## 1. Scope

This specification outlines the performance, testing, and quality requirements for RJ45 Modular Plug connectors.

Applicable Product Models:FMP21 series.

## 2. Applicable documents

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

## 3. Ordering information

Refer to the drawing.

## 4. Connector dimensions

Refer to the drawing.

## 5. Material

Housing： Zinc Alloy

Terminal: Copper Alloy

Plating: Selective gold plated on contact area and matte tin plated on tails area

CAP:PC,(UL 94V-0)

## 6. Rating

Operating voltage(Max.):125V DC

Current rating(Max.) :1.5A allowable current to be applied

Temperature range-operating: -10°C -- +60°C

**7. Performance**

| Serial Number | Test item | Procedure | Requirement |
|---|---|---|---|
| 1 | Examination Of Product | Visual inspection. (EIA-364-18) | Meets requirements of product Drawing. No physical damage. |
| | | Electrical Requirement | |
| 2 | Contact Resistance | In an environment with an ambient temperature of 23 ±2°C and a relative humidity of 65±5%,contact resistance between the plug and socket. (IEC-60603-7) | Contact Resistance：20mΩ Max. |
| 3 | Insulation Resistance | Under an ambient temperature of 23±2°C and a relative humidity of 65±5%, apply 500V DC between adjacent pins for 1 minute. (IEC-60603-7) | 500 MΩ min. Initial |
| 4 | Dielectric withstanding Voltage | Under an ambient temperature of 23±2°C, apply 1000V AC between adjacent pins for 1 minute. (IEC-60603-7) | No Breakdown |
| | | Mechanical Requirement | |
| 5 | Mating and Unmating force | Pair the samples and press down the latching mechanism at a maximum speed of 10 mm/s. Each test cycle consists of one insertion and one removal action, with 50 total cycles required. (IEC60603-7) | Both insertion and removal forces must be within the 20N range. |

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|---|---|---|---|
| 6 | Durability | Pair the samples and perform 750 insertion/removal cycles at an operating speed of 100 mm/min. (IEC60603-7) | Appearance: Nodamage<br>Contact Resistance：20mΩ Max. |
| 7 | Contact spring compression test | Conduct a cyclic compression test on the spring contact using a specialized fixture. Apply 20 cycles per minute, ensuring full engagement of the locking mechanism to the crystal head’ s base surface, with a total of 750 cycles. (IEC60603-7) | Appearance: Nodamage |

Environment Performance AND Others

| | | | |
|---|---|---|---|
| 8 | thermal shock | Low Temperature: -40°C, hold time 0.5 hours;<br>High Temperature: 70°C, hold time 0.5 hours;<br>Transition Time: ≤10 seconds;<br>Number of Cycles: 25 cycles;<br>Post-Test Procedure: Recovery period of 2 hours followed by testing.<br>Laboratory Environmental Conditions:<br>Temperature: 15°C to 35°C.<br>Humidity: 55% RH. | Appearance: Nodamage<br>Contact Resistance：20mΩ Max. |

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|---|---|---|---|
| 9 | Salt Spray | Salt Mist Concentration: 5%;<br>pH Value: 6.8 ±0.45;<br>Spray Rate: 1.0~2.0 (ml/80 cm²/h);<br>Relative Humidity (RH): ≥85%;<br>Inclination Angle of Test Specimen: 15°~45°;<br>Test Duration: 48 hours.<br>(GB/T 10125-2021) | Appearance: Nodamage |