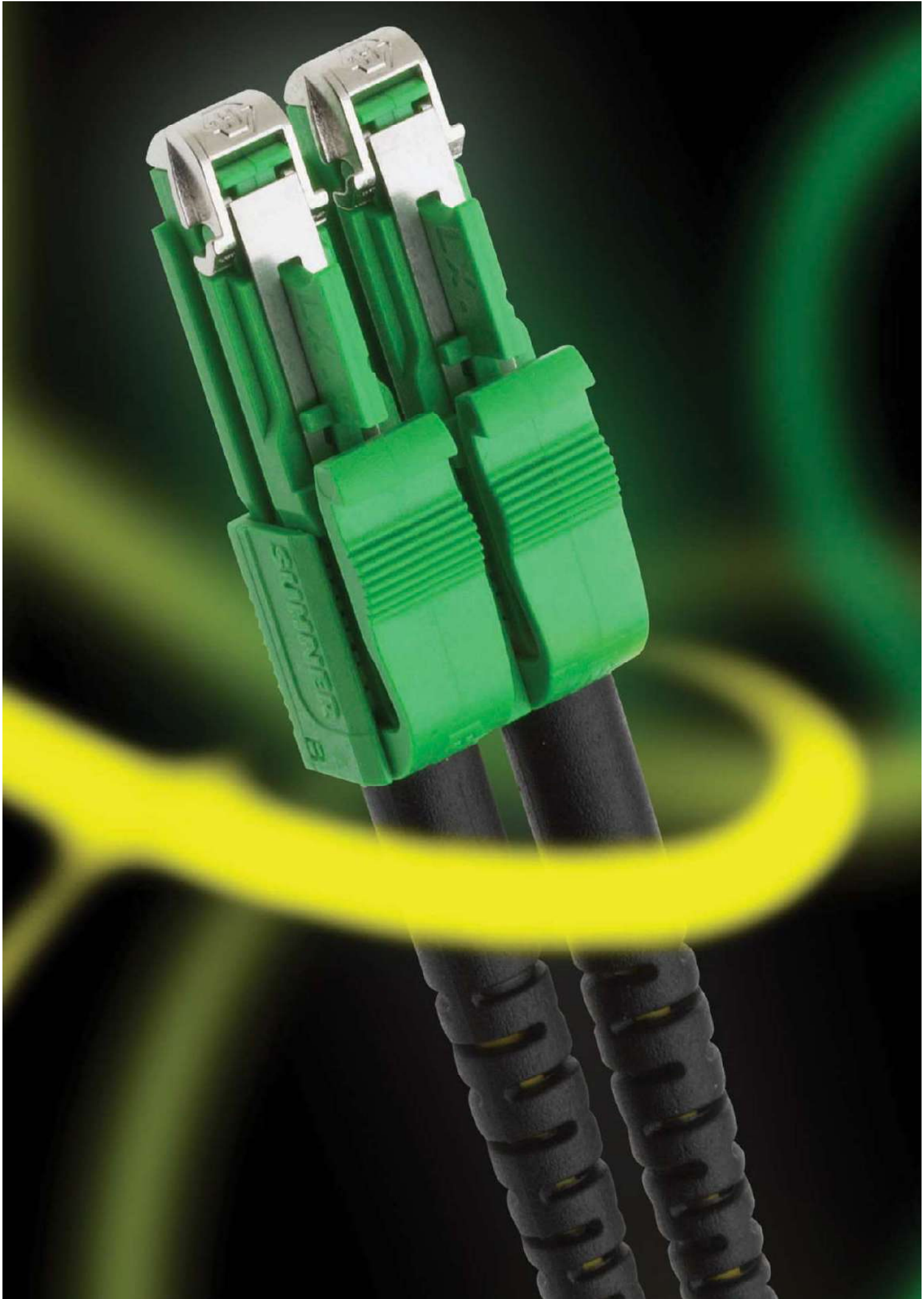

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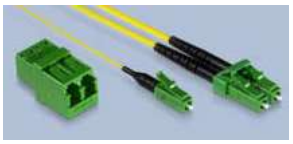

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CONNECTOR OVERVIEW

Connector type		FLX.5	FLC	FMU	FLSH	FSC
Compliance		IEC 61754-23 TIA 604-13	IEC 61754-20 TIA 604-10-A	IEC 61754-6	IEC 61754-15 TIA 604-16	IEC 61754-4 TIA 604-3
Technology						
Full ceramic ferrule + sleeve		•	•	•	•	•
Tuning						
in steps		45°	45°	90°	60°	60°
Mechanical resistance						
tensile load [N]		100	100	70	100	100
Thermal resistance						
stock temp. range		-40° to + 85° C	-40° to + 85° C	-40° to + 85° C	-40° to + 85° C	-40° to + 85° C
Flammability						
UL 94-V0		•	•	•	•	•
Durability						
Min. mating cycles		1000	1000	1000	1000	1000
Color of housing						
SM PC		blue	blue	brown	blue	blue
SM APC		green	green		green	green
MM		beige	beige		beige	beige
Brass nickel-plated						
Fiber type						
E9/125		•	•	•	•	•
G50/125		•	•	•	•	•
G50/125 OM3		•	•	•	•	•
G62.5/125		•	•	•	•	•
HCS200/230		–	–	–	•	•
Features						
One piece design		•	•	–	•	•
Automatic metal shutter		•	–	–	•	–
SFF connector		•	•	•	–	–
Color coding		•	•	–	•	–
For High Power application		•	•	–	•	•
For cable diameter [mm]		0.6 to 2.4	0.6 to 2.4	0.6 to 1.7	0.6 to 3.5	0.6 to 3.5
Insertion loss [dB]						
Each-to-each						
Multimode	mean ≤	0.20	0.20	0.20	0.20	0.20
	97 % ≤	0.50	0.50	0.50	0.50	0.50
SM 0.1 dB	mean ≤	0.06	0.06	n/a	0.06	0.06
	97 % ≤	0.15	0.15	n/a	0.15	0.15
SM High-End	mean ≤	0.12	0.12	0.12	0.12	0.12
	97 % ≤	0.25	0.25	0.25	0.25	0.25
SM LAN-Eco	mean ≤	0.25	0.25	0.25	0.25	0.25
	97 % ≤	0.70	0.70	0.70	0.70	0.70
Return loss [dB]						
Singlemode	PC >	45	45	45	45	45
	UPC >	50	50	50	50	50
	APC >	85	85	–	85	85

CONNECTOR OVERVIEW

FCPC	FLSA (DIN)	FST-LEAN	FST- HQ	FST-SEC	MT-RJ	FSMA
IEC 61754-13 TIA 604-4-A	IEC 61754-3 DIN 47256	IEC 61754-2 TIA 604-2	IEC 61754-2 TIA 604-2	IEC 61754-2 TIA 604-2	IEC 61754-18 TIA 604-12	
•	•	•	•	•	-	metal
PC infinitely APC 60°	60°					
100	100	100	100	100	70	100
-40° to + 85° C	-40° to + 85° C	-40° to + 85° C	-40° to + 85° C	-40° to + 85° C	-25° to + 70° C	-40° to + 85° C
1000	1000	1000	1000	1000	500	1000
					black	
					black	
•	•	•	•	•		•
•	•	–	•	•	•	–
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	•	•	•	•	•	•
•	–	–	•	–	–	•
•	•	•	•	•	–	•
–	–	–	–	–	–	–
–	–	–	–	–	•	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
0.6 to 3.5	0.6 to 3.5	0.6 to 3.5	0.6 to 3.5	0.6 to 3.5	0.6 and 1.7	0.6 to 4.5
0.20	0.20	0.25	0.20	0.20	0.25	1.00
0.50	0.50	0.70	0.50	0.50	0.70	1.50
0.06	n/a	n/a	n/a	n/a	n/a	n/a
0.15	n/a	n/a	n/a	n/a	n/a	n/a
0.12	0.12	n/a	n/a	n/a	n/a	n/a
0.25	0.25	n/a	n/a	n/a	n/a	n/a
0.25	0.25	n/a	0.25	0.25	0.25	n/a
0.70	0.70	n/a	0.70	0.70	0.70	n/a
45	45	–	45	45	35	–
50	50	–	–	–	–	–
85	85	–	–	–	–	–

HUBER+SUHNER CONNECTOR CODE

Connector type	Ferrule type	Division	Number of connections	Description
FLX5-				LX.5 connector
FLC-				LC connector
FMU-				MU connector
FLSH-				LSH (E-2000™) connector
FSC-				SC connector
FCPC-				FCPC connector
FLSA-				LSA connector
FST-				ST connector
FMTJ-				MT-RJ connector
FSMA-				SMA connector
FGAT-				FiberGate connector
SPEC-				Special connector
CMAX-				for SC
LEAN-				Lean
SEC-				Security
M/M-				Metal ferrule / metal body
Z/M-				Zirconia ferrule / metal body
Z/K-				Zirconia ferrule / plastic body
2000-				for E-2000™
	A-			Singlemode 9/125
	B-			Multimode 50;62.5/125
	D-			HCS 200/230
	E-			PCS 200/300
	H-			Premium
		001 to 599		PC version
		600 to 999		APC version
			-XX	If more than one connection (with one connection, nothing stated)

HUBER+SUHNER ADAPTER CODE / HYBRID ADAPTERS

Connection side 1	Connection side 2	Flange type	Division	Number of connections	Description
FCPC-					FCPC
FLSA-					LSA
FLSH-					LSH (E-2000™)
FSC-					SC
FSMA-					SMA
FMTJ-					MT-RJ
FLC-					LC
FMU-					MU
FGAT-					FiberGate
FLX5-					LX.5
	FCPC-				FCPC
	FLSA-				LSA
	FLSH-				LSH (E-2000™)
	FSC-				SC
	FSMA-				SMA
	FMTJ-				MT-RJ
	FLC-				LC
	FMU-				MU
	FGAT-				FiberGate
	FLX5-				LX.5
	REC-				Receptacle
		A-			without flange
		B-			2 loose nuts as flange
		C-			1 loose, 1 fixed nut
		D-			2-hole flange, fixed
		E-			4-hole flange, fixed
		F-			1 loose nut as flange
			0xx		without sleeve
			1xx		zirconia sleeve
			2xx		phosphor-bronze sleeve
			6xx		APC, zirconia sleeve
				-XX	If more than one connection (with one connection, nothing stated)

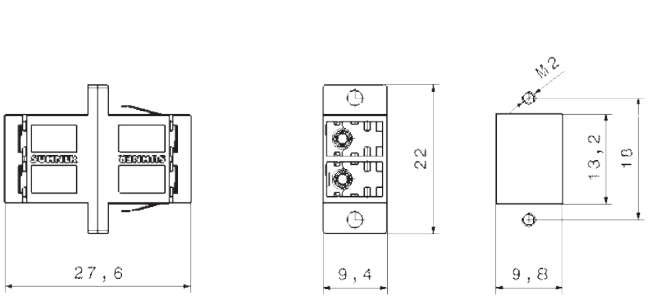
LX.5 (SFOC 1.25)

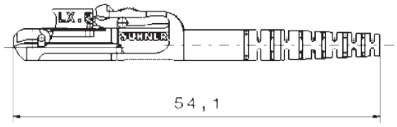
Specifications

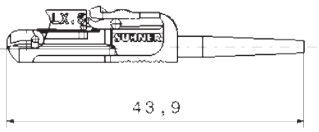
Compliance	IEC 61754-23, TIA 604-13	
Technology	Full ceramic ferrule and sleeve	
Tuning	in 45° steps	
Mechanical resistance	100 N tensile load	
Thermal resistance	–40° C to +85° C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	Singlemode PC	blue
	Singlemode APC	green
	Multimode	beige

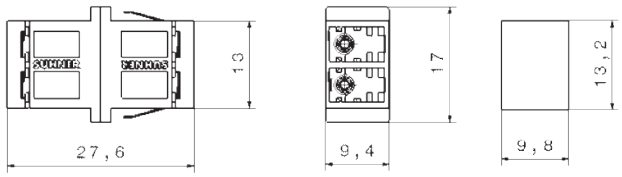
Features

- Latched push-pull connector
- Automatic metal shutter in connector and adapter as dust and laser beam protection
- Small Form Factor connector for high packing density. 2 connections in SC shape adapter
- One-piece design for easy and quick termination
- Short rigid length of pigtail-connector
- Color coding of connector and adapter
- High-Power type with integrated locking mechanism
- High mechanical and thermal resistance according to Telcordia GR-326-CORE
- Easy duplexing of simplex connectors









LX.5

Ordering information: LX.5 Connector, Simplex

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM	PC/UPC	0.12/0.25	≤ 1.0 mm	FLX5-Z/K-A002
SM	PC/UPC	0.12/0.25	≤ 2.4 mm	FLX5-Z/K-A003
SM	APC	0.12/0.25	≤ 1.0 mm	FLX5-Z/K-A601
SM	APC	0.12/0.25	≤ 2.4 mm	FLX5-Z/K-A602
SM Premium	PC/UPC	0.06/0.15	≤ 1.0 mm	FLX5-Z/K-H002
SM Premium	PC/UPC	0.06/0.15	≤ 2.4 mm	FLX5-Z/K-H003
SM Premium	APC	0.06/0.15	≤ 1.0 mm	FLX5-Z/K-H601
SM Premium	APC	0.06/0.15	≤ 2.4 mm	FLX5-Z/K-H602
G50/125, G62.5/125	PC	0.2 / 0.5	≤ 1.0 mm	FLX5-Z/K-B002
G50/125, G62.5/125	PC	0.2 / 0.5	≤ 2.4 mm	FLX5-Z/K-B003

[1] Each-to-each IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapters

Adapter type	Mounting	Sleeve material	Color	Type
SM Duplex	Flange with spring clip	ceramic	blue	FLX5-FLX5-A101-02
SM Duplex HighPower	Flange with spring clip	ceramic	blue	FLX5-FLX5-A102-02
SM APC Duplex	Flange with spring clip	ceramic	green	FLX5-FLX5-A601-02
SM APC Duplex HighPower	Flange with spring clip	ceramic	green	FLX5-FLX5-A602-02
MM Duplex	Flange with spring clip	phosphor-bronze	beige	FLX5-FLX5-A201-02
SM Duplex	with 2-hole flange	ceramic	blue	FLX5-FLX5-D101-02
SM Duplex HighPower	with 2-hole flange	ceramic	blue	FLX5-FLX5-D102-02
SM APC Duplex	with 2-hole flange	ceramic	green	FLX5-FLX5-D601-02
SM APC Duplex HighPower	with 2-hole flange	ceramic	green	FLX5-FLX5-D602-02
MM Duplex	with 2-hole flange	phosphor-bronze	beige	FLX5-FLX5-D201-02

Ordering information: Accessories

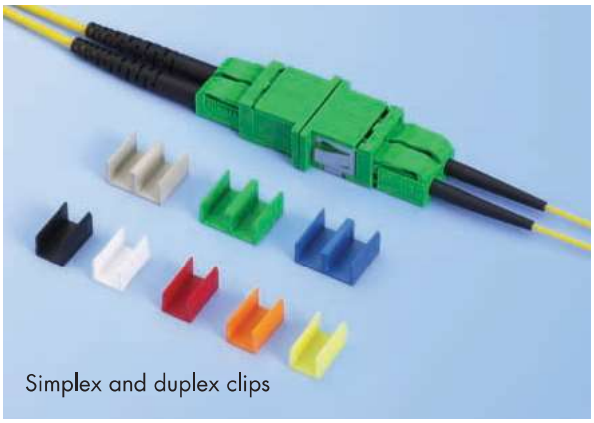
Description	
Accessories	please see next page
Duplex clips	please see next page
Color coding	please see next page
Angled boot	please see section "Accessories and Crimpsets"
Hybridadapters	please see second part of section "Hybrid adapters"

Ordering information: Accessories

Description	Color	Type
Duplex clip	blue	FLX5-DUP-BL2
Duplex clip	green	FLX5-DUP-GN2
Duplex clip	beige	FLX5-DUP-BG2
Tool to unlock LX.5 HighPower disconnection lock		9801.40.D

Color coding system

The new color coding system allows fast and secure installation of the connector and the adapter. It ensures mating without risk of confusion. Simplex clips can be used to mark connectors and color labels to mark adapters.



Simplex and duplex clips

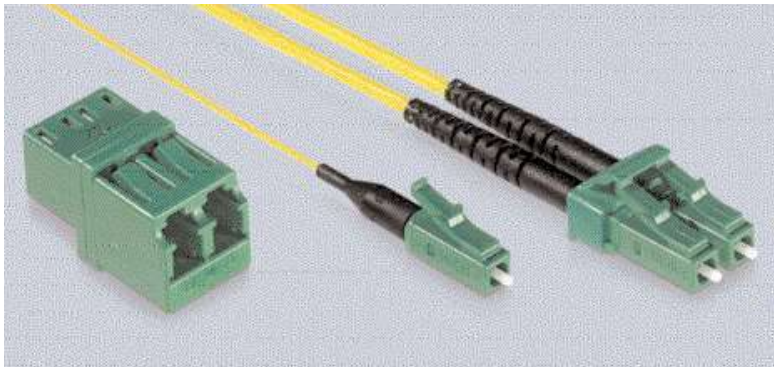
Color labels

Ordering information: Color coding

Description	Color	Type
Simplex clip	black	FLX5-CLP-BK1
Simplex clip	blue	FLX5-CLP-BL1
Simplex clip	brown	FLX5-CLP-BN1
Simplex clip	green	FLX5-CLP-GN1
Simplex clip	grey	FLX5-CLP-GR1
Simplex clip	orange	FLX5-CLP-OR1
Simplex clip	pink	FLX5-CLP-PK1
Simplex clip	purple	FLX5-CLP-PU1
Simplex clip	red	FLX5-CLP-RD1
Simplex clip	turquoise	FLX5-CLP-TU1
Simplex clip	white	FLX5-CLP-WT1
Simplex clip	yellow	FLX5-CLP-YE1

Description	Type
Color label pad including 24 stickers per color	ACC-LAB-001

FLC

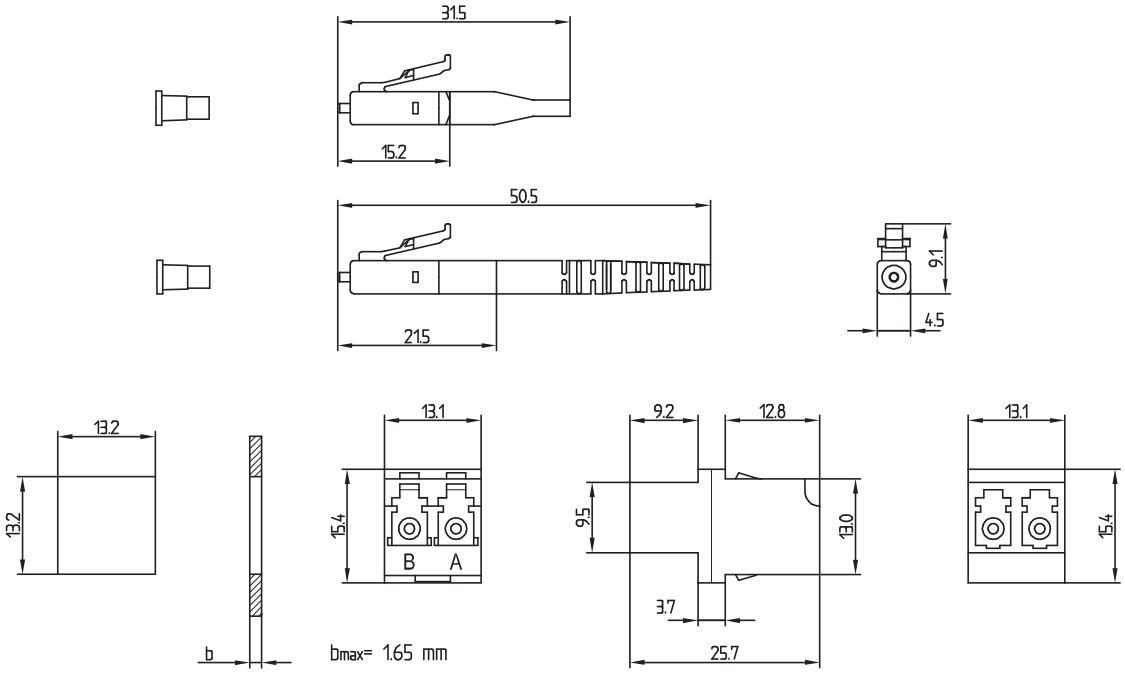


Features

- Latched push-pull connector
- Small Form Factor connector for high packing density. 2 connections in SC shape adapter
- One-piece design for easy and quick termination
- Short rigid length of pigtail-connector
- Color coding of connector
- Easy duplexing of simplex connectors

Specifications

Compliance	IEC 61754-20, TIA 604-10-A	
Technology	Full ceramic ferrule and sleeve	
Tuning	in 45° steps	
Mechanical resistance	100 N tensile load	
Thermal resistance	–40 °C to +85 °C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	Singlemode PC	blue
	Singlemode APC	green
	Multimode	beige



FLC

Ordering information: FLC Connectors

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM	PC/UPC	0.12/0.25	≤ 1.0 mm	FLC-Z/K-A005
SM	PC/UPC	0.12/0.25	≤ 2.4 mm	FLC-Z/K-A006
SM	APC	0.12/0.25	≤ 1.0 mm	FLC-Z/K-A600
SM	APC	0.12/0.25	≤ 2.4 mm	FLC-Z/K-A601
SM Premium	PC/UPC	0.06/0.15	≤ 1.0 mm	FLC-Z/K-H001
SM Premium	PC/UPC	0.06/0.15	≤ 2.4 mm	FLC-Z/K-H002
SM Premium	APC	0.06/0.15	≤ 1.0 mm	FLC-Z/K-H600
SM Premium	APC	0.06/0.15	≤ 2.4 mm	FLC-Z/K-H601
G50/125, G62.5/125	PC	0.2 / 0.5	≤ 1.0 mm	FLC-Z/K-B004
G50/125, G62.5/125	PC	0.2 / 0.5	≤ 2.4 mm	FLC-Z/K-B005

[1] IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: FLC Adapters

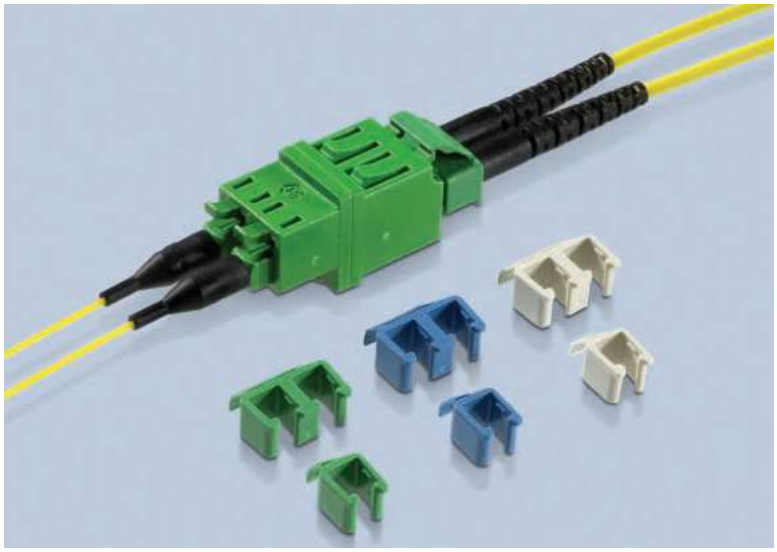
Adapter type		Mounting	Sleeve out of	Color	Type
SM	Duplex	integrated fixing springs	zirconia ceramic	blue	FLC-FLC-A100-02
SM APC	Duplex	integrated fixing springs	zirconia ceramic	green	FLC-FLC-A600-02
MM	Duplex	integrated fixing springs	phosphor-bronze	beige	FLC-FLC-A200-02
SM	SC footprint	integrated fixing springs	zirconia ceramic	blue	FLC-FLC-A101-02
SM APC	SC footprint	integrated fixing springs	zirconia ceramic	green	FLC-FLC-A601-02
MM	SC footprint	integrated fixing springs	phosphor-bronze	beige	FLC-FLC-A201-02
SM	Simplex	integrated fixing springs	zirconia ceramic	blue	FLC-FLC-A100
SM APC	Simplex	integrated fixing springs	zirconia ceramic	green	FLC-FLC-A600
MM	Simplex	integrated fixing springs	phosphor-bronze	beige	FLC-FLC-A200

Ordering information: Accessories

Description		Color	Type
Duplex clip		blue	FLC-DUP-BL2
Duplex clip		green	FLC-DUP-GN2
Duplex clip		beige	FLC-DUP-BG2
Coding	please see next page		
Angled boot	please see section “Accessories and Crimpsets”		
Hybridadapters	please see second part of section “Hybrid adapters”		

FLC

Color coding system
The color coding system helps to distinguish channels for secure handling. Simplex clips, which are used to mark connectors, can easily be mounted in the field and even after connectors have been terminated.



Ordering information: Accessories

Description	Color	Type
Simplex clip	black	FLC-CLP-BK1
Simplex clip	blue	FLC-CLP-BL1
Simplex clip	brown	FLC-CLP-BN1
Simplex clip	green	FLC-CLP-GN1
Simplex clip	grey	FLC-CLP-GR1
Simplex clip	orange	FLC-CLP-OR1
Simplex clip	pink	FLC-CLP-PK1
Simplex clip	purple	FLC-CLP-PU1
Simplex clip	red	FLC-CLP-RD1
Simplex clip	turquoise	FLC-CLP-TU1
Simplex clip	white	FLC-CLP-WT1
Simplex clip	yellow	FLC-CLP-YE1

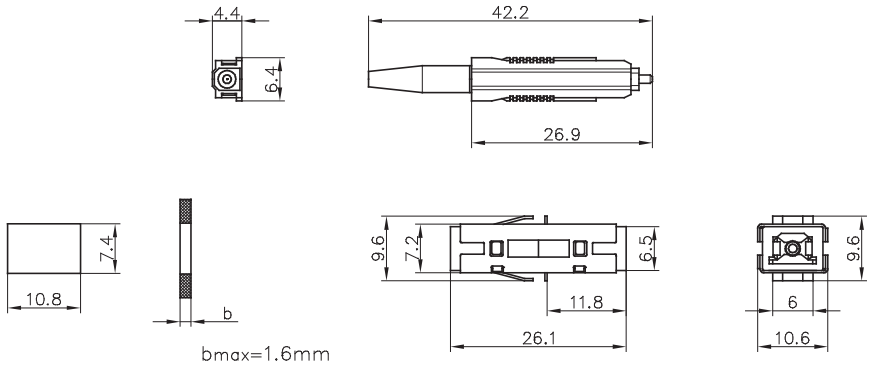
FMU

Features

- Push-pull connector
- Small Form Factor connector for high packing density. 2 connections in SC shape adapter

Specifications

Compliance	IEC 61754-6	
Technology	Full ceramic ferrule and sleeve	
Tuning	in 90° steps	
Mechanical resistance	70 N tensile load	
Thermal resistance	–40 °C to +85 °C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	SM PC	brown
	MM	brown



Ordering information: FMU connector including Crimpset

Connector type	Polishing	Insertion loss [dB] [dB] (mean/97%)	Cable Ø	Type
E9/125	PC	0.12/0.25[1]	< 1.0 mm	FMU-Z/K-A001[2]
E9/125	PC	0.12/0.25[1]	1.7 mm	FMU-Z/K-A002[2]

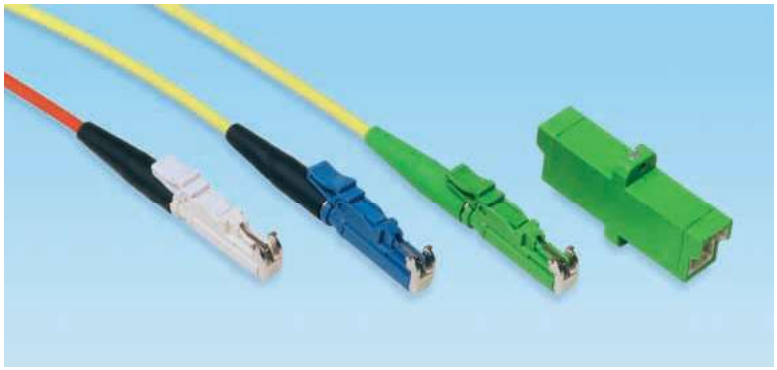
[1] IEC 61300-3-34 method 2

[2] including crimpset

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Type
SM	with integrated latch mechanism	ceramic	FMU-FMU-A001-01

FLSH (E-2000™)

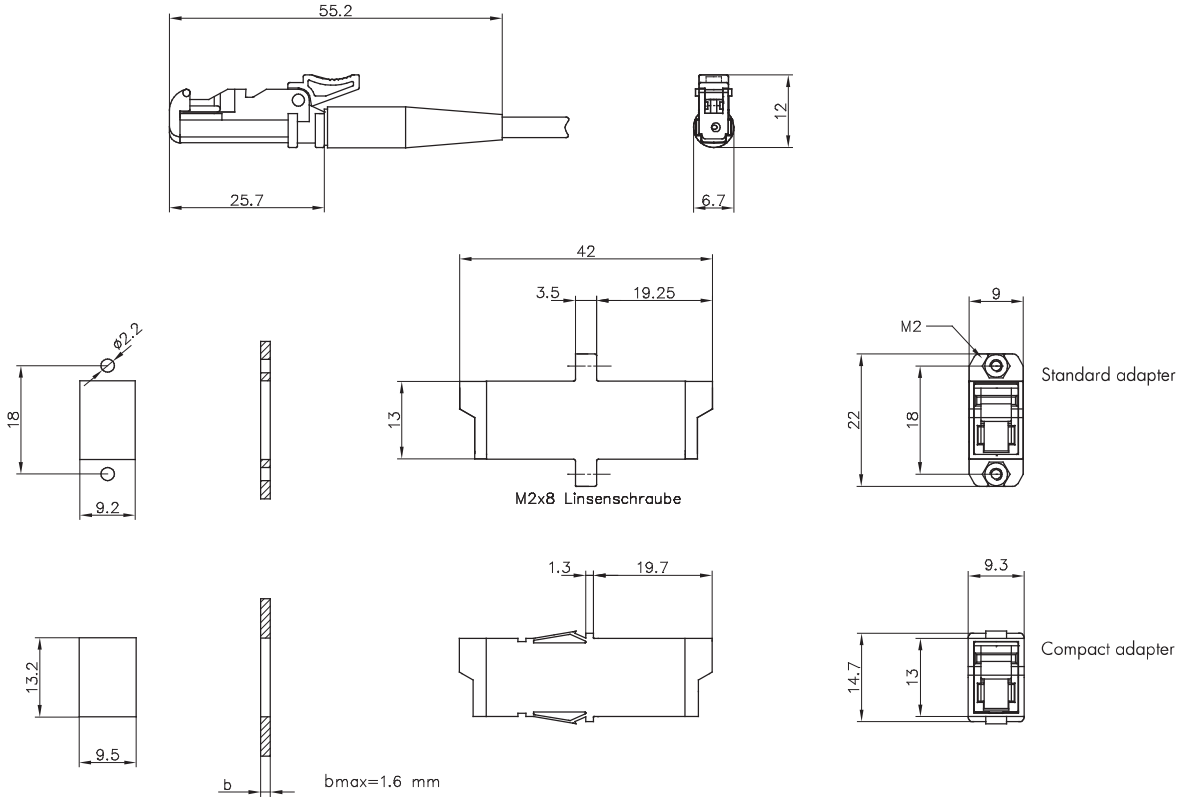


Features

- Latched push-pull connector
- Automatic metal shutter in connector and adapter as dust and laser beam protection
- One-piece design for easy and quick termination
- Color coding of connector and adapter
- Mechanical coding of connector and adapter
- High safety in HighPower applications

Specifications

Compliance	IEC 61754-15, TIA 604-16	
Technology	Full ceramic ferrule and sleeve	
Tuning	in 60° steps	
Mechanical resistance	100N tensile load	
Thermal resistance	–40 °C to +85 °C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	Singlemode	blue
	SM (APC 8°)	green
	Multimode	beige



E-2000™ is manufactured under licence of DIAMOND SA, CH LOSONE

FLSH (E-2000™)

Ordering information: FLSH Connector, uncoded

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM	PC/UPC	0.12/0.25	≤ 3.5	FLSH-2000-A005
SM	APC	0.12/0.25	≤ 3.5	FLSH-2000-A608
SM Premium	PC/UPC	0.06/0.15	≤ 3.5	FLSH-2000-H001
SM Premium	APC	0.06/0.15	≤ 3.5	FLSH-2000-H600
G50/125, G62.5/125	PC	0.2 / 0.5	≤ 3.5	FLSH-2000-B003
HCS200/230	PC	0.3 / 0.75	≤ 3.5	FLSH-2000-D001

[1] IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Color	Type
SM	with 2-hole flange	zirconia ceramic	blue	FLSH-FLSH-D100
SM APC	with 2-hole flange	zirconia ceramic	green	FLSH-FLSH-D600
SM HighPower	with 2-hole flange	zirconia ceramic	blue	FLSH-FLSH-D110
SM APC HighPower	with 2-hole flange	zirconia ceramic	green	FLSH-FLSH-D610
MM	with 2-hole flange	zirconia ceramic	beige	FLSH-FLSH-D102
Compact SM	integrated fixing springs	zirconia ceramic	blue	FLSH-FLSH-A100
Compact APC	integrated fixing springs	zirconia ceramic	green	FLSH-FLSH-A600
Compact SM HighPower	integrated fixing springs	zirconia ceramic	blue	FLSH-FLSH-A110
Compact SM APC HighPower	integrated fixing springs	zirconia ceramic	green	FLSH-FLSH-A610
Compact MM	integrated fixing springs	zirconia ceramic	beige	FLSH-FLSH-A101

Ordering information: Accessories

Description		Color	Type
Quick-mounting spring	metal (25 pieces)		9801.93.A
Angled boot 90°	plastic (100 pieces)	green	9890.95.P
Coding	please see next page		
Easyfit	please see section "Field termination"		
Hybridadapters	please see second part of section "Connectors"		

FLSH (E-2000™)

Mechanical coding system

The mechanical and color coding system allows fast and secure installation of the connector and the adapter. It ensures mating without risk of confusion. Connectors and adapters without coding are still available and fit on any coded piece.

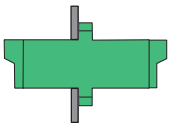
Ordering information

Type				
FLSH-FLSH-XXXX		Adapter code		
	–A0	0	uncoded	color of adapter
	–A1	1	Key 1	red coded "
	–A2	2	Key 2	brown "
	–A3	3	Key 3	yellow "
	–A4	4	Key 4	orange "
	–A5	5	Key 5	violet "
	–A6	6	Key 6	white "
	–AA	A	Key 7	red uncoded
	–AB	B	Key 8	brown "
	–AC	C	Key 9	yellow "
	–AD	D	Key 10	orange "
	–AE	E	Key 11	violet "
	–AF	F	Key 12	white "
	–AG	G	Key 13	green "
	–AH	H	Key 14	blue "
	–AI	I	Key 15	black "
	–AJ	J	Key 16	grey "
	–AK	K	Key 17	pink "
	–AL	L	Key 18	turquoise "
			coding frame at back	
			coding frame at front	

Type			
FLSH-2000-XXXX	connector code		
	–C1	Key 1	red coded
	–C2	Key 2	brown "
	–C3	Key 3	yellow "
	–C4	Key 4	orange "
	–C5	Key 5	violet "
	–C6	Key 6	white "
	–CA	Key 7	red uncoded
	–CB	Key 8	brown "
	–CC	Key 9	yellow "
	–CD	Key 10	orange "
	–CE	Key 11	violet "
	–CF	Key 12	white "
	–CG	Key 13	green "
	–CH	Key 14	blue "
	–CI	Key 15	black "
	–CJ	Key 16	grey "
	–CK	Key 17	pink "
	–CL	Key 18	turquoise "
		coding on the connector	

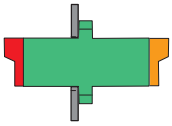
Examples:

FLSH-FLSH-D600
green adapter without coding



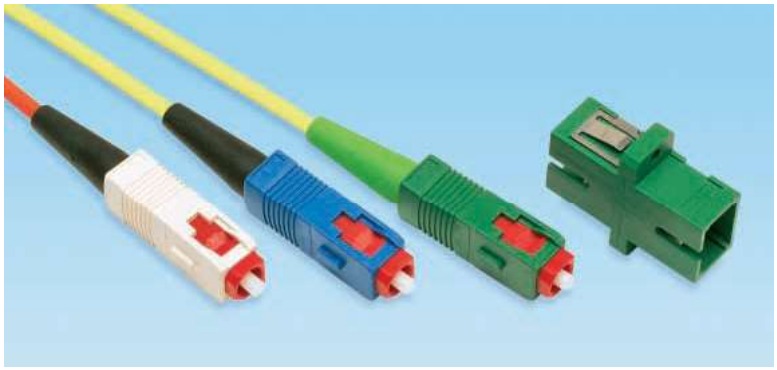
FLSH-2000-A001
blue connector without coding

FLSH-FLSH-D600-A14
green adapter + 1 red coding frame on frontside,
1 orange coding frame on backside



FLSH-2000-A001-C1
blue connector + red coding

FSC

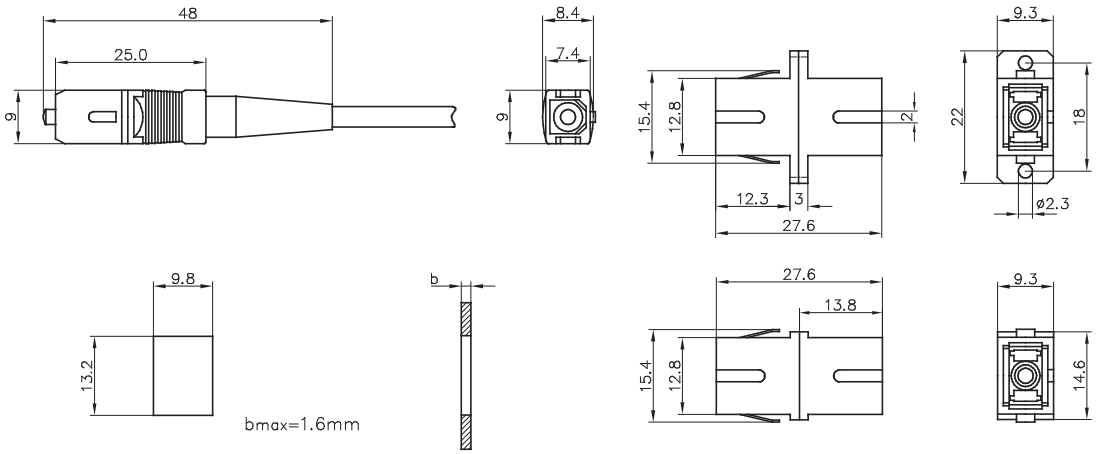


Features

- Push-pull connector
- One-piece design for easy and quick termination
- High mechanical and thermal resistance according to Telcordia GR-326-CORE

Specifications

Compliance	IEC 61754-4, TIA 604-3	
Technology	Full ceramic ferrule and sleeve (SM)	
Tuning	in 60° steps	
Mechanical resistance	100N tensile load	
Thermal resistance	–40 °C to +85 °C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	Singlemode PC	blue
	SM (APC 8°/9°)	green
	Multimode	beige



FSC

Ordering information: FSC Connector

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM High-End	PC/UPC	0.12/0.25	≤ 3.5	FSC-CMAX-A001
SM High-End	APC	0.12/0.25	≤ 3.5	FSC-CMAX-A600
SM Premium	PC/UPC	0.06/0.15	≤ 3.5	FSC-CMAX-H001
SM Premium	APC	0.06/0.15	≤ 3.5	FSC-CMAX-H600
G50/125, G62.5/125	PC	0.2/ 0.5	≤ 3.5	FSC-CMAX-B001
HCS200/230	PC	0.3/ 0.75	≤ 3.5	FSC-CMAX-D001

[1] Each-to-each IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

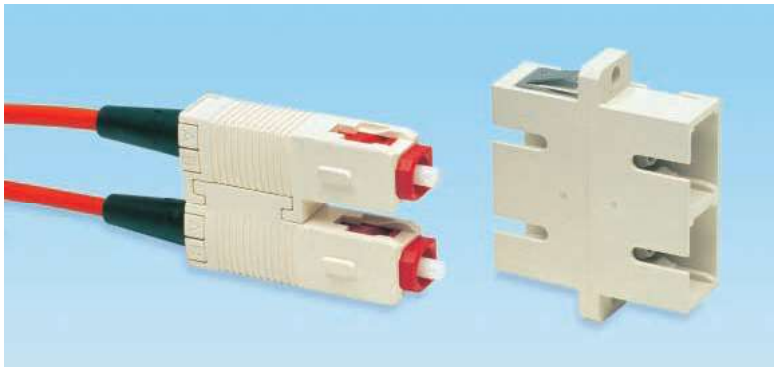
Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Color	Type
SM	with 2-hole flange	zirconia ceramic	blue	FSC-FSC-D100
SM HighPower	with 2-hole flange	zirconia ceramic	blue	FSC-FSC-D110
SM (APC 8°/9°)	with 2-hole flange	zirconia ceramic	green	FSC-FSC-D600
SM (APC 8°/9°) HighPower)	with 2-hole flange	zirconia ceramic	green	FSC-FSC-D610
MM	with 2-hole flange	phosphor-bronze	beige	FSC-FSC-D200
Flangeless SM	fixing spring	zirconia ceramic	blue	FSC-FSC-A100
Flangeless SM HighPower	fixing spring	zirconia ceramic	blue	FSC-FSC-A110
Flangeless APC	fixing spring	zirconia ceramic	green	FSC-FSC-A600
Flangeless APC HighPower	fixing spring	zirconia ceramic	green	FSC-FSC-A610
Flangeless MM	fixing spring	phosphor-bronze	beige	FSC-FSC-A200

Ordering information: Accessories

Description		Color	Type
Angled boot 90°	plastic (100 pieces)	green	9890.95.P
Quick Assembly	please see section "Field termination"		
Easyfit	please see section "Field termination"		
Hybridadapters	please see second part of section "Connectors"		

FSC DUPLEX

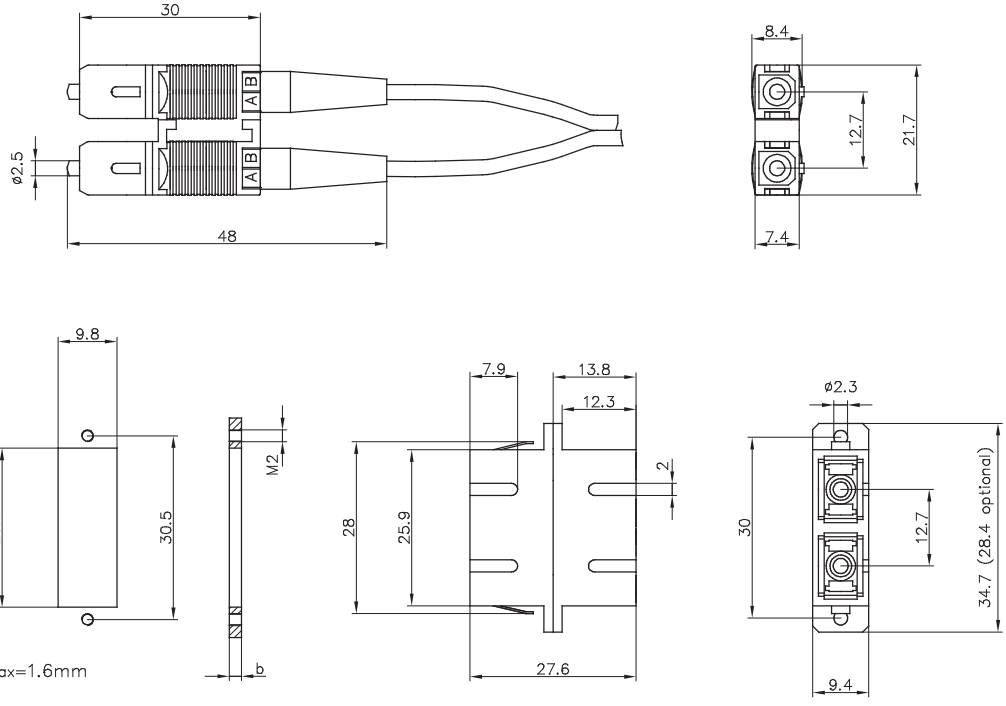


Features

- Push-pull connector
- One-piece design for easy and quick termination
- High mechanical and thermal resistance according to Telcordia GR-326-CORE
- Channel identification (A-B)

Specifications

Compliance	IEC 61754-4, TIA 604-3	
Technology	Full ceramic ferrule and sleeve	
Tuning	in 60° steps	
Mechanical resistance	100 N tensile load	
Thermal resistance	–40 °C to +85 °C, stock temperature range	
Flammability	UL 94-V0	
Durability	Min. 1000 mating cycles	
Color of housing	Singlemode PC	blue
	Singlemode APC	green
	Multimode	beige



FSC DUPLEX

Ordering information: FSC Duplex Connector

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM	PC/UPC	0.12/0.25	≤ 3.5	FSC-CMAX-A001-02
SM	APC	0.12/0.25	≤ 3.5	FSC-CMAX-A600-02
G50/125, G62.5/12	PC	0.2/ 0.5	≤ 3.5	FSC-CMAX-B001-02

[1] IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Color	Type
Duplex SM	with 2-hole flange	zirconia	blue	FSC-FSC-D100-02
Duplex SM APC	with 2-hole flange	zirconia	green	FSC-FSC-D600-02
Duplex MM	with 2-hole flange	phosphor-bronze	beige	FSC-FSC-D200-02
Duplex SM flangeless	fixing spring	zirconia	blue	FSC-FSC-D102-02
Duplex MM flangeless	fixing spring	phosphor-bronze	beige	FSC-FSC-D202-02

Ordering information: Accessories

Description		Color	Type
Angled boot 90°	plastic (100 pieces)	green	9890.95.P
Quick Assembly	please see section "Field termination"		
Easyfit	please see section "Field termination"		

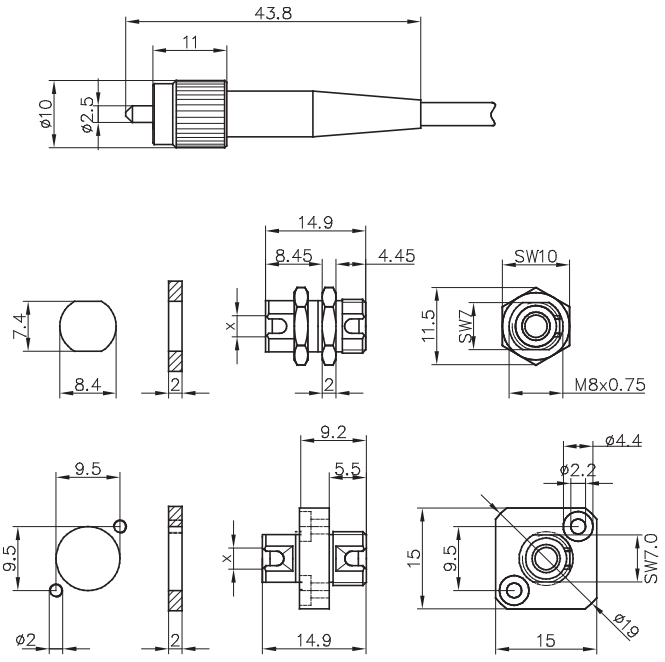
FCPC

Features

- Threaded nut connector
- One-piece design for easy and quick termination
- Very short rigid length
- High mechanical and thermal resistance according to Telcordia GR-326-CORE

Specifications

Compliance	IEC 61754-13, TIA 604-4-A
Technology	Full ceramic ferrule
Tuning	PC infinitely
	APC in 60° steps
Mechanical resistance	100 N tensile load
Thermal resistance	–40 °C to +85 °C, stock temperature range
Durability	Min. 1000 mating cycles
Adapter and connector material	Brass nickel-plated



FCPC

Ordering information: FCPC Connector

Connector type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM wide key	PC/UPC	0.12/0.25	≤ 3.5	FCPC-Z/M-A001
SM small key	APC	0.12/0.25	≤ 3.5	FCPC-Z/M-A601
SM wide key	APC	0.12/0.25	≤ 3.5	FCPC-Z/M-A602
SM small key Premium	PC/UPC	0.06/0.15	≤ 3.5	FCPC-Z/M-H001
SM small key Premium	APC	0.06/0.15	≤ 3.5	FCPC-Z/M-H600
G50/125, G62.5/125 wide key	PC	0.2 /0.5	≤ 3.5	FCPC-Z/M-B001
HCS200/230	PC	0.3/0.75	≤ 3.5	FCPC-Z/M-D001

[1] IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Type
Standard	with 1 loose, 1 fixed nut for D-hole mounting key width: 2.15 mm	zirconia ceramic	FCPC-FCPC-C100
	with 2-hole flange, 4 mm thick key width: 2.15 mm	zirconia ceramic	FCPC-FCPC-D100
APC	with1 loose, 1 fixed nut for D-hole mounting key width: 2.03 mm	zirconia ceramic	FCPC-FCPC-C600
	with 2-hole flange, 4 mm thick key width: 2.03 mm	zirconia ceramic	FCPC-FCPC-D600

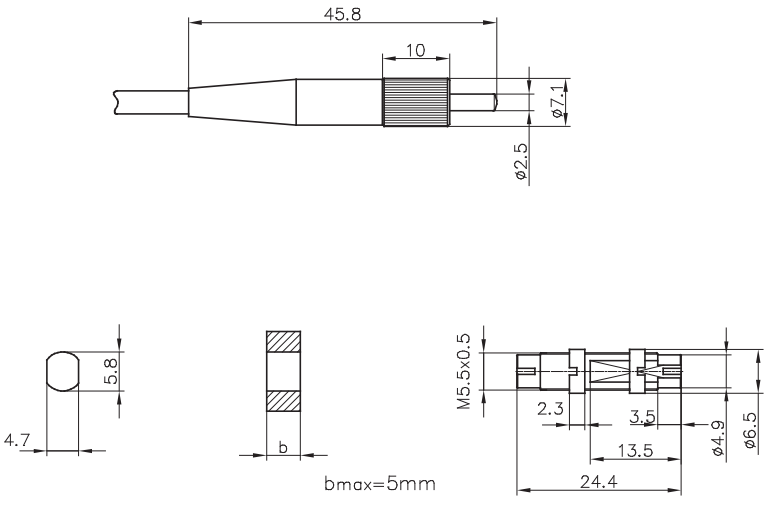
FLSA (DIN)

Features

- Threaded nut connector
- One-piece design for easy and quick termination
- Long ferrule according to DIN

Specifications

Compliance	IEC 61754-3, DIN 47256
Technology	Full ceramic ferrule
Tuning	in 60° steps
Mechanical resistance	100 N tensile load
Thermal resistance	–40 °C to +85 °C, stock temperature range
Durability	Min. 1000 mating cycles
Adapter and connector material	Brass nickel-plated



FLSA (DIN)

Ordering information: FLSA Connector

For fiber type	Polishing	Insertion loss[1] [dB] (mean/97%)	Cable Ø	Type
SM	PC	0.12/0.25	≤ 3.5	FLSA-Z/M-A001
SM	APC 8°	0.12/0.25	≤ 3.5	FLSA-Z/M-A600
G50/125, G62.5/125	PC	0.2 /0.5	≤ 3.5	FLSA-Z/M-B001

[1] IEC 61300-3-34 method 2

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Type
Standard	with 2 loose nuts for D-hole mounting	zirconia ceramic	FLSA-FLSA-B100

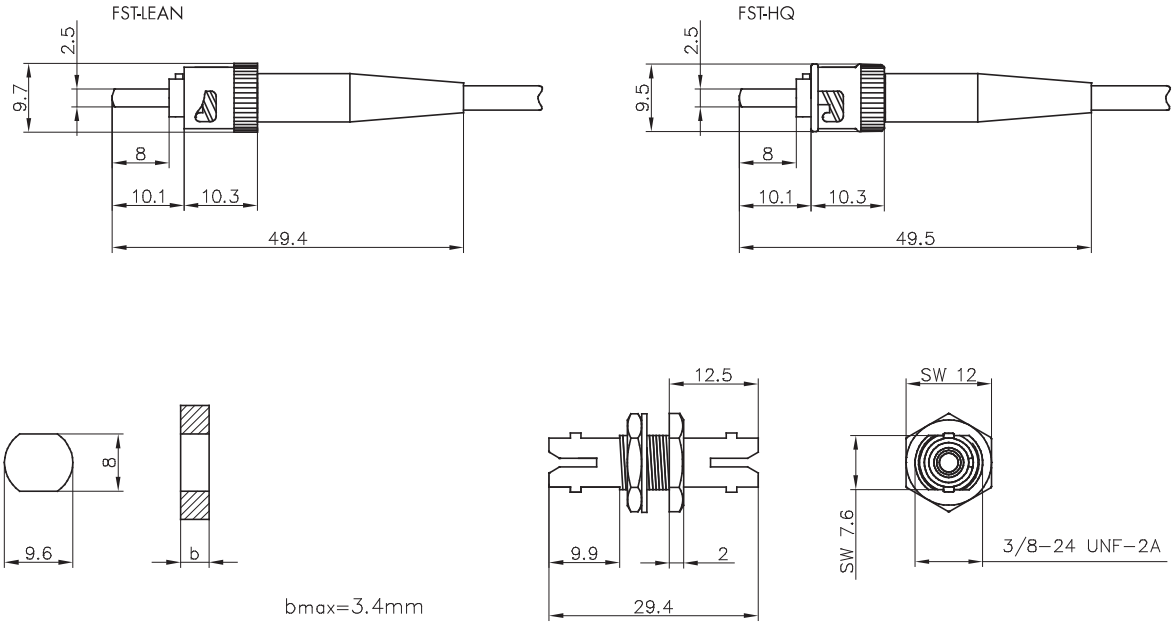
FST-LEAN, FST-HQ (BFOC)

Features

- Bayonet nut connector
- One-piece design for easy and quick termination

Specifications

Compliance	IEC 61754-2, TIA 604-2
Technology	Full ceramic ferrule
Mechanical resistance	100 N tensile load
Thermal resistance	–40 °C to +85 °C, stock temperature range
Durability	Min. 1000 mating cycles
Adapter and connector material	Brass nickel-plated



FST-LEAN, FST-HQ

Ordering information: FST-LEAN und FST-HQ Connector

Connector type		Ferrule	Bayonet	Insertion loss[1] [dB] (mean/97%)	Type
G50/125, G62.5/125	LEAN	zirconia	Plastic, black	0.25/0.70	FST-LEAN-B003
G50/125, G62.5/125	LEAN	zirconia	metal	0.25/0.70	FST-LEAN-B006
SM	HQ	zirconia	metal	0.25/0.70	FST-Z/M-A001
G50/125, G62.5/125	HQ	zirconia	metal	0.2 /0.5	FST-Z/M-B001
HCS200/230	HQ	zirconia	metal	0.4 /0.75	FST-Z/M-D001

[2] IEC 61300-3-34

Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Type
SM	with 1 loose, 1 fixed nut 1 washer for D-hole mounting	zirconia ceramic	FST-FST-C100
MM	with 1 loose, 1 fixed nut 1 washer for D-hole mounting	phosphor-bronze	FST-FST-C200
MM for Panduit outlets	with special nut for round hole assembly	phosphor-bronze	FST-FST-C201

Ordering information: Accessories

Description		Type
Mounting tool	for Panduit adapter	9801.30.X
Quick Assembly	please see section “Field termination”	
Easyfit	please see section “Field termination”	
Hybrid adapters	please see second part of section “Hybrid adapters”	

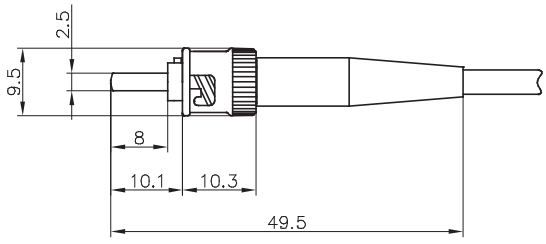
FST-SECURITY

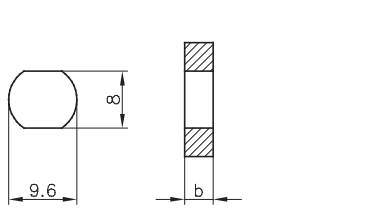
Features

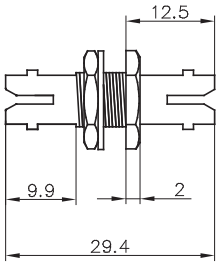
- Bayonet nut connector
- One-piece design for easy and quick termination
- With integrated strain relief (ST2 version)

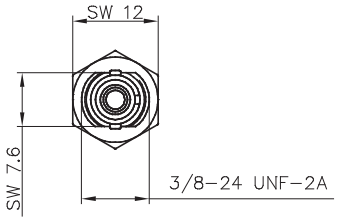
Specifications

Compliance	IEC 61754-2, TIA 604-2
Technology	Full ceramic ferrule
Mechanical resistance	100 N tensile load
Thermal resistance	–40 °C to +85 °C, stock temperature range
Durability	Min. 1000 mating cycles
Adapter and connector material	Brass nickel-plated









FST-SECURITY

Ordering information: FST-Security Connector

For fiber type	Polishing	Insertion loss[1] [dB] (mean/97%)	Type
SM	PC	0.2 / 0.5	FST-SEC-A001
G50/125, G62.5/125	PC	0.25/0.70	FST-SEC-B001

[2] IEC 61300-3-34

Ordering information: Crimpset black

Description	
Crimpsets	please see page 40

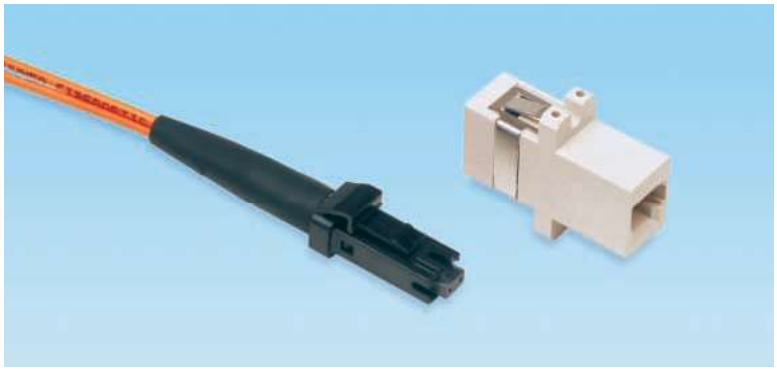
Ordering information: Adapter

Adapter type	Mounting	Sleeve material	Type
SM	with 1 loose, 1 fixed nut 1 washer for D-hole mounting	zirconia ceramic	FST-FST-C100
MM	with 1 loose, 1 fixed nut 1 washer for D-hole mounting	phosphor-bronze	FST-FST-C200

Ordering information: Accessories

Description		Color	Type
Angled boot 90°	plastic (100 pieces)	green	9890.95.P

MT-RJ

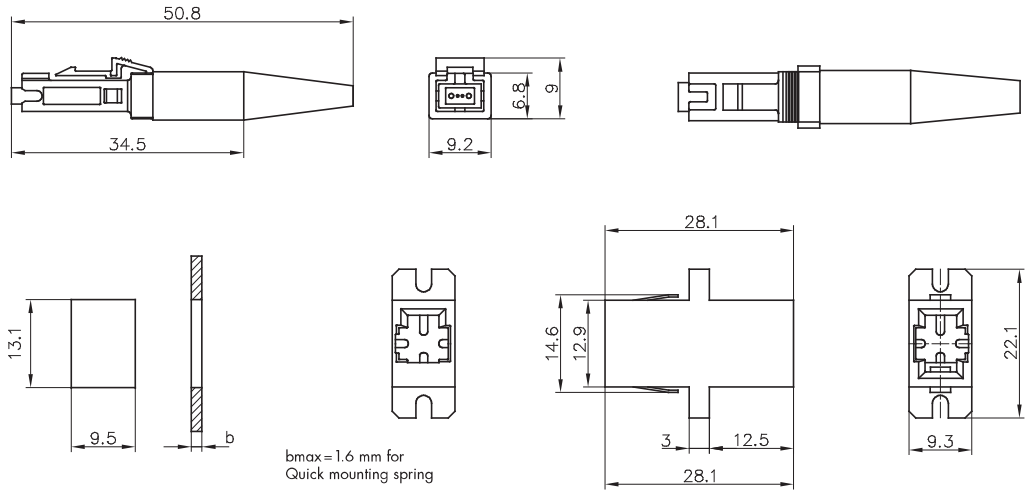


Features

- Latched push-pull connector
- Small Form Factor connector for high packing density. 2 connections in SC shape adapter
- Two fibers in one ferrule

Specifications

Compliance	IEC 61754-18, TIA 604-12		
Technology	Plastic ferrule		
Mechanical resistance	70 N tensile load		
Thermal resistance	-25 °C to +70 °C, stock temperature range		
Durability	Min. 500 mating cycles		
Adapter and connector material	Plastic		
Color of housing	Connector	black	(SM and MM)
	Adapter	beige	



Ordering information: Adapter

Adapter type	Mounting	Color	Type
MT-RJ adapter	with 2-hole flange	beige	FMTJ-FMTJ-D100

Please note: MT-RJ connectors are only available as patchcord or pigtail cables.

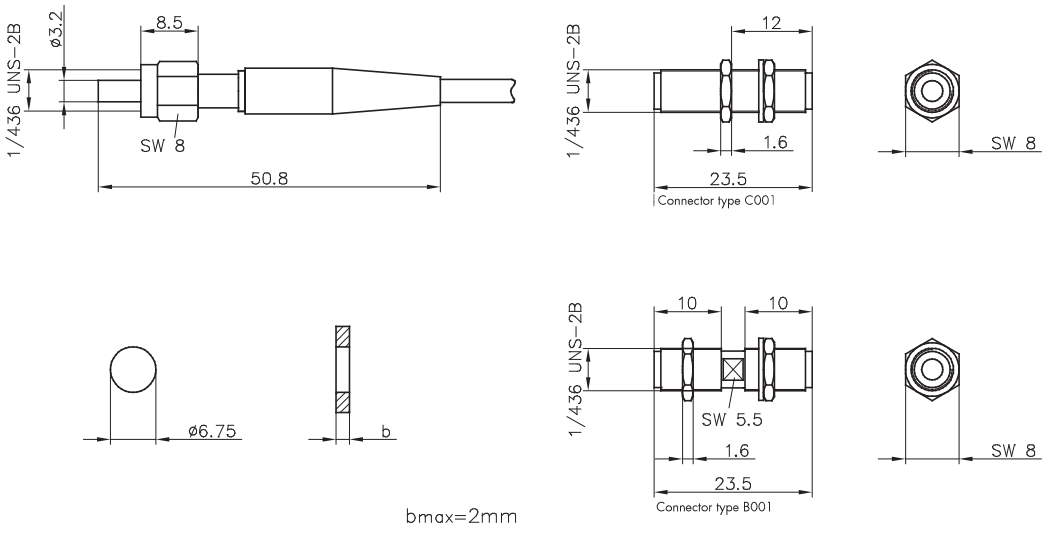
FSMA

Features

- Threaded nut connector
- One-piece design for easy and quick termination
- O-ring seal
- Connector without PC (physical contact)

Specifications

Technology	Metal ferrule and sleeve
Mechanical resistance	100 N tensile load
Thermal resistance	–40° to +85°C, stock temperature range
Durability	Min. 1000 mating cycles
Adapter and connector material	Brass nickel-plated



FSMA

Ordering information: FSMA Connector (Type 905)

For fiber type	Ferrule material	Insertion loss [dB] (mean/97%)	Type
G50/125, G62.5/125	metal	<1.0/<1.5	FSMA-M/M-B001
HCS200/230	metal	<1.0/<1.5	FSMA-M/M-D001

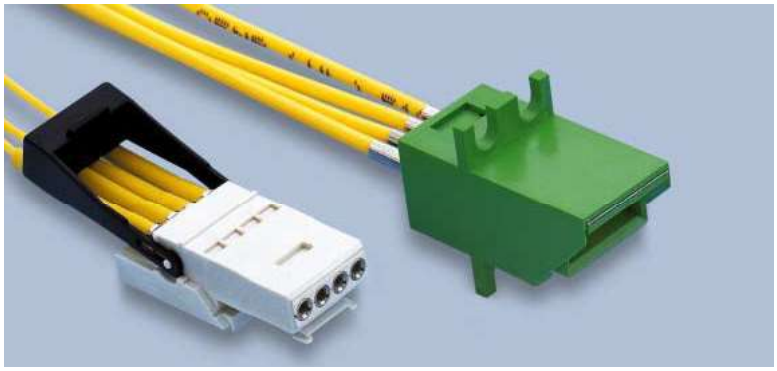
Ordering information: Crimpsets

Description	
Crimpsets	please see page 40

Ordering information: Adapter

Adapter type	Mounting	Type
Standard	continuous thread with 2 loose nuts and 1 washer	FSMA-FSMA-B001
	with 1 loose, 1 fixed nut and 1 washer	FSMA-FSMA-C001

FIBERGATE BACKPLANE CONNECTOR

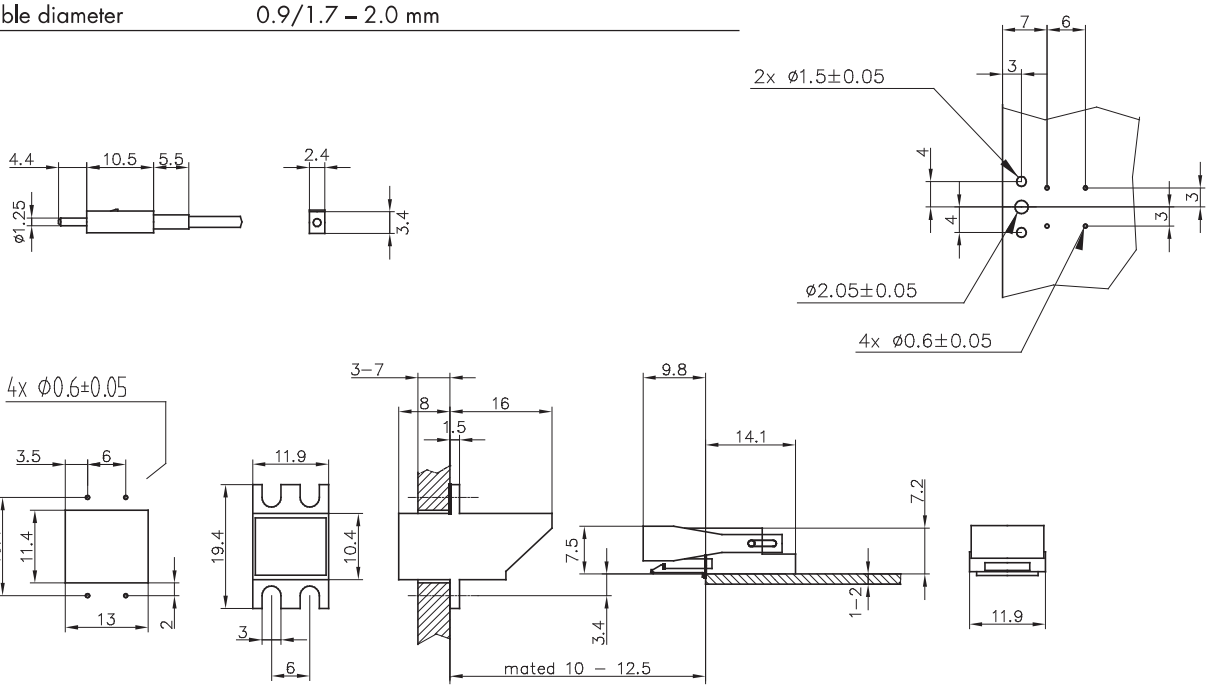


Features

- FO connector with integrated adapter
- Compact design with highest packing density
- Full-ceramic ferrule inserts with individual configuration
- Guaranteed transmission safety
- SDH system compatibility
- Lateral floating compensation
- Dust protection for connector and adapter
- Populated with 1 to 4 Ø 1.25 mm ferrules
- Snap-on mounting
- HighPower approved

Specifications

Mechanical resistance	30 N tensile load
Thermal resistance	–25° to +70°C
Durability	Min. 500 mating cycles
Insertion loss Singlemode (E9/125)	< 0.4 dB, typical 0.09 dB (each-to-each)
Return loss	PC > 45 dB, APC 85 dB (typical)
Force on PC board after connection	force-free, length compensation
Longitudinal float lateral float	2.5 mm 0.5 mm
Connection/Disconnection force	Typical 15 N for all 4 connections
Highest packing density	4 pieces on 12 mm
Protection of fiber end face	Dust cap
Durability	> 10 years
Cable diameter	0.9/1.7 – 2.0 mm

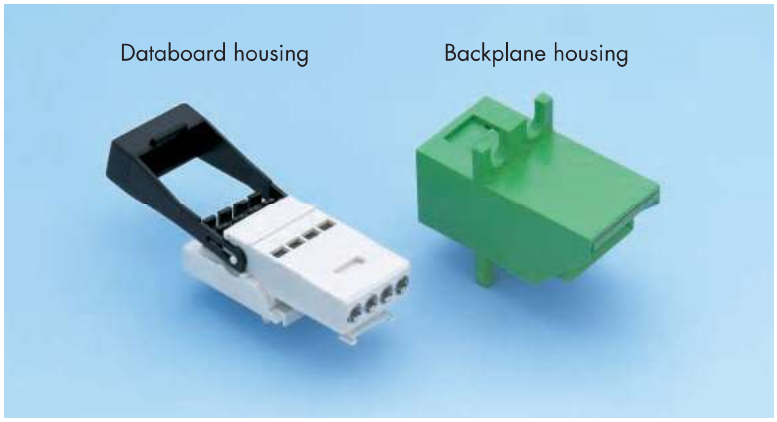


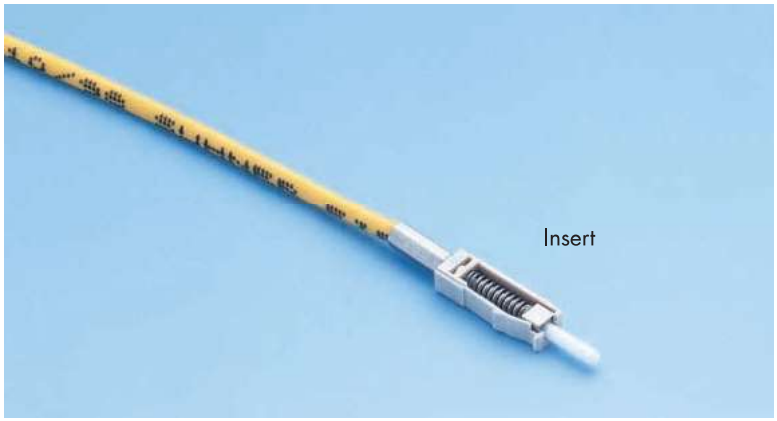
FIBERGATE BACKPLANE CONNECTOR

Ordering information: Backplane-System

Description		Type
Backplane housing without inserts		FGAT-BP-A001-4
Backplane housing fixing		FGAT-FIX-A001
Databoard housing without inserts		FGAT-BP-A002-4
Databoard housing fixing		FGAT-FIX-A002
Insert (1.25 mm ferrule)	PC	FGAT-INS-A001
Insert (1.25 mm ferrule)	APC	FGAT-INS-A601
Crimpset 0.9 mm	PC	009-YE-I001
Crimpset 0.9 mm	APC	009-GN-I001
Crimpset 1.7 mm	PC and APC	017-XX-I001
Key for insert disassembly		FGAT-KEY-A001
Inspection device adapter for backplane connector[1)]		FGAT-TIP-A001
Inspection device adapter for databoard connector[1)]		FGAT-TIP-A002
Cleaning devices		FGAT-CLN-A001
Cleaning stripes for FGAT-CLN-A001 (Set of 10 pieces)		FGAT-WPS-A001

[1)] Video inspection device from NOYES



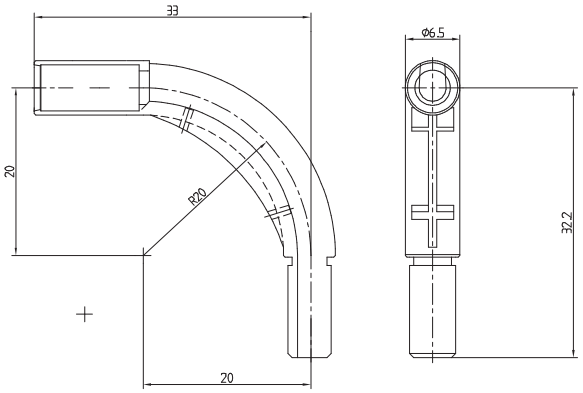


ANGLED BOOT FOR E-2000™, FSC, FCPC, FLSA, FST, FSMA

Designed for the installation of E-2000™, FSC, FCPC, FLSA, FST and FSMA connectors into racks with tight space conditions. The 90° boot is used in addition to a standard crimpset and guarantees the minimal bending radius.

Ordering information

Description	Color	Type
Angled boot 90°	green	9890-95-P



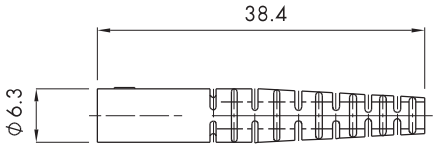
ANGLED BOOTS FOR LX.5 AND FLC

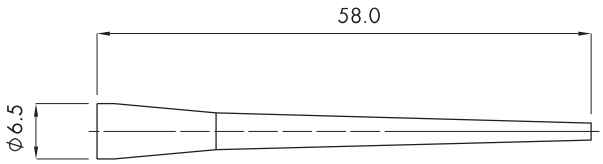
These angled boots are designed to install LX.5 and FLC connectors into racks with tight space conditions.

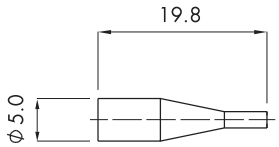
Ordering information

Description		Color	Type
Crimpset	45°	black	017-BK-H500
Crimpset	90° short	black	017-BK-H501
Crimpset	90° long	black	017-BK-H502
Crimpset	45°	black	021-BK-H500
Crimpset	90° short	black	021-BK-H501
Crimpset	90° long	black	021-BK-H502
Crimpset	45°	black	024-BK-H500
Crimpset	90° short	black	024-BK-H501
Crimpset	90° long	black	024-BK-H502

HUBER+SUHNER CRIMPSETS





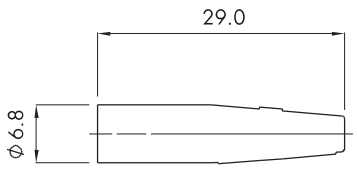


Crimpsets for FLSH, FCPC, FSC, FLSA, FSMA, FST (except FST security) connectors

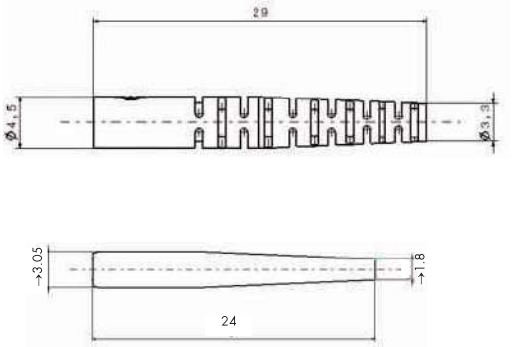
Type Max. cable Ø	Sleeve	Boot black	green	red	yellow	blue
<1.0 mm short	–	23003203	23017894	84005612	84005611	84005610
<1.0 mm long	–	23221231	23227472	23229087	84005609	84005608
1.6 – 1.9 mm	23308161	84005334	84005336	84005337	84005341	84005390
2.0 – 2.2 mm	23231091	84005334	84005336	84005337	84005341	84005390
2.3 – 2.6 mm	23231090	23023582	23023581	23023583	84005607	84005606
2.7 – 2.9 mm	23231089	23014820	84005353	23022846	84005354	84005355
3.0 – 3.2 mm	23233549	23014820	84005353	23022846	84005354	84005355

Type Max. cable Ø	Sleeve	Boot black	green
3.3 - 3.5 mm[1)]	23231087	23227238	23227244

[1)] old style



HUBER+SUHNER CRIMPSETS

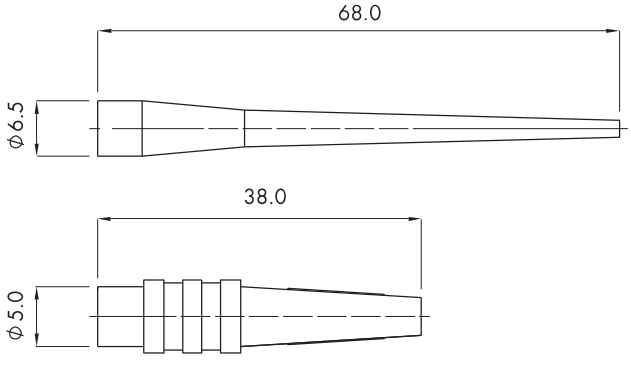


Crimpsets for FLX5 and FLC connectors

Type Max. cable Ø	Sleeve	Boot black	green	red	yellow	blue
<1.0 mm FLC	–	23026770	23026771	84005618	84005617	84005616
<1.0 mm FLX5	–	23034533	23034534	84005615	84005614	84005613
1.6 – 1.8 mm	23026713	23026769	84005356	84005357	84005358	84005359
1.9 – 2.2 mm	23028203	23026769	84005356	84005357	84005358	84005359
2.3 – 2.5 mm	23028204	23026769	84005356	84005357	84005358	84005359

Crimpsets for FST security connector

Type Max. cable Ø	Sleeve	Boot black
<1.0 mm long	–	23227063
2.0 – 2.3 mm	23232995	23221232
2.4 – 2.8 mm	23231084	23221232
2.9 – 3.5 mm	23231085	23219331
3.6 – 4.5 mm	23231086	23219332



OVERVIEW HYBRID ADAPTERS

FLC-FMU
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FLX5-FLC
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FLSH-FCPC
page 45

FLSH -FSC
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FST-FCPC
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FSC-FCPC
page 46

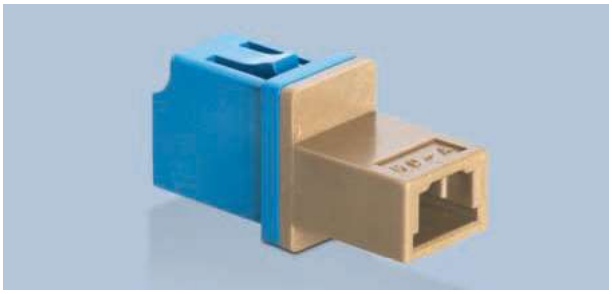
FSC-FST
page 47

FSC Duplex-FST
page 47

FSC-FCPC
page 48

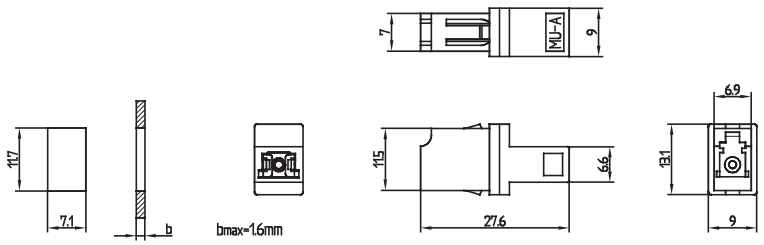
FSC-FST
page 48

HYBRID ADAPTERS

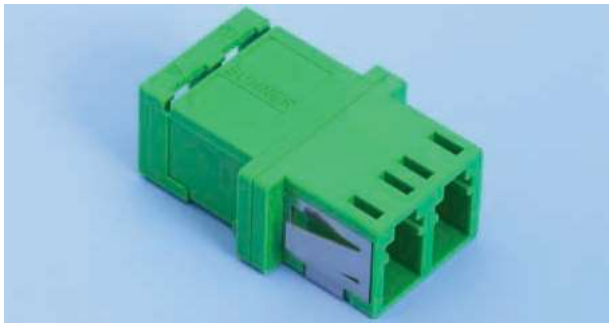


FLC-FMU

- Slotted zirconia ceramic sleeve
- Operating temperature: –40° to +75°C
- Min. mating cycles: 500
- For SM connectors
- For PC and APC applications
- UL94-V0
- FLC connection according to IEC 61754-20

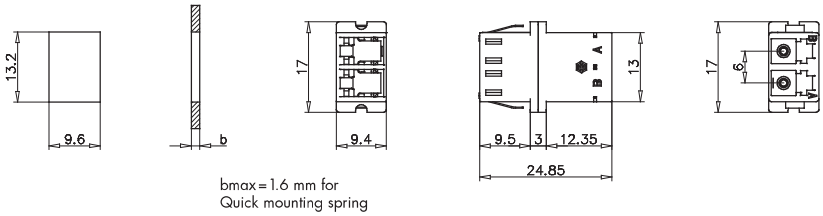


Adapter type	Features	Type
FLC-FMU	Hybrid adapter with zirconia ceramic sleeve, blue/brown	FLC-FMU-A100



FLX5-FLC

- Slotted zirconia ceramic sleeve
- Operating temperature: –40° to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- For APC applications

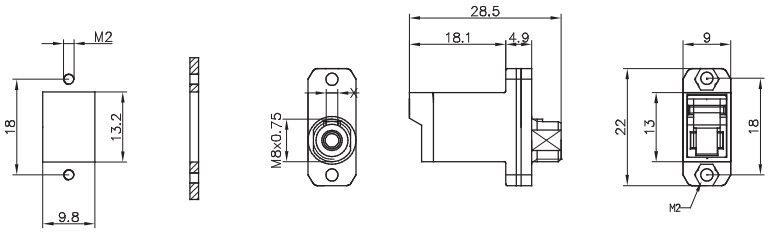


Adapter type	Features	Type
FLX5-FLC (SM)	Hybrid adapter with zirconia ceramic sleeve, Duplex, blue	FLX5-FLC-A100-02
FLX5-FLC (APC)	Hybrid adapter with zirconia ceramic sleeve, Duplex, green	FLX5-FLC-A600-02
FLX5-FLC (MM)	Hybrid adapter with phosphor-bronze sleeve, Duplex, beige	FLX5-FLC-A200-02

HYBRID ADAPTERS

FLSH (E-2000™)-FCPC

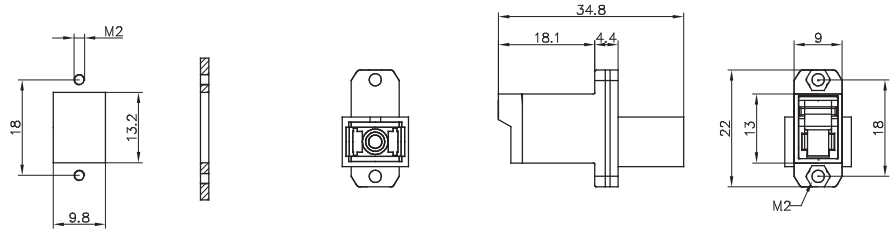
- Slotted zirconia ceramic sleeve; standard coding
- Operating temperature: – 40 °C to +85 °C
- Min. mating cycles: 1000
- For SM, MM and APC connectors (APC 8°)
- Key width: x = 2.15 mm; upon request 2 mm



Adapter type	Features	Type
FLSH-FCPC (PC)	Hybrid adapter with zirconia ceramic sleeve, wide key, blue	FLSH-FCPC-D101
FLSH-FCPC (APC)	Hybrid adapter with zirconia ceramic sleeve, wide key, green	FLSH-FCPC-D601
FLSH-FCPC (APC)	Hybrid adapter with zirconia ceramic sleeve, small key, green	FLSH-FCPC-D602

FLSH (E-2000™)-FSC

- Slotted zirconia ceramic sleeve; standard coding
- Operating temperature: – 40 °C to +85 °C
- Min. mating cycles: 1000
- For SM, MM and APC connectors (APC 8°)

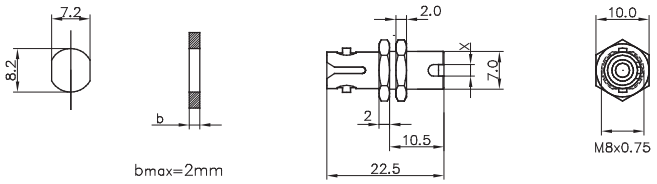


Adapter type	Features	Type
FLSH-FSC (PC)	Hybrid adapter with zirconia ceramic sleeve, blue	FLSH-FSC-D101
FLSH-FSC (APC)	Hybrid adapter with zirconia ceramic sleeve, green	FLSH-FSC-D601

HYBRID ADAPTERS

FST-FCPC

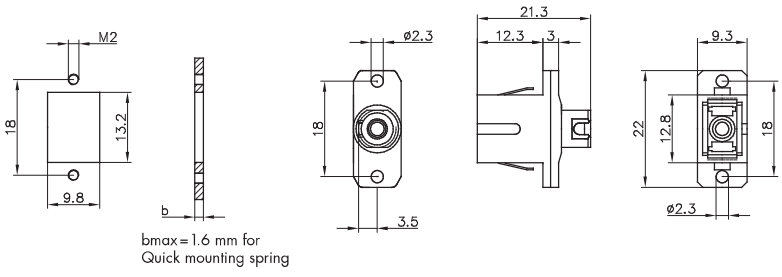
- Slotted zirconia ceramic sleeve
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- FST connection according to IEC 61754-2
- FCPC connection according to IEC 61754-13



Adapter type	Features	Type
FST-FCPC	Hybrid adapter with zirconia ceramic sleeve, PC and APC, wide key	FST-FCPC-C100

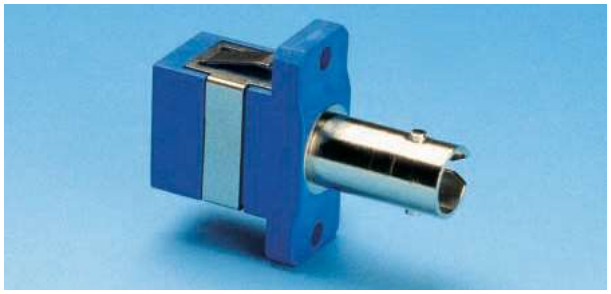
FSC-FCPC

- Slotted zirconia ceramic sleeve
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- For APC (APC 8°) applications
- FSC connection according to IEC 61754-4
- FCPC connection according to IEC 61754-13



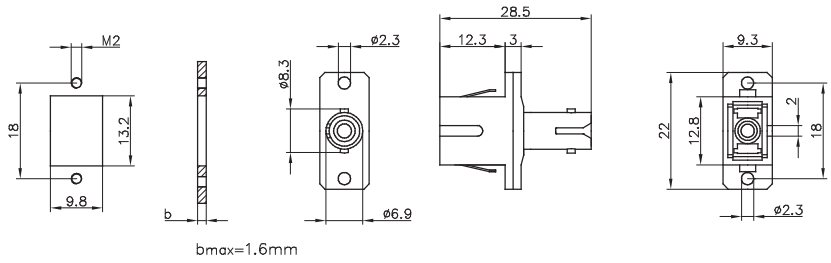
Adapter type	Features	Type
FSC-FCPC	Hybrid adapter with zirconia ceramic sleeve, PC and APC, wide key	FSC-FCPC-D101

HYBRID ADAPTERS

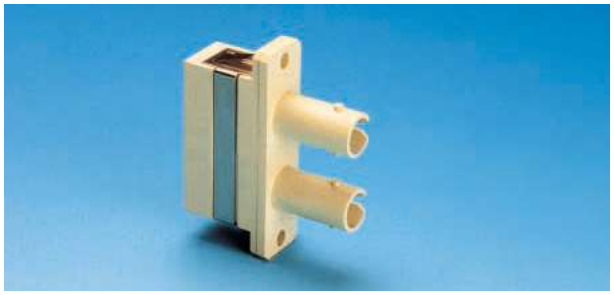


FSC-FST

- Slotted zirconia ceramic sleeve
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- FSC connection according to IEC 61754-4
- FST connection according to IEC 61754-2

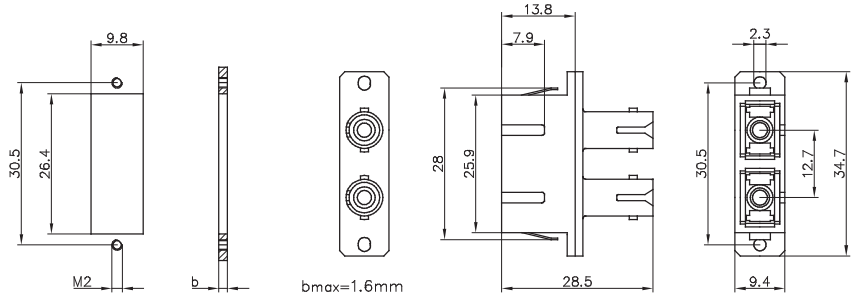


Adapter type	Features	Type
FSC-FST	Hybrid adapter with zirconia ceramic sleeve	FSC-FST-D100



FSC Duplex-FST

- Phosphor-bronze sleeve for Multimode
- Zirconia ceramic sleeve for Singlemode
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 500
- For Single and Multimode connectors
- FST connection according to IEC 61754-2
- FSC connection according to IEC 61754-4

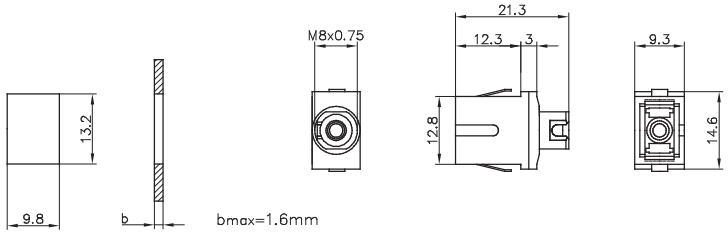


Adapter type	Features	Type
FSC Duplex-FST	Hybrid adapter with phosphor-bronze sleeve	FSC-FST-D200-02
FSC Duplex-FST	Hybrid adapter with zirconia ceramic sleeve	FSC-FST-D100-02
FSC Duplex-FST	Hybrid adapter with phosphor-bronze sleeve for Panduit outlet	FSC-FST-D201-01

HYBRID ADAPTERS

FSC-FCPC

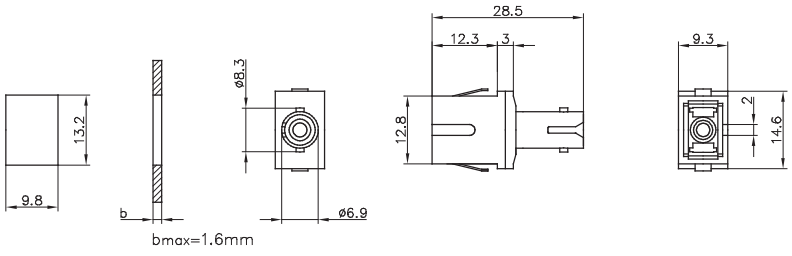
- Flangeless adapter
- Slotted zirconia ceramic sleeve
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- For APC (APC 8°) applications
- FSC connection according to IEC 61754-4
- FCPC connection according to IEC 61754-13



Adapter type	Features	Type
FSC-FCPC	Hybrid adapter with zirconia ceramic sleeve, blue	FSC-FCPC-A100
FSC-FCPC	Hybrid adapter with zirconia ceramic sleeve, black	FSC-FCPC-A101

FSC-FST

- Flangeless adapters
- Slotted zirconia ceramic sleeve
- Operating temperature: – 40°C to +85°C
- Min. mating cycles: 1000
- For SM and MM connectors
- FSC connection according to IEC 61754-4
- FST connection according to IEC 61754-2



Adapter type	Features	Type
FSC-FST	Hybrid adapter with zirconia ceramic sleeve, blue	FSC-FST-A100

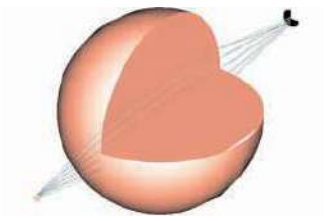
RECEPTACLES

Introduction
Optical connectivity to active components is one of the main problems in the realization of low-cost, high-performance electro-optical modules.

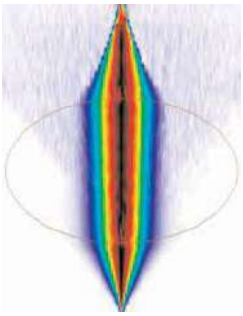
HUBER+SUHNER receptacles provide optical interconnection between a wide variety of active components to most standardized optical connector family. With a long tradition in optical component and engineering services in the field of signal transmission, we are able to supply economical and excellent fiber to chip connectivity solutions, ensuring the service, support and delivery critical in today's markets.

Capabilities
For many years HUBER+SUHNER FIBER OPTICS has increased their capabilities to provide optical connectivity solutions for passive and active components. Our resources include design and analysis software, extensive product development expertise, rapid prototyping possibilities, a tooling shop with molding facility, a large flexible manufacturing and assembly facility as well as environmental testing of fiber optic products.

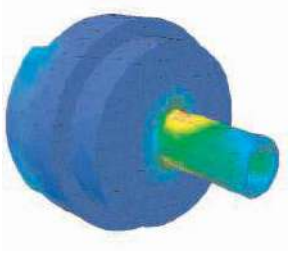
Design and analysis
To provide the best possible performance with the highest tolerances and the best reliability different optical and mechanical simulation tools help to optimize any optical system.



Ray optics to simulate optical lens system



Beam propagation tools to calculate coupling losses



FEM to calculate dimensional stability

Prototyping
The HUBER+SUHNER in-house prototyping and tooling shop makes the realization of high-precision parts within the shortest time possible. Semi-automatic modular exchangeable assembly lines for alignment and attachment procedures further assure performance and quality, even for small and medium volume manufacturing.

Manufacturing and automation
In-depth knowledge of automatization enables us to offer the best cost performance relation for volume production.

RECEPTACLES

FLSH (E-2000™) Receptacle

LX.5 Receptacle

SC Receptacle

LC Receptacle

HUBER+SUHNER
standard optical interfaces to
- PIN photodiodes
- LED
- VCSEL
- Lasers
- Optical switches
- Wavelength demultiplexers

Datacom applications
- Optical backplanes
- Transceivers
- Optical subassemblies TOSA/ROSA
- Active devices in TO cans
- Active devices on substrates/boards

Telecom Equipment
- Optical cross-connects
- Access nodes
- High-performance devices

Industrial Applications
- Harsh environment transmission
- Switching

Life cycle testing and quality control
HUBER+SUHNER is committed to quality leadership, continuous improvement of products and services that offer the best value and meet our customers' requirements with on-time delivery.

Examples
HUBER+SUHNER FIBER OPTICS offers optical connectivity solutions to active components for a diverse range of applications. Thereby, we work with our customers to assure interconnection solutions meet exactly the specifications of their application requirements.
In particular, HUBER+SUHNER can offer a variety of standard and customized optical interfaces to PIN photodiodes, LED, VCSEL, lasers, optical switches, wavelength demultiplexers, chips in TO cans or other optical subassemblies etc. usable for optical backplanes, for optical cross-connects, for optical subassemblies and for active modules.

Ordering Information
Design, fabrication, alignment and manufacturing knowledge offered by HUBER+SUHNER FIBER OPTICS helps to find innovative and appropriate solutions for any interconnections problem. Our receptacles are individually designed and manufactured according to the customers' specifications and requirements. Receptacles to any other HUBER+SUHNER connector families are available upon request.

High precision interfaces enable excellent connecting performance to active components