT-40)



Receiver (WRU-96)

Optical Remote Antenna System can be constructed using an unique optical modulator of Mach-Zehnder waveguide type with no power supply, in which the intensity of the light signal to be transmitted from the receiving to transmitting point facilities varies in response to weak RF signals amplitude.

This System does not require electrical power line at the receiving point and has merits of multi-carrier waves long distance transmission through an optical fiber. Therefore, transmitting and receiving points can be easily separated so that the system can be effectively used to construct SFN*1 for Digital terrestrial TV broadcasting. This unit is adopted as one of the separation reception methods in the distribution network of Digital terrestrial TV broadcasting in Japan.

Moreover, this technology will be expected in the micro wave photonics field in the future.

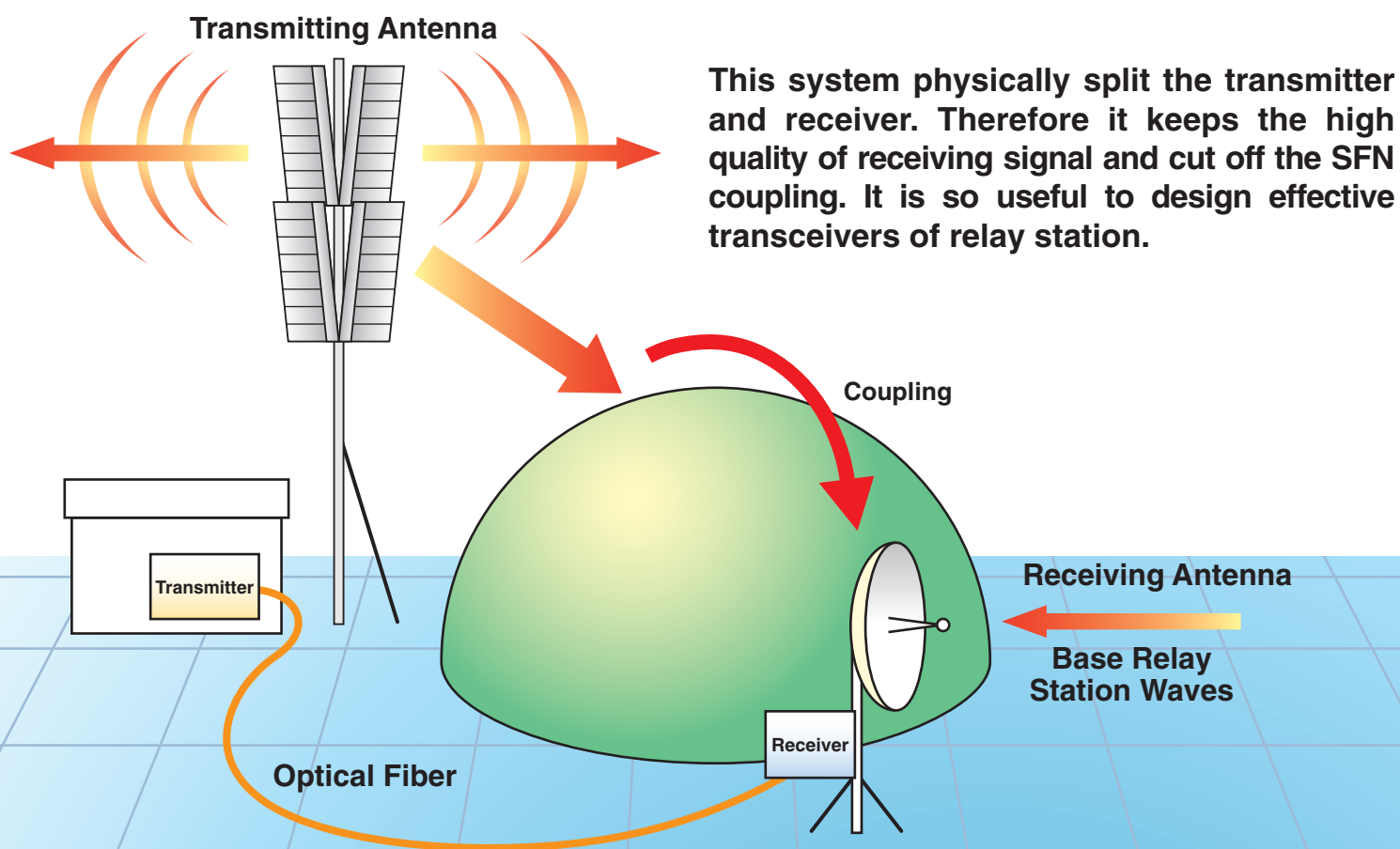
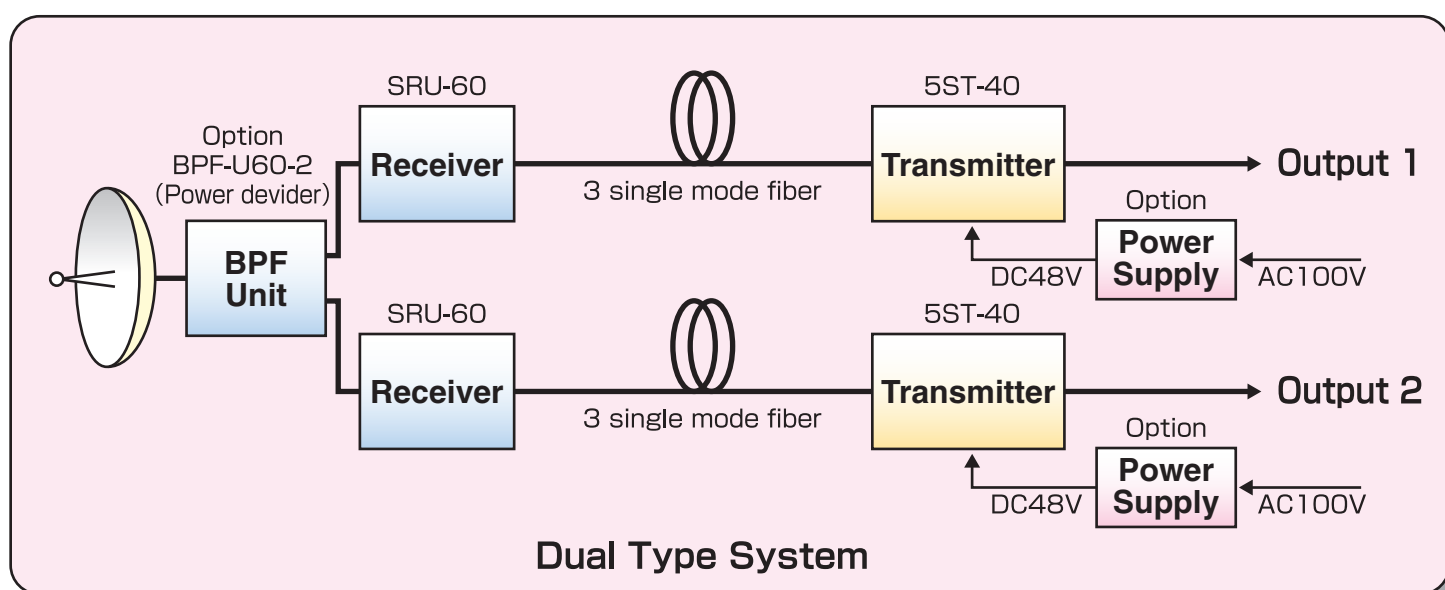
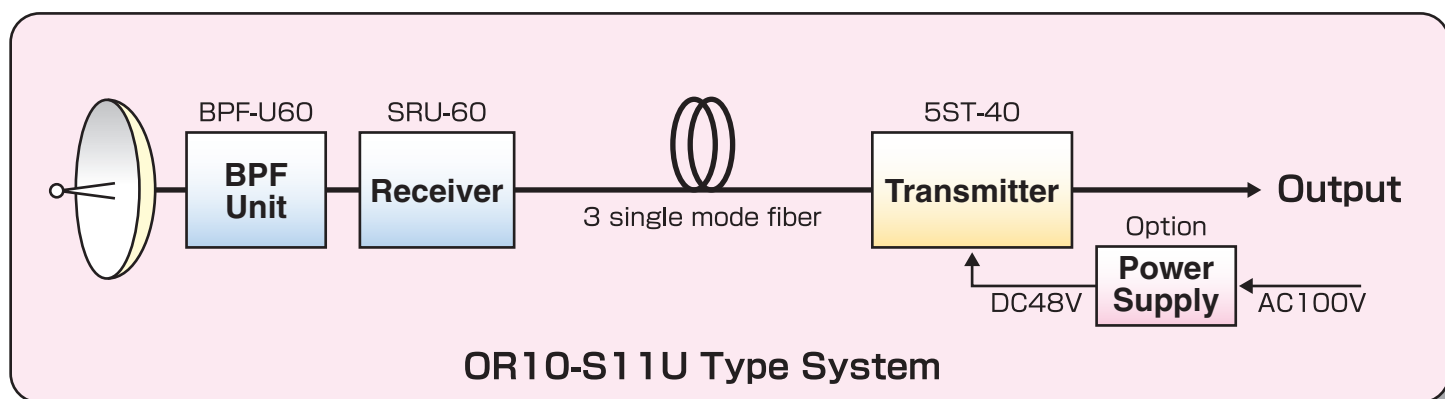
*1: SFN: Signal Frequency Network

'Optical Remote Antenna System' has been commercialized through joint development with NHK and NHK ITEK inc.

Specifications

Items		Specification		
Input Frequency		470 ~ 770MHz		
Receiving Band		OR10-S11 : Specified 60MHz		
		OR10-W22 : Specified 48MHz × 2		
RF Input Level		-47 ±20dBm/ch		
RF Output Level		RF input Level	≤-47dBm/ch	input Level +10dB
			>-47dBm/ch	-32 ±5dBm/ch
RF Input/Output Impedance		50Ω(inputconnector : N-J, Output connector : TNC-J)		
Optical Connector		FC/SPC(ORL≥40dB)		
Noise Figure		≤6dB		
IM ₃		≤-50dBc		
Frequency Response		≤3dB		
Transmission Distance		≤1km		
Operating Temperature Range		-10~+45°C		
Power Supply		DC+48V, 80W		
Optical Wavelength	Signal	1550nm Band		
	Power	1480nm Band		
Optical Output Power	Signal	80mW typ.		
	Power	270mW typ.		
Fiber Used		Single Mode	OR10-S11	3ports
			OR10-W22	5ports
Dimension	Receiving unit	Unit Type	OR10-S11U	480(W)×230(D)×49(H)mm
			OR10-W22U	
		Box Type	OR10-S11B	424(W)×442(D)×187(H)mm
			OR10-W22B	584(W)×442(D)×187(H)mm
	Transmitting unit	Unit Type	OR10-S11U/B	480(W)×320(D)×99(H)mm
			OR10-W22U/B	

SYSTEM



JAPAN

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