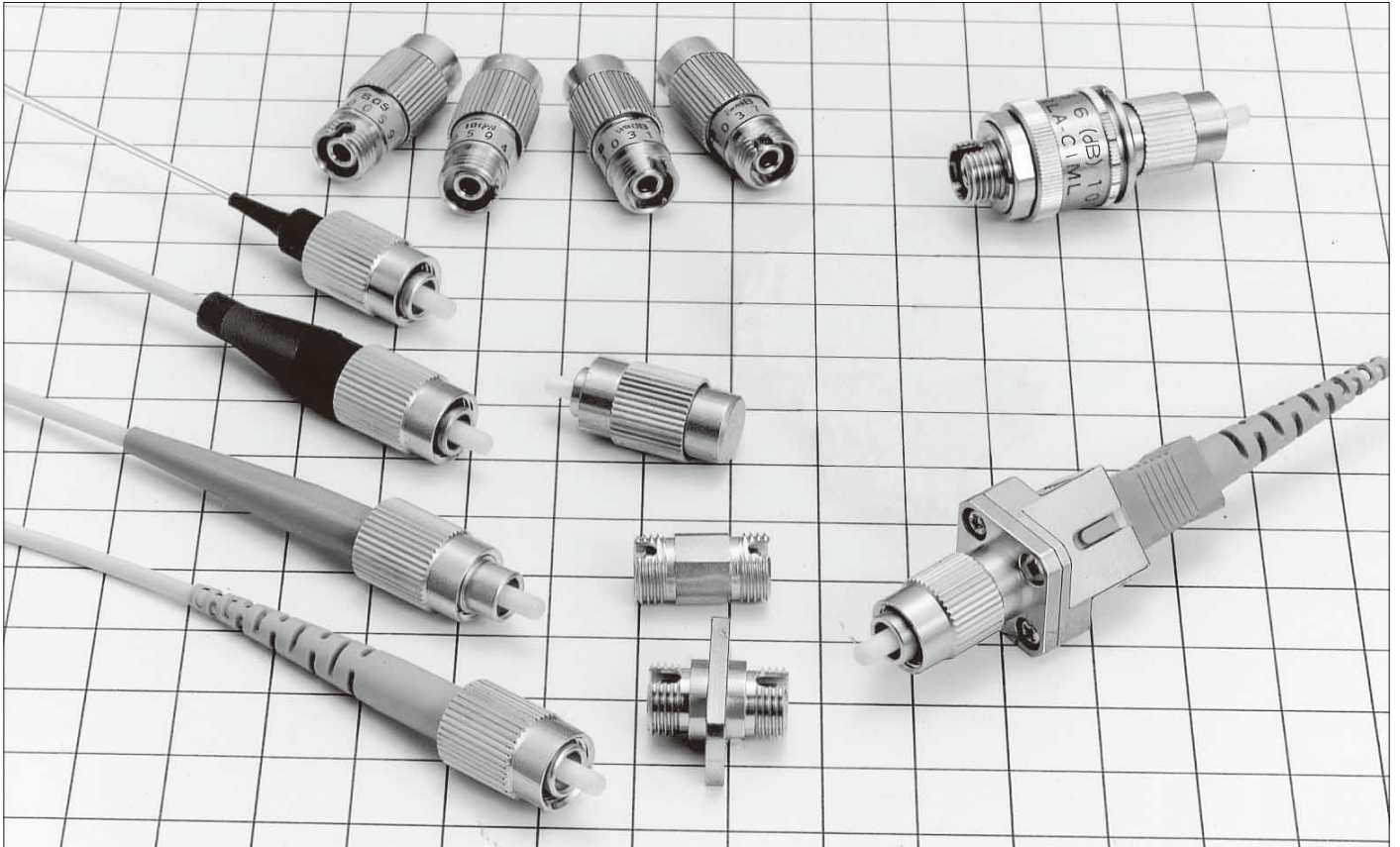


# FC Type Fiber Optic Connectors

## HRFC Series



### ■ Features

#### 1. JIS, IEC standard compliant and intermateability test certified.

Comply with IEC 61754-13 and JIS C 5970(type F01).  
FC intermate test by NTT certified connector.

#### 2. Polishing

Available with PC polishing, advanced PC(AdPC) polishing and Angled PC(APC) polishing.

#### 3. Flame resistant

Satisfies flammability rating UL94V-0.

### ■ Applications

Public communications lines, CATV, Test equipment, etc.

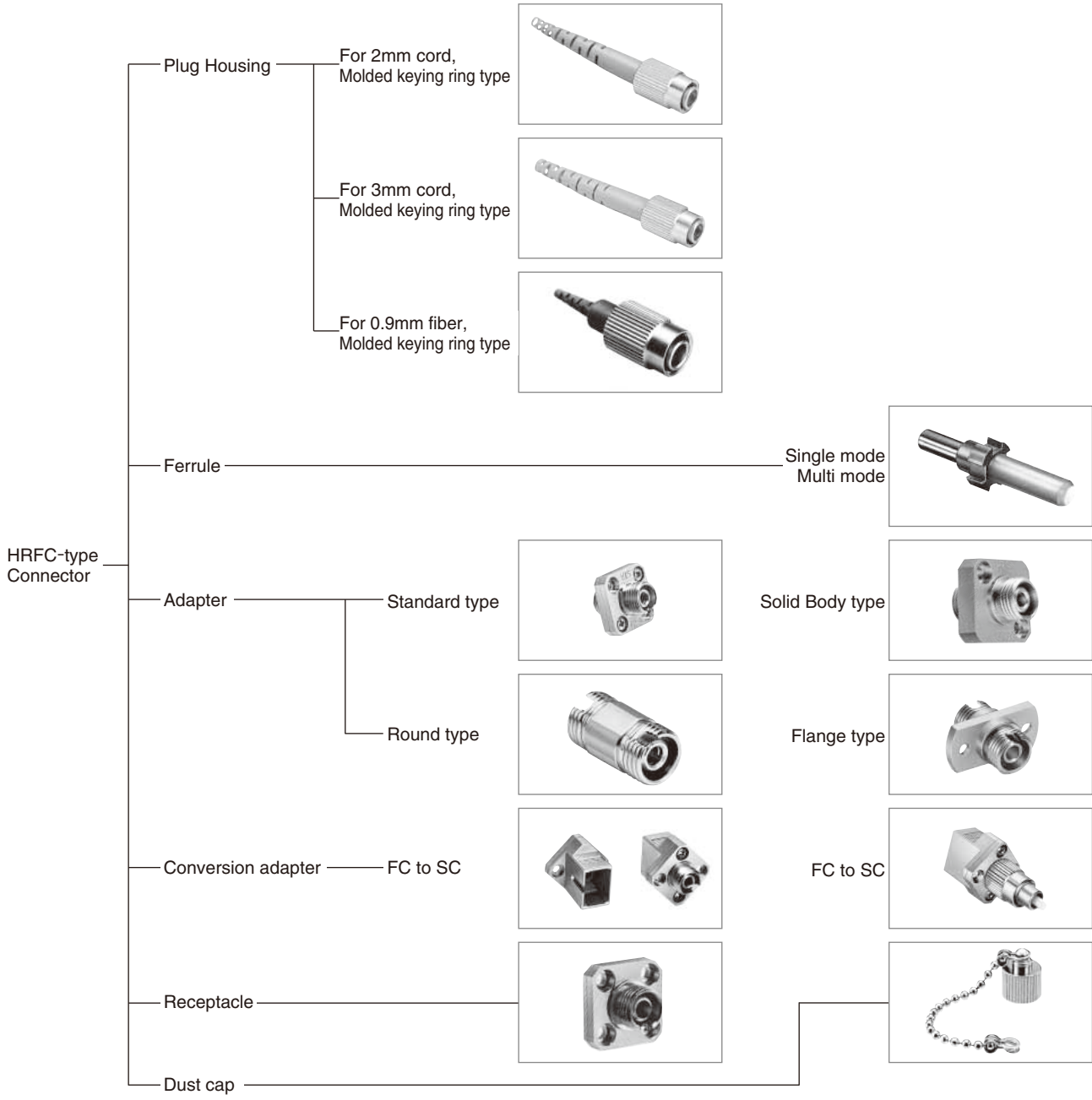
## Product Specifications

| 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), 60dB min. (APC)  |  |                |  |
|                               |  | (GI)                        |   |                |  | 22dB min. (PC)   |  |                |  |
| Mechanical Characteristics    | Ferrule withdrawal                       |                             | Extract zirconia gauge 2.499 ±0.0005mm dia from split sleeve.   |                |  | Phosphor bronze split sleeve 2N to 5.9N<br>Zirconia split sleeve 2N to 3.9N                                  |  |                |  |
|                               | Cable retention (Straight pull)          |                             | 98N tensile load for 1 minute.  |                |  | 1) Insertion loss fluctuation after test: 0.2dB max.<br>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.<br>2) No visible damage, cracks or part dislocation.    |  |                |  |
|                               | Vibration                                |                             | Frequency: 10 to 55 Hz, single amplitude of 0.75mm, 2 hours in each of the 3 axis.                            |                |  |  |  |                |  |
|                               | Shock                                    |                             | Acceleration of 981 m/s <sup>2</sup> , 6 ms duration, half sine shock pulse, 10 cycles in each of the 3 axis. |                |  |  |  |                |  |
| Environmental Characteristics | Humidity (Temperature/ humidity- cycles) |                             | -10°C to 65°C, humidity: 90% to 96% 10 cycles   |                |  | 1) Insertion loss fluctuation after test: 0.2dB max.<br>2) No visible damage, cracks or part dislocation.    |  |                |  |
|                               | Change of temperature                    |                             | -40°C to +75°C 42 cycles (Complies with Telcordia standard GR-326-CORE)                                       |                |  |  |  |                |  |
|                               | Dry heat                                 |                             | 240 hours at 85°C   |                |  |  |  |                |  |
|                               | Cold                                     |                             | 240 hours at -25°C  |                |  |  |  |                |  |
|                               | Salt mist                                |                             | 48 hours in a 5% concentration of salt mist   |                |  | No significant corrosion.  |  |                |  |

## Materials

| Part         | Material                    |
|--------------|-----------------------------|
| Plug housing | Brass, Zinc alloy           |
| Spring       | Stainless steel             |
| Ferrule      | Zirconia                    |
| Adapter      | Brass                       |
| Split sleeve | Zirconia or Phosphor bronze |
| Receptacle   | Brass                       |

# FC products

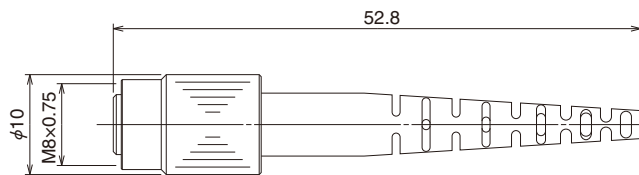


SC  
 FC  
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 MU  
 Environment  
 Attenuators  
 Terminators  
 POF / PCF

## ■ Plug Housing

Please use it with the SC ferrules.

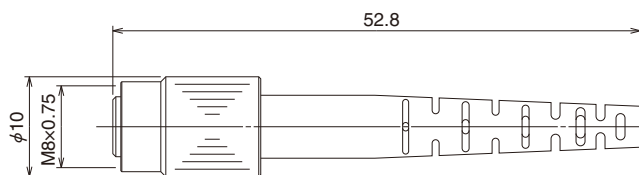
### ● For 2mm cable



| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P8-H2(63) | 701-0075-3-63 | Blue         | PC             |
| HRFC-P8-L2(61) | 701-0077-9-61 | Light purple | AdPC           |
| HRFC-P8-G2(62) | 701-2001-8-62 | Green        | APC            |

Note: Guide key width is 2.1mm

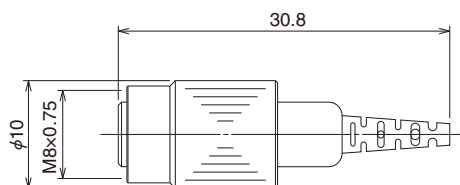
### ● For 3mm cable



| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P8-H3(62) | 701-0074-0-62 | Blue         | PC             |
| HRFC-P8-L3(61) | 701-0078-1-61 | Light purple | AdPC           |
| HRFC-P8-G3(61) | 701-2002-0-61 | Green        | APC            |

Note: Guide key width is 2.1mm

### ● For 0.9mm fiber

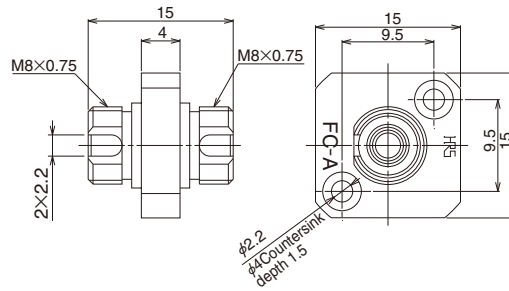


| Part Number    | CL No.        | Boot color   | Polishing type |
|----------------|---------------|--------------|----------------|
| HRFC-P15-H(62) | 701-0114-3-62 | Blue         | PC             |
| HRFC-P15-L(62) | 701-0115-6-62 | Light purple | AdPC           |
| HRFC-P15-G(61) | 701-2004-6-61 | Green        | APC            |

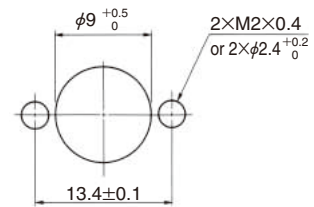
Note: Guide key width is 2.1mm

## Adapters

### ● Solid Body type



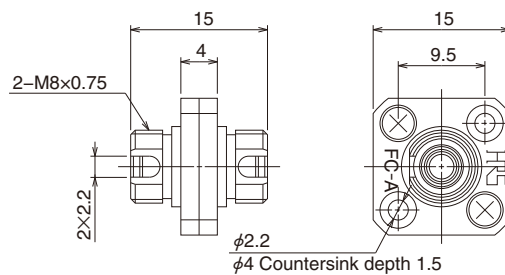
### Panel Cutout



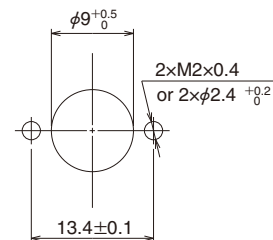
| Part Number      | CL No.        | Split sleeve    | Remarks |
|------------------|---------------|-----------------|---------|
| HRFC-PA11-G1(40) | 701-0071-2-40 | Phosphor bronze | —       |
| HRFC-PA11-D1(40) | 701-0106-5-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ● Standard Body type



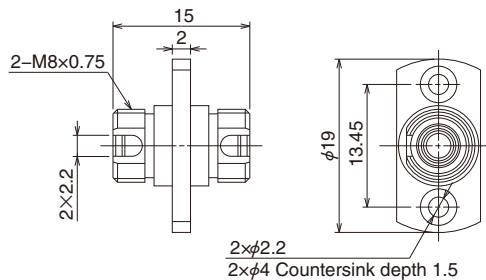
### Panel Cutout



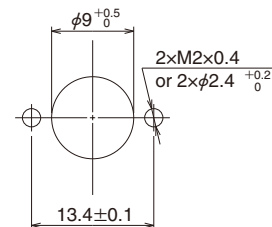
| Part Number     | CL No.        | Mark  | Split sleeve    | Remarks |
|-----------------|---------------|-------|-----------------|---------|
| HRFC-PA1-G1(41) | 701-0014-9-41 | FC-AP | Phosphor bronze | —       |
| HRFC-PA1-D1(40) | 701-0089-8-40 | FC-A  | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ● Flange type



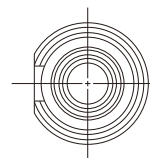
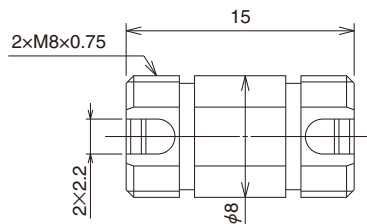
### Panel Cutout



| Part Number     | CL No.        | Split sleeve    | Remarks |
|-----------------|---------------|-----------------|---------|
| HRFC-PA4-G1(40) | 701-0068-8-40 | Phosphor bronze | —       |
| HRFC-PA4-D1(40) | 701-0112-8-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

### ● Round type

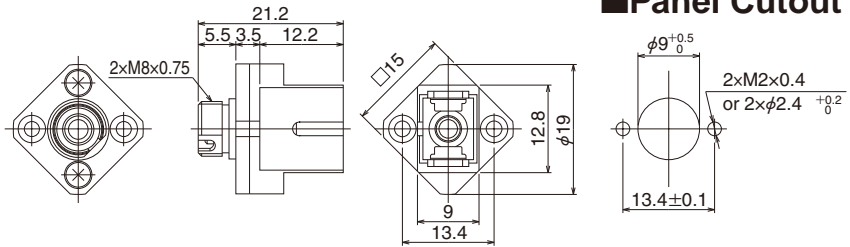
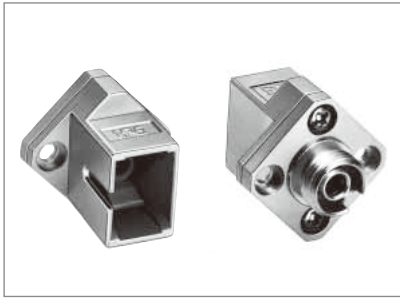


| Part Number       | CL No.        | Split sleeve    | Remarks |
|-------------------|---------------|-----------------|---------|
| HRFC-A2-SF(41)    | 701-0039-0-41 | Phosphor bronze | —       |
| HRFC-A2-SF-D1(40) | 701-0140-3-40 | Zirconia        | (Note)  |

Note: Please take utmost care when inserting FC plug into a FC adapter. When applying excessive force to the FC plug or inserting in an odd angle, the zirconia sleeve within the adapter might be damaged

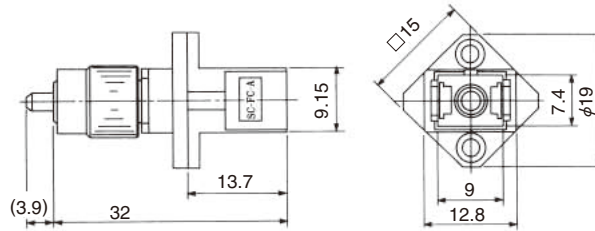
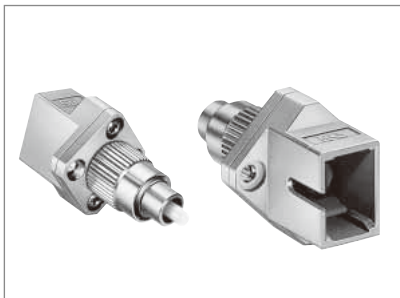
## Conversion adapters

### FC / SC



| Part Number      | CL No.        | Split sleeve    |
|------------------|---------------|-----------------|
| HSCJ-HRFCJ-B(43) | 704-0021-3-43 | Phosphor bronze |

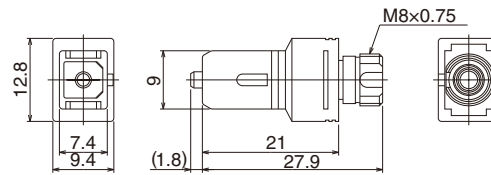
### FC / SC



| Part Number        | CL No.        | Split sleeve    | Polishing type | Fiber type |
|--------------------|---------------|-----------------|----------------|------------|
| HRFCP-HSCJ-1(61)   | 701-0065-0-61 | Phosphor bronze | PC             | GI-50/125  |
| HRFCP-HSCJ-1AS(61) | 701-0108-0-61 |                 | AdPC           |            |
| HRFCP-HSCJ-2(61)   | 701-0085-7-61 |                 | PC             | SM-9.5/125 |
| HRFCP-HSCJ-2AS(61) | 701-0109-3-61 |                 | AdPC           |            |

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

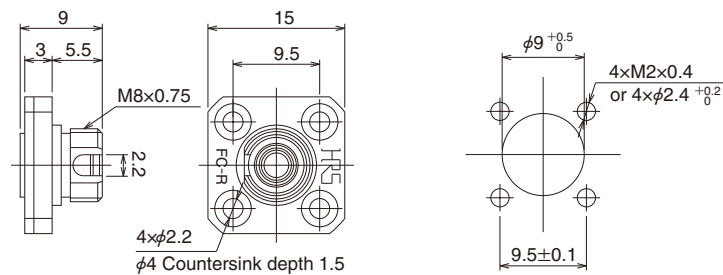
### FC / SC



| Part Number        | CL No.        | Split sleeve    | Polishing type | Fiber type |
|--------------------|---------------|-----------------|----------------|------------|
| HSCP-HRFCJ-1(61)   | 704-0203-0-61 | Phosphor bronze | PC             | GI-50/125  |
| HSCP-HRFCJ-1AS(61) | 704-0288-3-61 |                 | AdPC           |            |
| HSCP-HRFCJ-2(61)   | 704-0204-3-61 |                 | PC             | SM-9.5/125 |
| HSCP-HRFCJ-2AS(61) | 704-0289-6-61 |                 | AdPC           |            |

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

## Receptacle



| Part Number | CL No.        | Remarks |
|-------------|---------------|---------|
| HRFC-R1(41) | 701-0016-4-41 | GI      |
| HRFC-R2(41) | 701-0023-0-41 | SM      |

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SC

FC

MU

Harsh Environment

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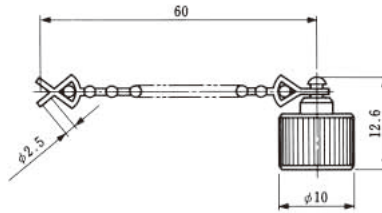
Terminators

POF / PCF

## ■ Ferrule

Please use the SC connector's ferrule.

## ■ Dust Cap



| Part Number | CL No.        |
|-------------|---------------|
| HRFC-C1(40) | 701-0019-2-40 |

## ■ Tool

### ● Crimp tool

Please use the SC connector's crimp tool .

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 POF / PCF

SC

FC