






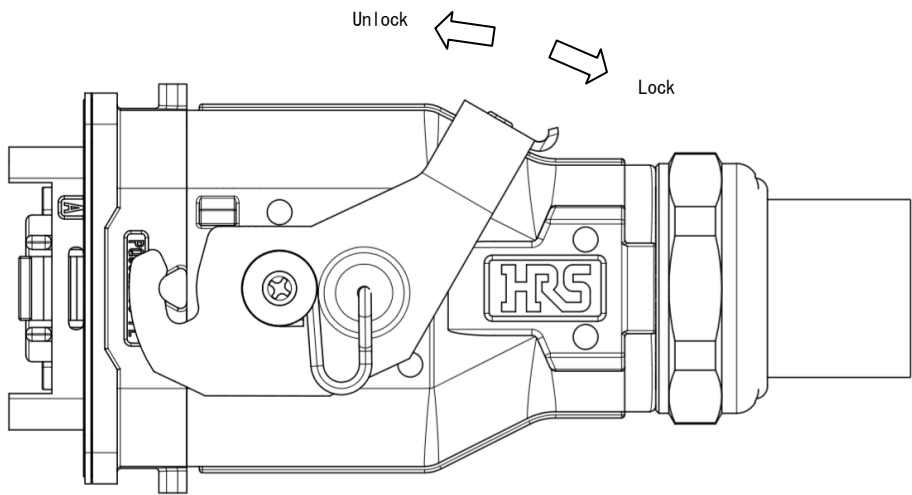
|   |  |   |                           |                                       |   |
|---|--|---|---------------------------|---------------------------------------|---|
| Applicable Standard   |  |   |                           |                                       |   |
| Rating  | Operating Temperature Range  | Note.1 -55°C to +105°C  | Storage Temperature Range | Note.2 -55°C to +85°C                 |   |
|   | Voltage  | AC 600 V, DC 600 V(only connector)<br>AC 300 V, DC 300 V(TUV·UL)                    | —                         | —                                     |   |
|   | Current  | 12.5A/pin (AWG#18 UL1007)<br>Conduct specified current to a single pin of contacts. | Applicable Cable          | AWG#16 to AWG#28<br>(UL-STYLE:UL1007) |   |
| SPECIFICATIONS  |  |   |                           |                                       |   |
| ITEM  |  | TEST METHOD   |                           | REQUIREMENTS                          | QT AT   |
| CONSTRUCTION  |  |   |                           |                                       |   |
| General Examination   |  | Visually and by measuring instrument.   |                           | According to drawing.                 | X X   |
| Marking   |  | Confirmed visually.   |                           |                                       | X X   |
| ELECTRICAL CHARACTERISTICS  |  |   |                           |                                       |   |
| Contact Resistance  | 100 mA (DC or 1000 Hz) max.  | Note.3 5 mΩ max. (contact spacing)  |                           | X                                     | -   |
|   |  | Note.3 50 mΩ max. (shell spacing)   |                           | X                                     | -   |
| Insulation Resistance   | 500 V DC.  | 5000 MΩ min.  |                           | X                                     | -   |
| Voltage Proof   | 3310 V AC. for 1 min.  | No flashover or breakdown.  |                           | X                                     | -   |
| Temperature Rise  | Conduct specified current to a single pin.<br>Current carried:12.5A/pin (AWG#18 UL1007)  | Max.30°C increase from ambient temperature.   |                           | X                                     | -   |
| MECHANICAL CHARACTERISTICS  |  |   |                           |                                       |   |
| Contact Insertion and Withdrawal Forces   | Measure with the contact pair.   | Insertion force : 3.0 N max.<br>Withdrawal force : 0.3 N min.                       |                           | X                                     | -   |
| Connector Insertion and Withdrawal Forces   | Measure with the lock lever released<br>(all contacts are assembled)   | Insertion force : 138 N max.<br>Withdrawal force : 13.8 N min.                      |                           | X                                     | -   |
| Contact (Lance) Retention Forces  | Apply axial pull out force at the speed rate of 25mm/min to the terminal, and measure the force when the terminal is pull out. | 29.4N min.  |                           | X                                     | -   |
| COUNT   | DESCRIPTION OF REVISIONS   |   | DESIGNED                  | CHECKED                               | DATE  |
|        |  |   |                           |                                       |   |
| REMARK  |  |   | APPROVED                  | RI. TAKAYASU                          | 18.07.09  |
| Above spesification shows the values in assembled condition with "PQ50WA" series.         |  |   | CHECKED                   | AH. KODAMA                            | 18.07.09  |
| In case of using for other series of connector,the specification is based on each series. |  |   | DESIGNED                  | TY. MIURA                             | 18.07.09  |
| Unless otherwise specified, refer to IEC 60512.   |  |   | DRAWN                     | TY. MIURA                             | 18.07.09  |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test                            |  |   | DRAWING NO.               |                                       | ELC-129676-00-00  |
|        | SPECIFICATION SHEET  |   | PART NO.                  | PQ50WA-1U-FL                          |   |
|   | HIROSE ELECTRIC CO., LTD.  |   | CODE NO.                  | CL236-2119-0-00                       |  1/3 |

| SPECIFICATIONS  |  |  |                  |   |     |
|---|--|--|------------------|---|-----|
| ITEM  | TEST METHOD  | REQUIREMENTS   | QT               | AT  |     |
| MECHANICAL CHARACTERISTICS  |  |  |                  |   |     |
| Conductor Pressure Bonding Forces   | Crimp the cable only at the conductor, and retention force shall exceed the specification when pull force is applied.<br>① PQ50S (A)-1618P (S) CFA (AWG#16 UL1007)<br>② PQ50S (A)-1822P (S) CFA (AWG#18 UL1007)<br>③ PQ50S (A)-1822P (S) CFA (AWG#24 UL1007) | ① 133.5 N min.<br>② 89.0 N min.<br>③ 22.3 N min.   | X                | -   |     |
| Lock Strength   | Apply 98 N pull force for 1 minutes to the plug in mating axial direction with locked condition.   | No damage, crack and looseness of parts.   | X                | -   |     |
| Lever Operation Force   | Measure the lever operation force for lock/unlock.   | Lock : 147 N max.<br>Unlock : 147 N max.   | X                | -   |     |
| Cable Clamp Strength  | Apply pull force of 98N in mating direction for a minute.  | ① Contacts should be retained.<br>② No damage, crack and looseness of parts.   | X                | -   |     |
| Mechanical Operation  | 100 times insertions and extractions.  | Note.3 ① Change in contact resistance of contacts : 20 mΩ max.<br>② No damage, crack and looseness of parts.   | X                | -   |     |
| Vibration   | Frequency : 10 to 55 Hz, single amplitude 0.75 mm, at 2 h, for 3 directions.<br>(reference for appended figure 2)  | ① No electrical discontinuity of 10 μs.<br>② No damage, crack and looseness of parts.  | X                | -   |     |
| Shock   | In opposite directions of each 6 dimension axis for 3 times at 490 m/s <sup>2</sup> durations of pulse 11 ms.  | ① No electrical discontinuity of 10 μs.<br>② No damage, crack and looseness of parts.  | X                | -   |     |
| ENVIRONMENTAL CHARACTERISTICS   |  |  |                  |   |     |
| Rapid Change of Temperature   | Temperature -55 → 15 to 35 → 105 → 15 to 35 °C<br>Time 30 → 2 to 3 → 30 → 2 to 3 min. Under 5 cycles.  | Note.3 ① Change in contact resistance of contacts : 20 mΩ max.<br>② No damage, crack and looseness of parts.   | X                | -   |     |
| Heat Resistance   | Exposed at 105 °C ± 2 °C, 96 h, and combine the applicable connectors.   | Note.3 ① Change in contact resistance of contacts : 20 mΩ max.<br>② Insulation resistance : 1000 MΩ min.<br>③ No damage, crack and looseness of parts.                     | X                | -   |     |
| Cold Resistance   | Exposed at -55 °C ± 3 °C, 96 h, and combine the applicable connectors.   | Note.3 ① Change in contact resistance of contacts : 20 mΩ max.<br>② Insulation resistance : 1000 MΩ min.<br>③ No damage, crack and looseness of parts.                     | X                | -   |     |
| Humidity  | Exposed at 60 °C ± 2 °C, 90 to 95 %, 96 h, and combine the applicable connectors.  | Note.3 ① Change in contact resistance of contacts : 20 mΩ max.<br>② Insulation resistance : 1000 MΩ min.<br>(after it drier)<br>③ No damage, crack and looseness of parts. | X                | -   |     |
| Mixed Flowing Gas   | Exposed in SO <sub>2</sub> 10 ppm, H <sub>2</sub> S 3 ppm, 70 to 80 %, 24 h, and combine the applicable connectors.  | No heavy corrosion ruin the function.  | X                | -   |     |
| Dust/Splash Protection  | Follow IEC60529 tests and combine the applicable connectors.   | IP65(IEC60529) min protected to avoid dust intrusion.<br>No harmful effect from direct water splash from any directions.   | X                | -   |     |
| REMARK  |  |  |                  |   |     |
| <p>"A" in parenthesis PQ50S(A) indicates sequential contacts PQ50SA.</p> <p>Note.1 ① The product performance is guaranteed only in the temperature adequate people' s activities.<br/>② Include temperature rise caused by current-carrying.<br/>③ Specifications for assembled item with applicable housing.</p> <p>Note.2 Packing materials are not included.</p> <p>Note.3 Cable conductor resistance is not included.</p> |  |  |                  |   |     |
| Note QT:Qualification Test AT:Assurance Test X:Applicable Test  |  | DRAWING NO.  | ELC-129676-00-00 |   |     |
|    | SPECIFICATION SHEET  | PART NO.   | PQ50WA-1U-FL     |   |     |
|   | HIROSE ELECTRIC CO., LTD.  | CODE NO  | CL236-2119-0-00  |  | 2/3 |

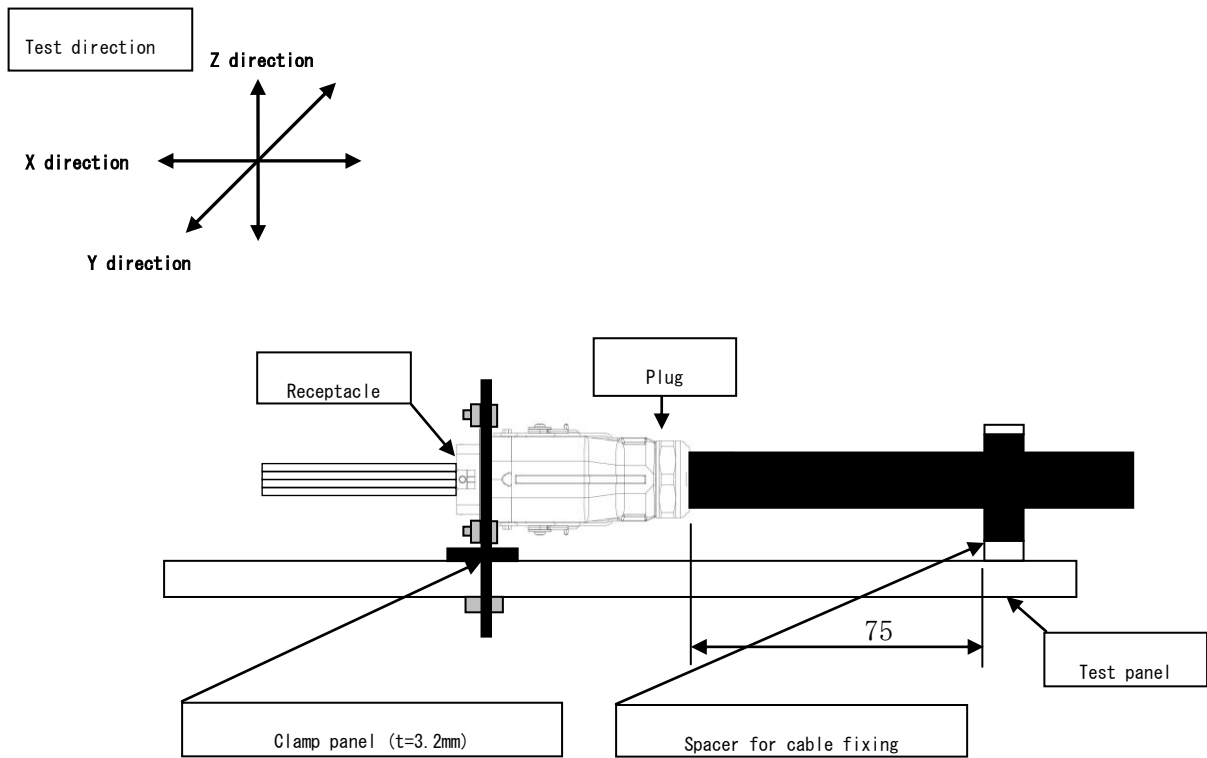
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APPENDED FIGURE

Appended figure 1. lever operation force



Appended figure 2. vibration test method diagram(side view).



|   |                           |  |             |                 |   |     |
|---|---------------------------|--|-------------|-----------------|---|-----|
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|   | HIROSE ELECTRIC CO., LTD. |  | CODE NO     | CL236-2119-0-00 |  | 3/3 |