

IAO series optical connectors

Brief introduction

-Enterprise standard: Q/21EJ1891-2012

-This series are applied in digital radar and big data optical tele-communication field, and can be mated with MT optical interface.

Feature:

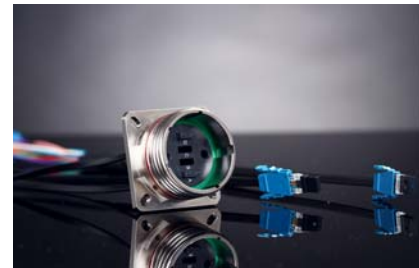
-The mated contacts are M12, M24. Standard MT interface, reliable performance, easy operation, high integrated. This series achieve high density optical signal transmission: 12 loops, 24 loops, 48 loops, 96 loops.

-Different shell materials and plating, applicable for different environments

-Five-keyway orientation, blind mating, anti mis-mating function

-This series include various optical fiber assembly types; meet different need.

-The assembly is mounted with armored fiber, withstand pressure, ruggedized



Main technical characteristics

—Insertion loss: $\leq 0.6\text{dB}$

—Operating temperature: $-40^{\circ}\text{C} \sim +80^{\circ}\text{C}$

—Vibration: 10~2000Hz, power chart density $0.06\text{ g}^2/\text{Hz}$

—Shock: acceleration 490m/s^2 , lasting 11ms

—Endurance: 500 cycles

—Damp heat: 24h is a period. 10 periods, $60^{\circ}\text{C} 95\%\text{RH} - 30^{\circ}\text{C} 95\%\text{RH}$ cycling.

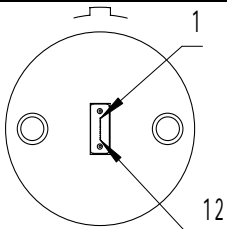
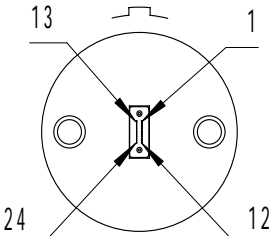
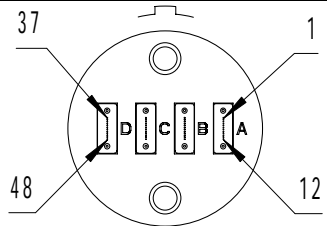
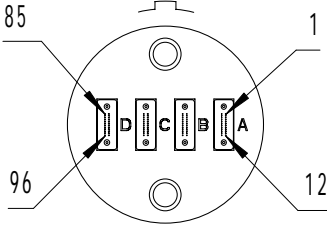
[Connector ordering information]

| Basic series | IAO | 31 | H | T | 4 | N | 32 |
|---------------------|---|----|---|---|---|---|----|
| Shell size | 18, 31 | | | | | | |
| Shell plating | Y-aluminum alloy, olive green cadmium plating H-aluminum alloy, electroless nickel plating M- stainless steel passive | | | | | | |
| Connector type | T-plug F-receptacle | | | | | | |
| Contact type | 1/2/3/4 (See the contact definition for details.) | | | | | | |
| Polarization | N-normal; A/B/C/D/E-alternative | | | | | | |
| Design code | 32... (Normal type doesn't have this item.) | | | | | | |

Contact type definition figure

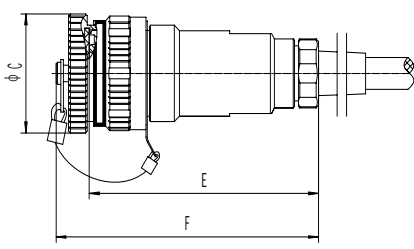
| Contact type | Definition | Applicable shell size | Applicable armored fiber type |
|--------------|---|-----------------------|-------------------------------|
| 1 | Contain 1 contact, can transmit 12 loops optical signal | 18 | C12*12 (φ12mm, 12 cores) |
| 2 | Contain 1 contact, can transmit 24 loops optical signal | 18 | C12*24 (φ12mm, 24 cores) |
| 3 | Contain 4 contacts, each contact can transmit 12 loops optical signal | 31 | C12*48 (φ12mm, 48 cores) |
| 4 | Contain 4 contacts, each contact can transmit 24 loops optical signal | 31 | C12*96 (φ12mm, 96 cores) |

Configuration (Receptacle)

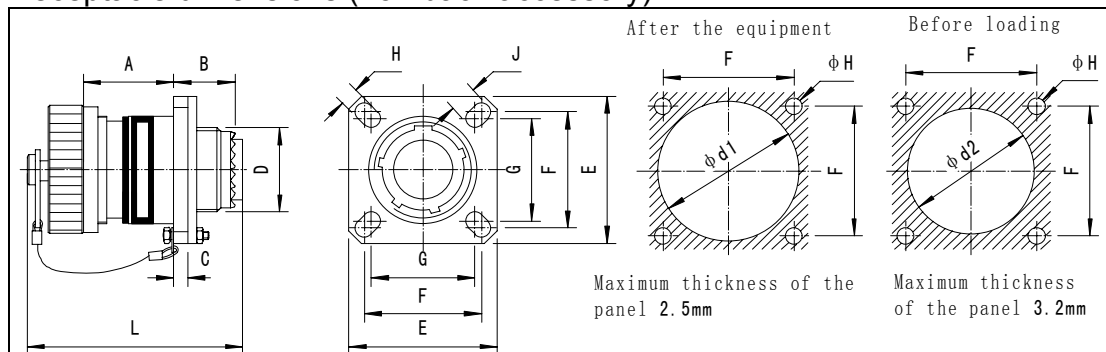
| Shell size Contact type | 18# shell | 31# shell |
|----------------------------|---|--|
| 1 |  | -- |
| 2 |  | -- |
| 3 | -- |  |
| 4 | -- |  |

Outline dimensions

Plug dimensions

| | | | | |
|---|------------|-------|-------|-------|
|  | Shell size | C max | E max | F max |
| | 18 | 29 | 92 | 102 |
| | 31 | 43.2 | 92 | 106 |

Receptacle dimensions (non back accessory)

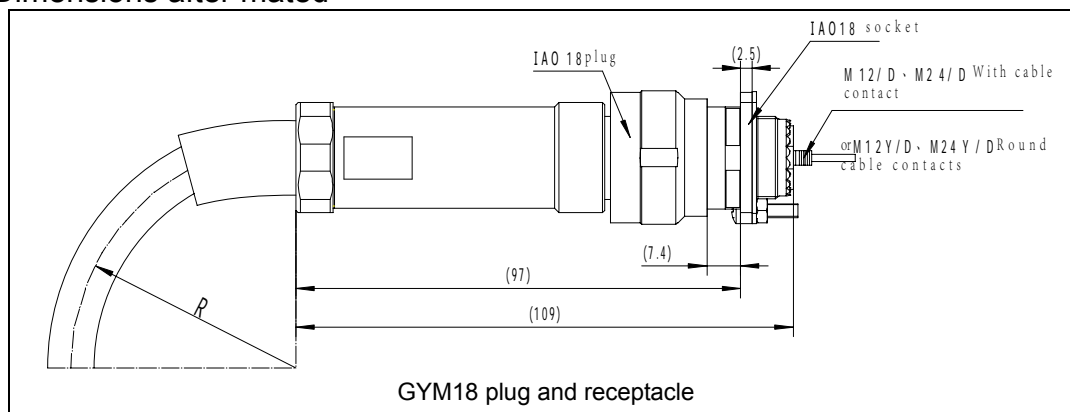


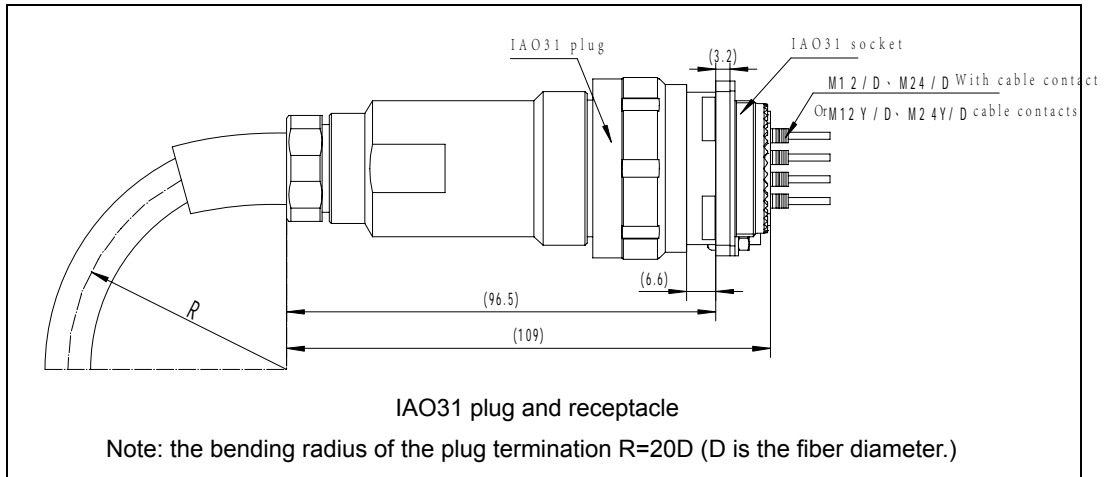
Note: A is the dimension from the mounting surface to the receptacle termination.

| Shell size | A max | B max | C max | L max | D | E | F | G | H | J | d1 min | d2 min |
|------------|-------|-------|-------|-------|----------|-------|-------|-------|------|------|--------|--------|
| 18 | 20.90 | 10.80 | 2.50 | 42 | M18×1-6g | 28.60 | 23.01 | 20.62 | 3.25 | 4.93 | 23.42 | 19.05 |
| 31 | 20.10 | 11.40 | 3.20 | 42 | M31×1-6g | 39.70 | 31.75 | 29.36 | 3.25 | 4.93 | 36.12 | 32.16 |

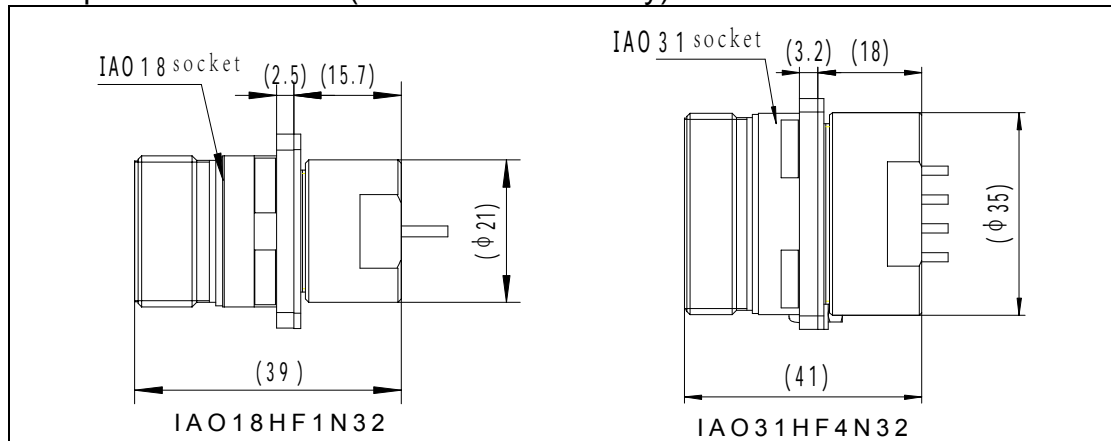
Note: the receptacle is empty receptacle (non contact), and is ordered separately. Applicable contact patch cord type: M12/D, M24/D ribbon fiber or M12Y/D, M24Y/D circular fiber.

Dimensions after mated



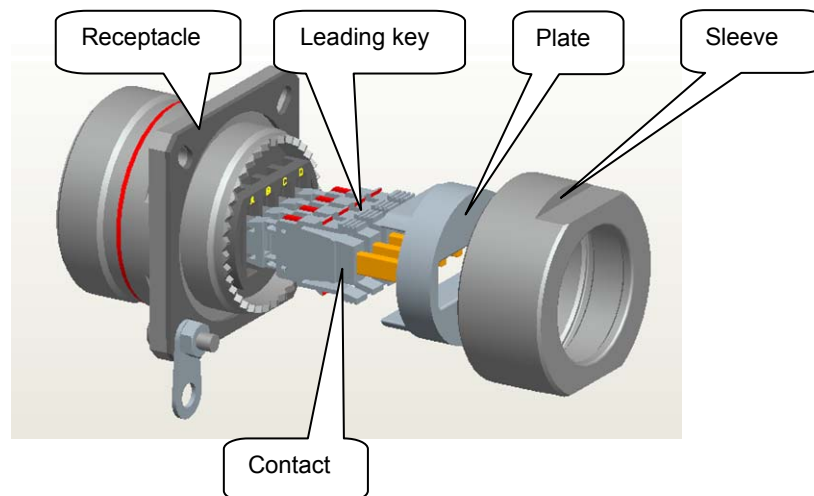


Receptacle dimensions (short back accessory)



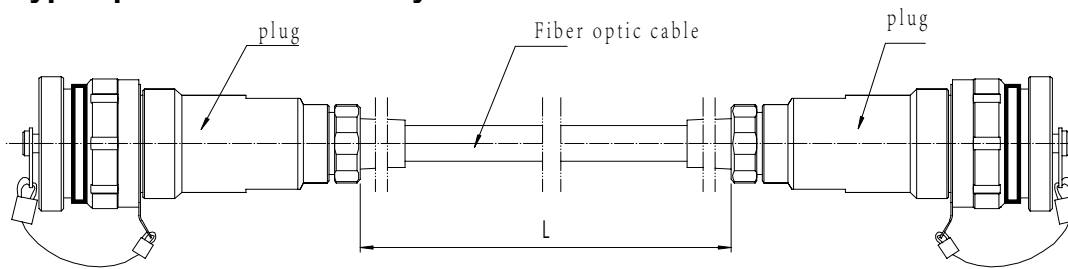
Note:

1. It uses rear mounting cut-out, and achieves front & rear mounting.
2. The receptacle is empty (without contacts), can be ordered separately. Applicable contact patch cord: M12/D, M24/D ribbon fiber or M12Y/D, M24Y/D circular fiber.



Note: Take IAO31FF4N32 for example, the contacts in the picture can be put through the crimp plate and sleeve.

IAO series optical fiber assembly I type optical fiber assembly



[Ordering information]

| | | | | | |
|-----------------------|---|-------------------|----------------|-------------|-----------|
| End 1 | IAO18KT1N | -IAO18KT1N | -C12*12 | -MIV | 30 |
| End 2 | Plug type is provided according to customers' need. | | | | |
| Fiber characteristics | φ12 diameter, 12 cores | | | | |
| Transmission mode | M-MM 62.5/125 MI-MM 50/125 MIV-MM 50/125 OM3 high speed fiber | | | | |
| Fiber length | L is made according to customers' need (Unit: m). | | | | |

[Part number example]

Example 1: IAO18KT1N-IAO18KT1N-C12*12-MIV30

Both ends of the fiber assembly are IAO18KT1N plugs, mounted with φ12mm 12-core MM (50/125) armored fiber, total length 30m.

Example 2: IAO18KT2N-IAO18KT2N-C12*24-MIV30

Both ends of the fiber assembly are IAO18KT2N plugs, mounted with φ12mm 24-core MM (50/125) armored fiber, total length 30m.

Example 3: IAO31KT3N-IAO31KT3N-C12*48-MIV30

Both ends of the fiber assembly are IAO31KT3N plugs, mounted with φ12mm 48-core MM (50/125) armored fiber, total length 30m.

Example 4: IAO31KT4N-GYM31KT4N-C12*96-MIV30

Both ends of the fiber assembly are GYM31KT4N plugs, mounted with φ12mm 96-core MM (50/125) armored fiber, total length 30m.

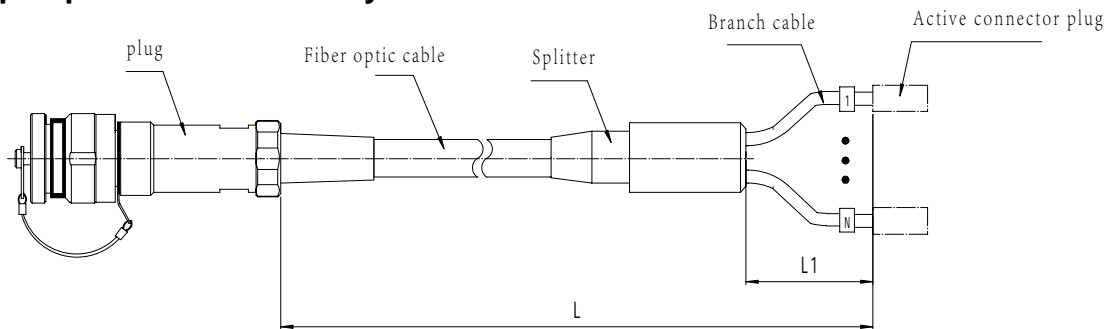
[Recommended type]

| Part number | Description |
|----------------------------------|---|
| IAO18KT1N-IAO18KT1N-C12*12-MIV3 | Both ends are GYM18KT1N, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 3m |
| IAO18KT1N-IAO18KT1N-C12*12-MIV5 | Both ends are GYM18KT1N, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 5m |
| IAO18KT1N-IAO18KT1N-C12*12-MIV10 | Both ends are GYM18KT1N, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 10m |
| IAO18KT1N-IAO18KT1N-C12*12-MIV20 | Both ends are GYM18KT1N, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 20m |
| IAO18KT1N-IAO18KT1N-C12*12-MIV30 | Both ends are GYM18KT1N, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 30m |
| IAO18KT2N-IAO18KT2N-C12*24-MIV3 | Both ends are GYM18KT2N, 24 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 3m |
| IAO18KT2N-IAO18KT2N-C12*24-MIV5 | Both ends are GYM18KT2N, 24 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, 5m |
| IAO18KT2N-IAO18KT2N-C12*24-MIV10 | Both ends are IAO18KT2N, 24 loops signal, Φ12mm MM |

| | |
|----------------------------------|---|
| | (50/125) OM3 high speed fiber, 10m |
| IAO18KT2N-IAO18KT2N-C12*24-MIV20 | Both ends are GYM18KT2N, 24 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 20m |
| IAO18KT2N-IAO18KT2N-C12*24-MIV30 | Both ends are GYM18KT2N, 24 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 30m |
| IAO31KT3N-IAO31KT3N-C12*48-MIV3 | Both ends are GYM31KT3N, 48 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 3m |
| IAO31KT3N-IAO31KT3N-C12*48-MIV5 | Both ends are GYM31KT3N, 48 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 5m |
| IAO31KT3N-IAO31KT3N-C12*48-MIV10 | Both ends are GYM31KT3N, 48 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 10m |
| IAO31KT3N-IAO31KT3N-C12*48-MIV20 | Both ends are GYM31KT3N, 48 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 20m |
| IAO31KT3N-IAO31KT3N-C12*48-MIV30 | Both ends are GYM31KT3N, 48 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 30m |
| IAO31KT4N-IAO31KT4N-C12*96-MIV3 | Both ends are GYM31KT4N, 96 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 3m |
| IAO31KT4N-IAO31KT4N-C12*96-MIV5 | Both ends are GYM31KT4N, 96 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 5m |
| IAO31KT4N-IAO31KT4N-C12*96-MIV10 | Both ends are GYM31KT4N, 96 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 10m |
| IAO31KT4N-IAO31KT4N-C12*96-MIV20 | Both ends are GYM31KT4N, 96 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 20m |
| IAO31KT4N-IAO31KT4N-C12*96-MIV30 | Both ends are GYM31KT4N, 96 loops signal, Φ 12mm MM (50/125) OM3 high speed fiber, 30m |

Note: If customers have special requirement, write it in the order.

II type optical fiber assembly



[Ordering information]

| | | | | | | | | |
|------------------------|---|-------|---------|----|-----|----|---|-----|
| End 1 | IAO18KT1N | -12FC | -C12*12 | -2 | MIV | 10 | / | 0.3 |
| End 2 | Can be ST/LC/SC, etc. | | | | | | | |
| Fiber characteristics | ϕ 12mm diameter, 12-core | | | | | | | |
| Branch fiber diameter | According to customers' need. (Unit: mm) | | | | | | | |
| Transmission mode | M-MM 62.5/125 μ m MI-MM 50/125 μ m MIV-MM 50/125 μ m , OM3 high speed fiber | | | | | | | |
| Fiber length L | L is according to customers' need. (Unit: m) | | | | | | | |
| Separator | | | | | | | | |
| Branch fiber length L1 | L1 is according to customers' need. (Unit: m) | | | | | | | |

[Recommended type]

| Part number | Description |
|----------------------------------|---|
| IAO18KT1N-12FC-C12*12-2MIV2/0.3 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 2m, branch fiber length 0.3m |
| IAO18KT1N-12FC-C12*12-2MIV3/0.3 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 3m, branch fiber length 0.3m |
| IAO18KT1N-12FC-C12*12-2MIV5/0.5 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 5m, branch fiber length 0.5m |
| IAO18KT1N-12FC-C12*12-2MIV10/0.5 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 10m, branch fiber length 0.5m |
| IAO18KT1N-12FC-C12*12-2MIV20/0.5 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 20m, branch fiber length 0.5m |
| IAO18KT1N-12FC-C12*12-2MIV30/0.5 | End 1 is GYM18KT1N, end 2 is 12 FC, 12 loops signal, Φ12mm MM (50/125) OM3 high speed fiber, branch fiber diameter Φ2mm, total length 30m, branch fiber length 0.5m |

Note: ①For movable plug, customers can choose FC/ST/LC, etc.

②We suggest customers choose 0.1m/0.2m/0.3m/0.5m for branch fiber length, and the branch fiber length not surpass 0.5m.

[M12/D, M24/D ribbon fiber]

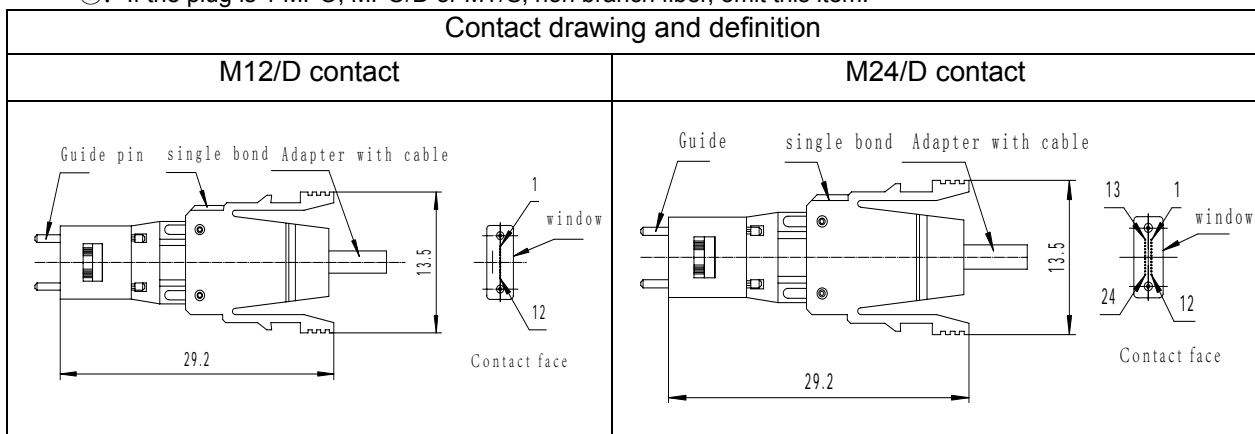
[Ordering information]

| | |
|------------------------------------|---|
| Ribbon fiber code | RF- M24/D- 24 ^① LC- 0.9 ^② M 0.4 /0.2 ^③ |
| Contact type | M24/D、M12/D |
| Plug number ^① | |
| Plug type | LC, FC, SC, MPO, MPO/D, MT/S, A8T, JY599/16GP, JY599/12GP, etc. |
| Branch fiber diameter ^② | 0.9 |
| Transmission mode | M-MM 62.5/125 MI-MM 50/125 MIV-MM 50/125 OM3 high speed fiber |
| Fiber length | Unit: m |
| Branch fiber length ^③ | Unit: m |

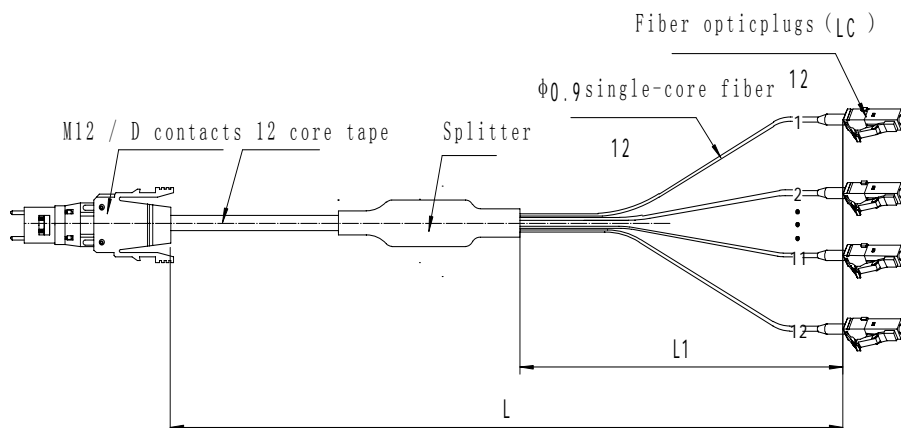
①: If only one plug here, don't need to write the quantity.

②: If the plug type is 2 MPO, MPO/D or MT/S, the branch fiber is ribbon fiber, non branch fiber diameter, omit this item in the part number.

③: If the plug is 1 MPO, MPO/D or MT/S, non branch fiber, omit this item.



Part number example 1: RF-M12/D-12LC-0.9MIVL/L1

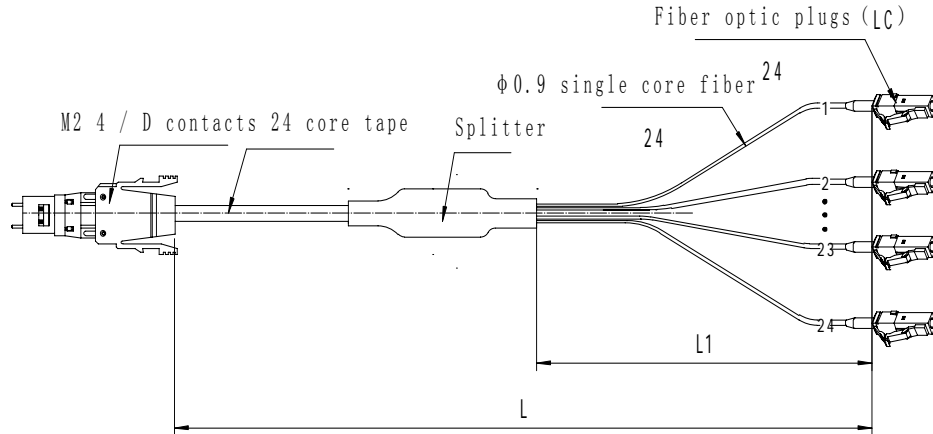


[Recommended type]

| Part number | Description |
|-----------------------------|---|
| RF-M12/D-12LC-0.9MIV0.3/0.1 | End 1 is M12/D contact, end 2 is 12 LC, 12-core MM (50/125) OM3 high speed ribbon fiber, branch fiber diameter $\Phi 0.9$ mm, total length 0.3m, branch fiber length 0.1m |
| RF-M12/D-12LC-0.9MIV0.5/0.2 | End 1 is M12/D contact, end 2 is 12 LC, 12-core MM (50/125) OM3 |

| | |
|---|--|
| | high speed ribbon fiber, branch fiber diameter Φ 0.9mm, total length 0.5m, branch fiber length 0.2m |
| RF-M12/D-12LC-0.9MIV1/0.3 | End 1 is M12/D contact, end 2 is 12 LC, 12-core MM (50/125) OM3 high speed ribbon fiber, branch fiber diameter Φ 0.9mm, total length 1m, branch fiber length 0.3m |
| Note: For end 2 movable plug, customers can choose FC/ST/LC, etc. | |

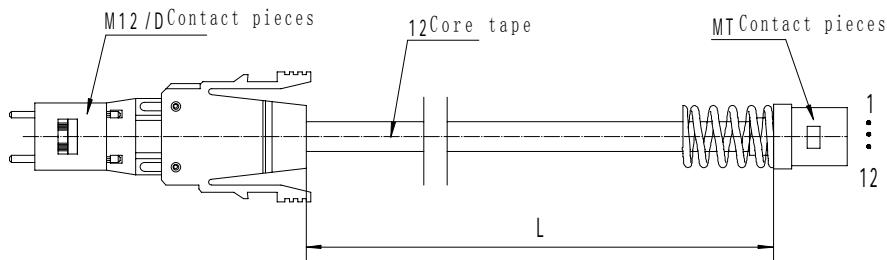
Part number example 2: RF-M24/D-24LC-0.9MIV/L1



[Recommended type]

| Part number | Description |
|---|--|
| RF-M24/D-24LC-0.9MIV0.3/0.1 | End 1 is M24/D contact, end 2 is 24 LC, 24-core MM (50/125) OM3 high speed ribbon fiber, branch fiber diameter Φ 0.9mm, total length 0.3m, branch fiber length 0.1m |
| RF-M24/D-24LC-0.9MIV0.5/0.2 | End 1 is M24/D contact, end 2 is 24 LC, 24-core MM (50/125) OM3 high speed ribbon fiber, branch fiber diameter Φ 0.9mm, total length 0.5m, branch fiber length 0.2m |
| RF-M24/D-24LC-0.9MIV1/0.3 | End 1 is M24/D contact, end 2 is 24 LC, 24-core MM (50/125) OM3 high speed ribbon fiber, branch fiber diameter Φ 0.9mm, total length 1m, branch fiber length 0.3m |
| Note: For end 2 movable plug, customers can choose FC/ST/LC, etc. | |

Part number example 3: RF-M12/D-MT/S-MIVL



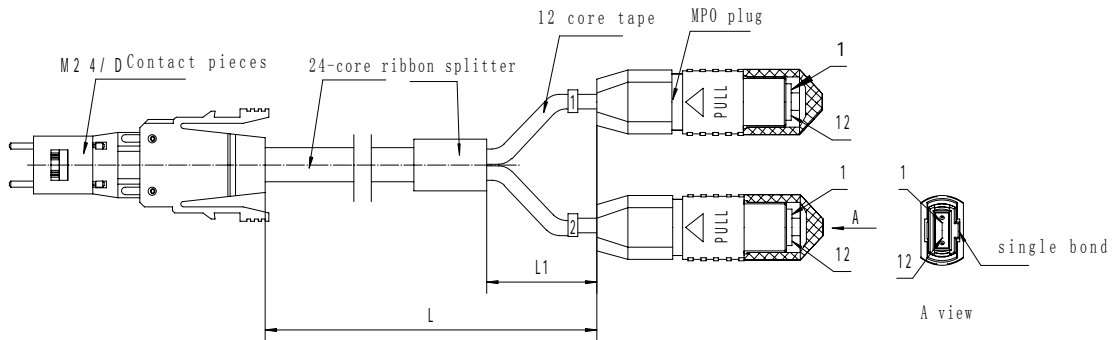
Note: MT contact 1 ~ 12 cavities are according to M12/D contact 1 ~ 12 cavities.

[Recommended type]

| Part number | Description |
|----------------------|---|
| RF-M12/D-MT/S-MIV0.1 | End 1 is M12/D contact, end 2 is MT/S contact, 12-core MM (50/125) OM3 high speed ribbon fiber, total length 0.1m |
| RF-M12/D-MT/S-MIV0.2 | End 1 is M12/D contact, end 2 is MT/S contact, 12-core MM (50/125) OM3 high speed ribbon fiber, total length 0.2m |
| RF-M12/D-MT/S-MIV0.3 | End 1 is M12/D contact, end 2 is MT/S contact, 12-core MM (50/125) OM3 high speed ribbon fiber, total length 0.3m |

| | |
|----------------------|---|
| RF-M12/D-MT/S-MIV0.5 | End 1 is M12/D contact, end 2 is MT/S contact, 12-core MM (50/125) OM3 high speed ribbon fiber, total length 0.5m |
| RF-M12/D-MT/S-MIV1 | End 1 is M12/D contact, end 2 is MT/S contact, 12-core MM (50/125) OM3 high speed ribbon fiber, total length 1m |

Part number example 4: RF-M24/D-2MPO-MIVL/L1



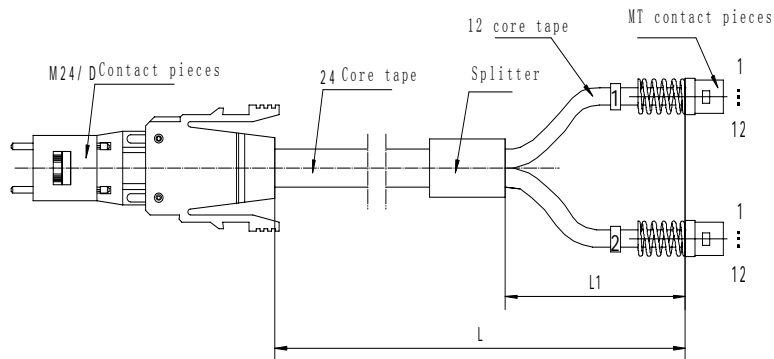
Note: 1# MPO plug 1~12 cavities are according to M24/D contact 1~12 cavities.

2# MPO plug 1~12 cavities are according to M24/D contact 13~24 cavities.

[Recommended type]

| Part number | Description |
|--------------------------|---|
| RF-M24/D-2MPO-MIV0.3/0.1 | End 1 is M24/D contact, end 2 is 2 MPO, 24-core MM (50/125) OM3 high speed ribbon fiber, total length 0.3m, branch fiber length 0.1m. |
| RF-M24/D-2MPO-MIV0.5/0.2 | End 1 is M24/D contact, end 2 is 2 MPO, 24-core MM (50/125) OM3 high speed ribbon fiber, total length 0.5m, branch fiber length 0.2m. |
| RF-M24/D-2MPO-MIV1/0.3 | End 1 is M24/D contact, end 2 is 2 MPO, 24-core MM (50/125) OM3 high speed ribbon fiber, total length 1m, branch fiber length 0.3m. |

Part number example 5: RF-M24/D-2MT/S-MIVL/L1



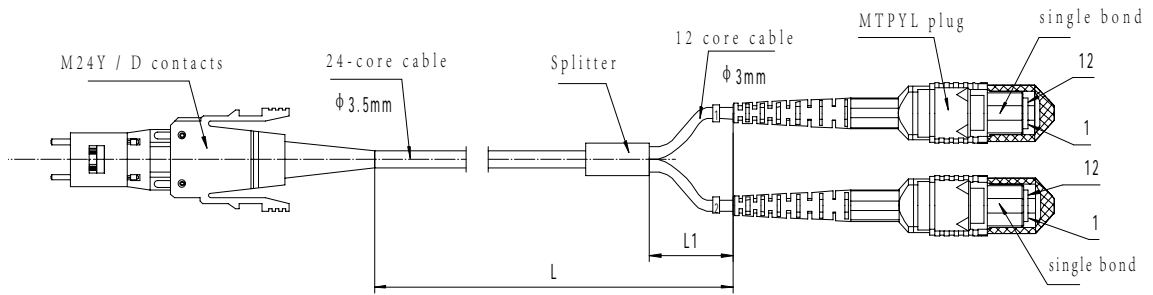
Note: 1# MT contact 1~12 cavities are according to M24/D contact 1~12 cavities.

2# MT contact 1~12 cavities are according to M24/D contact 13~24 cavities.

[Recommended type]

| Part number | Description |
|---------------------------|--|
| RF-M24/D-2MT/S-MIV0.3/0.1 | End 1 is M24/D contact; end 2 is 2 MT/S contacts, 24-coreMM (50/125) OM3 high speed ribbon fiber, total length 0.3m, branch fiber length 0.1m. |
| RF-M24/D-2MT/S-MIV0.5/0.2 | End 1 is M24/D contact; end 2 is 2 MT/S contacts, 24-coreMM (50/125) OM3 high speed ribbon fiber, total length 0.5m, branch fiber length 0.2m. |
| RF-M24/D-2MT/S-MIV1/0.3 | End 1 is M24/D contact; end 2 is 2 MT/S contacts, 24-coreMM (50/125) OM3 high speed ribbon fiber, total length 1m, branch fiber length 0.3m. |

Part number example 3: M24Y/D-2MTPYL-MIVL/L1



Note: 1# MTPYL plug 1~12 cavities are according to M24Y/D contact 1~12 cavities.

2# MTPYL plug 1~12 cavities are according to M24Y/D contact 13~24 cavities.

[Recommended type]

| Part number | Description |
|--------------------------|--|
| M24Y/D-2MTPYL-MIV0.3/0.1 | End 1 is M24Y/D contact; end 2 is 2 MTPYL contacts, 24-coreMM (50/125) OM3 high speed circular fiber, total length 0.3m, branch fiber length 0.1m. |
| M24Y/D-2MTPYL-MIV0.5/0.2 | End 1 is M24Y/D contact; end 2 is 2 MTPYL contacts, 24-coreMM (50/125) OM3 high speed circular fiber, total length 0.5m, branch fiber length 0.2m. |
| M24Y/D-2MTPYL-MIV1/0.3 | End 1 is M24Y/D contact; end 2 is 2 MTPYL contacts, 24-coreMM (50/125) OM3 high speed circular fiber, total length 1m, branch fiber length 0.3m. |