

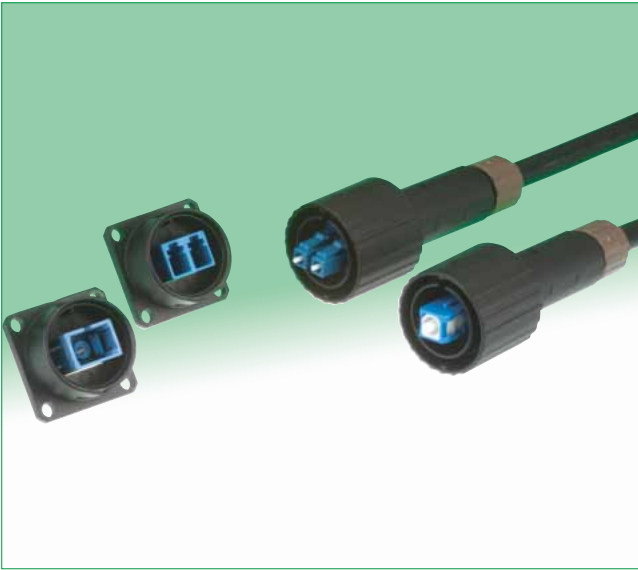
# Waterproof optical connectors with built-in SC/LC-Duplex

SW20 Series

Waterproof

1 or 2 pos.

Bayonet lock



## One action lock/unlock mechanism (Patented)

The schematic illustration of internal mechanism. (in case of LC type)

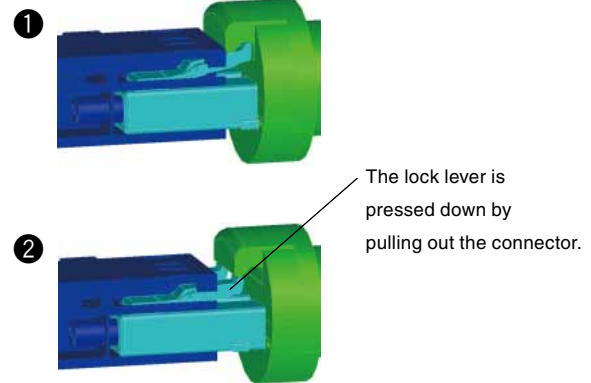


Fig.1

## Features

### 1. Waterproof bayonet lock + standard SC/LC connector

This connector combines a standard optical connector (SC/LC) and optical adaptor (SC/LC), and is covered with a waterproof shell. The bayonet locking mechanism provides a single-action mating/unmating between the receptacle mounted on the chassis and the plug.

### 2. Designed for harsh outdoor environments

Connector has passed a 1,000 hour salt spray test as well as the IP67 waterproof test when mated or with protective caps in place.

### 3. Common housing for SW20-SC and SW20-LC

The waterproof outer shell can be used for both the SW20-SC and SW20-LC. This feature simplifies procedures for mounting, mating and unmating.

### 4. Standard SC/LC connectors for testing

Any cord with a standard optical connector can be used for operation tests during assembly or installation, when water resistance is unnecessary. No special cord is needed.

### 5. Easy on-site maintenance

In the event of damage, the end face can be repaired by replacing the internal standard patch cord. This eliminates the need for replacement of the entire receptacle. (Fig.2)

## During maintenance and repair

Only the harness parts are replaced.

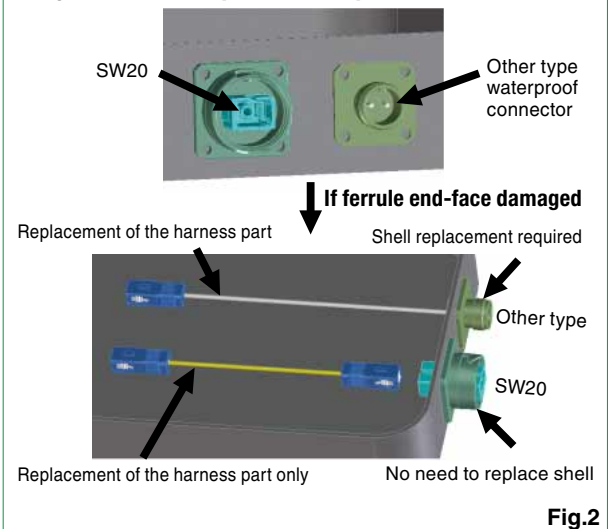


Fig.2

## Product Specifications

| Ratings                       | Operating temperature range            | -40°C to +85°C  | Storage temperature range  | -25°C to +70°C (AT PACKING) |
|-------------------------------|--|---|--|-----------------------------|
|                               | Item                                   | Test method   | Requirements   |                             |
| Optical characteristics       | Insertion loss                         | Wavelength 1310nm (LD)<br>Wavelength 1550nm (LD)  | 1310nm : 0.4dB max.,<br>1550nm : 0.5dB max.  |                             |
|                               | Return loss                            | Wavelength 1310nm (LD)  | 40dB min. (SM), 22dB min. (GI)   |                             |
| Mechanical characteristics    | Tensile strength(axial)                | A tensile force to cable axially for 1 minutes at 200N.   | Insertion loss range : ≤ 0.3dB<br>No Looseness, breakage, cracks   |                             |
|                               | Durability (mating/un-mating)          | 200 times   | 1) Insertion loss fluctuation after test : 0.3dB max.<br>2) No visible damage or components dislocation. |                             |
|                               | Vibration                              | Frequency : 10 to 55Hz, single amplitude of 0.75mm, acceleration of 98.1m/s <sup>2</sup> , 2 hours in each of the 3 axis. |  |                             |
|                               | Shock                                  | Acceleration of 981m/s <sup>2</sup> , 6ms 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 100%<br>168 hours. (12H/cycle×14cycle)<br>(Telcordia GR3120-CORE)                       | 1) Insertion loss fluctuation after test : 0.3dB max.<br>2) No visible damage or components dislocation. |                             |
|                               | Temperature cycle                      | -40°C to +75°C, 42 cycles, 168hours.<br>(8H/cycle×42cycle) (Telcordia GR326-CORE)   |  |                             |
|                               | Dry heat                               | 240 hours at +85°C  |  |                             |
|                               | Cold                                   | 240 hours at -40°C  |  |                             |
|                               | Salt mist                              | Salt mist : 5% and temperature 35°C or 1000 hours.  | No heavy corrosion ruin the function.  |                             |
|                               | Water resistance (mating)              | Put the product under water for 1min, with air pressure 4.9kPa.   | No air leakage.  |                             |

## Materials / Finish

| Part                   | Plug   |                | Receptacle   |                |
|------------------------|--|----------------|--|----------------|
|                        | Material   | Finish/Remarks | Material   | Finish/Remarks |
| Housing                | Zinc alloy die casting   | Chrome plated  | Zinc alloy   | Chrome plated  |
|                        | Synthetic resin  | UL94V-0        |  |                |
| Oring/gasket           | Synthetic rubber   | —              | Synthetic rubber                                       | —              |
| SC/LC                  | Depend on each connector.<br>(Synthetic resin, Zirconia, spring) | —              | Depend on each adapter.<br>(Synthetic resin, Zirconia) | —              |
| Spring                 | Steel wire   | —              | —  | —              |
| Others (Internal part) | Phosphor bronze  | Nickel plated  | —  | —              |
|                        | Zinc alloy   | Nickel plated  | —  | —              |
|                        | Stainless steel  | —              | —  | —              |

## Product Number Structure

Refer to the chart below when determining the product specifications from the product number.  
Please select from the product numbers listed in this catalog when placing orders.

### (1) Plug housing

**SW20** - **SC** **P** **T75** - **1**

①                      ②                      ③                      ④                      ⑤

|   |  |
|---|--|
| ① Series name : SW20                                      | ③ Plug housing : P                             |
| ② Connector type : SC...SW20-SC plug<br>LC...SW20-LC plug | ④ Cable type T75 : φ7 round cable.<br>⑤ Suffix |

Please contact us in case you need Plug kit only.

### (2) Receptacle

**SW20** - **SC** **R** - **1**

①                      ②                      ③                      ④

|  |                             |
|--|-----------------------------|
| ① Series name : SW20   | ③ Receptacle R : Receptacle |
| ② Connector type : SC...SW20-SC receptacle<br>LC...SW20-LC recetacle | ④ Suffix                    |

### (3) Receptacle cap

**SW20** - **RC** **1**

①                      ②                      ③

|                                      |  |
|--------------------------------------|--|
| ① Series name : SW20                 | ③ Suffix 1 : Waterproof cap<br>3 : Dustproof cap(Not waterproof) |
| ② Receptacle cap RC : Receptacle cap |  |

### (4) Adaptor

**SW20** - **LC** **A** - **1**

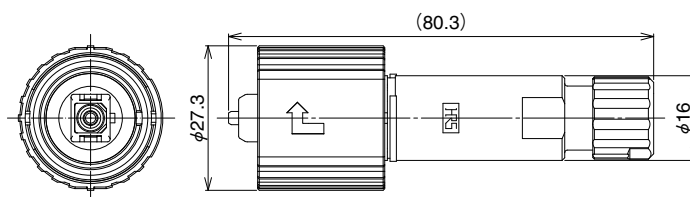
①                      ②                      ③                      ④

|   |                       |
|---|-----------------------|
| ① Series name : SW20                    | ③ Adaptor A : Adaptor |
| ② Connector type : LC...SW20-LC adaptor | ④ Suffix              |

## Plug housing

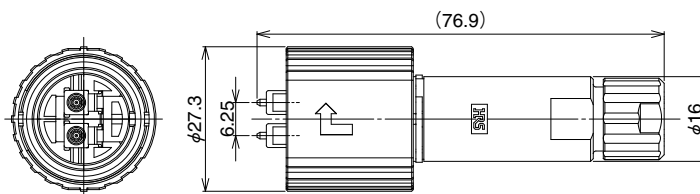
Please contact us for applicable cables.

### ● SC type



| Part No.          | HRS No.       | SM, GI | Ferulle dimension |
|-------------------|---------------|--------|-------------------|
| SW20-SCPT75-2(22) | 717-5019-5 22 | SM     | φ0.1255           |
| SW20-SCPT75-2(23) | 717-5019-5 23 | GI     | φ0.126            |

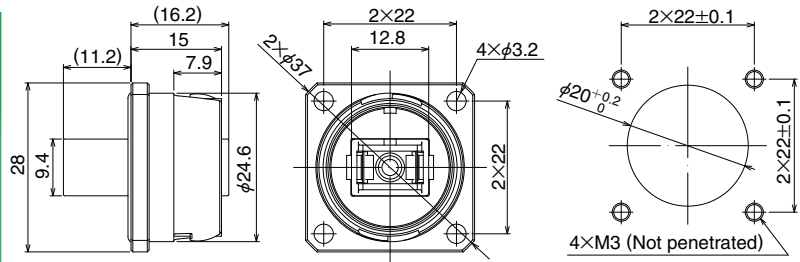
### ● LC type



| Part No.          | HRS No.       | SM, GI | Ferulle dimension |
|-------------------|---------------|--------|-------------------|
| SW20-LCPT75-3     | 717-5508-1 00 | SM     | φ0.1255           |
| SW20-LCPT75-3(21) | 717-5508-1 21 | GI     | φ0.126            |

## ■ Receptacle

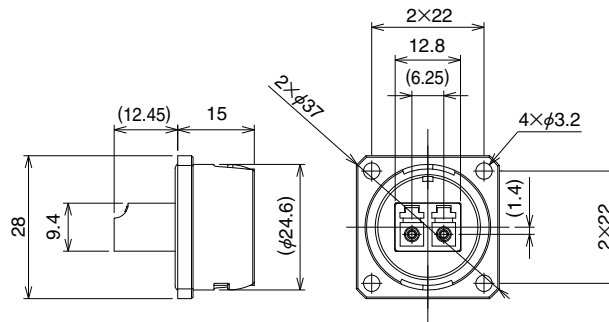
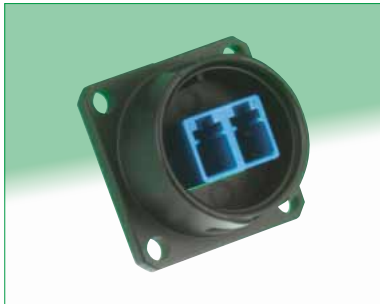
### ● SC type



| Part No.       | HRS No.       | Packing style          |
|----------------|---------------|------------------------|
| SW20-SCR-1(01) | 717-5002-2 01 | 1 pcs/pack(1 to 9 pcs) |
| SW20-SCR-1(02) | 717-5002-2 02 | Tray(10 pcs or more)   |

Note : LC-type's cutout same as SC-type.

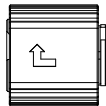
### ● LC type



| Part No.   | HRS No.       | Packing style                                |
|------------|---------------|--|
| SW20-LCR-1 | 717-5004-8 00 | 1 pcs/pack(1 to 9 pcs), Tray(10 pcs or more) |

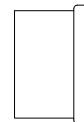
## ■ Receptacle Cap

### ● Waterproof type



| Part No.     | HRS No.       | Packing style |
|--------------|---------------|---------------|
| SW20-RC1(01) | 717-5501-2 01 | 1 pcs/pack    |

### ● Dustproof type

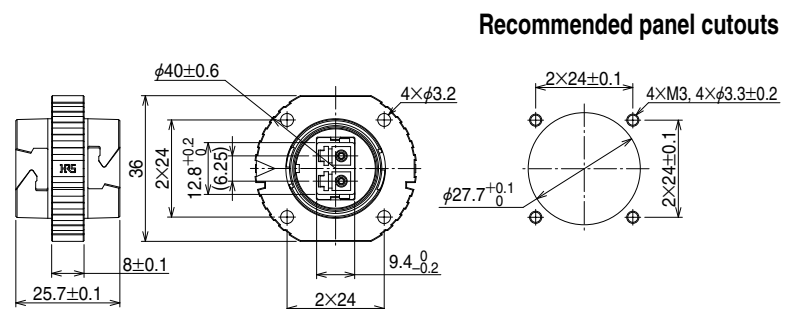


| Part No. | HRS No.    | Packing style |
|----------|------------|---------------|
| SW20-RC3 | 717-5504-0 | 1 pcs/pack    |

Note : Without waterproof.

## ■ Adaptor

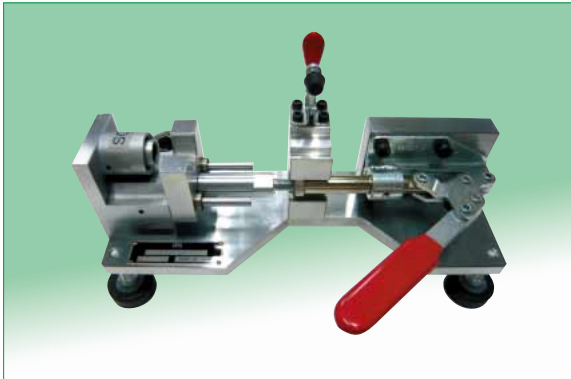
### ● LC type



| Part No.   | HRS No.       | Packing style |
|------------|---------------|---------------|
| SW20-LCA-1 | 717-5028-6 00 | 1 pcs/pack    |

◆ Tool

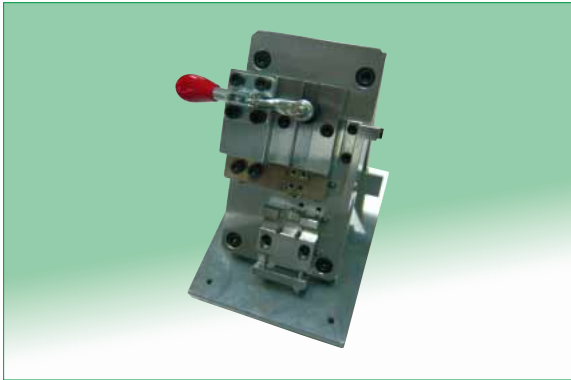
● Hood Insertion Tool (SC, LC)



| Part No.           | HRS No.       |
|--------------------|---------------|
| SW20-SCLC-T1/CV-MD | 902-6065-5 00 |

Note : When you change SC and LC, please exchange tip attachment before assembling.

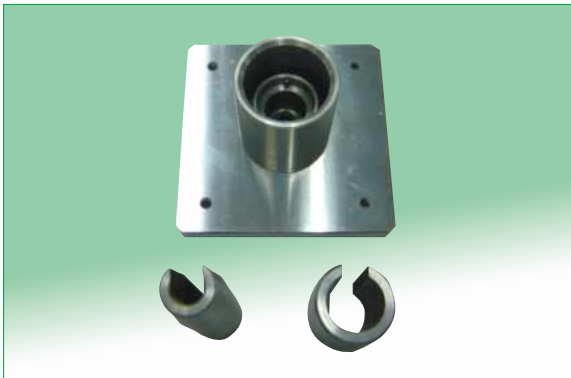
● Fastener Insertion Tool (SC, LC)



| Part No.            | HRS No.       |
|---------------------|---------------|
| SW20-LCPT75-1/CVMD3 | 902-3227-9 00 |

Note : When you change SC and LC, please exchange tip attachment before assembling.

● Spring Washer Insertion Tool (SC, LC)



| Part No.            | HRS No.       |
|---------------------|---------------|
| SW20-LCPT75-1/CVMD4 | 902-6074-0 00 |

● LC Housing A, B, C Insertion Tool (LC)



| Part No.            | HRS No.       |
|---------------------|---------------|
| SW20-LCPT75-1/CVMD1 | 902-3225-3 00 |

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