

Small and Waterproof Connector for Automotive Interface

ZE064W Series



■ Features

1. Small Size (0.64mm terminal, 2.2mm pitch)

Space-saving design contributes to device size reduction.

2. High Vibration Resistance

The female crimp terminal design includes a double-layer spring, 3-point contact and 3 serrations in order to surpass the intense vibration requirements for devices mounted in the engine room.

3. High Heat Resistance

Can be used at a temperature of 125°C.

4. Waterproof (IP67/IP69K)

Hirose's original waterproof design is compliant with IP67/IP69K when mated. With waterproof performance that withstands high pressure washing, ZE064W is suitable for use as an interface connector for automotive and industrial applications used in harsh environments.

5. Rated Current

5A (Single Pin Power Supply) / 2A (All Pins Power Supply)

6. Mating Keys

Prevents mis-mating when using multiple connectors.

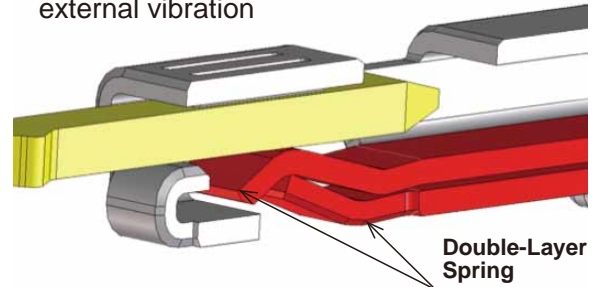
7. Retainer

The retainer prevents incomplete terminal insertion and has high contact reliability during cable routing.

● High Vibration Resistance Contact Design

1. Double-layer spring design

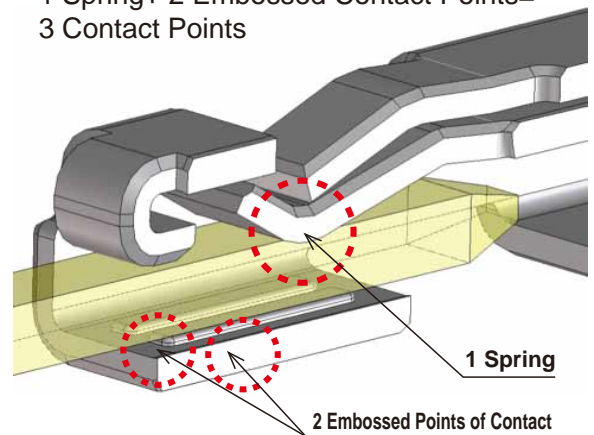
Increased contact reliability and resistance to external vibration



2. 3-Point Contact Design

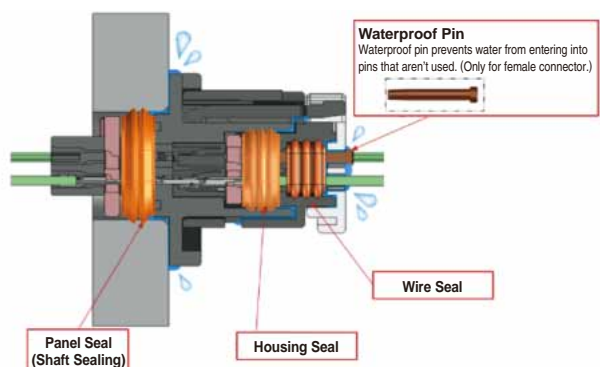
Increased contact force suppresses external vibration

1 Spring + 2 Embossed Contact Points = 3 Contact Points



*The terminal is flipped upside down so that the beat can be seen easily.

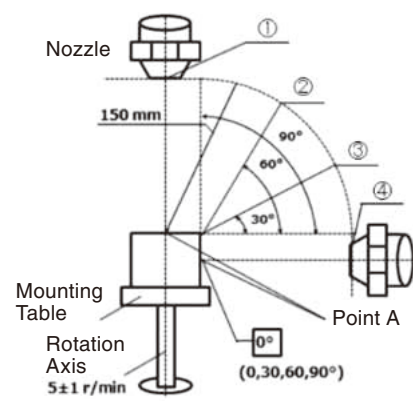
● Waterproof



*Our original waterproof design meets IP67/IP69K standards. (Mated condition)

Product Specifications

| | | |
|---------|--|---|
| Ratings | Rated Current : 2A (All pins power supply) 5A (Single pin power supply) | Operating Temperature : -40 to +125°C (Includes the temperature rise by current flow) |
| | Rated Voltage 60V AC/DC | Storage Temperature : -10 to +60°C (Note 1) |
| | | Storage Humidity Range : Relative humidity 85% or less (no condensation) (Note 1) |

| Items | Specifications | Conditions |
|--------------------------------------|---|---|
| 1. Contact Resistance | 8mΩ Max. | Measured at 1A DC |
| 2. Insulation Resistance | 100MΩ Min. | Measured at 500V DC |
| 3. Withstanding Voltage | There shall be no dielectric breakdown. | Apply 1000V AC for 1 min. |
| 4. Mating Durability | Contact Resistance : 16mΩ Max. No damage, cracks or component breakage. | 30 mating cycles (insertion/extraction) |
| 5. Vibration Resistance | No electrical discontinuity of 7Ω or more for 1μs or more Contact Resistance : 16mΩ Max. No damage, cracks or component breakage. | Frequency : 20 to 200Hz (acceleration : 88m/s ²) 3 minutes per cycle (Repeated) 3 directions, 3 hours each. |
| 6. Lock Strength | 100N Min. | Breaking strength of the lock is measured while pulled in the direction of the mating axis |
| 7. Humidity Resistance | Contact Resistance : 16mΩ Max. Insulation Resistance : 100MΩ Min. | Left at a temperature of 85°C for 96 hours with a relative humidity of 90 to 95% |
| 8. Thermal Shock | Contact Resistance : 16mΩ Max. No damage, cracks or component breakage. | Temperature -40°C → Room temperature → 125°C → Room temperature Time : 30 → 5 → 30 → 5 minutes for 1000 cycles |
| 9. Heat Resistance | Contact Resistance : 16mΩ Max. No damage, cracks or component breakage. | Left at a temperature of 140°C for 120 hours |
| 10. Cold Resistance | Contact Resistance : 16mΩ Max. No damage, cracks or component breakage. | Left at a temperature of -40°C for 120 hours |
| 11. Sulfurous Acid Resistance | Contact Resistance : 16mΩ Max. | Left unmated in sulfurous acid gas for 96 hours at a room temperature with a concentration of 25ppm and a humidity of 75% RH or higher |
| 12. High Pressure Washing Resistance | No water infiltration into panel. Insulation Resistance : 100MΩ Min. | After heating for 120 hours at 120°C, spray for 30 sec. at a temperature of 80°C and water pressure of 10MPa at positions 1 through 4. Rotate the mounting table at a speed of 5r/min  |

Note 1 : Storage temperature is for long-term storage of unused products.

Materials / Finish

| Product Component | Part | Material | Finish |
|-------------------------|--------------|-----------------|---------------|
| Female Connector | Housing | PA Resin | Black or Gray |
| | Retainer | PA Resin | Beige |
| | Seal Cover | PBT Resin | Gray |
| | Housing Seal | Silicone Rubber | Rouge |
| | Wire Seal | Silicone Rubber | Rouge |
| Male Connector | Housing | PA Resin | Black or Gray |
| | Retainer | PA Resin | Beige |
| | Panel Seal | Silicone Rubber | Rouge |
| Waterproof Cap | | PBT Resin | Brown |
| Contacts (Female, Male) | | Copper Alloy | Tin Plating |

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.

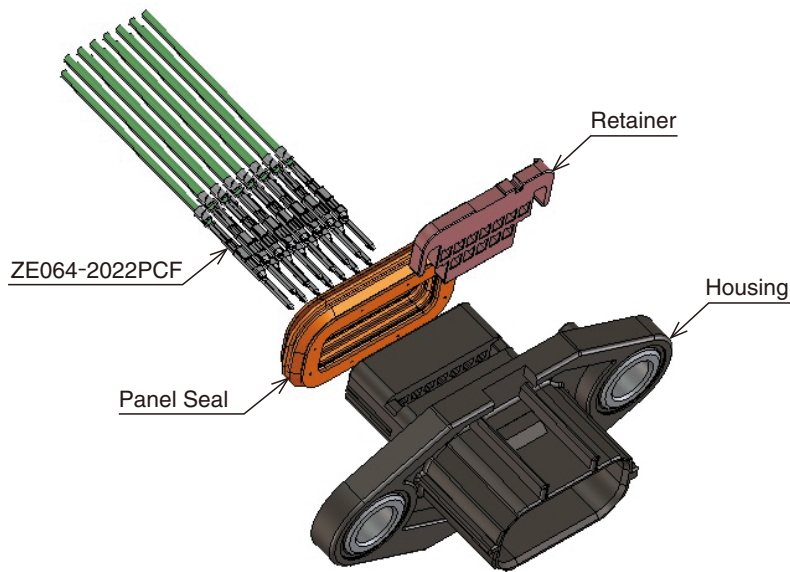
ZE064W - 24 D P - HU/R (A)

① ② ③ ④ ⑤ ⑥

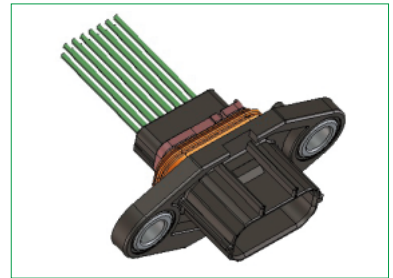
| | |
|-------------------------|--|
| ① Series Name | : ZE064W |
| ② No. of Pos. | : 8, 14, 24pos. |
| ③ Rows | : D double-row *There is no single-row product |
| ④ Connector Type | P : Male S : Female |
| ⑤ Housing with Retainer | |
| ⑥ Mating Key | (A) : A Key (B) : B Key |

■ Product Configuration (Diagram of 14pos.)

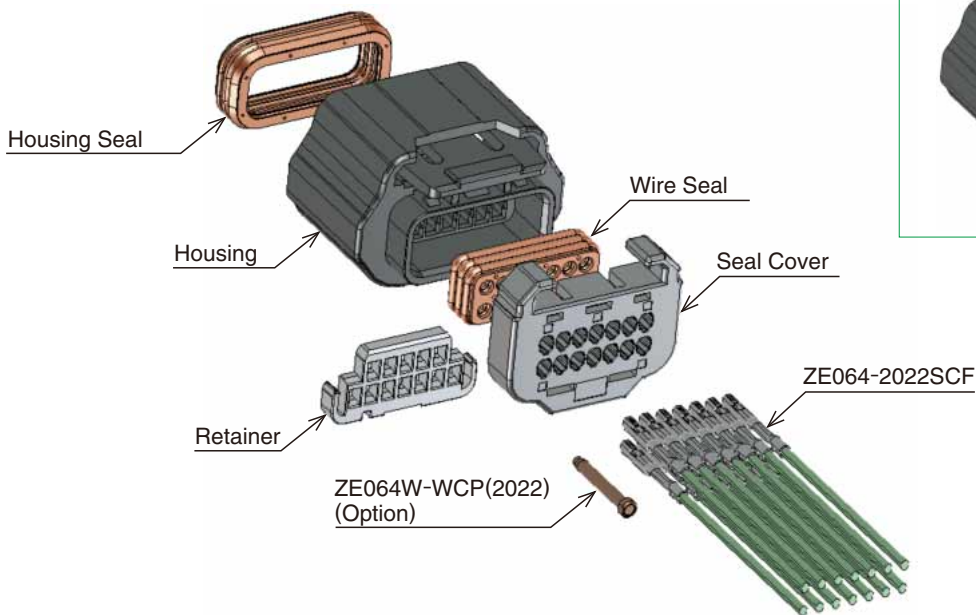
● Male Connector



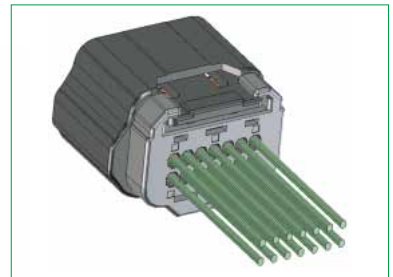
Completed Male Connector



● Female Connector



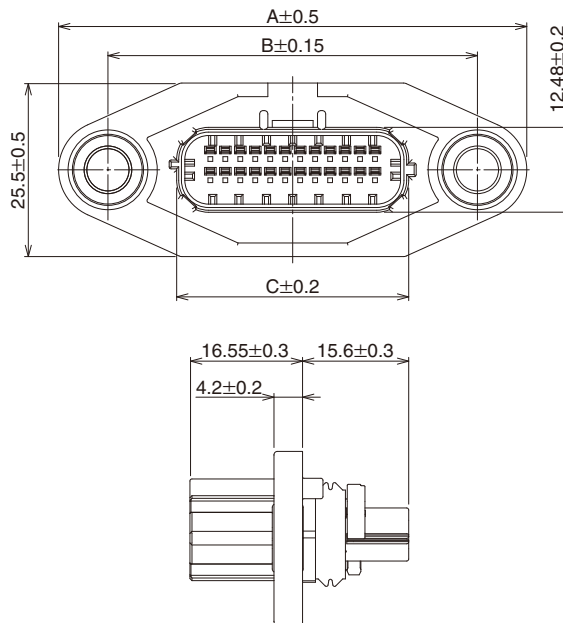
Completed Female Connector



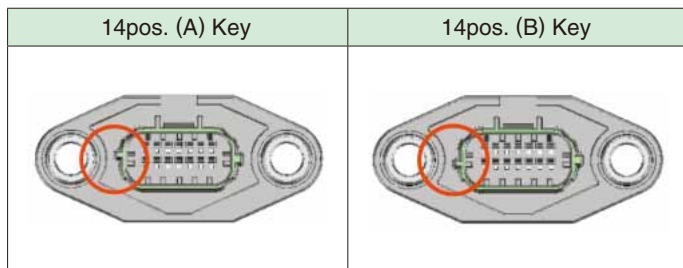
■ ZE064W Series Mating Table

| Male Connector | | Female Connector | |
|------------------|---------------|------------------|---------------|
| Housing/Retainer | Terminal | Housing/Retainer | Terminal |
| ZE064W-8DP-HU/R | ZE064-2022PCF | ZE064W-8DS-HU/R | ZE064-2022SCF |
| ZE064W-14DP-HU/R | | ZE064W-14DS-HU/R | |
| ZE064W-24DP-HU/R | | ZE064W-24DS-HU/R | |

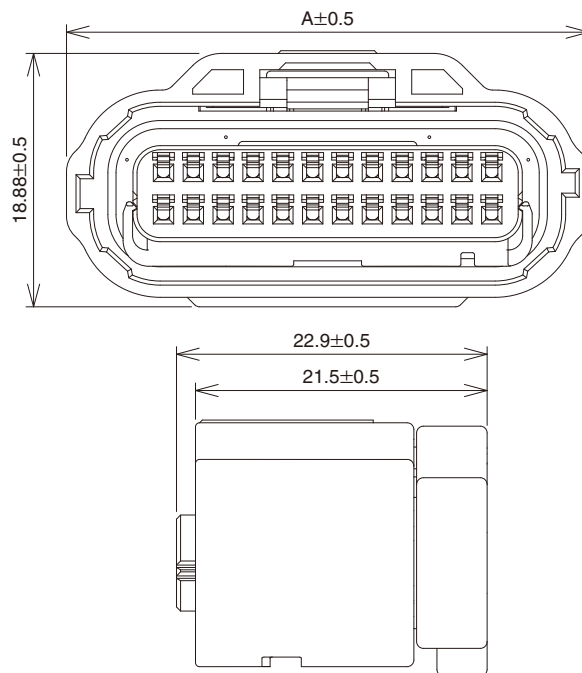
■ Male Housing / Retainer



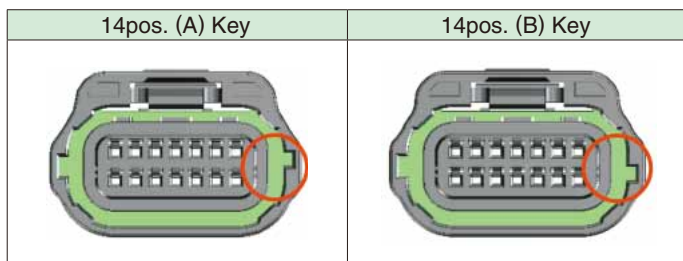
| Part No. | HRS No. | Key | No. of Pos. | A | B | C | Sales Unit |
|---------------------|------------|---------|-------------|------|------|------|------------|
| ZE064W-24DP-HU/R(A) | 753-2003-0 | (A) Key | 24 | 68.8 | 54.3 | 34.1 | 250pcs |
| ZE064W-24DP-HU/R(B) | 753-2004-0 | (B) Key | | | | | |
| ZE064W-14DP-HU/R(A) | 753-2008-0 | (A) Key | 14 | 57.8 | 43.3 | 23.1 | 300pcs |
| ZE064W-14DP-HU/R(B) | 753-2009-0 | (B) Key | | | | | |
| ZE064W-8DP-HU/R(A) | 753-2013-0 | (A) Key | 8 | 51.2 | 36.7 | 16.5 | 350pcs |
| ZE064W-8DP-HU/R(B) | 753-2014-0 | (B) Key | | | | | |



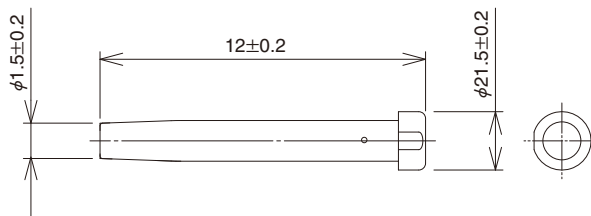
Female Housing / Retainer



| Part No. | HRS No. | Key Position | No. of Pos. | A | Sales Unit |
|---------------------|------------|--------------|-------------|------|------------|
| ZE064W-24DS-HU/R(A) | 753-2005-0 | (A) Key | 24 | 38.5 | 275pcs |
| ZE064W-24DS-HU/R(B) | 753-2006-0 | (B) Key | | | |
| ZE064W-14DS-HU/R(A) | 753-2010-0 | (A) Key | 14 | 27.5 | 480pcs |
| ZE064W-14DS-HU/R(B) | 753-2011-0 | (B) Key | | | |
| ZE064W-8DS-HU/R(A) | 753-2015-0 | (A) Key | 8 | 20.9 | 600pcs |
| ZE064W-8DS-HU/R(B) | 753-2016-0 | (B) Key | | | |



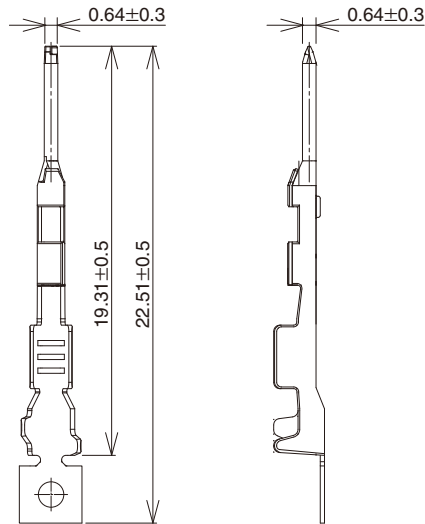
Waterproof Pin



| Part No. | HRS No. | Sales Unit |
|------------------|------------|-----------------|
| ZE064W-WCP(2022) | 753-2007-0 | 1000pcs per bag |

Note : This part is used only with the female connector.

Male Terminal

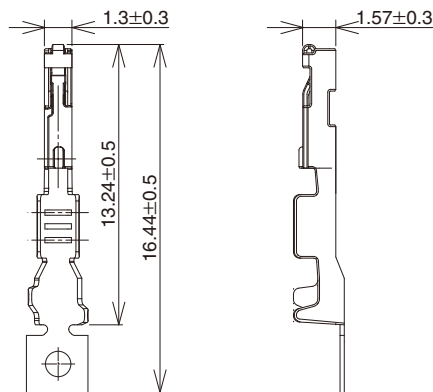


| Part No. | HRS No. | Type | Finish | Sales Unit |
|---------------|------------|---------------|-------------|---------------------|
| ZE064-2022PCF | 753-2002-0 | Reel Terminal | Tin Plating | 15,000 pcs per reel |

Note 1 : The applicable cables are 0.3sq and 0.5sq.

Note 2 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Female Terminal



| Part No. | HRS No. | Type | Finish | Sales Unit |
|---------------|------------|---------------|-------------|---------------------|
| ZE064-2022SCF | 753-2001-0 | Reel Terminal | Tin Plating | 13,000 pcs per reel |

Note 1 : The applicable cables are 0.3sq and 0.5sq. To ensure waterproof performance the applicable cable diameter range is limited from $\phi 1.4$ to 1.7mm.

Note 2 : The female terminal is a waterproof design and is a clean body without a stabilizer. Therefore if inserted in the opposite direction it can be inserted at a force of more than 10N so be careful.

Note 3 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Applicable Applicator Tool

| Type | Male/Female | Part No. | HRS No. | Applicable Terminal |
|-------------------------------------|-----------------------------------|----------------------|------------|---------------------|
| HRS Crimp Machine | Male Terminal/ Female Terminal | CM-105C | 901-0001-0 | — |
| Applicator for HRS Crimping Machine | Female Terminal | AP105-ZE064-2022S | 901-5241-0 | ZE064-2022SCF |
| | Male Terminal | AP105-ZE064-2022P | 901-5242-0 | ZE064-2022PCF |
| Hand Tool | Female Side | HT802/ZE064-2022S | 780-0046-0 | ZE064-2022SCF |
| | Male Side | HT802/ZE064-2022P | 780-0047-0 | ZE064-2022PCF |
| Retainer Release Tool | Female Side | ZE064W-DS-HU/R/CV-MD | 902-5151-0 | — |
| | Male Side | Can release manually | — | — |
| Terminal Extraction Tool | Female Terminal | ZE064-S/RE-MD | 902-5149-0 | ZE064-2022SCF |
| | Male Terminal | ZE064-P/RE-MD | 902-5150-0 | ZE064-2022PCF |

Note 1 : Any problems that occur from using tools other than those specified by Hirose are not covered by warranty.

Note 2 : Hand tools are developed as a prototype tool during product development. Use an applicator for mass production.

Note 3 : Cut the reel terminal for use with the hand tool.

Note 4 : Crimping work shall be conducted in accordance with the "Crimping Standard" and "Crimping Conditions Table".

■ Contact Extraction

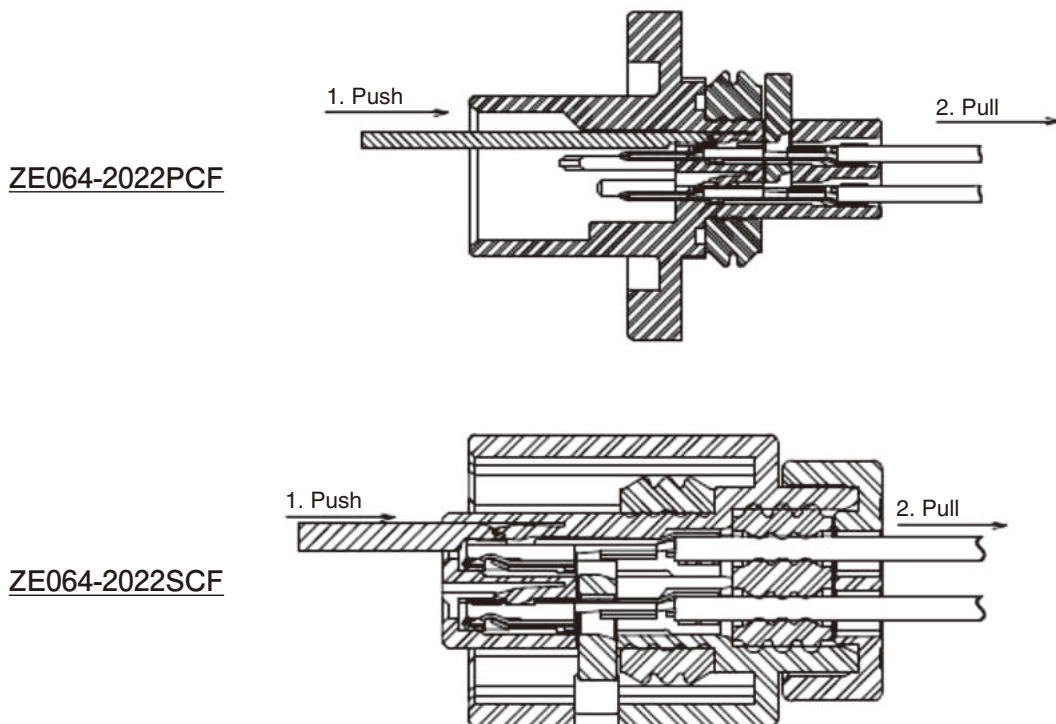
- Contact Extraction Tool : ZE064-P/RE-MD, ZE064-S/RE-MD
- Applicable Crimp Contacts : ZE064-2022PCF, ZE064-2022SCF
- Operation Method

● Repair Method

To repair, pull out the contact while pressing the extraction tool in the direction shown in the diagram below. Be careful not to deform the terminal lock or contact portion.

Caution : Do not push the terminal locking part or contact. It may lead to deformation or damage to the housing and other parts. When damaged, please replace it with a new one.

Housing Cross-Sectional Diagram



■ Usage Precautions

1. Unmating the connector with force may result in damage. If it is difficult to pull out, lightly push it once and then operate the lock to pull it out.
2. When inserting or extracting the terminal, always disconnect from the power source first.
3. Do not touch the terminals while the power is on since it is very dangerous.
4. Contact a sales representative for harness instructions and handling manuals.
5. Do not perform insertion or extraction with a live wire. (Live wire insertion/extraction refers to inserting/extracting while electricity is running)

■ Usage Environment

Please consult with your Hirose Electric sales representative if your system environmental conditions repeat high and low temperatures.

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