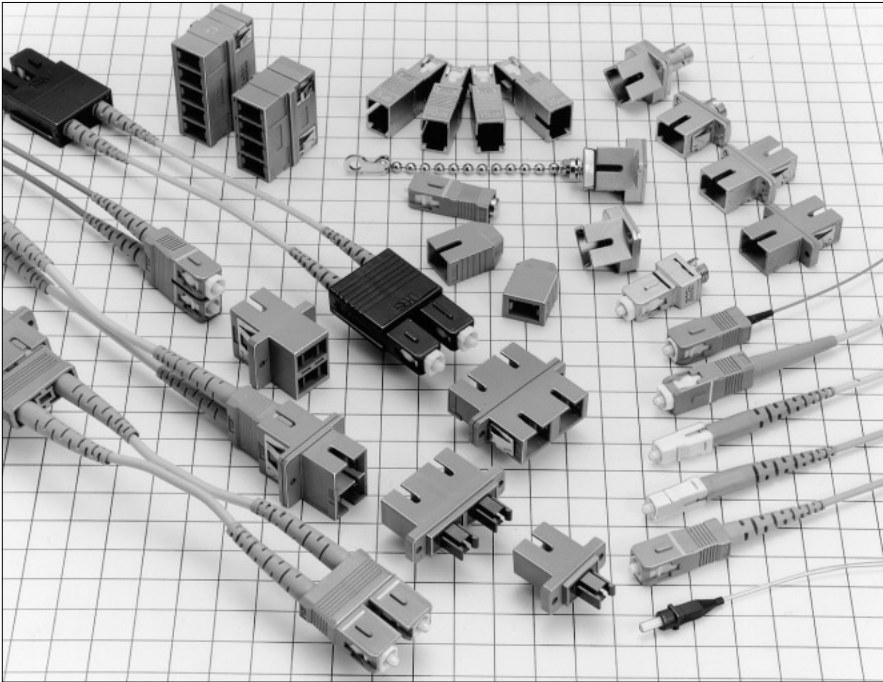


# SC Type Fiber Optic Connectors

## HSC Series



### ■ Features

#### 1. JIS, IEC standards compliant and fully intermateable with NTT's SC products.

JIS C 5973 (F04 type fiber optic connectors)  
IEC 61754-4

#### 2. Plugs with strain relief boot

Long strain relief boot assures that there are no performance losses when a pull force is applied in a vertical bend direction.

The color of the boot identify the type of polishing:

Blue: PC polishing

Green: Angled PC polishing (APC)

Light purple: Advanced PC (AdPC) polishing

Other colors are also possible.

#### 3. Zirconia Split Sleeve Adapter

Reduces the possibility of powdering caused by the repeated insertion and withdrawal of ferrule.

#### 4. Duplex SC Type: Rigid Type

Available in following types;

H type – 8.5 mm spacing between the fibers, for high density applications.

F type – 12.7 mm spacing between the fibers, low profile, for LAN applications.

Refer to page 39 for further information.

#### 5. Duplex SC Type: Adjustable Type – Comply With ANSI Standards

Floating mechanism with Duplex SC plug.

It is also fully compatible with the HSCF fixed type.

#### 6. Simplified Plugs and Receptacles.

Small size (23.8mm plug length) simplified SC plug is designed for equipments inside connection.

Refer to page 43 for further information.

### ■ Applications

LAN, public communications lines, CableTV, computer transmission systems, test equipment, and other applications requiring reliable fiber optic connections.

## Product Specifications

Ratings		Operating temperature range		-25°C to +70°C		Storage temperature range		-25°C to +70°C		
Item			Test Method (IEC 61300)			Specifications				
Optical Characteristics	Insertion Loss	(SM)	Wavelength 1310nm (LD)			0.5dB max. (PC, AdPC, APC)				
		(GI)	Wavelength 1310nm (LED)			0.3dB max. (PC)				
	Return Loss	(SM)	Wavelength 1310nm (LD)			22dB min. (PC)		40dB min. (AdPC)		
		(GI)				60dB min. (APC)		22dB min. (PC)		
Mechanical Characteristics	Engagement and Separation /force		Measured with corresponding connector.			Simplex plug Engagement force: 19.6 N max. Separation force: 19.6 N max. Duplex plug Engagement force: 39 N max. Separation force: 39 N max.				
	Ferrule withdrawal force		Extract zirconia gauge 2.499 ±0.0005 mm dia from split sleeve.			Copper alloy split sleeve		2N to 5.9N		
	Cable retention (Straight pull)		89N tensile load for one minute.			1) Insertion loss fluctuation after test: 0.2dB max. 2) No visible damage, dislocation of clamp or cable.				
	Durability (cycles, mating/un-mating)		1000 times			1) Insertion loss fluctuation after test: 0.2dB max. 2) No visible damage, cracks or part dislocation.				
	Vibration		Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 axis.							
	Shock		Acceleration of 981 m/s <sup>2</sup> , 6 ms duration, sin half-wave waveform, 10 cycles in each of the 3 axis.							
Environmental Characteristics	Humidity (Temperature/ humidity- cycles)		-10°C to 65°C, humidity: 90% to 96% 20 cycles			No significant corrosion.				
	Change of temperature		-40°C to +75°C 42 cycles (Complies with Telcordia standard GR-326-CORE)							
	Dry heat		960 hours at 85°C							
	Cold		960 hours at -25°C							
	Salt mist		48 hours in a 5% concentration of salt mist							

## Materials

Part	Material
Simplex plug housing	Synthetic resin
Spring	Stainless steel
Ferrule	Zirconia
Simplex adapter housing	Synthetic resin or Zinc alloy
4-position adapter housing	Synthetic resin
5-position adapter housing	Synthetic resin
Receptacle housing	Zinc alloy
Attenuator housing	Zinc alloy
Split sleeve	Zirconia or Copper alloy
Dust cap	Synthetic resin

## Function diagram

### Simplex type

#### SC type plug housing

Strain relief type

(For Cable Diameter: 2 mm & 3mm)



HSC-PH2-E1,E2,E5  
HSC-PH3-B1,B2,B5

0.9 mm fiber

Light weight type



HSC-PH0.9-E1,E2,E5

Short length type

(For Cable Diameter: 2mm)



HSC-PH2-E1-A

Short length type

(For Cable Diameter: 3mm)



HSC-PH3-A4

Conversion adapter

- FC jack to SC Plug



HSCP-HRFCJ-1, 2  
HSCP-HRFCJ-1AS, 2AS

#### Adapter-Panel Mounting

Plastic Housing Products

HSC-A3  
HSC-A3-D1  
HSC-A3-D2



Die Cast Housing Products

HSC-A2  
HSC-A2-D1



#### Conversion adapter

FC to SC - Screw Mounting

HSCJ-HRFCJ-B



FC to SC - Panel Mounting

HSCJ-HRFCJ-C



ST to SC - Screw Mounting

HSCJ-HSTJ-B



#### Receptacle

HSC-R1-B,R2-B



#### Simplified receptacle

HSC-SR-1,D1  
HSC-SR-2,D2



### <Tool Insertion/Extraction Connectors>

#### SC2 type plug housing

Strain relief

(For Cable Diameter: 2 mm & 3mm)



HSC2-PH2-E1,E2,E5  
HSC2-PH3-B1,B2,B5

0.9 mm fiber Type



HSC2-PH0.9-E1,E2

Short length type

(For Cable Diameter: 2 mm)



HSC2-PH2-E1-A

Short length type

(For Cable Diameter: 3mm)



HSC2-PH3-A

#### Adapter

4-Position Adapter  
Panel Mounting type

HSC2-4A  
HSC2-4A-D1



5-Position Adapter  
Panel Mounting type

HSC2-5A



#### Simplified receptacle

HSC2-8SR-1  
HSC2-8SR-D1



## Duplex type

### <Plug Housings>

#### F type

Plug Housing  
 (For Cable Diameter: 2mm&3mm)

HSCF-2PH2-E1,E2  
 HSCF-2PH3-B1,B2



#### <Complies with ANSI Standard for adjustable Type>

For Single mode  
 (For Cable Diameter: 2mm&3mm)

HSCM-2SPH2-B1,B2  
 HSCM-2SPH3-B1,B2



For Multi mode  
 (For Cable Diameter: 2 mm & 3mm)

HSCM-2GPH2-B1  
 HSCM-2GPH3-B1



#### H type

Plug Housing  
 (For Cable Diameter: 2 mm & 3mm)

HSCH-2PH2-B1,B2  
 HSCH-2PH3-B1,B2



### <Adapters>

#### F type

Panel Mounting

HSCF-2A(P)  
 HSCF-2A-D(P)



#### H type

Snap - in

HSCH-2A1(P)  
 HSCH-2A1-D(P)



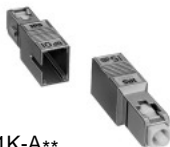
Screw Mounting

HSCH-2A(P)  
 HSCH-2A-D(P)



## Fixed attenuators

For single mode



HSC-AT 11K-A\*\*

See Page 85 for details.

For GI



HSC-AT5S-B\*\*A

## Terminators

#### Plug type



HSC-TM-P1

Tool- Insertion/Removal



HSC2-TM-P1

#### Receptacle type



HSC-TM-R1

See Page 89 for details.

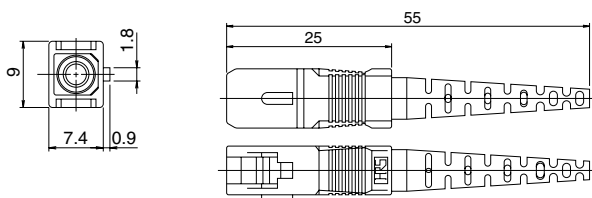
Tool Insertion/Removal



HSC2-TM-R1

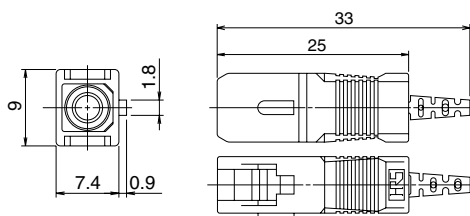
## Simplex type

### ● Strain relief type



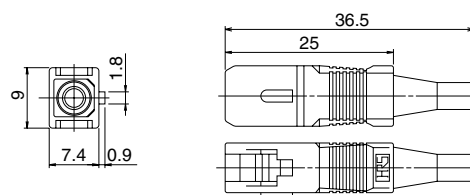
Part Number	CL No.	Fiber cable type	Boot color	Polishing type	Outer jacket fixing
HSC-PH2-E1(31)	704-0327-3-31	φ2mm	Blue	PC	Glue
HSC-PH2-E2(31)	704-0328-6-31		Light purple	AdPC	
HSC-PH2-E5(31)	704-3108-6-31		Green	APC	
HSC-PH3-B1(31)	704-0222-5-31	φ3mm	Blue	PC	Crimp
HSC-PH3-B2(31)	704-0223-8-31		Light purple	AdPC	
HSC-PH3-B5(31)	704-3020-7-31		Green	APC	

### ● Light weight type (For 0.9mm fiber)



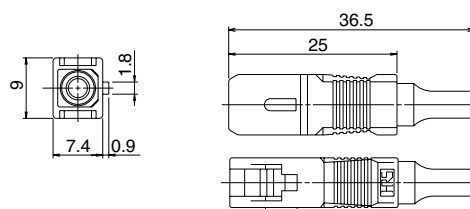
Part Number	CL No.	Boot color	Polishing type
HSC-PH0.9-E1(06)	704-0339-2-06	Blue	PC
HSC-PH0.9-E2(31)	704-0354-6-31	Light purple	AdPC
HSC-PH0.9-E5(31)	704-3104-5-31	Green	APC

### ● Short length type (For 2mm Cable)



Part Number	CL No.	Boot color	Polishing type	Outer jacket fixing
HSC-PH2-E1-A(31)	704-0464-4-31	Blue	PC	Glue
HSC-PH2-E2-A(31)	704-0480-0-31	Light purple	AdPC	
HSC-PH2-E5-A	704-3124-2	Green	APC	

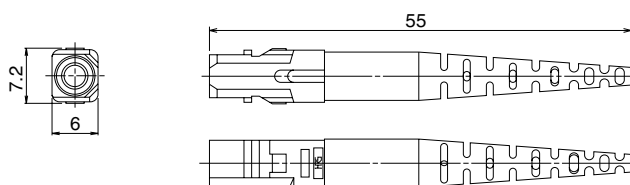
### ● Short length type (For 3mm Cable)



Part Number	CL No.	Boot color	Polishing type	Outer jacket fixing
HSC-PH3-A4(31)	704-0245-0-31	Blue	PC	Crimp
HSC-PH3-A4(32)	704-0245-0-32	Light purple	AdPC	

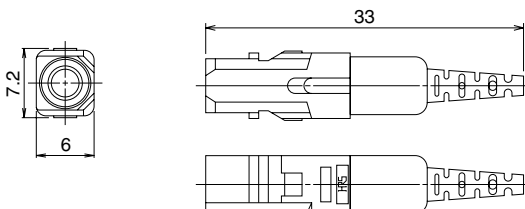
## ■ Tool Insertion/Extraction Plug Housings

### ● Strain relief type



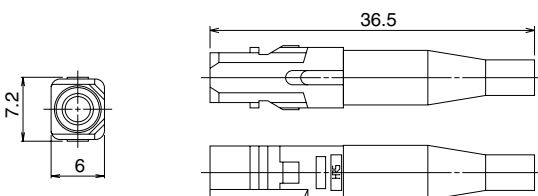
Part Number	CL No.	Fiber cable type	Boot color	Polishing type	Outer jacket fixing
HSC2-PH2-E1(31)	704-0329-9-31	φ2mm	Blue	PC	Glue
HSC2-PH2-E2(31)	704-0330-8-31		Light purple	AdPC	
HSC2-PH2-E5(31)	704-3109-9-31		Green	APC	
HSC2-PH3-B1(31)	704-0226-6-31	φ3mm	Blue	PC	Crimp
HSC2-PH3-B2(31)	704-0227-9-31		Light purple	AdPC	
HSC2-PH3-B5	704-3123-0		Green	APC	

### ● Light weight type (For 0.9mm fiber)



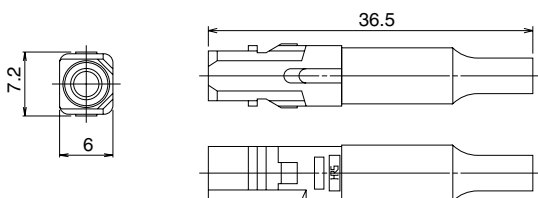
Part Number	CL No.	Boot color	Polishing type
HSC2-PH0.9-E1(31)	704-0421-1-31	Blue	PC
HSC2-PH0.9-E2(31)	704-0422-4-31	Light purple	AdPC

### ● Short length type (For 2mm Cable)



Part Number	CL No.	Boot color	Polishing type	Outer jacket fixing
HSC2-PH2-E1-A	704-0482-6	Blue	PC	Glue
HSC2-PH2-E2-A	704-0481-3	Light purple	AdPC	

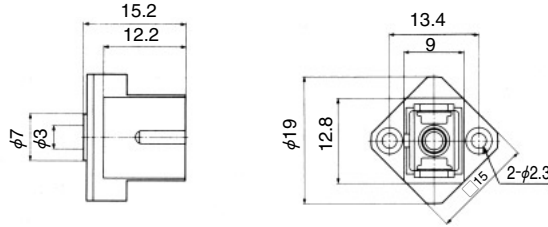
### ● Short length type (For 3mm Cable)



Part Number	CL No.	Boot color	Polishing type	Outer jacket attachment
HSC2-PH3-A(31)	704-0015-0-31	Blue	PC	Crimp

Note : Please contact HIROSE for other variations.

## ■ Receptacles

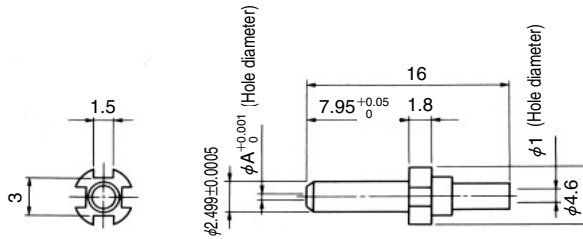


Note: Designed for power meter sensors

Part Number	CL No.	Remarks
HSC-R1-B(05)	704-0022-6-05	For MM
HSC-R2-B(05)	704-0023-9-05	For SM

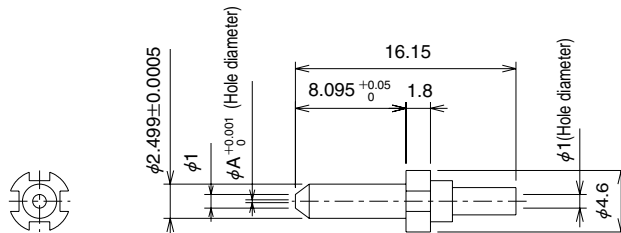
## ■ Ferrules

### ● For PC, AdPC and UPC



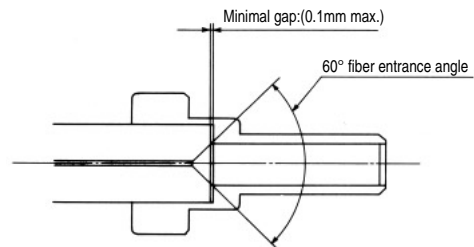
Part Number	CL No.	A dimension	Applicable Fiber cable
HSC-F321-A125(10)	704-0070-9-10	0.125	SM,MM
HSC-F321-A1255(10)	704-0200-2-10	0.1255	
HSC-F321-A126(10)	704-0071-1-10	0.126	

### ● For APC



Part Number	CL No.	A dimension	Applicable Fiber cable
HSC-F391-A125	704-3101-7	0.125	SM
HSC-F391-A126	704-3102-0	0.126	
HSC-F391-A127	704-3103-2	0.127	

- (1) No gap design.
- (2) The entrance angle of the fiber has been set at 60° for easy fiber insertion.

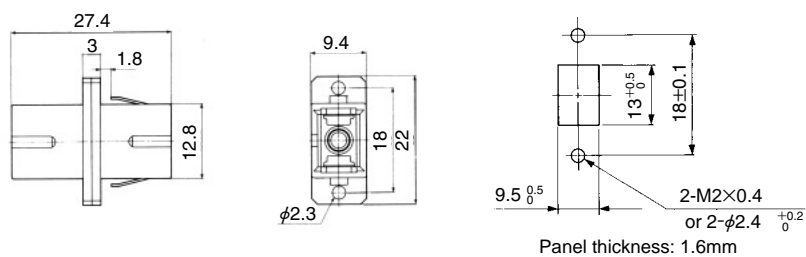




## Adapters - Panel Mounting

### SC adapters

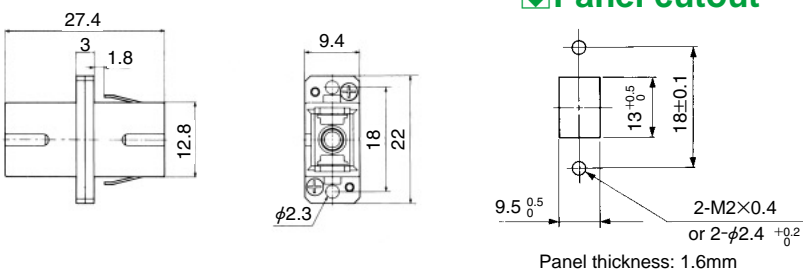
#### SC/SC Plastic Housing



Part Number	CL No.	Split sleeve	Remarks
HSC-A3(51)	704-0092-1-51	Copper alloy	PC,AdPC(Blue)
HSC-A3-D1(02)	704-0217-5-02	Zirconia	
HSC-A3-D2(06)	704-3007-9-06	Zirconia	APC(Green)

### Panel cutout

#### SC/SC Die Cast Metal Housing

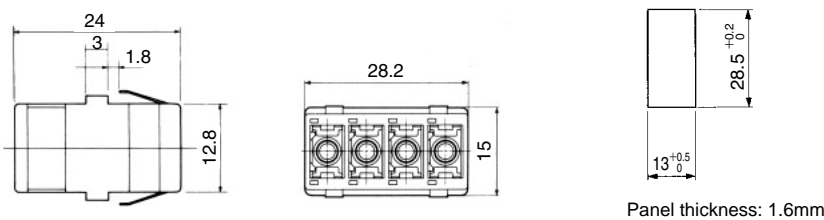


Part Number	CL No.	Split sleeve
HSC-A2(51)	704-0020-0-51	Copper alloy
HSC-A2-D1(01)	704-0258-2-01	Zirconia

### Panel cutout

### SC2 adapters

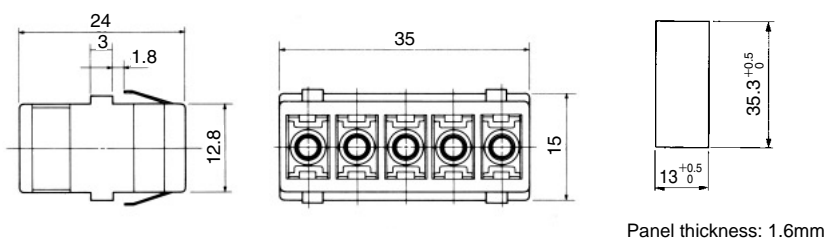
#### SC/SC2 4-way adapter



Part Number	CL No.	Split sleeve
HSC2-4A(51)	704-0024-1-51	Copper alloy
HSC2-4A-D1(01)	704-0290-5-01	Zirconia

### Panel cutout

#### SC/SC2 5-way adapter (for Multi-mode fiber)



Part Number	CL No.	Split sleeve
HSC2-5A(51)	704-0025-4-51	Copper alloy

### Panel cutout

MU

SC

FC

Harsh Environment

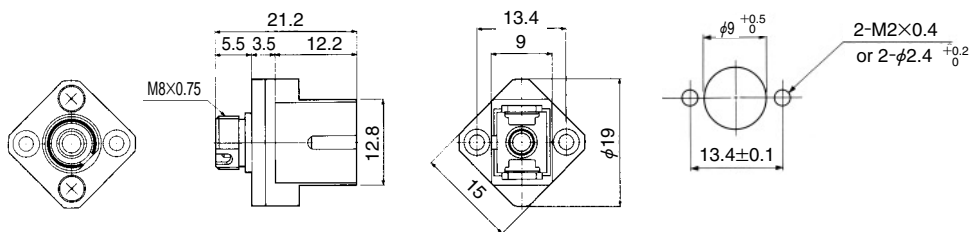
Attenuators

Terminators



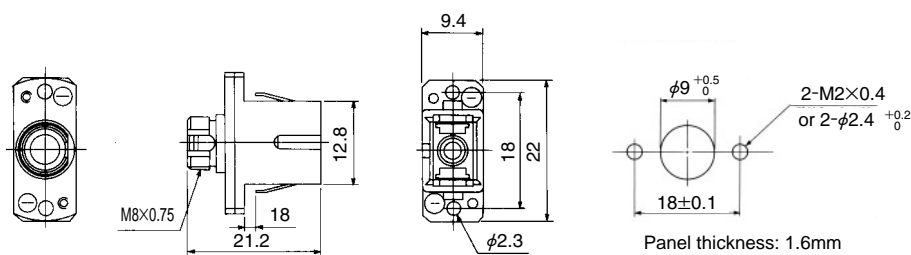
## ■ Conversion adapters

### ● FC / SC Screw Mounting



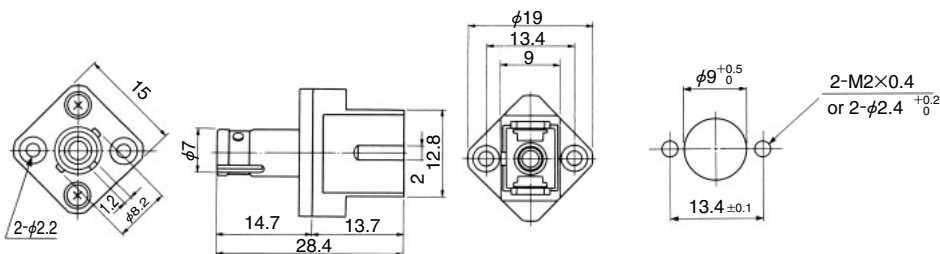
Part Number	CL No.	Split sleeve
HSCJ-HRFCJ-B(51)	704-0021-3-51	Copper alloy

### ● FC / SC Snap-in and/or Screw Mounting



Part Number	CL No.	Split sleeve
HSCJ-HRFCJ-C(51)	704-0206-9-51	Copper alloy

### ● ST / SC Screw Mounting



Part Number	CL No.	Split sleeve
HSCJ-HSTJ-B(51)	704-0102-3-51	Copper alloy

MU

SC

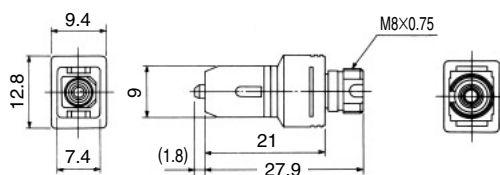
FC

Harsh Environment

Attenuators

Terminators

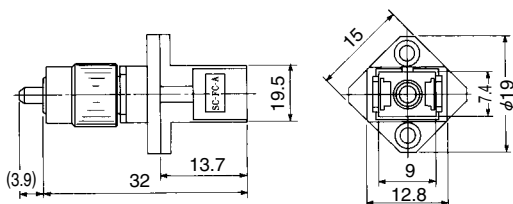
### ●FC / SC



Part Number	CL No.	Split sleeve	Polishing type	Applicable Fiber cable
HSCP-HRFCJ-1(51)	704-0203-0-51	Copper alloy	PC	GI-50/125
HSCP-HRFCJ-1AS(51)	704-0288-3-51		AdPC	
HSCP-HRFCJ-2(51)	704-0204-3-51		PC	SM-9.5/125
HSCP-HRFCJ-2AS(51)	704-0289-6-51		AdPC	

●The positions of SC guide key and FC guide slot will not be always aligned.

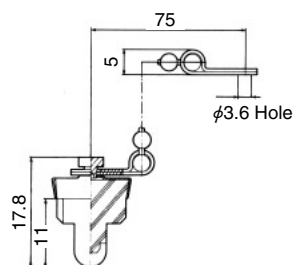
### ●FC / SC



Part Number	CL No.	Split sleeve	Polishing type	Applicable Fiber cable
HRFCP-HSCJ-1(51)	701-0065-0-51	Copper alloy	PC	GI-50/125
HRFCP-HSCJ-1AS(51)	701-0108-0-51		AdPC	
HRFCP-HSCJ-2(51)	701-0085-7-51		PC	SM-9.5/125
HRFCP-HSCJ-2AS(51)	701-0109-3-51		AdPC	

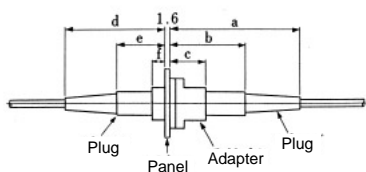
●The positions of SC guide slot and FC guide key will not be always aligned.

### ■Cap



Part Number	CL No.	Applicable products
HSC-C2	704-0061-8	HSC-A2 , HSC-A3 , HSCJ-HRFCJ-B , CHSCJ-HSTJ-B , HSC-R1-B , HSC-R2-B

## ◆ Mounting Dimensions



Unit: mm

Combination		Dimensions					
Adapter	Housing	a	b	c	d	e	f
HSC-A2 HSC-A2-D1 HSC-A3 HSC-A3-D1	HSC-PH2-E1	58	28	15.2	53.4	23.4	10.6
	HSC-PH2-E2						
	HSC-PH3-B1						
	HSC-PH3-B2	39.5	28	15.2	34.9	23.4	10.6
	HSC-PH2-E1-A						
	HSC-PH3-A4						
HSC-PH0.9-E1	36	26	15.2	31.4	21.4	10.6	
HSC2-4A HSC2-4A-D1 HSC2-5A HSC2-5A-D1	HSC2-PH2-E1	58	—	13.5	53.4	—	8.9
	HSC2-PH2-E2						
	HSC2-PH3-B1						
	HSC2-PH3-B2	39.5	—	13.5	34.9	—	8.9
	HSC2-PH3-A						
	HSC-PH2-E1-A						
HSC2-PH0.9-E1	36	—	13.5	31.4	—	8.9	
HSC-R1-B HSC-R2-B	HSC-PH2-E1	57.5	27.5	14.7	—	—	—
	HSC-PH2-E1						
	HSC-PH3-B1						
	HSC-PH3-B2						

Note: Panel thickness: 1.6mm

MU

SC

FC

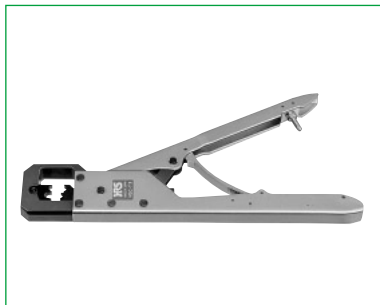
Harsh  
Environment

Attenuators

Terminators

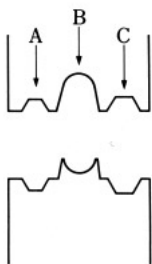
## Tools

### ●Crimp Tool



Part Number	CL No.	Applicable connector
HSC-T3	704-0287-0	SC plug for 2mm, 3mm cable.

#### <Locations>



- (1) 2mm Jacket crimping: section A
- 3mm Jacket crimping: section C
- (2) Kevlar™ crimping: section B

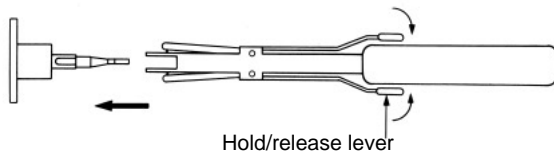
### ●HSC2 Insertion/Extraction Tool



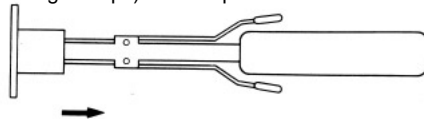
Part Number	CL No.	Applicable Products
HSC-T1-L	704-0286-8	HSC2 series.

#### <How to operate>

1. Open the tip of tool by compressing levers as shown below.



2. Insert the tool (with opening the tips) into adapter.



3. Release the levers (then the tool catch HSC2 plug) and you can release the connector.

### ●Plug assemble Tool



Part Number	CL No.
HSC2-PH2/CVMD	902-6029-1

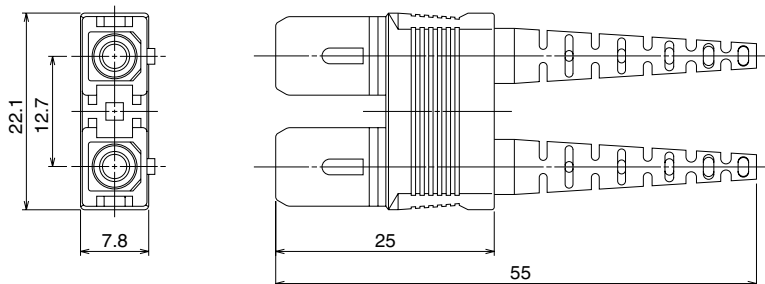
## SC Duplex

### ◆Notes

SC duplex adapters can be also connected with Simplex SC plugs.  
 SC type attenuators (HSC-AT11K-A※-※) can be connected only with F type adapters.

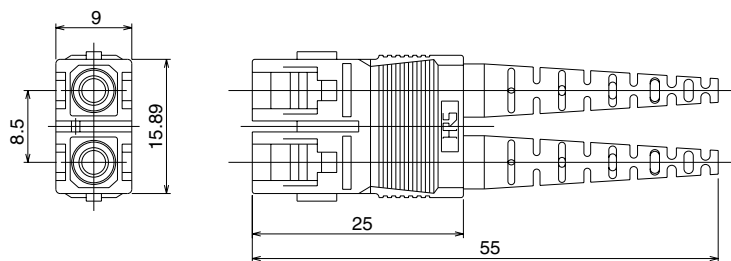
## ■Plug Housing

### ●F Type



Part Number	CL No.	Applicable Cable Diameter	Boot Color	Polishing type
HSCF-2PH2-E1(P)(31)	704-2109-3-31	φ2mm	Blue	PC
HSCF-2PH2-E2(P)(31)	704-2120-6-31		Light purple	AdPC
HSCF-2PH3-B1(P)(31)	704-2032-0-31	φ3mm	Blue	PC
HSCF-2PH3-B2(P)(31)	704-2036-1-31		Light purple	AdPC

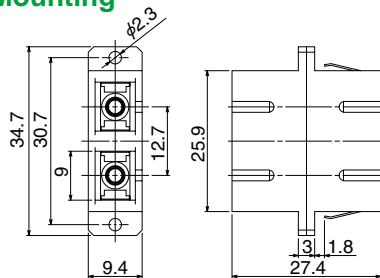
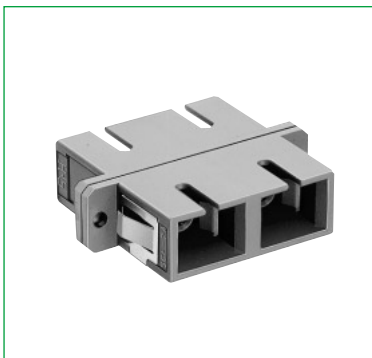
### ●H Type



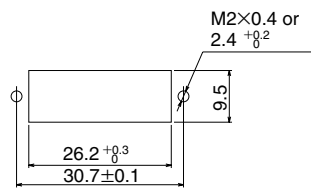
Part Number	CL No.	Applicable Cable Diameter	Boot Color	Polishing type
HSCH-2PH2-B1(P)(31)	704-2046-5-31	φ2mm	Blue	PC
HSCH-2PH2-B2(P)(31)	704-2058-4-31		Light purple	AdPC
HSCH-2PH3-B1(P)(31)	704-2054-3-31	φ3mm	Blue	PC
HSCH-2PH3-B2(P)(31)	704-2050-2-31		Light purple	AdPC

## Adapters

### F type Snap-in and/or Screw Mounting



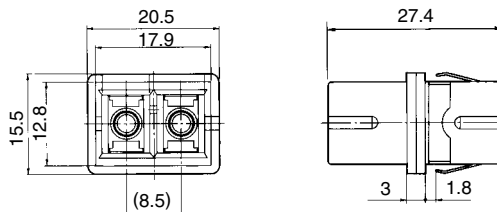
### Panel cutout



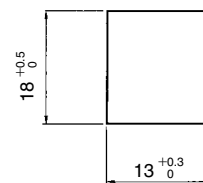
Panel thickness: 1.6mm

Part Number	CL No.	Split sleeve	Color
HSCF-2A(P)(51)	704-2008-6-51	Copper alloy	Blue
HSCF-2A-D(P)(06)	704-2040-9-06	Zirconia	Green
HSCF-2A-D2(P)(06)	704-2112-8-06		

### H type Snap-in



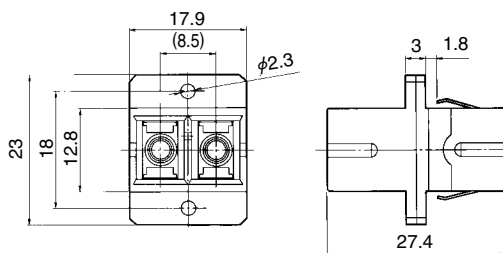
### Panel cutout



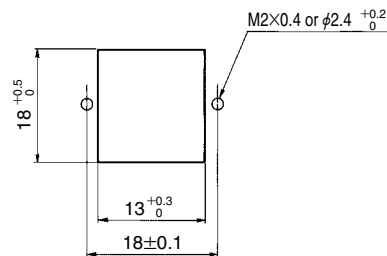
Panel thickness: 1.6mm

Part Number	CL No.	Split sleeve	Color
HSCH-2A1(P)(51)	704-2066-2-51	Copper alloy	Blue
HSCH-2A1-D(P)(02)	704-2117-1-02	Zirconia	Green
HSCH-2A1-D2(P)	704-2137-9		

### H type Snap-in and/or Screw Mounting



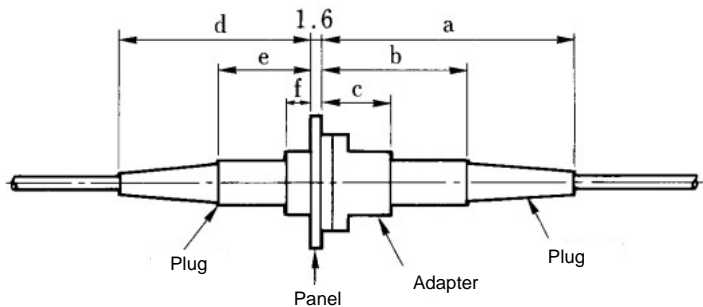
### Panel cutout



Panel thickness: 1.6mm

Part Number	CL No.	Split sleeve	Color
HSCH-2A(P)(51)	704-2020-1-51	Copper alloy	Blue
HSCH-2A-D(P)(02)	704-2062-1-02	Zirconia	Green
HSCH-2A-D2(P)(03)	704-2108-0-03		

## ◆ Mounting Dimensions



<F Type>

Unit: mm

Combination		Dimensions					
Adapter	Housing	a	b	c	d	e	f
HSCF-2A(P) HSCF-2A-D(P)	HSC-PH*-E# HSCF-PH*-B#(P)	58	28	15.2	53.4	23.4	10.6
	HSC-PH*-A4	39.5	28	15.2	34.9	23.4	10.6
	HSC-PH0.9-E#	36	26	15.2	31.4	21.4	10.6

<H Type>

Combination		Dimensions					
Adapter	Housing	a	b	c	d	e	f
HSCH-2A(P) HSCH-2A-D(P) HSCH-2A1(P)	HSC-PH*-E# HSCH-2PH*-B#(P)	58	28	15.2	53.4	23.4	10.6
	HSC-PH*-A4	39.5	28	15.2	34.9	23.4	10.6
	HSC-PH0.9-E#	36	26	15.2	31.4	21.4	10.6

Note 1: \* indicates cable diameter: 2=  $\phi$ 2mm diameter

3=  $\phi$ 3mm diameter

Note 2: # indicates polishing type:

1= PC polishing

2= AdPC polishing

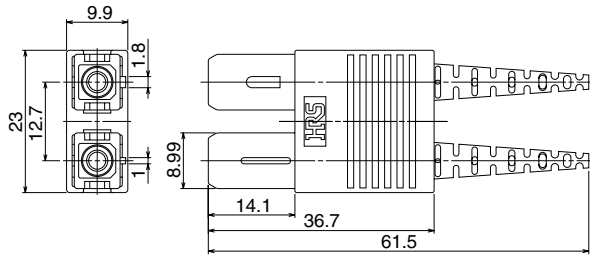
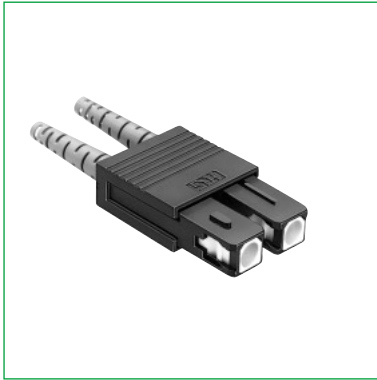


## Complies with ANSI Standard

### ANSI X3T9.3 Fibre Channel Physical and Signaling Interface

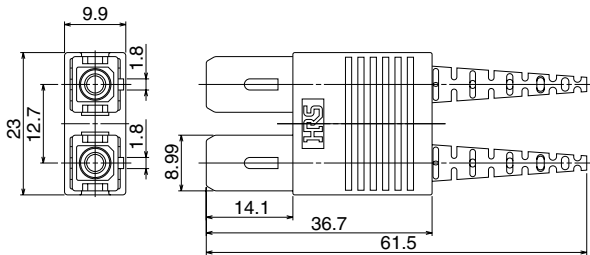
#### ■ Plug Housings

##### ● For Single Mode



Part Number	CL No.	Applicable cable	Boot color	Polishing type
HSCM-2SPH2-B1	704-2100-9	Simplex-2mm dia. cable or dual fiber zip cable	Blue	PC
HSCM-2SPH3-B1	704-2102-4	Simplex-3mm dia. cable or dual fiber zip cable		
HSCM-2SPH2-B2	704-2133-8	Simplex-2mm dia. cable or dual fiber zip cable	Light purple	AdPC
HSCM-2SPH3-B2	—	Simplex-3mm dia. cable or dual fiber zip cable		

##### ● For Multi-mode



Part Number	CL No.	Applicable cable	Boot color	Polishing type
HSCM-2GPH2-B1	704-2104-0	Simplex-2mm dia. cable or dual fiber zip cable	Blue	PC
HSCM-2GPH3-B1	704-2106-5	Simplex-3mm dia. cable or dual fiber zip cable		

#### ■ Ferrules

Conventional SC ferrules.  
 Refer to page 33 for details.

#### ■ Adapters

F type SC adapters.  
 Refer to page 40 for details.

MU

SC

FC

Harsh Environment

Attenuators

Terminators