



# *2PX series circular connector*

Sichuan Huafeng Technology Co., Ltd.  
四川华丰科技股份有限公司



## Sichuan Huafeng Technology Co., Ltd.

Huafeng, founded in 1958, is a global provider of optoelectronic connectors and interconnection solutions. In 1958, the company introduced connector production technology of Russia standard to open the way of connector made in China. Electromechanical Components, a research journal of connector technology founded in 1981, began to be published nationwide. In 1984, we imported MIL standard connector production line and technology from USA. Since 1987, the company has participated in the formulation of Chinese national standards for connectors. In 2016, the company developed the first IEC standard for power connectors in China. From technology introduction to independent innovation, and then to providing interconnection technology services for the whole world, Huafeng is moving forward, steady and far.

We have built a forward R & D platform for connectors, focusing on the development of high-speed connectors and optical modules for backplane bus, PCB mezzanine bus and I/O bus. We have continuously researched and developed for more than 20 years, providing high-speed interconnection solutions with transmission rates of 1.25Gbps to 224Gbps, meeting the rapid development and application needs of communication equipment.

Huafeng has developed the "system interconnection" products for the overall interconnection solution of equipment, which can identify, process and integrate the high-speed, radio frequency, power, optical and other signals of the equipment information system, realize the fast connection between the equipment systems and the equipment in the system in the form of no cable, modularization, wireless, bus and intelligence, and solve the electromagnetic protection, miniaturization and rapid maintenance of the equipment maintenance and other issues.

The developed connectors, from low frequency to high frequency, from electric port to optical port, from standard type to special customization, can adapt to various special environments such as deep sea environment, high voltage environment, high vibration and impact environment, electromagnetic interference environment, high and low temperature environment, space and aerospace environment, and provide users with interconnection solutions one-stop service. Adhering to the "reliable" culture of "Reliable Connection Comes from Huafeng", the company has built an intelligent factory with the whole process of connector manufacturing and a perfect quality assurance system. It realizes automatic production, automatic detection and sorting from the whole process of connector contact manufacturing, insulator molding, shell processing, surface treatment, assembly and packaging, with controllable and traceable quality.

Striving for high reliability, safety and environmental protection of connectors, Huafeng is committed to providing more professional, reliable and intelligent interconnection technologies and products to global defense equipment, communication equipment, rail transit equipment and new energy vehicles.



2PX small circular electrical connector, used for circuit connections in electrical and radio devices.

The plug is connected to the socket through a threaded connection nut. 2PX-M is a sealed type, and 2PX-C is a sealed through wall remote type.



### Technical performance

- ◎ working temperature : $-60^{\circ}\text{C} \sim +150^{\circ}\text{C}$ ,  $-60^{\circ}\text{C} \sim +200^{\circ}\text{C}$ (seal)
  - ◎ Vibration: 10~5000Hz 50g
  - ◎ Impact: 100g
  - ◎ working voltage : $\leq 560\text{V}$
  - ◎ Rated current
 

|                   |                   |                   |                   |
|-------------------|-------------------|-------------------|-------------------|
| $\varnothing 1.0$ | $\varnothing 1.5$ | $\varnothing 2.0$ | $\varnothing 3.0$ |
| 5A                | 10A               | 20A               | 40A               |
  - ◎ contact resistance: $\geq 1000\text{M}\Omega$
  - ◎ Mechanical lifespan: 500 cycle
  - ◎ Warranty period: 7 years
- |                     |                        |                          |                          |                          |
|---------------------|------------------------|--------------------------|--------------------------|--------------------------|
| contact resistance: | $\leq 5\text{m}\Omega$ | $\leq 2.5\text{m}\Omega$ | $\leq 1.6\text{m}\Omega$ | $\leq 0.8\text{m}\Omega$ |
|---------------------|------------------------|--------------------------|--------------------------|--------------------------|

### Mark model description

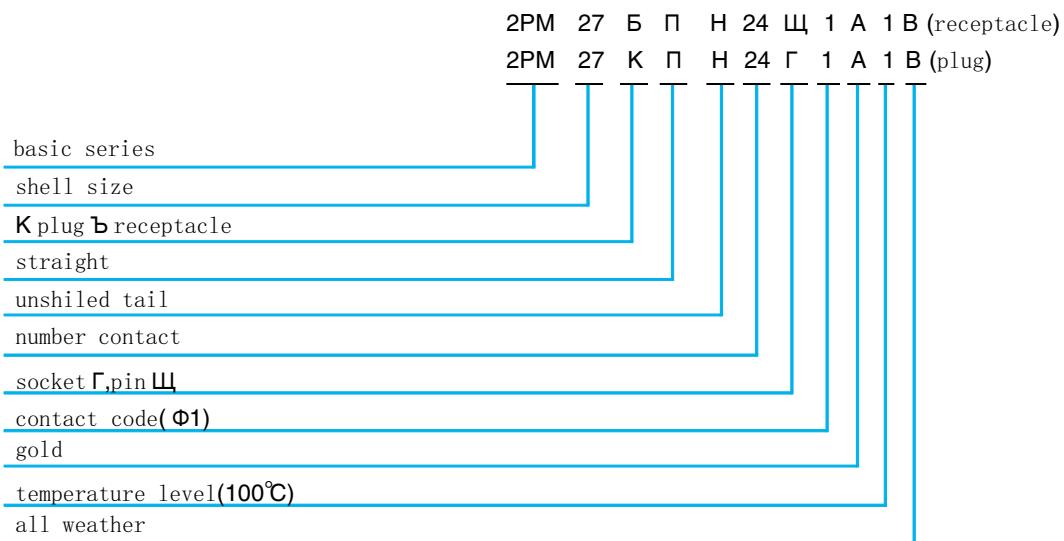
| No. | explain  | russia code  |
|-----|--|--|
| 1   | Unsealed<br>Unsealed heat-resistant<br>Seal<br>Sealing through walls | 2PM, 2PMД<br>2PMT, 2PMДТ<br>2PMГ, 2PMГД<br>2PMГП, 2PMГПД |
| 2   | Shell size(mm)   | 14、18、22、24、27<br>30、33、36、39、42、45                      |
| 3   | Receptacle<br>Plug   | Б (fixed)<br>К (free)                                    |
| 4   | Tail type  | Π(straight)<br>Υ(curved)                                 |
| 5   | Tail type  | Ξ(shield)<br>Η(unshield)                                 |
| 6   | Number contact   | 4、7、8、10、19、20<br>22、24、30、32、42<br>45、50                |
| 7   | pin, socket  | Щ(pin)Γ(socket)  |
| 8   | contact code<br>1~9  | 1~Φ1<br>2~Φ1+Φ1.5<br>3~Φ2+Φ3<br>4~Φ1+Φ3                  |

| No. | explain  | HF code                                   |
|-----|--|---|
| 1   | Unsealed<br>seal<br>Sealing through walls                | 2PX<br>2PX-M<br>2PX-C                     |
| 2   | shell size(mm)   | 14、18、22、24、27<br>30、33、36、39、42、45       |
| 3   | pin,socket   | J(pin)K(socket)                           |
| 4   | number contact   | 4、7、8、10、19、20<br>22、24、30、32、42<br>45、50 |
| 5   | plug<br>unsealed receptacle<br>Sealing through walls     | omitted<br>A<br>M(C)                      |
| 6   | straight shield<br>(unshield)<br>curved shield(unshield) | P(Q)<br>R(S)                              |
| 7   | contact code   | Same Russian code                         |

| No. | explain                          | russia code   |
|-----|----------------------------------|---|
|     |                                  | 5-Φ1.5<br>6-Φ1.5+Φ3<br>7-Φ1.5+Φ2+Φ3<br>8-Φ1.5+Φ2<br>9-均为 Φ3 |
| 9   | contact plating                  | A(gold)、B(silver)、E(nickel)                                 |
| 10  | Temperature level<br>100°C,200°C | 1(100°C)<br>2(200°C)  |
| 11  | all weather                      | B   |

| No. | explain         | HF code   |
|-----|-----------------|---|
| 8   | contact plating | B(gold)、omit(silver)<br>note:M/seal,nickel<br>C/through wall,nickel |
| 9   | Left plug       | U   |

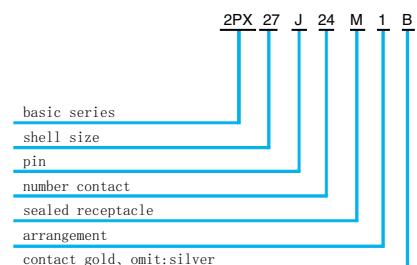
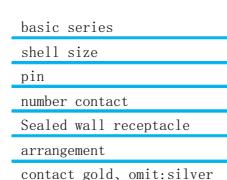
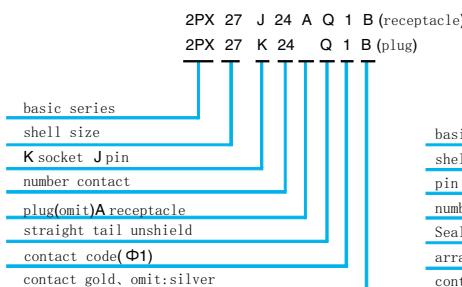
RU:



HF:non sealed plug and socket

Sealed wall receptacle

Sealed receptacle

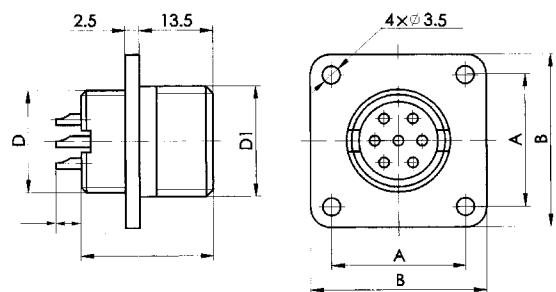


**Insulation arrangement (view of socket end face)**

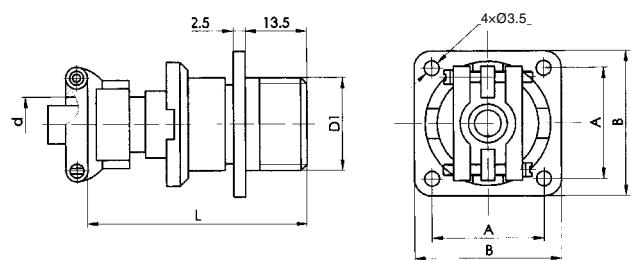
| arrangement<br>Shell size | 14/4/1 (Shell/contact number/arrangement)  | contact size $\phi 1$ $\phi 1.5$ $\phi 2$ $\phi 3$   |    |         |         |
|---------------------------|--|--|----|---------|---------|
| 14                        |   | o  | ●  | ○       | ○       |
| 18                        | 18/7/1   | 18/4/5   | 22 | 22/4/3  | 22/10/1 |
|                           | <br>     | <br>   |    |         |         |
| 24                        | 24/10/5  | 24/19/1  |    |         |         |
|                           | <br>     |  |    |         |         |
| 27                        | 27/7/5   | 27/7/2   |    | 27/19/5 | 27/24/1 |
|                           | <br>     | <br>     |    |         |         |
| 30                        | 30/8/7   | 30/24/5  |    | 30/32/1 |         |
|                           | <br> |   |    |         |         |
| 33                        | 33/7/9   | 33/20/4  |    | 33/20/1 | 33/32/5 |
|                           | <br> | <br> |    |         |         |
| 36                        | 36/22/1  | 36/20/2  |    | 36/20/6 | 36/20/5 |
|                           | <br> | <br> |    |         |         |
| 39                        | 39/22/5  | 39/45/2  |    |         |         |
|                           | <br> |  |    |         |         |
| 42                        | 42/30/2  | 42/45/5  | 45 | 42/50/2 | 45/50/8 |
|                           | <br> | <br> |    |         |         |

### Appearance and installation dimensions

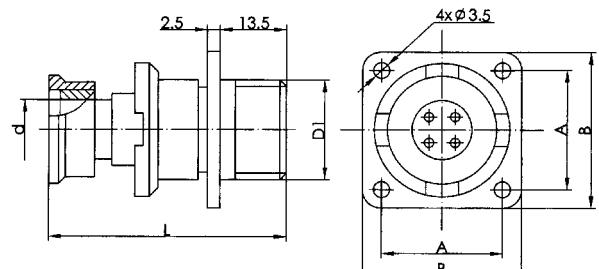
#### ◎ Receptacle without tail(B)



#### ◎ Receptacle with straight unshielded tail(БПН)



#### ◎ Receptacle with straight shielded tail (БПЭ)

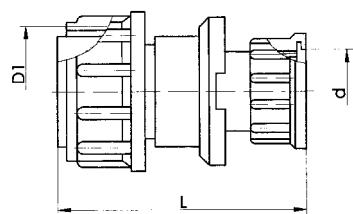
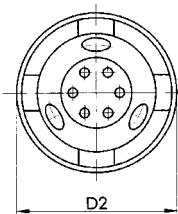


| size(mm) |         |                |        |    |    |
|----------|---------|----------------|--------|----|----|
| Shell    | D(left) | D <sub>1</sub> | A      | B  | B  |
| 14       | M14x1   | M16x1          | 17±0.1 | 24 | 24 |
| 18       | M18x1   | M20x1          | 20±0.1 | 27 |    |
| 22       | M22x1   | M24x1          | 23±0.1 | 30 |    |
| 24       | M24x1   | M27x1.5        | 26±0.1 | 33 |    |
| 27       | M27x1   | M30x1.5        | 29±0.1 | 36 |    |
| 30       | M30x1   | M33x1.5        | 31±0.1 | 38 |    |
| 33       | M33x1   | M36x1.5        | 32±0.1 | 40 |    |
| 36       | M36x1   | M39x1.5        | 35±0.1 | 43 |    |
| 39       | M39x1   | M42x1.5        | 37±0.1 | 46 |    |
| 42       | M42x1   | M45x1.5        | 40±0.1 | 49 |    |
| 45       | M45x1   | M48x1.5        | 43±0.1 | 52 | 26 |

| size(mm) |         |      |        |    |      |
|----------|---------|------|--------|----|------|
| 壳体号      | D1      | d    | A      | B  | L    |
| 14       | M16x1   | 6.5  | 17±0.1 | 24 | 54   |
| 18       | M20x1   | 10.5 | 20±0.1 | 27 | 54   |
| 22       | M24x1   | 14.5 | 23±0.1 | 30 | 57   |
| 24       | M27x1.5 | 16.5 | 26±0.1 | 33 | 62.5 |
| 27       | M30x1.5 | 18.5 | 29±0.1 | 36 | 62.5 |
| 30       | M33x1.5 | 20.5 | 31±0.1 | 38 | 62.5 |
| 33       | M36x1.5 | 22.5 | 32±0.1 | 40 | 67.5 |
| 36       | M39x1.5 | 22.5 | 35±0.1 | 43 | 67.5 |
| 39       | M42x1.5 | 24.5 | 37±0.1 | 46 | 67.5 |
| 42       | M45x1.5 | 30.5 | 40±0.1 | 49 | 67.5 |
| 45       | M48x1.5 | 30.5 | 43±0.1 | 52 | 67.5 |

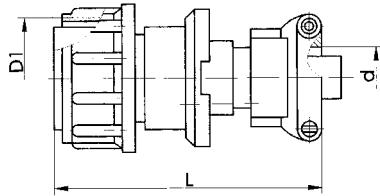
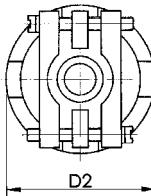
| size mm |         |      |        |    |    |
|---------|---------|------|--------|----|----|
| shell   | D1      | d    | A      | B  | L  |
| 14      | M16x1   | 6.5  | 17±0.1 | 24 | 48 |
| 18      | M20x1   | 10.5 | 20±0.1 | 27 | 48 |
| 22      | M24x1   | 14   | 23±0.1 | 30 | 48 |
| 24      | M27x1.5 | 16.5 | 26±0.1 | 33 | 54 |
| 27      | M30x1.5 | 18   | 29±0.1 | 36 | 54 |
| 30      | M33x1.5 | 20.5 | 31±0.1 | 38 | 54 |
| 33      | M36x1.5 | 23.7 | 32±0.1 | 40 | 59 |
| 36      | M39x1.5 | 22.5 | 35±0.1 | 43 | 59 |
| 39      | M42x1.5 | 25   | 37±0.1 | 46 | 59 |
| 42      | M45x1.5 | 29.5 | 40±0.1 | 49 | 59 |
| 45      | M48x1.5 | 29.5 | 43±0.1 | 52 | 59 |

◎ Plug with straight shielded tail(КПЭ)



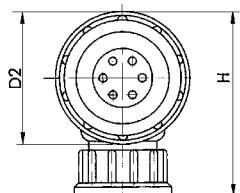
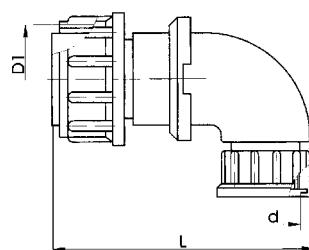
| size (mm) |         |      |      |    |
|-----------|---------|------|------|----|
| shell     | D1      | D2   | d    | L  |
| 14        | M16x1   | 22   | 6.5  | 48 |
| 18        | M20x1   | 25   | 10.5 | 48 |
| 22        | M24x1   | 29   | 14   | 48 |
| 24        | M27x1.5 | 32   | 16.5 | 54 |
| 27        | M30x1.5 | 35   | 18   | 54 |
| 30        | M33x1.5 | 39   | 20.5 | 54 |
| 33        | M36x1.5 | 42   | 23.7 | 59 |
| 36        | M39x1.5 | 45   | 22.5 | 59 |
| 39        | M42x1.5 | 48.5 | 25   | 59 |
| 42        | M45x1.5 | 51   | 29.5 | 59 |
| 45        | M48x1.5 | 54   | 29.5 | 59 |

◎ Plug with straight unshielded tail (КПИ)



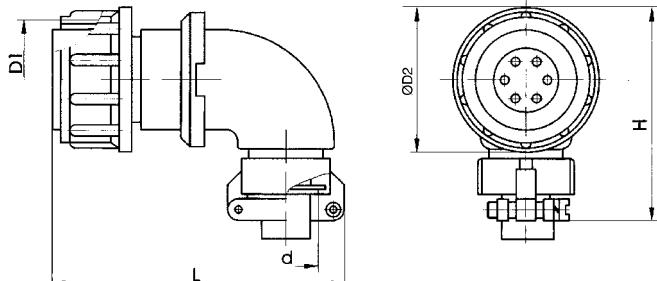
| size(mm) |         |      |      |      |
|----------|---------|------|------|------|
| shell    | D1      | D2   | d    | L    |
| 14       | M16x1   | 22   | 6.5  | 54   |
| 18       | M20x1   | 25   | 10.5 | 54   |
| 22       | M24x1   | 29   | 14.5 | 57   |
| 24       | M27x1.5 | 32   | 16.5 | 62.5 |
| 27       | M30x1.5 | 35   | 18.5 | 62.5 |
| 30       | M33x1.5 | 39   | 20.5 | 62.5 |
| 33       | M36x1.5 | 42   | 22.5 | 67.5 |
| 36       | M39x1.5 | 45   | 22.5 | 67.5 |
| 39       | M42x1.5 | 48.5 | 24.5 | 67.5 |
| 42       | M45x1.5 | 51   | 30.5 | 67.5 |
| 45       | M48x1.5 | 54   | 30.5 | 67.5 |

◎ Plug with curved shielded tail(КУЭ)



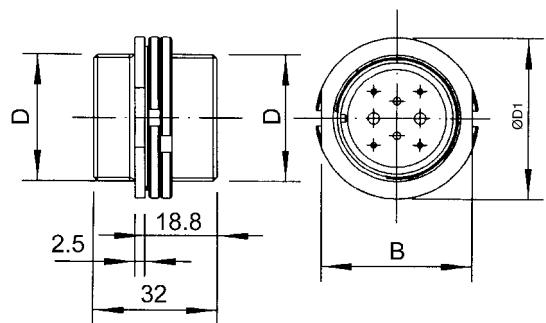
| size (mm) |         |      |      |      |    |
|-----------|---------|------|------|------|----|
| shell     | D1      | D2   | d    | H    | L  |
| 14        | M16x1   | 22   | 6.5  | 30.8 | 48 |
| 18        | M20x1   | 25   | 10.5 | 35   | 51 |
| 22        | M24x1   | 29   | 14   | 38   | 54 |
| 24        | M27x1.5 | 32   | 16.5 | 41   | 57 |
| 27        | M30x1.5 | 35   | 18   | 44   | 59 |
| 30        | M33x1.5 | 39   | 20.5 | 47.8 | 62 |
| 33        | M36x1.5 | 42   | 23.7 | 50.8 | 65 |
| 36        | M39x1.5 | 45   | 22.5 | 53.8 | 72 |
| 39        | M42x1.5 | 48.5 | 25   | 56   | 72 |
| 42        | M45x1.5 | 51   | 29.5 | 60   | 72 |

## ◎ Plug with curved unshielded tail(КУН)



| size mm |         |      |      |    |    |
|---------|---------|------|------|----|----|
| shell   | D1      | D2   | d    | H  | L  |
| 14      | M16×1   | 22   | 6.5  | 40 | 51 |
| 18      | M20×1   | 25   | 10.5 | 41 | 54 |
| 22      | M24×1   | 29   | 14.5 | 47 | 59 |
| 24      | M27×1.5 | 32   | 16.5 | 50 | 60 |
| 27      | M30×1.5 | 35   | 18.5 | 53 | 64 |
| 30      | M33×1.5 | 39   | 20.5 | 57 | 65 |
| 33      | M36×1.5 | 42   | 22.5 | 60 | 69 |
| 36      | M39×1.5 | 45   | 22.5 | 63 | 74 |
| 39      | M42×1.5 | 48.5 | 24.5 | 66 | 73 |
| 42      | M45×1.5 | 51   | 30.5 | 69 | 76 |

## ◎ Sealed wall socket (ГП)



| size mm |         |    |    |
|---------|---------|----|----|
| shell   | D       | D1 | B  |
| 14      | M16×1   | 25 | 22 |
| 18      | M20×1   | 29 | 26 |
| 22      | M24×1   | 33 | 30 |
| 24      | M27×1.5 | 36 | 33 |
| 27      | M30×1.5 | 39 | 36 |
| 30      | M33×1.5 | 42 | 39 |
| 33      | M36×1.5 | 45 | 42 |
| 36      | M39×1.5 | 48 | 45 |
| 39      | M42×1.5 | 51 | 48 |
| 42      | M45×1.5 | 54 | 51 |

## Contact arrangement code

| shell | contact code | contact number | contact size(mm)number |      |      |      |
|-------|--------------|----------------|------------------------|------|------|------|
|       |              |                | Ø1.0                   | Ø1.5 | Ø2.0 | Ø3.0 |
| 14    | 1            | 4              | 4                      |      |      |      |
| 18    | 1            | 7              | 7                      |      |      |      |
|       | 5            | 4              |                        | 4    |      |      |
| 22    | 1            | 10             | 10                     |      |      |      |
|       | 3            | 4              |                        |      | 2    | 2    |
| 24    | 1            | 19             | 19                     |      |      |      |
|       | 5            | 10             |                        | 10   |      |      |
| 27    | 1            | 24             | 24                     |      |      |      |
|       | 2            | 7              | 5                      | 2    |      |      |
|       | 5            | 7              |                        | 7    |      |      |
|       | 5            | 19             |                        | 19   |      |      |
| 30    | 1            | 32             | 32                     |      |      |      |
|       | 5            | 24             |                        | 24   |      |      |
|       | 7            | 8              |                        | 4    | 2    | 2    |

| shell | contact code | contact number | contact size(mm)number |      |      |      |
|-------|--------------|----------------|------------------------|------|------|------|
|       |              |                | Ø1.0                   | Ø1.5 | Ø2.0 | Ø3.0 |
| 33    | 1            | 20             | 20                     |      |      |      |
|       | 4            | 20             | 18                     |      |      | 2    |
|       | 5            | 32             |                        | 32   |      |      |
|       | 9            | 7              |                        |      |      | 7    |
| 36    | 1            | 22             | 22                     |      |      |      |
|       | 2            | 20             | 16                     | 4    |      |      |
|       | 5            | 20             |                        | 20   |      |      |
|       | 6            | 20             |                        | 18   |      | 2    |
| 39    | 2            | 45             | 40                     | 5    |      |      |
|       | 5            | 22             |                        | 22   |      |      |
|       | 2            | 30             | 15                     | 15   |      |      |
| 42    | 2            | 50             | 43                     | 7    |      |      |
|       | 5            | 45             |                        | 45   |      |      |
|       | 45           | 8              | 50                     |      | 35   | 15   |

[www.huafeng796.com](http://www.huafeng796.com)



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