

# Fiber Optic Hybrid Adapters

## Description

Wirewerks™ fiber optic hybrid adapters allow users to interconnect fiber optic cable assemblies featuring different interfaces' types and/or genders. Their precise alignment mechanisms provide flawless contact between connectors' end face. Mating sleeves and ferrules are manufactured with phosphorus bronze or zirconia ceramic, depending on network requirements, to uphold the level of desired performance. Zirconia ceramic sleeves are recommended for multimode OM3 and OM4 performance, and single mode OS1 or OS2. In the case of hybrid adapters with a male gender, the ferrule is made with zirconia ceramic by default.

## Features and Benefits

Low insertion loss to minimize impact on loss budgets

Precise alignment for a reliable glass-to-glass contact

High repeatability to ensure durable multi-mating applications

Manufactured with high performance component materials

## Applications

Data center

Fiber-to-the-home (FTTH)

Test facilities and instruments

Central office

Cellular tower base station

Telecommunications room

Equipment room

Consolidation point

## Certification and Compliance

GR-326-CORE  
ANSI/TIA-568-C.3

TIA-604 series

TIA-455 series

IEC 60874-1

IEC 61300 series

UL 94

RoHS

Generic Requirements for Single Mode Optical Connectors and Jumper Assemblies.  
Optical Fiber Cabling Components Standard.

Fiber Optic Connector Intermateability Standard.

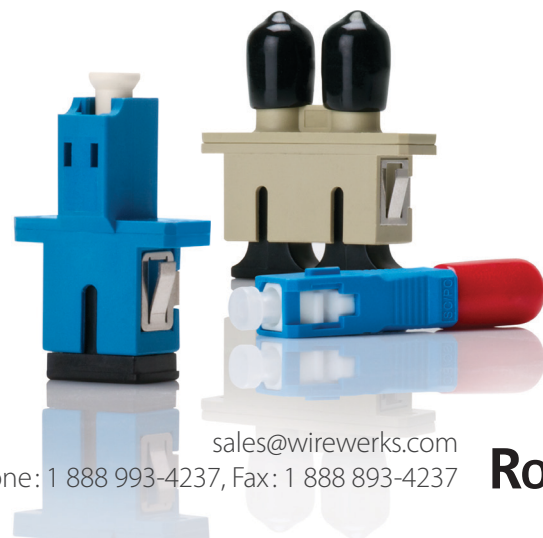
Standard Test Procedure for Fiber Optic Components.

Connectors for Optical Fibers and Cables, Generic Standard.

Fiber Optic Interconnecting Devices and Passive Components,  
Basic Test and Measurement Procedures.

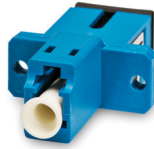
Tests for Flammability of Plastic Material for Parts in Devices and Appliances.

Directive on Restriction of Hazardous Substances.





LC male to LC female  
single mode simplex  
**HA-11-LCMLCFS-P**



LC female to SC female  
single mode simplex  
**HA-11-LCFSCFS-P**



ST male to SC female  
single mode simplex  
**HA-11-STMSCFS-M**



SC male to SC female  
single mode simplex  
**HA-11-SCMSCFS-M**



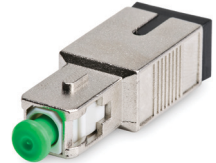
LC male to LC female  
APC single mode simplex  
**HA-13-LCMLCFS-P**



LC female to SC female  
APC single mode simplex  
**HA-13-LCFSCFS-P**



ST male to SC female  
multimode simplex  
**HA-22-STMSCFS-M**



SC male to SC female  
APC single mode simplex  
**HA-13-SCMSCFS-M**



LC male to LC female  
multimode simplex  
**HA-22-LCMLCFS-P**



LC female to SC female  
multimode simplex  
**HA-22-LCFSCFS-P**



FC male to SC female  
single mode simplex  
**HA-11-FCMSCFS-M**



SC male to SC female  
multimode simplex  
**HA-22-SCMSCFS-M**



SC female to ST female  
single mode simplex  
**HA-11-SCFSTFS-P**



SC female to ST female  
single mode simplex metal body  
**HA-11-SCFSTFS-M**



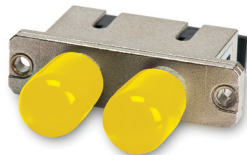
SC female to ST female  
multimode simplex  
**HA-22-SCFSTFS-P**



SC female to ST female  
multimode simplex metal body  
**HA-22-SCFSTFS-M**



SC female to ST female  
single mode duplex  
**HA-11-SCFSTFD-P**



SC female to ST female  
single mode duplex metal body  
**HA-11-SCFSTFD-M**



SC female to ST female  
multimode duplex  
**HA-22-SCFSTFD-P**



SC female to ST female  
multimode duplex metal body  
**HA-22-SCFSTFD-M**



ST female to FC female  
single mode simplex  
**HA-11-STFFCFS-M**



ST male to ST female  
single mode simplex  
**HA-11-STMSTFS-M**



FC female to SC female  
single mode simplex  
**HA-11-FCFSCFS-M**



FC male to FC female  
single mode simplex  
**HA-11-FCMFCFS-M**



ST male to FC female  
single mode simplex  
**HA-11-FCMSTFS-M**



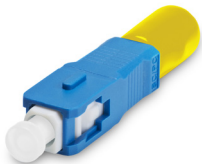
ST male to ST female  
multimode simplex  
**HA-22-STMSTFS-M**



FC female to SC female  
multimode simplex  
**HA-22-FCFSCFS-M**



FC male to FC female APC  
single mode simplex  
**HA-13-FCMFCFS-M**



SC male to ST female  
single mode simplex  
**HA-11-SCMSTFS-P**



SC male to ST female  
multimode simplex  
**HA-22-SCMSTFS-P**



SC male to FC female  
single mode simplex  
**HA-11-SCMFCFS-P**

## Ordering Information

HA- A B CCC DDD E - F

SLEEVE	PERFORMANCE	INTERFACE 1		INTERFACE 2	CONFIGURATION	HOUSING
<b>1</b>	<b>1</b>	<b>SCM</b>	<b>STM</b>	<b>SCF</b>	<b>S</b>	<b>P</b>
Zirconia Ceramic	Single mode	SC male	ST male	SC female	Simplex	Thermoplastic
<b>2</b>	<b>2</b>	<b>LCM</b>	<b>FCM</b>	<b>STF</b>	<b>D</b>	<b>M</b>
Phosphorous Bronze	Multimode	LC male	FC male	ST female	Duplex	Metal
	<b>3</b>	<b>SCF</b>	<b>STF</b>	<b>LCF</b>		
	APC single mode	SC female	ST female	LC female		
		<b>LCF</b>	<b>FCF</b>	<b>FCF</b>		
		LC female	FC female	FC female		

## Packaging

## Description

Clear poly bag, 1 unit per bag.

## Physical Characteristics

Parameter	Value
Fiber count capacity	Simplex (1 fiber), and duplex (2 fibers)
Plastic material	UL 94V-0 ABS high-impact thermoplastic

## Mechanical Characteristics

Parameter	Value
Operating temperature	-40° C (-40° F) ~ 75° C (167° F)
Storage temperature	-40° C (-40° F) ~ 85° C (185° F)
Temperature cycling	-40° C (-40° F) ~ 75° C (167° F), 40 cycles = 0.2 dB change
High temperature	70° C (158° F) for 96 hours = <0.4 dB change
Mating durability	500 mating cycles (cleaning every 25 matings) = <0.2dB change
Damp heat	40° C (104° F) at 93% RH for 96 hours = <0.4 dB change

## Optical Performance

Parameter	Single Mode UPC	Single Mode APC	Multimode OM1	Multimode OM2	Multimode OM3
Insertion Loss	0.3 dB Max.	0.3 dB Max.	0.3 dB Max.	0.3 dB Max.	0.3 dB Max.
Return Loss	≤-55 dB	≤-65 dB	N.A	N.A	N.A