

# PQ50/PQ50S/PQ50W Series

## High Power Signal Connectors for Industrial Machinery



Robust



Positive-Lock



Waterproof



## General

The PQ Series is an interface connector designed to handle high power/signal connections in industrial machinery. Available in a waterproof or non-waterproof type, they are capable of handling up to 12.5A/pin (PQ50S/PQ50W) or 19A/pin (PQ50).



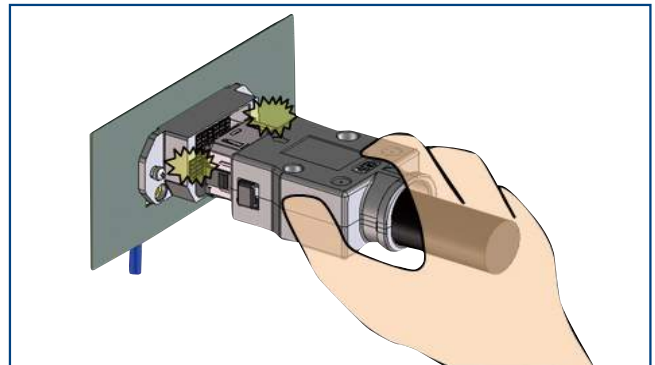
Variations

## Features

### [Non-Waterproof Type] PQ50/PQ50S Series

#### 1. Side locking spring design delivers a clear tactile click.

The left and right buttons disengage the mated lock. (Side locking system)  
The easy mating operation delivers a clear tactile click.



Side locking design emits a tactile click and produces a secure lock

#### 2. Strengthened cable clamps

Cable clamp strength is 98N or more. (Actual value is 400N or more)  
The design prevents the mated connector and clamp from detaching against excessive forces.

#### 3. Different cover options. A robust, enhanced, shielded die-cast shell is available on the PQ50 Series or a engineered, light weight plated plastic resin shell for the PQ50S Series.

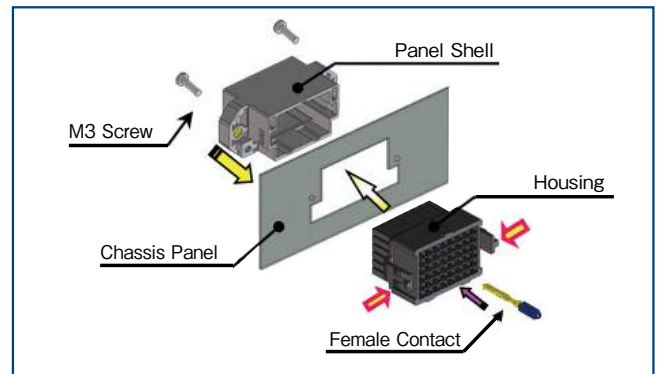
The die cast shell delivers an enhanced EMI shield on the PQ50 Series and the plated plastic resin of the PQ50S Series' cover case and panel shell ensure ESD and EMI performance.

#### 4. Coding key system provides flexibility with multiple options

The coding key system prevents incorrect mating and has multiple variations available.

#### 5. Rear mounted panel shell is available.

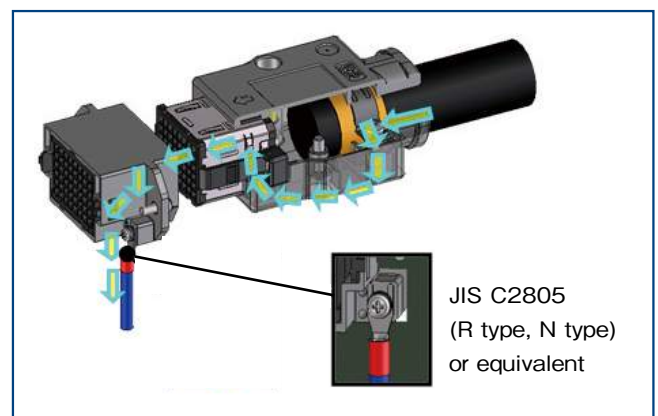
After attaching the panel shell to the chassis, it is possible to install or remove the crimp housing.



It is possible to insert the terminated housing from the rear.

#### 6. Reliable ground connection design.

The crimp contacts can be mounted directly onto the panel shell with screws which enhances the grounding connections.



Easy and Reliable Ground Connection

#### 7. Supports NFPA79 compliant cables (with 600V capability).

(PQ50 Series)

Due to restrictions on the AWM cables by NFPA79 revision, the requirements of listed cables has increased for wires used in industrial machines in the U.S.A. This product complies with the restrictions and requirements of NFPA79.

## [Waterproof Type] PQ50W Series

### 1. Water resistant (IP65)

Rated at IP65 when in the mated condition.

### 2. Special locking design.

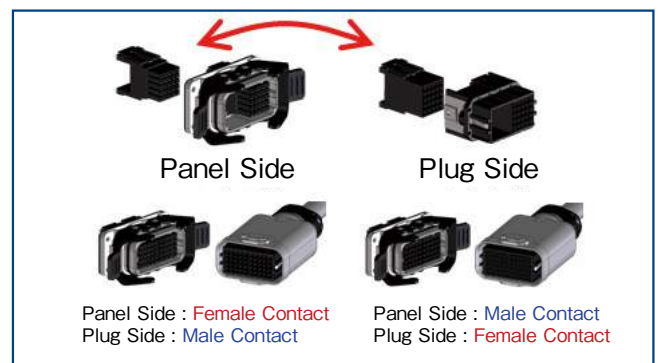
Special lever and cam design delivers easier operation and assists with the insertion and extraction of this connector.



Unique Lever Lock Design

### 3. Rear mounted unit offers easy operations.

Male and Female plastic crimp case can be installed from both the panel side metal shell and plug side.



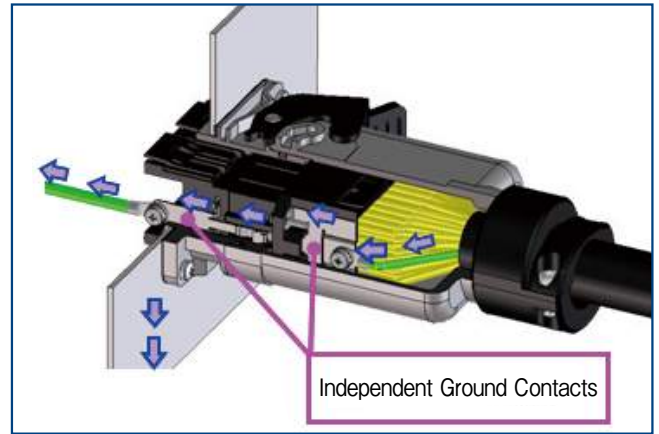
Supports Rear Mounting of Unit

### 4. Metal plated cover with engineering plastic resin adds strength and EMI protection.

This robust connector uses a metal plated material with specially engineered plastic for the cover and panel shell to ensure high ESD and EMI performance.

## 5. Independent ground contact design.

Secure grounding is accomplished by use of the plated plastic cover and the independent ground contacts.



Independent ground contact design.

## 6. Coding key system provides flexibility with multiple options

The coding key system prevents incorrect mating and has multiple variations available.

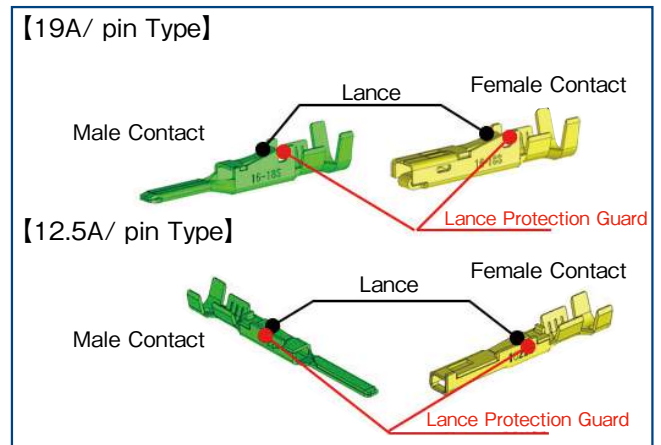
## [Contact Variations]

### 1. Available contact options

Two styles are available; one with 19A/pin contacts or one with 12.5A/pin contacts.

### 2. Lance protection design

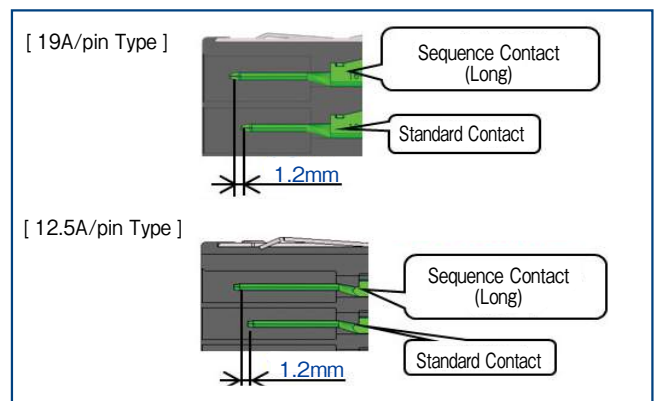
The side wall of the contact prevents lance deformation and helps to prevent tangled wires.



Lance protection design

### 3. Sequential contacts of different length are available

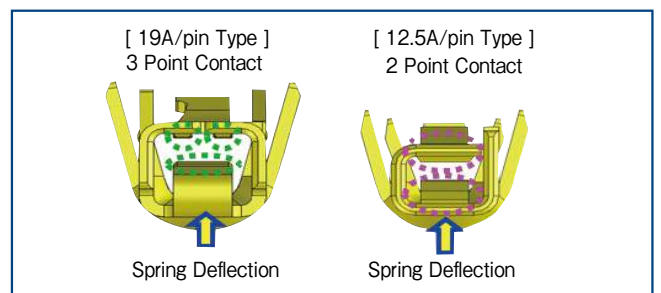
Two types of different contact length are available for the male contact.



Sequential Contacts with Differing Lengths

### 4. Highly reliable contact design

The female contact provides a reliable connection through multiple contact points and a unique spring design.



Multiple contact points and flexible spring design

## Product Specifications

### [Non-waterproof Type] PQ50 Series

|               |                            |                           |               |
|---------------|----------------------------|---------------------------|---------------|
| Rated Current | with UL1015, 16 AWG (Note) | Operating Temperature     | -40 to +105°C |
|               | 19A                        | Storage Temperature Range | -55 to +85°C  |
| Rated Voltage | 600V AC/DC                 |                           |               |

Note : Depending on current capacity of the cable used.

| Items                               | Specifications  | Conditions   |
|-------------------------------------|---|--|
| Contact Resistance                  | 10m Ω Max. (Excluding conductor resistance of the cable.)   | Measured at 100mA  |
| Insulation Resistance               | Minimum of 5,000M Ω   | Measured at 500V DC  |
| Withstand Voltage                   | No flashover or breakdown.  | Apply 2,200V AC for 1 min.   |
| Mating Durability                   | Contact resistance : Increase by 20m Ω or less from the initial value.  | Perform 500 mating cycles.   |
| Vibration Resistance                | No electrical discontinuity of 10 μ s or more.<br>No broken, cracked or loosened parts.   | Frequency 10 to 55 Hz (5 min/cycle).<br>With half amplitude 0.75mm, 2 hours each for 3 directions.   |
| Shock Resistance                    |   | Acceleration 490m/s <sup>2</sup> , duration 11ms,<br>half-sine wave, 3 times each for 6 axial directions.  |
| Temperature Cycles                  | Change of contact resistance : 20m Ω or less<br>No broken, cracked or loosened parts.   | Temperature : -55 → +15 to 35 → +105 → +15 to +35°C<br>Time : 30 → 2 to 3 → 30 → 2 to 3 min.<br>Subjected to 5 cycles of time and temp as noted. |
| Moisture Resistance in Steady State | Change of contact resistance : 20m Ω Max.<br>Insulation resistance: minimum of 1,000M Ω (after drying).<br>No breakage, cracks or loosened parts. | Left in environment of 60°C± 2 and humidity of 90 to 95% for 96 hours.   |
| Salt Water Spray                    | No significant corrosion or damage that impairs functioning.  | 5% concentration of salt water spray for 48 hours.(in mated condition)   |

Note : For test methods not described here, JIS C 5402 is applied.



## [Non-waterproof Type] PQ50S Series

|               |                            |                           |               |
|---------------|----------------------------|---------------------------|---------------|
| Rated Current | with UL1007, 18 AWG (Note) | Operating Temperature     | -40 to +105°C |
|               | 12.5A                      | Storage Temperature Range | -55 to +85°C  |
| Rated Voltage | 300V AC/DC                 |                           |               |

Note: Depending on current capacity of the cable used.

| Items                               | Specifications   | Conditions   |
|-------------------------------------|--|--|
| Contact Resistance                  | 5mΩ Max. (Excluding conductor resistance of the cable.)  | Measured at 100mA  |
| Insulation Resistance               | Minimum of 5,000MΩ   | Measured at 500V DC  |
| Withstand Voltage                   | No flashover or breakdown.   | Apply 2,200V AC for 1 min.   |
| Mating Durability                   | Contact resistance : Increase by 10mΩ or less from the initial value.  | Perform 500 mating cycles.   |
| Vibration Resistance                | No electrical discontinuity of 10 μs or more.<br>No broken, cracked or loosened parts.   | Frequency 10 to 55 Hz (5 min/cycle)<br>With half amplitude 0.75mm, 2 hours each for 3 directions.  |
| Shock Resistance                    |  | Acceleration 490m/s <sup>2</sup> , duration 11ms, half-sine wave, 3 times each for 6 axial directions.   |
| Temperature Cycles                  | Change of contact resistance : 10mΩ or less<br>No broken, cracked or loosened parts.   | Temperature : - 55 → +15 to 35 → +105 → +15 to +35°C<br>Time : 30 → 2 to 3 → 30 → 2 to 3 min.<br>Subjected to 5 cycles of time and temp. as noted. |
| Moisture Resistance in Steady State | Change of contact resistance : 10mΩ or less<br>Insulation resistance : Minimum of 1,000MΩ (after drying).<br>No broken, cracked or loosened parts. | Left in environment of 60°C± 2 and humidity of 90 to 95% for 96 hours.   |
| Salt Water Spray                    | No significant corrosion or damage that impairs functioning.   | 5% concentration of salt water spray for 48 hours. (in mated condition)  |

Note : For test methods not described here, JIS C 5402 is applied.



## [Waterproof Type] PQ50W Series

|               |                            |                           |               |
|---------------|----------------------------|---------------------------|---------------|
| Rated Current | with UL1007, 18 AWG (Note) | Operating Temperature     | -40 to +105°C |
|               | 12.5A                      | Storage Temperature Range | -55 to +85°C  |
| Rated Voltage | 300V AC/DC                 |                           |               |

Note: Depending on current capacity of the cable used. (With 12.5A/pin type contacts)

| Items                               | Specifications   | Conditions  |
|-------------------------------------|--|---|
| Contact Resistance                  | 5m $\Omega$ max (Excluding conductor resistance of the cable.)   | Measured at 100mA   |
| Insulation Resistance               | Minimum of 5,000M $\Omega$   | Measured at 500V DC   |
| Withstand Voltage                   | No flashover or breakdown.   | Apply 2,200V AC for 1 min..   |
| Mating Durability                   | Contact resistance : Increase by 10m $\Omega$ or less from the initial value.  | Perform 500 mating cycles.  |
| Vibration Resistance                | No electrical discontinuity of 10 $\mu$ s or more.<br>No broken, cracked or loosened parts.  | Frequency 10 to 55 Hz (5 min/cycle)<br>With half amplitude 0.75mm, 2 hours each for 3 directions.   |
| Shock Resistance                    |  | Acceleration 490m/s <sup>2</sup> , duration 11ms, half-sine wave, 3 times each for 6 axial directions.  |
| Temperature Cycles                  | Change of contact resistance : 10m $\Omega$ or less<br>No broken, cracked or loosened parts.   | Temperature : -55 $\rightarrow$ +15 to 35 $\rightarrow$ +105 $\rightarrow$ +15 to +35°C<br>Time : 30 $\rightarrow$ 2 to 3 $\rightarrow$ 30 $\rightarrow$ 2 to 3 min.<br>Subjected to 5 cycles of time and temp. as noted. |
| Moisture Resistance in Steady State | Change of contact resistance : 10m $\Omega$ or less<br>Insulation resistance : 1,000M $\Omega$ or more (after drying)<br>No broken, cracked or loosened parts. | Left in environment of 60°C $\pm$ 2 and humidity of 90 to 95% for 96 hours.   |
| Salt Water Spray                    | No significant corrosion or damage that impairs functioning.   | 5% concentration of salt water spray for 48 hours. (in mated condition)   |
| Water Resistance                    | IP65   |   |

Note : For test methods not described here, JIS C 5402 is applied.

## Materials / Finish

### ● PQ50 Series

| Item         | Parts                     | Materials       | Finish         | Remarks |
|--------------|---------------------------|-----------------|----------------|---------|
| Receptacle   | Crimp Case                | PBT Resin       | Black          | UL94V-0 |
|              | Panel Shell               | Zinc Die Cast   | Nickel Plating | -       |
| Plug         | Crimp Case                | PBT Resin       | Black          | UL94V-0 |
|              | Crimp Case Shell          | Stainless Steel | Nickel Plating | -       |
|              | Cover Case                | Zinc Die Cast   |                |         |
|              | M4 Pan Head Machine Screw | Steel           |                |         |
|              | Clamp Metal               | Steel           |                |         |
| In-line Plug | Crimp Case                | PBT Resin       | Black          | UL94V-0 |
|              | In-line Plug Shell        | Zinc Die Cast   | Nickel Plating | -       |
|              | In-line Cover Case        |                 |                |         |
|              | M4 Pan Head Machine Screw | Steel           |                |         |
|              | Clamp Metal               | Steel           |                |         |

### ● PQ50S Series

| Item       | Parts                     | Materials                                | Finish         | Remarks |
|------------|---------------------------|--|----------------|---------|
| Receptacle | Crimp Case                | PBT Resin                                | Black          | UL94V-0 |
|            | Panel Shell               | Heat-resistant Engineering Plastic Resin | Nickel Plating | -       |
|            | M4 Insert Nut             | Brass                                    |                |         |
| Plug       | Crimp Case                | PBT Resin                                | Black          | UL94V-0 |
|            | Crimp Case Shell          | Stainless Steel                          | Nickel Plating | -       |
|            | Cover Case                | Heat-resistant Engineering Plastic Resin |                | UL94V-0 |
|            | M4 Pan Head Machine Screw | Steel                                    |                | -       |
|            | Clamp Metal               | Steel                                    |                | -       |
|            | M4 Insert Nut             | Brass                                    |                | -       |

### ● PQ50W Series

| Item                      | Parts              | Materials                                | Finish             | Remarks |
|---------------------------|--------------------|--|--------------------|---------|
| Crimp case                | Crimp Case         | PBT Resin                                | Black              | UL94V-0 |
| Receptacle                | Panel Shell        | Heat-resistant Engineering Plastic Resin | Nickel Plating     | UL94V-0 |
|                           | Ground Contact     | Stainless Steel                          |                    | -       |
|                           | O-ring for Mating  | NBR                                      | Black              | -       |
|                           | Lock Lever         | PA Resin                                 |                    | UL94V-0 |
|                           | Rubber Packing     | NBR                                      |                    | -       |
| Plug                      | Plug Shell         | Heat-resistant Engineering Plastic Resin | Black              | UL94V-0 |
|                           | Ground Contact     | Stainless Steel                          | Nickel Plating     | -       |
|                           | M2 Tapping Screw   | Steel                                    | Trivalent Chromate |         |
|                           | Cover Case         |  | Nickel Plating     |         |
|                           | Gasket             | NBR                                      | Red                |         |
|                           | Clamp Metal (Body) | Heat-resistant Engineering Plastic Resin | Black              | UL94V-0 |
|                           | Cable Clamp        |  |                    |         |
|                           | M3 Insert Nut      | Brass                                    | Nickel Plating     | -       |
| M3 Pan Head Machine Screw | Steel              |  |                    |         |

## ● Contacts (PQ50/PQ50S/PQ50W)

| Part No.        | Parts          | Materials    | Finish  |
|-----------------|----------------|--------------|---|
| PQ50-15PCFA     | Male Contact   | Copper Alloy | Gold Plating (Contact Area)<br>+<br>Tin Plating (Barrel Area) |
| PQ50A-15PCFA    |                |              |   |
| PQ50-15SCFA     | Female Contact |              |   |
| PQ50-1618PCFA   | Male Contact   |              |   |
| PQ50A-1618PCFA  |                |              |   |
| PQ50-1618SCFA   | Female Contact |              |   |
| PQ50-2022PCFA   | Male Contact   |              |   |
| PQ50A-2022PCFA  |                |              |   |
| PQ50-2022SCFA   | Female Contact |              |   |
| PQ50S-1822PCFA  | Male Contact   |              |   |
| PQ50SA-1822PCFA |                |              |   |
| PQ50S-1822SCFA  | Female Contact |              |   |
| PQ50S-2428PCFA  | Male Contact   |              |   |
| PQ50SA-2428PCFA |                |              |   |
| PQ50S-2428SCFA  | Female Contact |              |   |

## 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.

### ■ Crimp Housing

#### PQ 50 W S - 25 P - UNIT

① ② ③ ④ ⑤ ⑥ ⑦

|                            |  |                |   |
|----------------------------|--|----------------|---|
| ① Series Name              | PQ   | ⑤ Shell Size   | 20 : 20pos. unit<br>25 : 25pos. unit<br>48 : 48pos. unit        |
| ② Wiring Style             | Crimping   | ⑥ Contact Type | P : Male Contact<br>S : Female Contact                          |
| ③ Connector Specifications | W : Waterproof Type<br>None : Non-waterproof Type                            | ⑦ Shapes       | UNIT : Rear mount multiple unit (PQ50W)<br>None : (PQ50, PQ50S) |
| ④ Contact Size             | S : Small Contact (12.5A/pin) Type<br>None : Standard Contact (19A/pin) Type |                |   |

### ■ Crimp Contact

#### PQ 50 S A - 1822 PC F A

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

|                 |  |                         |   |
|-----------------|--|-------------------------|---|
| ① Series Name   | PQ   | ⑤ Applicable Cable Type | 15 : 14 to 15 AWG<br>1618 : 16 to 18 AWG<br>1822 : 18 to 22 AWG<br>2022 : 20 to 22 AWG<br>2428 : 24 to 28 AWG |
| ② Wiring Style  | Crimping   | ⑥ Contact Type          | PC : Male Contact<br>SC : Female Contact  |
| ③ Contact Size  | S : Small Contact (12.5A/pin) Type<br>None : Standard Contact (19A/pin) Type | ⑦ Contact Shapes        | F : End-to-end Contacts (on reel)<br>None : Discrete Contacts   |
| ④ Contact Usage | A : Sequence Contact (Long Contact)<br>None : Standard Contact               | ⑧ Contact Plating Type  | A : Gold Plating (Contact Area)   |

### ■ Clamp Metal

#### PQ W - CM (17.5)

① ② ③ ④

|                            |   |                             |  |
|----------------------------|---|-----------------------------|--|
| ① Series Name              | PQ  | ④ Applicable Cable Diameter | (15.0) : For applicable cable diameter $\phi$ 15.0<br>(17.5) : For applicable cable diameter $\phi$ 17.5<br>(22.0) : For applicable cable diameter $\phi$ 22.0 |
| ② Connector Specifications | W : Waterproof Type<br>None : Non-waterproof Type |                             |  |
| ③ Clamp Name               | CM : Clamp Metal                                  |                             |  |

## ■ PQ50/PQ50S Series

### PQ 50 S - 48 P - PC M

- ① ② ③ ④ ⑤ ⑥ ⑦

|                |  |                 |   |
|----------------|--|-----------------|---|
| ① Series Name  | PQ   | ⑤ Contact Type  | P : Male Contact<br>S : Female Contact  |
| ② Wiring Style | Crimping   | ⑥ Case Type     | PC : Plug Cover Case<br>JC : In-line Plug Cover Case<br>FL : Panel Shell<br>DS : In-line Plug Shell |
| ③ Contact Size | S : Small Contact (12.5A/pin) Type<br>None : Standard Contact (19A/pin) Type |                 |   |
| ④ Shell Size   | 20 : 20pos. Shell Type<br>48 : 48pos. Shell Type                             | ⑦ Case Material | M : Heat-resistant Engineering Plastic Resin<br>None : Zinc Die Cast                                |

## ■ PQ50W Series

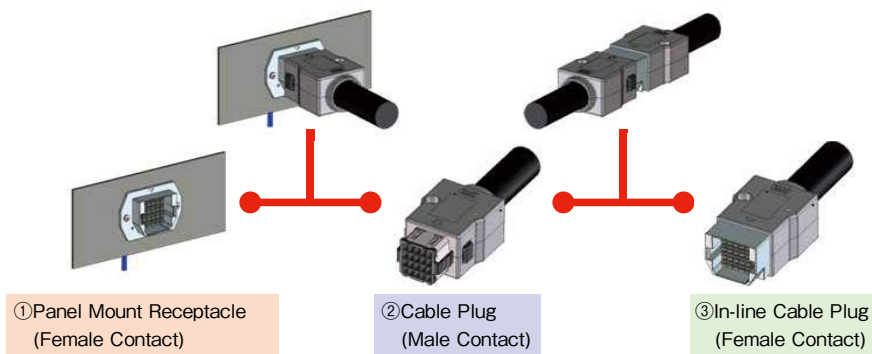
### PQ 50 W - 50 - PC

- ① ② ③ ④ ⑤

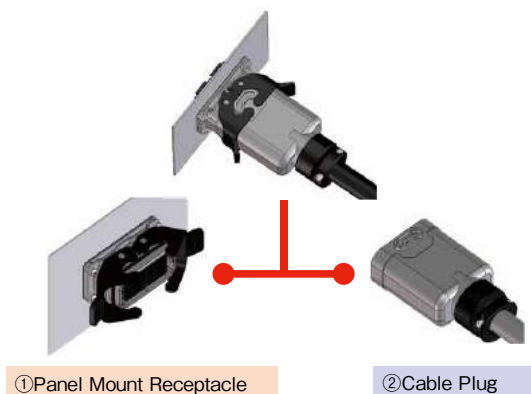
|                            |                 |              |  |
|----------------------------|-----------------|--------------|--|
| ① Series Name              | PQ              | ④ Shell Size | 50 : 50pos. Shell Type                   |
| ② Wiring Style             | Crimping        | ⑤ Case Type  | PC : Plug Cover Case<br>FL : Panel Shell |
| ③ Connector Specifications | Waterproof Type |              |  |

## Functional Diagram

### ● PQ50/PQ50S Series



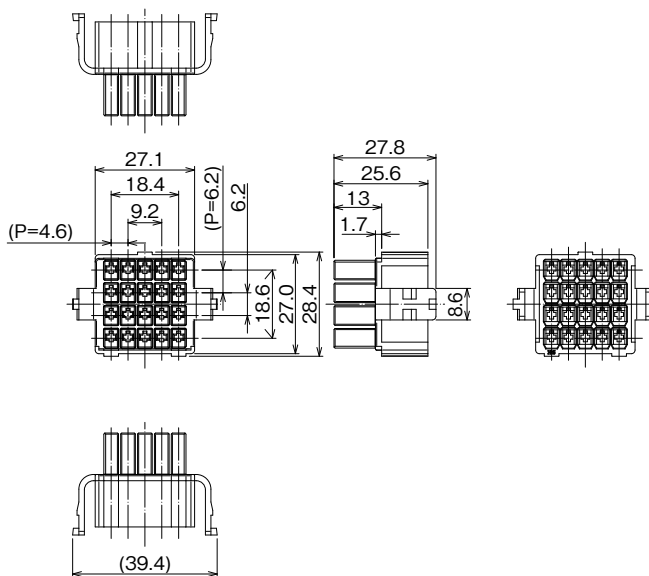
### ● PQ50W Series



## Panel Mount Receptacle

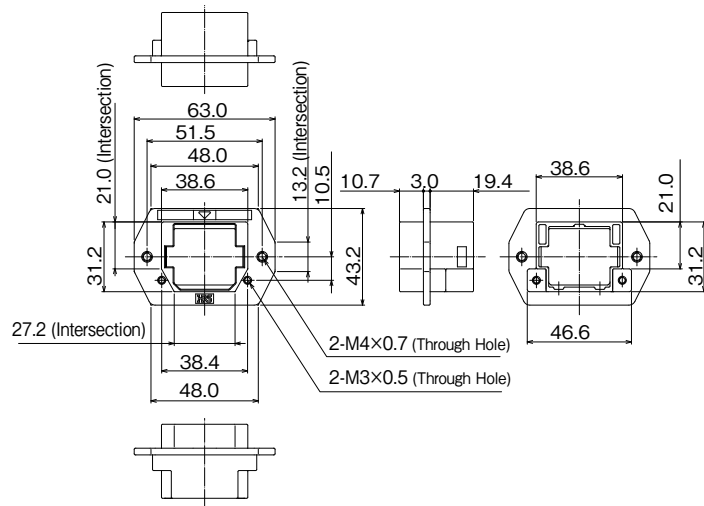
### PQ50 Series

#### ●Crimp Case (19A/pin for Female Contact)



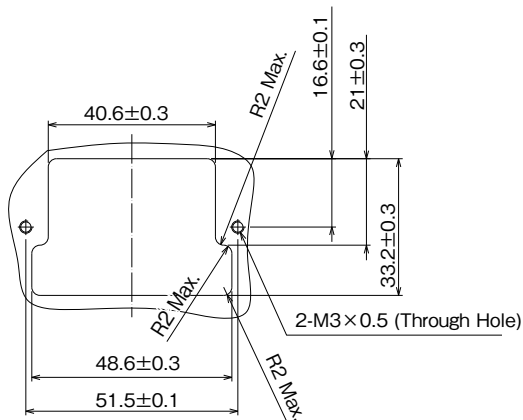
| Part No.     | HRS No.          | Purchase Unit  |
|--------------|------------------|----------------|
| PQ50-20S     | CL0236-2014-2-00 | 50pcs per tray |
| PQ50-20S(01) | CL0236-2014-2-01 | 1pcs per box   |

## ● Panel Shell

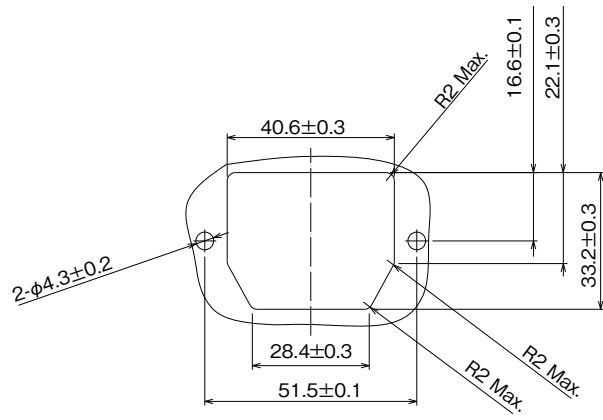


### Panel Mounting Dimensions

Recommended panel dimensions for attaching panel shell from panel's front side.



Recommended panel dimensions for attaching panel shell from panel's back side.



| Part No.        | HRS No.          | Purchase Unit  |
|-----------------|------------------|----------------|
| PQ50-20S-FL     | CL0236-2001-0-00 | 50pcs per tray |
| PQ50-20S-FL(01) | CL0236-2001-0-01 | 1pcs per box   |

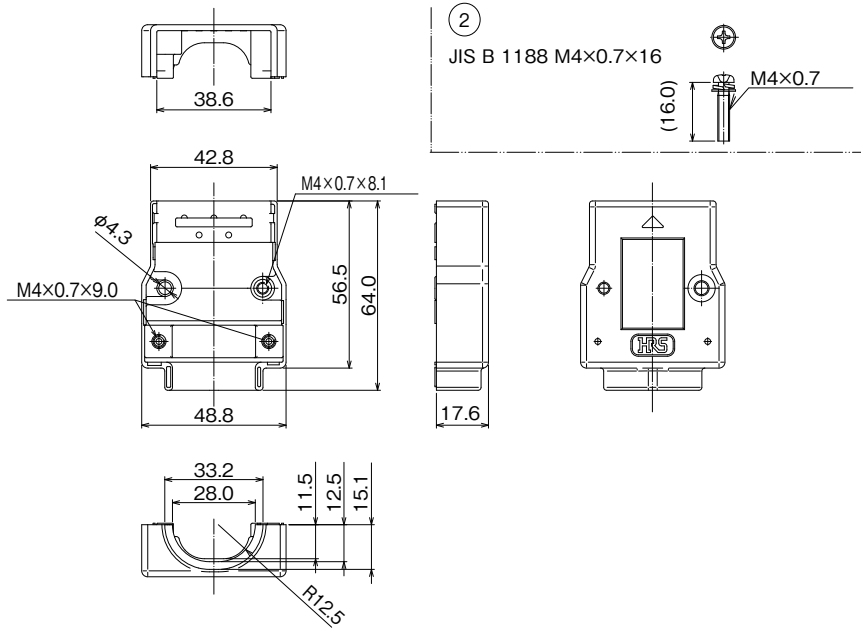




## In-Line Cable Plug

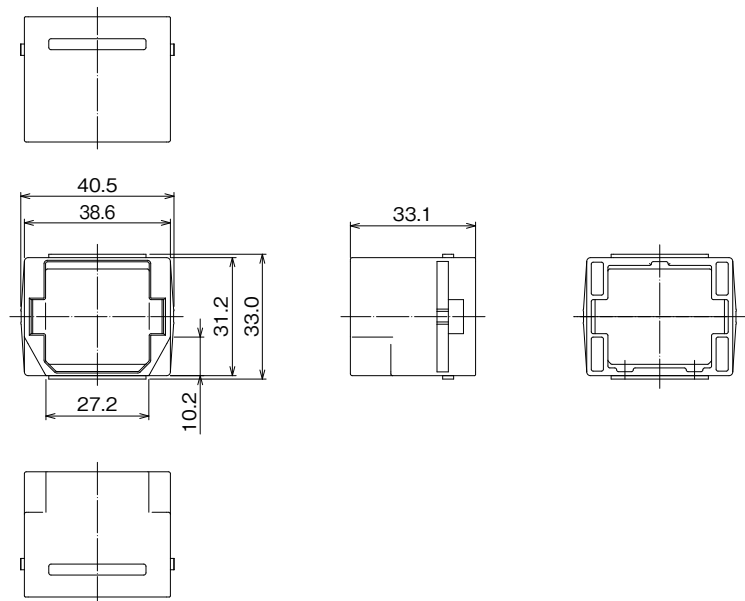
### PQ50 Series

#### ● In-line Plug Cover Case



| Part No.        | HRS No.          | Purchase Unit   |
|-----------------|------------------|-----------------|
| PQ50-20S-JC     | CL0236-2002-3-00 | 100pcs per tray |
| PQ50-20S-JC(01) | CL0236-2002-3-01 | 1pcs per box    |

#### ● In-line Plug Shell

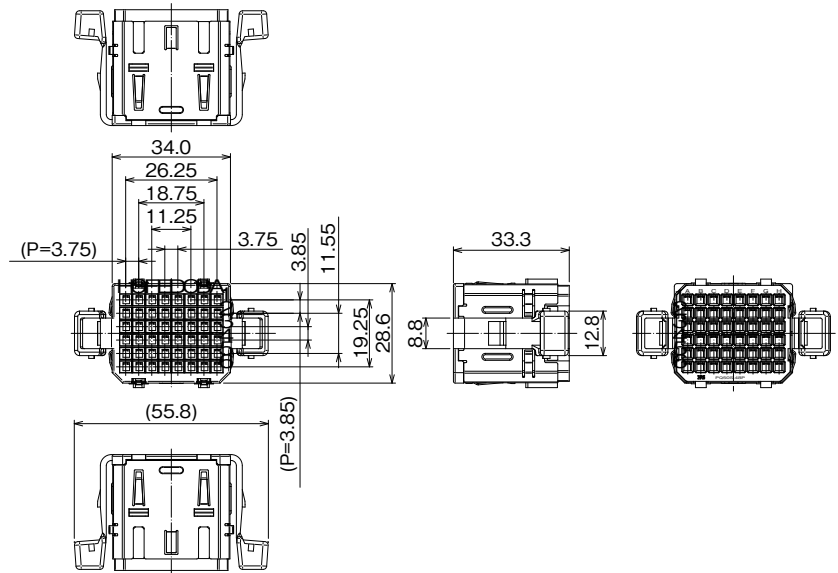


| Part No.        | HRS No.          | Purchase Unit  |
|-----------------|------------------|----------------|
| PQ50-20S-DS     | CL0236-2015-5-00 | 50pcs per tray |
| PQ50-20S-DS(01) | CL0236-2015-5-01 | 1pcs per box   |

## Cable Plug

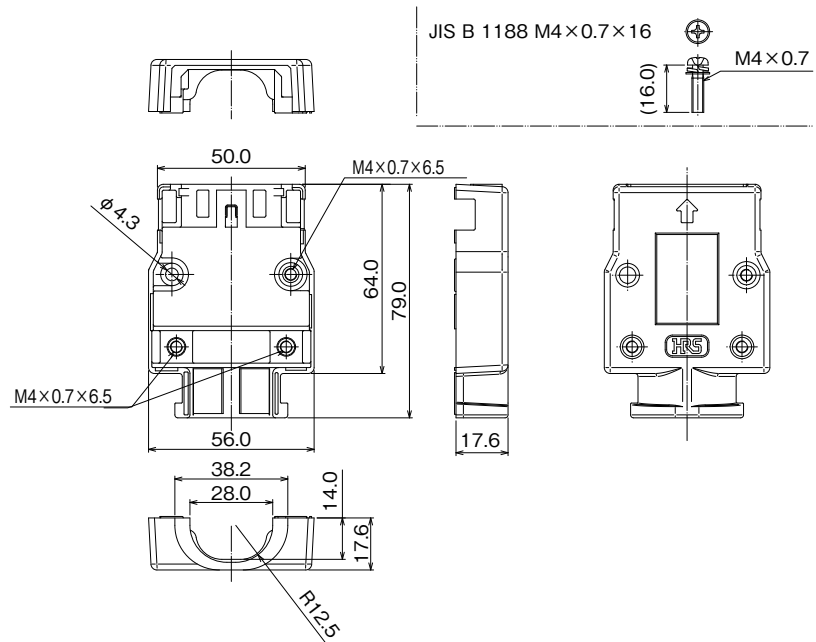
### PQ50S Series

#### ●Crimp Case (12.5A/pin for Male Contact)



| Part No.      | HRS No.          | Purchase Unit  |
|---------------|------------------|----------------|
| PQ50S-48P     | CL0236-2023-3-00 | 60pcs per tray |
| PQ50S-48P(01) | CL0236-2023-3-01 | 1pcs per box   |

#### ●Plug Cover Case

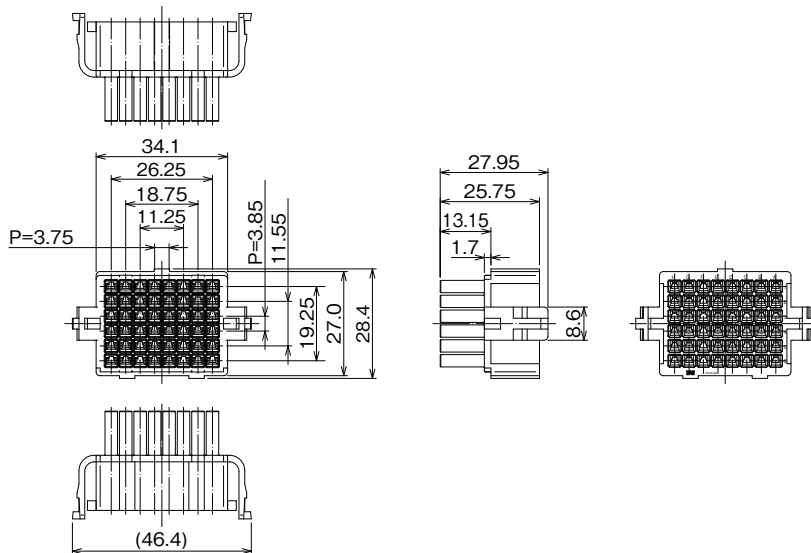


| Part No.           | HRS No.          | Purchase Unit |
|--------------------|------------------|---------------|
| PQ50S-48P-PCMA     | CL0236-2129-0-00 | 60pcs per bag |
| PQ50S-48P-PCMA(01) | CL0236-2129-0-01 | 1pcs per box  |

## Panel Mount Receptacle

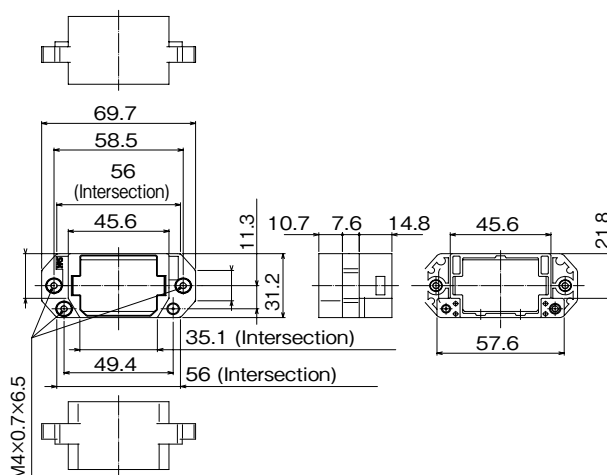
### PQ50S Series

#### ●Crimp Case (12.5A/pin for Female Contact)



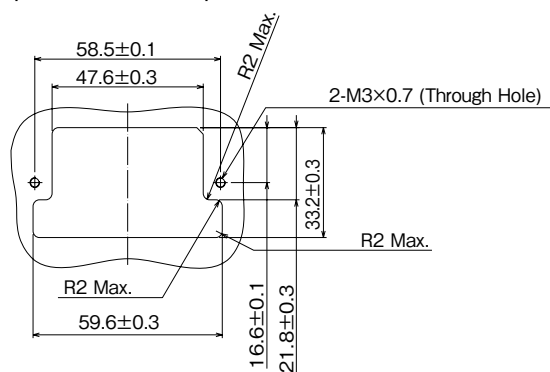
| Part No.      | HRS No.          | Purchase Unit  |
|---------------|------------------|----------------|
| PQ50S-48S     | CL0236-2024-6-00 | 60pcs per tray |
| PQ50S-48S(01) | CL0236-2024-6-01 | 1pcs per box   |

## ● Panel Shell

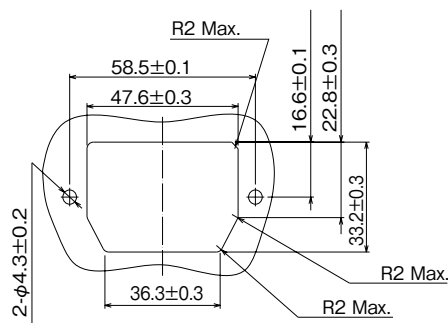


### Panel Mounting Dimensions

Recommended panel dimensions for attaching panel shell from panel's front side.



Recommended panel dimensions for attaching panel shell from panel's back side.

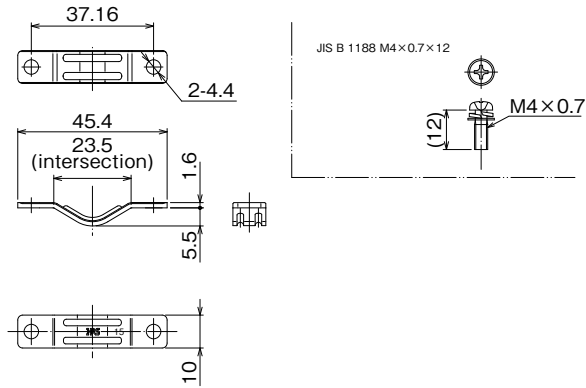


| Part No.           | HRS No.          | Purchase Unit |
|--------------------|------------------|---------------|
| PQ50S-48S-FLMA     | CL0236-2130-0-00 | 60pcs per bag |
| PQ50S-48S-FLMA(01) | CL0236-2130-0-01 | 1pcs per box  |

## Clamp Metal

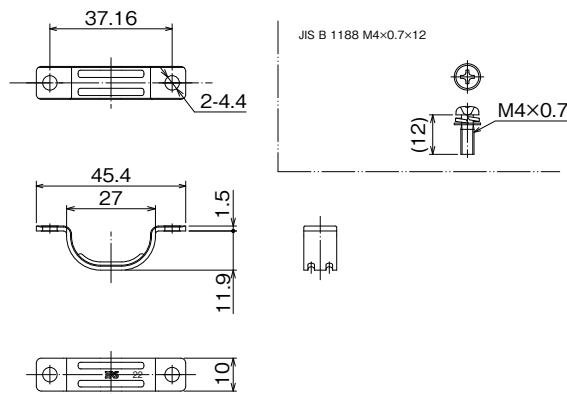
### PQ50/PQ50S Series

#### ● Clamp Metal for $\phi 15.0\text{mm}$ Cable Type



| Part No.        | HRS No.          | Purchase Unit |
|-----------------|------------------|---------------|
| PQ-CM(15.0)     | CL0236-2005-1-00 | 60pcs per bag |
| PQ-CM(15.0)(01) | CL0236-2005-1-01 | 1pcs per box  |

#### ● Clamp Metal for $\phi 22.0\text{mm}$ Cable Type

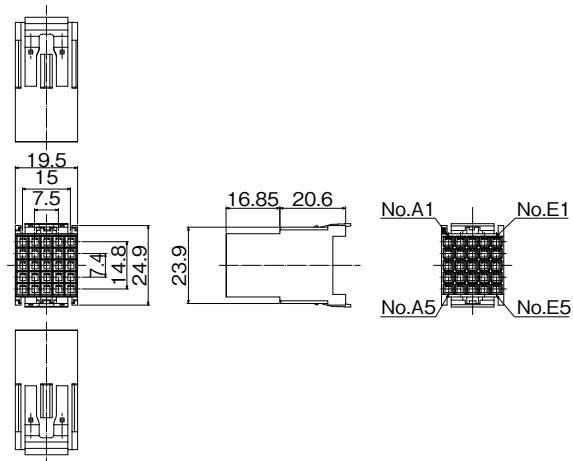


| Part No.        | HRS No.          | Purchase Unit |
|-----------------|------------------|---------------|
| PQ-CM(22.0)     | CL0236-2013-0-00 | 50pcs per bag |
| PQ-CM(22.0)(01) | CL0236-2013-0-01 | 1pcs per box  |

## Cable Plug

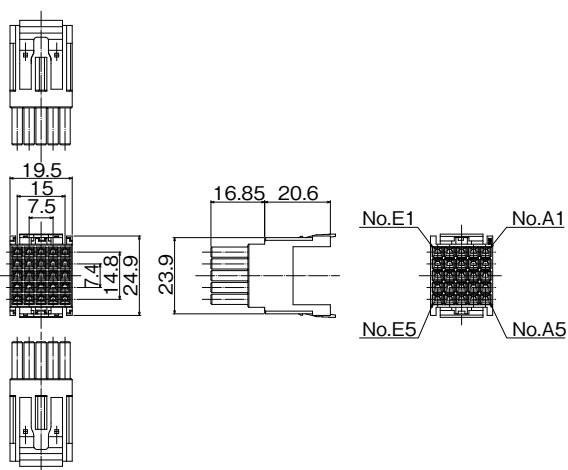
### PQ50W Series

#### ●Crimp Case (12.5A/pin for Male Contact)



| Part No.        | HRS No.          | Purchase Unit  |
|-----------------|------------------|----------------|
| PQ50WS-25P-UNIT | CL0236-2021-8-00 | 50pcs per tray |

#### ●Crimp Case (12.5A/pin for Female Contact)



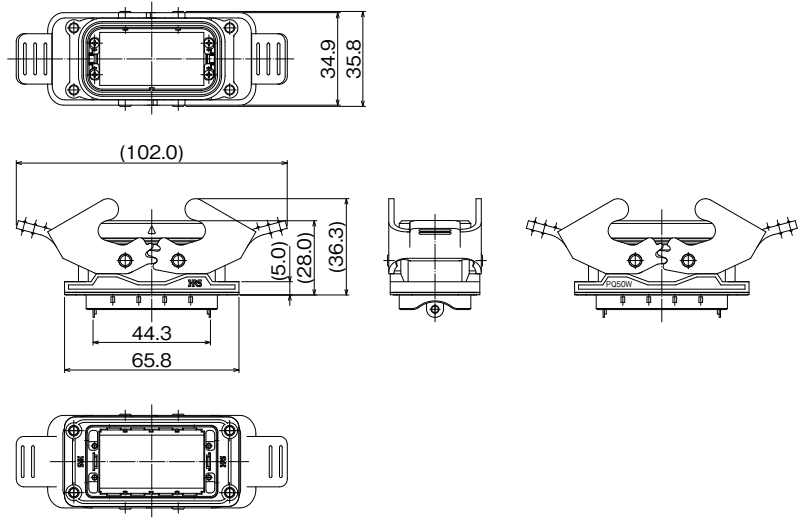
| Part No.        | HRS No.          | Purchase Unit  |
|-----------------|------------------|----------------|
| PQ50WS-25S-UNIT | CL0236-2022-0-00 | 50pcs per tray |



## Panel Mount Receptacle

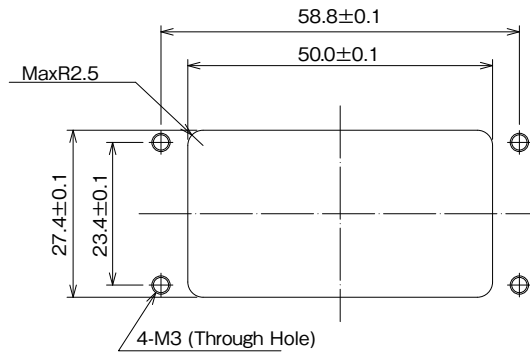
### PQ50W Series

#### ● Panel Shell



### Panel Mounting Dimensions

Panel dimensions for attaching panel shell from panel's front side.

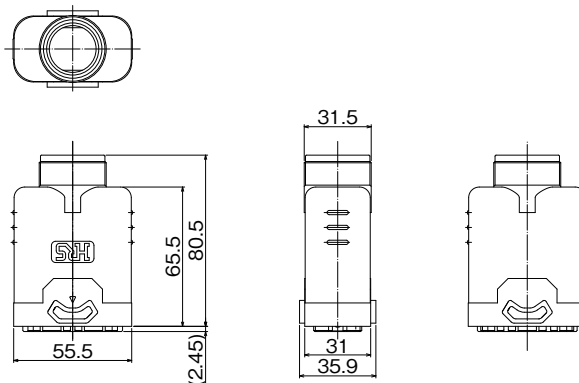


| Part No.     | HRS No.          | Purchase Unit  |
|--------------|------------------|----------------|
| PQ50W-50-FLA | CL0236-2132-0-00 | 20pcs per tray |

## Cable Plug

### PQ50W Series

#### ●Cover Case

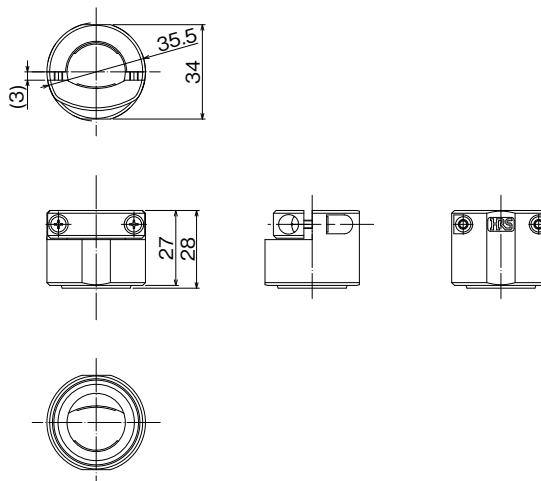


| Part No.     | HRS No.          | Purchase Unit  |
|--------------|------------------|----------------|
| PQ50W-50-PCA | CL0236-2133-0-00 | 10pcs per tray |

## Metal Cable Clamp

### PQ50W Series

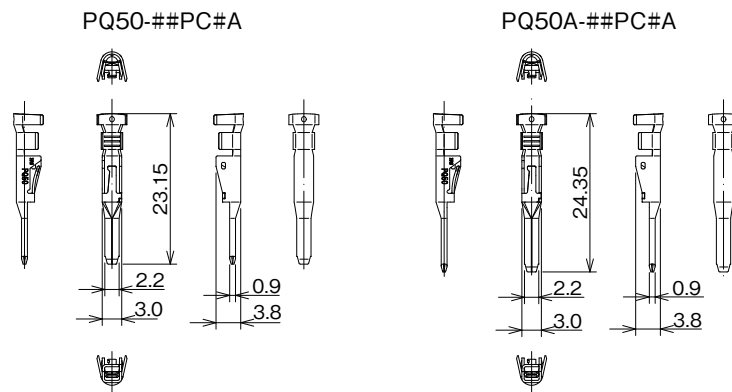
#### ●Cable Clamp for $\phi 17.5$ mm Cable Type



| Part No.     | HRS No.          | Purchase Unit  |
|--------------|------------------|----------------|
| PQW-CM(17.5) | CL0236-2019-6-00 | 100pcs per bag |

## Crimp Contacts

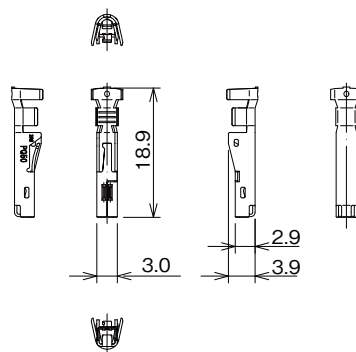
### ● Male Contact (19A/pin Type)



| Part No.            | HRS No.          | Purchase Unit     | Applicable Cables                                       |
|---------------------|------------------|-------------------|---|
| PQ50-15PCFA (Note)  | CL0236-2016-8-00 | 3,500pcs per reel | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50A-15PCFA (Note) | CL0236-2073-1-00 |                   | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-1618PCFA       | CL0236-2006-4-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50A-1618PCFA      | CL0236-2007-7-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-2022PCFA       | CL0236-2031-1-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |
| PQ50A-2022PCFA      | CL0236-2032-4-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |
| PQ50-15PCA          | CL0236-2037-8-00 | 100pcs per bag    | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50A-15PCA         | CL0236-2073-1-00 |                   | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-1618PCA        | CL0236-2038-0-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50A-1618PCA       | CL0236-2040-2-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-2022PCA        | CL0236-2039-3-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |
| PQ50A-2022PCA       | CL0236-2041-5-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |

Note: Please see ATAI-E2926 for details on UL1015, 14 AWG cable crimping.

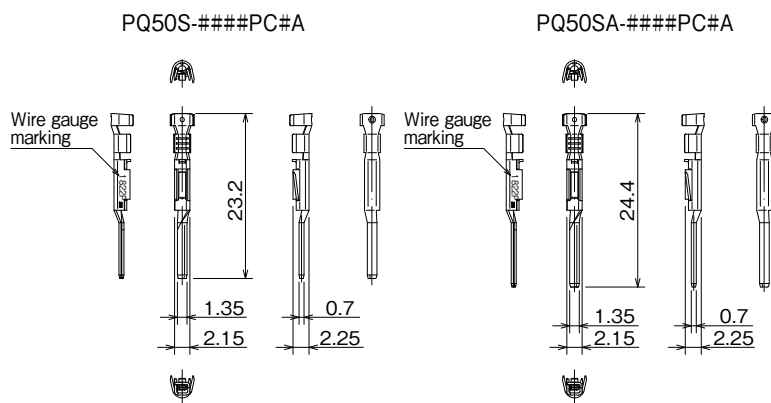
### ● Female Contact (19A/pin) Type



| Part No.           | HRS No.          | Purchase Unit     | Applicable Cables                                       |
|--------------------|------------------|-------------------|---|
| PQ50-15SCFA (Note) | CL0236-2017-0-00 | 3,500pcs per reel | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-1618SCFA      | CL0236-2008-0-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-2022SCFA      | CL0236-2010-1-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |
| PQ50-15SCA         | CL0236-2043-0-00 | 100pcs per bag    | 14 to 15 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-1618SCA       | CL0236-2044-3-00 |                   | 16 to 18 AWG insulator outer diameter Max. $\phi$ 3.3mm |
| PQ50-2022SCA       | CL0236-2045-6-00 |                   | 20 to 22 AWG insulator outer diameter Max. $\phi$ 2.7mm |

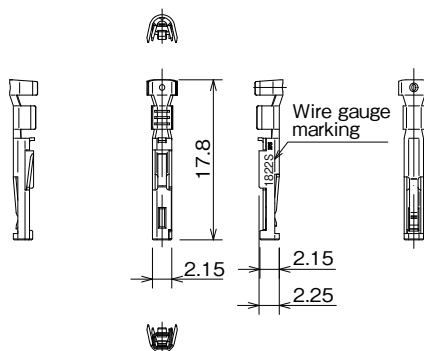
Note : Please see ATAI-E3038 for details on UL1015, 14 AWG cable crimping.

## ● Male Contact (12.5A/pin Type)



| Part No.        | HRS No.          | Purchase Unit     | Applicable Cables  |
|-----------------|------------------|-------------------|--|
| PQ50S-1618PCFA  | CL0236-2094-0-00 | 6,000pcs per reel | 16 to 18 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-1822PCFA  | CL0236-2025-9-00 |                   | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50SA-1822PCFA | CL0236-2029-0-00 |                   | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-2428PCFA  | CL0236-2027-4-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |
| PQ50SA-2428PCFA | CL0236-2030-9-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |
| PQ50S-1822PCA   | CL0236-2046-9-00 | 100pcs per bag    | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50SA-1822PCA  | CL0236-2048-4-00 |                   | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-2428PCA   | CL0236-2047-1-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |
| PQ50SA-2428PCA  | CL0236-2049-7-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |

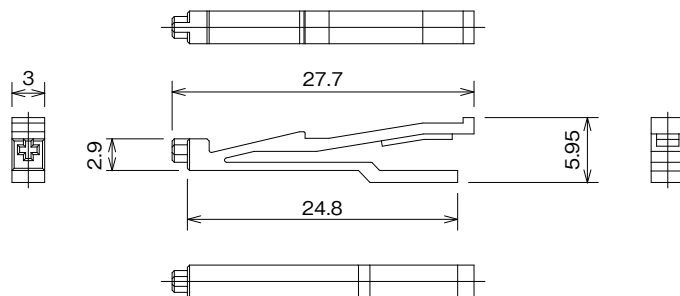
## ● Female Contact (12.5A/pin Type)



| Part No.       | HRS No.          | Purchase Unit     | Applicable Cables  |
|----------------|------------------|-------------------|--|
| PQ50S-1618SCFA | CL0236-2095-0-00 | 6,000pcs per reel | 16 to 18 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-1822SCFA | CL0236-2026-1-00 |                   | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-2428SCFA | CL0236-2028-7-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |
| PQ50S-1822SCA  | CL0236-2050-6-00 | 100pcs per bag    | 18 to 22 AWG insulator outer diameter Max. $\phi$ 2.25mm |
| PQ50S-2428SCA  | CL0236-2051-9-00 |                   | 24 to 28 AWG insulator outer diameter Max. $\phi$ 1.8mm  |

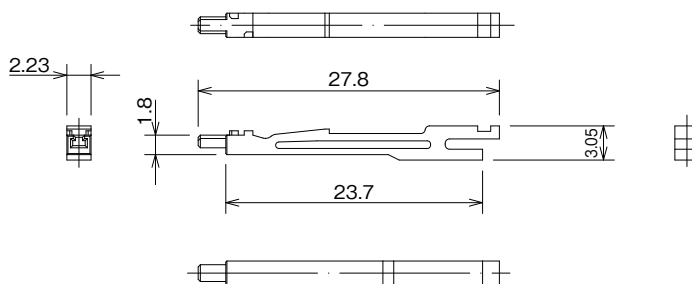
## Coding Key System

### ●For 19A/pin Type Crimp Case



| Part No.   | HRS No.          | Purchase Unit  |
|------------|------------------|----------------|
| PQ50-SC-KY | CL0236-2009-2-00 | 100pcs per bag |

### ●For 12.5A/pin Type Crimp Case

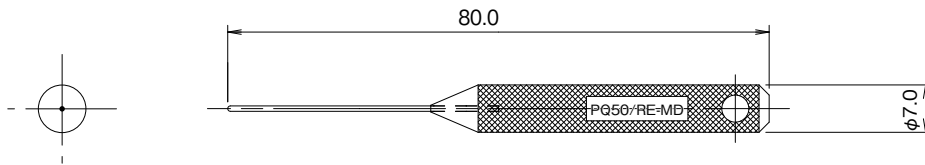


| Part No.    | HRS No.          | Purchase Unit  |
|-------------|------------------|----------------|
| PQ50S-SC-KY | CL0236-2033-7-00 | 100pcs per bag |

## Tools

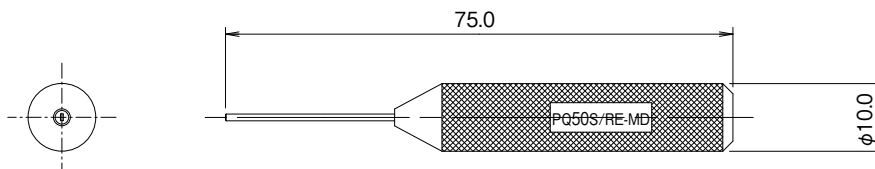
### ■ Extraction Tool

#### ● For 19A/pin Type Crimp Case



| Part No.   | HRS No.          | Purchase Unit |
|------------|------------------|---------------|
| PQ50/RE-MD | CL0902-2201-0-00 | 1pcs per box  |

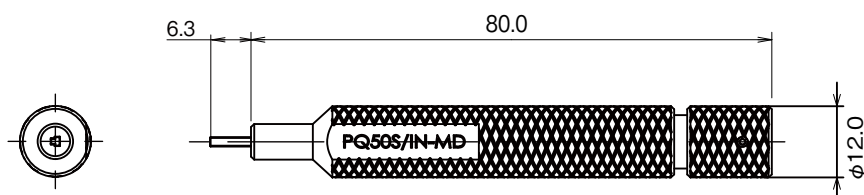
#### ● For 12.5A/pin Type Crimp Case



| Part No.    | HRS No.          | Purchase Unit |
|-------------|------------------|---------------|
| PQ50S/RE-MD | CL0902-2202-2-00 | 1pcs per box  |

### ■ Pin Push Inspection Tool

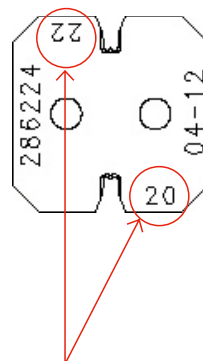
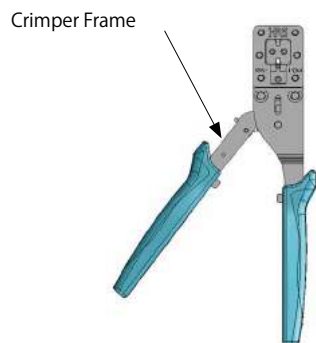
#### ● For 12.5A/pin Type Crimp Case



| Part No.    | HRS No.          | Purchase Unit |
|-------------|------------------|---------------|
| PQ50S/IN-MD | CL0902-2538-0-00 | 1pcs per box  |

## ■ Hand Crimp Tool

Please purchase a compatible frame and tooth profile unit according to the cable you are using.



Switch wire crimper and insulation crimper die according to the wire size being used.

| Part No. | HRS No.          | Remarks  |
|----------|------------------|--|
| HT702    | CL0250-1001-1-00 | Frame only, tooth profile unit sold separately |



## ● Tooth Profile Unit

You can choose to purchase only the tooth profile unit or a set of the tooth profile unit attached to the HT702 frame.

(Ex. 1) For Part No. PQ50-1618(1007)(00)/ HRS No. CL0250-1002-4-00, the insulation crimper, wire crimper, insulation anvil, wire anvil, contact holder A, contact holder B/C, crimper spacer and all component parts are included with purchase of just the tooth profile unit.

(Ex. 2) For Part No. PQ50-1618(1007)(01)/HRS No. CL0250-1002-4-01, the tooth profile unit (all 7 parts ) are already attached to the HT702 frame.

| Part No.              | HRS No.          | Applicable Contacts             | Applicable Cables |          | Purchase Content Based on End Specification of Part No./HRS No. |   |
|-----------------------|------------------|---------------------------------|-------------------|----------|---|---|
|                       |                  |                                 |                   | AWG      | (##) : (00)   | (##) : (01)   |
| PQ50-14(1015)(##)     | CL0250-1019-7-## | PQ50-15PCA<br>PQ50-15SCA        | UL1015            | 14       | Purchase of tooth profile unit only                             | Purchase of set with a tooth profile unit attached to the frame HT702 |
| PQ50A-14(1015)(##)    | CL0250-1021-9-## | PQ50-15PCA<br>PQ50A-15PCA       | UL1015            | 14       |   |   |
| PQ50-14(2517)(00)     | CL0250-1020-6-00 | PQ50-15PCA<br>PQ50-15SCA        | UL2517            | 14       |   |   |
| PQ50A-14(2517)(00)    | CL0250-1022-1-00 | PQ50-15PCA<br>PQ50A-15PCA       | UL2517            | 14       |   |   |
| PQ50-1618(1007)(##)   | CL0250-1002-4-## | PQ50-1618PCA<br>PQ50-1618SCA    | UL1007            | 16/18    |   |   |
| PQ50-1618(1015)(##)   | CL0250-1003-7-## |                                 | UL1015            | 16/18    |   |   |
| PQ50A-1618(1007)(##)  | CL0250-1004-0-## | PQ50-1618PCA<br>PQ50A-1618PCA   | UL1007            | 16/18    |   |   |
| PQ50A-1618(1015)(##)  | CL0250-1005-2-## |                                 | UL1015            | 16/18    |   |   |
| PQ50-2022(1007)(##)   | CL0250-1006-5-## | PQ50-2022PCA<br>PQ50-2022SCA    | UL1007            | 20/22    |   |   |
| PQ50-2022(1015)(##)   | CL0250-1007-8-## |                                 | UL1015            | 20/22    |   |   |
| PQ50A-2022(1007)(##)  | CL0250-1008-0-## | PQ50-2022PCA<br>PQ50A-2022PCA   | UL1007            | 20/22    |   |   |
| PQ50A-2022(1015)(##)  | CL0250-1009-3-## |                                 | UL1015            | 20/22    |   |   |
| PQ50S-1820(1007)(##)  | CL0250-1010-2-## | PQ50S-1822PCA<br>PQ50S-1822SCA  | UL1007            | 18/20    |   |   |
| PQ50S-2022(1007)(##)  | CL0250-1011-5-## |                                 | UL1007            | 20/22    |   |   |
| PQ50S-2223(2586)(00)  | CL0250-1031-2-00 | PQ50S-1822PCA<br>PQ50S-1822SCA  | Sunrex 10516 LF   | 22       |   |   |
|                       |                  |                                 | Hiflon SD-SB/2586 | 23       |   |   |
| PQ50SA-1820(1007)(##) | CL0250-1012-8-## | PQ50SA-1822PCA                  | UL1007            | 18/20    |   |   |
| PQ50SA-2022(1007)(##) | CL0250-1013-0-## |                                 | UL1007            | 20/22    |   |   |
| PQ50SA-2223(2586)(00) | CL0250-1032-5-00 | PQ50S-1822PCA<br>PQ50SA-1822PCA | Sunrex 10516 LF   | 22       |   |   |
|                       |                  |                                 | Hiflon SD-SB/2586 | 23       |   |   |
| PQ50S-2428(1007)(##)  | CL0250-1029-0-## | PQ50S-2428PCA<br>PQ50S-2428SCA  | UL1007            | 24/26/28 |   |   |
| PQ50SA-2428(1007)(##) | CL0250-1030-0-## | PQ50SA-2428PCA                  | UL1007            | 24/26/28 |   |   |

(Note) PQ50-14(2517)(00), PQ50A-14(2517)(00), PQ50S-2223(2586)(00), PQ50SA-2223(2586)(00), only the final specification (00) It will be.

## ●Component List of Tooth Profile Unit for Repair

The components included with the tooth profile unit can be purchased separately.

(Ex.) Purchase of the insulation crimper of the tooth profile unit PQ50-1618(1007) is arranged with Part No. 286191/  
HRS No. CL0250-1002-4-61.

| Tooth Profile Unit Part No. | Insulation Crimper         | Wire Crimper               | Insulation Anvil           | Wire Anvil                 | Contact Holder A           | Contact Holder B/C         | Crimper Spacer             |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| PQ50-14(1015)               | 286629<br>CL0250-1019-7-61 | 286630<br>CL0250-1019-7-62 | 286631<br>CL0250-1019-7-63 | 286632<br>CL0250-1019-7-64 | 285994<br>CL0250-1019-7-65 | 285995<br>CL0250-1019-7-66 | 285996<br>CL0250-1019-7-67 |
| PQ50A-14(1015)              | 286629<br>CL0250-1021-9-61 | 286630<br>CL0250-1021-9-62 | 286631<br>CL0250-1021-9-63 | 286632<br>CL0250-1021-9-64 | 285994<br>CL0250-1021-9-65 | 286192<br>CL0250-1021-9-66 | 285996<br>CL0250-1021-9-67 |
| PQ50-14(2517)               | 286633<br>CL0250-1020-6-61 | 286630<br>CL0250-1020-6-62 | 286631<br>CL0250-1020-6-63 | 286632<br>CL0250-1020-6-64 | 285994<br>CL0250-1020-6-65 | 285995<br>CL0250-1020-6-66 | 285996<br>CL0250-1020-6-67 |
| PQ50A-14(2517)              | 286633<br>CL0250-1022-1-61 | 286630<br>CL0250-1022-1-62 | 286631<br>CL0250-1022-1-63 | 286632<br>CL0250-1022-1-64 | 285994<br>CL0250-1022-1-65 | 286192<br>CL0250-1022-1-66 | 285996<br>CL0250-1022-1-67 |
| PQ50-1618(1007)             | 286191<br>CL0250-1002-4-61 | 285991<br>CL0250-1002-4-62 | 285992<br>CL0250-1002-4-63 | 285993<br>CL0250-1002-4-64 | 285994<br>CL0250-1002-4-65 | 285995<br>CL0250-1002-4-66 | 285996<br>CL0250-1002-4-67 |
| PQ50-1618(1015)             | 285990<br>CL0250-1003-7-61 | 285991<br>CL0250-1003-7-62 | 285992<br>CL0250-1003-7-63 | 285993<br>CL0250-1003-7-64 | 285994<br>CL0250-1003-7-65 | 285995<br>CL0250-1003-7-66 | 285996<br>CL0250-1003-7-67 |
| PQ50A-1618(1007)            | 286191<br>CL0250-1004-0-61 | 285991<br>CL0250-1004-0-62 | 285992<br>CL0250-1004-0-63 | 285993<br>CL0250-1004-0-64 | 285994<br>CL0250-1004-0-65 | 286192<br>CL0250-1004-0-66 | 285996<br>CL0250-1004-0-67 |
| PQ50A-1618(1015)            | 285990<br>CL0250-1005-2-61 | 285991<br>CL0250-1005-2-62 | 285992<br>CL0250-1005-2-63 | 285993<br>CL0250-1005-2-64 | 285994<br>CL0250-1005-2-65 | 286192<br>CL0250-1005-2-66 | 285996<br>CL0250-1005-2-67 |
| PQ50-2022(1007)             | 286197<br>CL0250-1006-5-61 | 286194<br>CL0250-1006-5-62 | 285992<br>CL0250-1006-5-63 | 286196<br>CL0250-1006-5-64 | 285994<br>CL0250-1006-5-65 | 285995<br>CL0250-1006-5-66 | 285996<br>CL0250-1006-5-67 |
| PQ50-2022(1015)             | 286193<br>CL0250-1007-8-61 | 286194<br>CL0250-1007-8-62 | 285992<br>CL0250-1007-8-63 | 286196<br>CL0250-1007-8-64 | 285994<br>CL0250-1007-8-65 | 285995<br>CL0250-1007-8-66 | 285996<br>CL0250-1007-8-67 |
| PQ50-2022(1007)             | 286197<br>CL0250-1006-5-61 | 286194<br>CL0250-1006-5-62 | 285992<br>CL0250-1006-5-63 | 286196<br>CL0250-1006-5-64 | 285994<br>CL0250-1006-5-65 | 285995<br>CL0250-1006-5-66 | 285996<br>CL0250-1006-5-67 |
| PQ50-2022(1015)             | 286193<br>CL0250-1007-8-61 | 286194<br>CL0250-1007-8-62 | 285992<br>CL0250-1007-8-63 | 286196<br>CL0250-1007-8-64 | 285994<br>CL0250-1007-8-65 | 285995<br>CL0250-1007-8-66 | 285996<br>CL0250-1007-8-67 |
| PQ50A-2022(1007)            | 286197<br>CL0250-1008-0-61 | 286194<br>CL0250-1008-0-62 | 285992<br>CL0250-1008-0-63 | 286196<br>CL0250-1008-0-64 | 285994<br>CL0250-1008-0-65 | 286192<br>CL0250-1008-0-66 | 285996<br>CL0250-1008-0-67 |
| PQ50A-2022(1015)            | 286193<br>CL0250-1009-3-61 | 286194<br>CL0250-1009-3-62 | 285992<br>CL0250-1009-3-63 | 286196<br>CL0250-1009-3-64 | 285994<br>CL0250-1009-3-65 | 286192<br>CL0250-1009-3-66 | 285996<br>CL0250-1009-3-67 |

Top Row : Part No.  
Bottom Row : HRS No.

| Tooth Profile Unit Part No. | Insulation Crimper         | Wire Crimper               | Insulation Anvil           | Wire Anvil                 | Contact Holder A           | Contact Holder B/C         | Crimper Spacer             |
|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| PQ50S-1820(1007)            | 286219<br>CL0250-1010-2-61 | 286223<br>CL0250-1010-2-62 | 286225<br>CL0250-1010-2-63 | 286226<br>CL0250-1010-2-64 | 286233<br>CL0250-1010-2-65 | 286234<br>CL0250-1010-2-66 | 285996<br>CL0250-1010-2-67 |
| PQ50S-2022(1007)            | 286220<br>CL0250-1011-5-61 | 286224<br>CL0250-1011-5-62 | 286225<br>CL0250-1011-5-63 | 286226<br>CL0250-1011-5-64 | 286233<br>CL0250-1011-5-65 | 286234<br>CL0250-1011-5-66 | 285996<br>CL0250-1011-5-67 |
| PQ50S-2223(2586)            | 286999<br>CL0250-1031-2-61 | 286224<br>CL0250-1031-2-62 | 286225<br>CL0250-1031-2-63 | 286226<br>CL0250-1031-2-64 | 286233<br>CL0250-1031-2-65 | 286234<br>CL0250-1031-2-66 | 285996<br>CL0250-1031-2-67 |
| PQ50SA-1820(1007)           | 286219<br>CL0250-1012-8-61 | 286223<br>CL0250-1012-8-62 | 286225<br>CL0250-1012-8-63 | 286226<br>CL0250-1012-8-64 | 286233<br>CL0250-1012-8-65 | 286235<br>CL0250-1012-8-66 | 285996<br>CL0250-1012-8-67 |
| PQ50SA-2022(1007)           | 286220<br>CL0250-1013-0-61 | 286224<br>CL0250-1013-0-62 | 286225<br>CL0250-1013-0-63 | 286226<br>CL0250-1013-0-64 | 286233<br>CL0250-1013-0-65 | 286235<br>CL0250-1013-0-66 | 285996<br>CL0250-1013-0-67 |
| PQ50SA-2223(2586)           | 286999<br>CL0250-1032-5-61 | 286224<br>CL0250-1032-5-62 | 286225<br>CL0250-1032-5-63 | 286226<br>CL0250-1032-5-64 | 286233<br>CL0250-1032-5-65 | 286235<br>CL0250-1032-5-66 | 285996<br>CL0250-1032-5-67 |
| PQ50S-2428(1007)            | 286876<br>CL0250-1029-0-61 | 286877<br>CL0250-1029-0-62 | 286231<br>CL0250-1029-0-63 | 286232<br>CL0250-1029-0-64 | 287753<br>CL0250-1029-0-65 | -                          | 285996<br>CL0250-1029-0-67 |
| PQ50SA-2428(1007)           | 286876<br>CL0250-1030-0-61 | 286877<br>CL0250-1030-0-62 | 286231<br>CL0250-1030-0-63 | 286232<br>CL0250-1030-0-64 | 286233<br>CL0250-1030-0-65 | 286235<br>CL0250-1030-0-66 | 285996<br>CL0250-1030-0-67 |

Top Row : Part No.

Bottom Row : HRS No.

## While Taking into Consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please confirm the Drawing and Product Specifications sheets.

Use an appropriate cable when using the connector in combination with cables.

If considering usage of a non-specified cable, please contact your sales representative.

If assembly process is done by jigs & tools which are not identified by Hirose, assurance will not be given.

If considering usage for below mentioned applications, please contact your sales representative.

In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/ defense etc. Hirose must review before assurance of reliability can be given.

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