





















## ■ Diffuse Reflective Type

(based on Non-glossy white paper)

| Type   | Appearance  | Feature   | Sensing distance (mm) | Min. Sensing Target <sup>※3</sup> | Allowable Bend Radius | Cable length (L) | Ambient Temperature | Model        |             |
|--|---|---|-----------------------|-----------------------------------|-----------------------|------------------|---------------------|--------------|-------------|
| Bolt type  | Standard type   |  M3                  | 40 <sup>※2</sup>      | Ø0.03                             | R15                   | 1m (Free cut)    | -40 to 70°C         | FD-310-05    |             |
|  |   |  M3                  | 40 <sup>※2</sup>      | Ø0.03                             | R15                   | 2m (Free cut)    | -40 to 70°C         | FD-320-05    |             |
|  |   |  M4                  | 40 <sup>※2</sup>      | Ø0.03                             | R15                   | 2m (Free cut)    | -40 to 70°C         | FD-420-05    |             |
|  |   |  M3 (SUS type, 90mm) | 40 <sup>※2</sup>      | Ø0.03                             | R15 (SUS part R10)    | 2m (Free cut)    | -40 to 70°C         | FDS-320-05   |             |
|  |   |  M3 (SUS type, 45mm) |                       |                                   |                       |                  |                     | FDS2-320-05  |             |
|  |   |  M4 (SUS type, 90mm) | 40 <sup>※2</sup>      | Ø0.03                             | R15 (SUS part R10)    | 2m (Free cut)    | -40 to 70°C         | FDS-420-05   |             |
|  |  M4 (SUS type, 45mm) | FDS2-420-05   |                       |                                   |                       |                  |                     |              |             |
|  |  M6                  | M6  | 120 <sup>※2</sup>     | Ø0.03                             | R30                   | 2m (Free cut)    | -40 to 70°C         | FD-620-10    |             |
|  |   |  M6 (SUS type, 90mm) | 120 <sup>※2</sup>     | Ø0.03                             | R30 (SUS part R10)    | 2m (Free cut)    | -40 to 70°C         | FDS-620-10   |             |
|  |  M6 (SUS type, 45mm) | FDS2-620-10   |                       |                                   |                       |                  |                     |              |             |
|  | Heat-resistant type   |  M6                  | M6                    | 120 <sup>※2</sup>                 | Ø0.03                 | R30              | 2m (Free cut)       | -40 to 105°C | FD-620-10H  |
|  |   |  M6                 | M6                    | 160 <sup>※2</sup>                 | Ø0.03                 | R50              | 2m (Free cut)       | -40 to 150°C | FD-620-15H1 |
|  |   |  M4 (Glass type)   | 100 <sup>※2</sup>     | Ø0.03                             | R50                   | 2m               | -40 to 250°C        | GD-420-20H2  |             |
|  |   |  M6 (Glass type)   |                       |                                   |                       |                  |                     | GD-620-20H2  |             |
|  | Flexible type <sup>※4</sup>   |  M3                | M3                    | 35 <sup>※1</sup>                  | Ø0.0125               | R1               | 2m (Free cut)       | -40 to 60°C  | FD-320-05R  |
|  M4 |   | M4  | FD-420-05R            |                                   |                       |                  |                     |              |             |
|  M6 |   | M6  | 130 <sup>※1</sup>     | Ø0.04                             | R1                    | 2m (Free cut)    | -40 to 60°C         | FD-620-10R   |             |
| Break-resistant type <sup>※4</sup>   |  M3                | M3  | 35 <sup>※2</sup>      | Ø0.0125                           | R5                    | 2m (Free cut)    | -40 to 60°C         | FD-320-06B   |             |
|  |  M4                | M4  |                       |                                   |                       |                  |                     | FD-420-06B   |             |
|  |  M6                | M6  | 100 <sup>※2</sup>     | Ø0.0125                           | R5                    | 2m (Free cut)    | -40 to 60°C         | FD-620-13B   |             |

※1: The sensing distance is a standard for BF5 Series.

※2: The sensing distance is a standard for red LED of BF4 Series and 10% of red LED is applied when it is green LED. It is applied to 40% of sensing distance for BF3RX.

※3: Min. sensing target is a value measured opaque material in accurate output status and the sensing distance is different with the rated sensing distance ※2.

※4: • **Flexible optical fiber (Multi core):** A large number of ultra-fine cores are all surrounded by cladding. Easy to install it in the many places as the change of the intensity of radiation by bending is small.

• **Break-resistant optical fiber:** The fiber units contain a large number of independent fine fibers, by ensuring a high degree of flexibility. It can be used for moving parts (robot hand) and it is not easily broken.

※Free cut type's sensing distance can be shortened about max. 20% than the normal according to condition of the cable. [(FC-3) should be used for cutting fiber cable.]







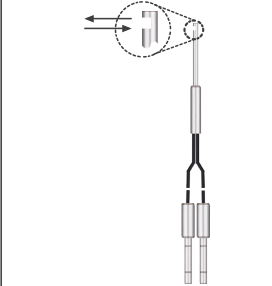





※Glass type is for BF5, BF4 Series.

|  |
|--|
| (A) Photoelectric Sensors  |
| (B) Fiber Optic Sensors  |
| (C) Door/Area Sensors  |
| (D) Proximity Sensors  |
| (E) Pressure Sensors   |
| (F) Rotary Encoders  |
| (G) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets |
| (H) Temperature Controllers  |
| (I) SSRs / Power Controllers   |
| (J) Counters   |
| (K) Timers   |
| (L) Panel Meters   |
| (M) Tacho / Speed / Pulse Meters                                     |
| (N) Display Units  |
| (O) Sensor Controllers   |
| (P) Switching Mode Power Supplies                                    |
| (Q) Stepper Motors & Drivers & Controllers                           |
| (R) Graphic/ Logic Panels  |
| (S) Field Network Devices  |
| (T) Software   |

# Fiber Optic Cable


## ■ Diffuse Reflective Type

(based on Non-glossy white paper)

| Type          | Appearance                         | Feature   | Sensing distance (mm)          | Min. Sensing Target <sup>※3</sup> | Allowable Bend Radius | Cable length (L)   | Ambient Temperature | Model       |                     |
|---------------|------------------------------------|---|--------------------------------|-----------------------------------|-----------------------|--------------------|---------------------|-------------|---------------------|
| Bolt type     | Coaxial type                       |    | M3                             | 40 <sup>※2</sup>                  | Ø0.03                 | R15                | 2m (Free cut)       | -40 to 70°C | <b>FD-320-F</b>     |
|               |                                    |    | M3                             | 60 <sup>※2</sup>                  | Ø0.03                 | R30                | 2m (Free cut)       | -40 to 70°C | <b>FD-320-F1</b>    |
|               |                                    |    | M6                             | 120 <sup>※2</sup>                 | Ø0.03                 | R30                | 2m (Free cut)       | -40 to 70°C | <b>FD-620-F2</b>    |
| Cylinder type | Standard type                      |    | Ø3mm                           | 40 <sup>※2</sup>                  | Ø0.03                 | R15                | 2m (Free cut)       | -40 to 70°C | <b>FDC-320-05</b>   |
|               |                                    |    | Ø3mm (SUS type, 15mm)          | 40 <sup>※2</sup>                  | Ø0.03                 | R15 (SUS part R10) | 2m (Free cut)       | -40 to 70°C | <b>FDCS-320-05</b>  |
|               | Break-resistant type <sup>※4</sup> |    | Ø3mm                           | 35 <sup>※2</sup>                  | Ø0.0125               | R5                 | 2m (Free cut)       | -40 to 60°C | <b>FDC-320-06B</b>  |
|               | Standard type                      |    | Ø3mm Side view                 | 30 <sup>※1</sup>                  | Ø0.0125               | R15                | 2m                  | -40 to 60°C | <b>FDCSN-320-05</b> |
| Flat type     | Flexible type                      |  | Top view                       | 35 <sup>※1</sup>                  | Ø0.0125               | R1                 | 1m (Free cut)       | -40 to 60°C | <b>FDFU-210-05R</b> |
|               |                                    |  | Side view                      | 30 <sup>※1</sup>                  | Ø0.0125               | R1                 | 1m (Free cut)       | -40 to 60°C | <b>FDFN-210-05R</b> |
|               |                                    |  | Flat view                      | 30 <sup>※1</sup>                  | Ø0.0125               | R1                 | 1m (Free cut)       | -40 to 60°C | <b>FDF-210-05R</b>  |
| Right angle   | Flexible type                      |  | M6                             | 120 <sup>※1</sup>                 | Ø0.04                 | R1                 | 1m (Free cut)       | -40 to 60°C | <b>FDR-610-10R</b>  |
| Plastic       | Standard type                      |  | Plastic injection molding type | 120 <sup>※2</sup>                 | Ø0.03                 | R30                | 2m (Free cut)       | -40 to 70°C | <b>FDP-320-10</b>   |

## ■ Convergent Reflective Type

(based on Non-glossy white paper)

| Type      | Appearance    | Feature   | Sensing distance (mm)      | Min. Sensing Target <sup>※3</sup> | Allowable Bend Radius | Cable length (L) | Ambient Temperature | Model       |                   |
|-----------|---------------|---|----------------------------|-----------------------------------|-----------------------|------------------|---------------------|-------------|-------------------|
| Flat type | Standard type |  | Convergent reflective type | 8 <sup>※1</sup>                   | Ø0.0125               | R25              | 2m                  | -40 to 60°C | <b>FLF-320-10</b> |

※1: The sensing distance is a standard for BF5 Series.

※2: The sensing distance is a standard for red LED of BF4 Series and 10% of red LED is applied when it is green LED. It is applied to 40% of sensing distance for BF3RX.

※3: Min. sensing target is a value measured opaque material in accurate output status and the sensing distance is different with the rated sensing distance ※2.

※4: **Break-resistant optical fiber:** The fiber units contain a large number of independent fine fibers, by ensuring a high degree of flexibility. It can be used for moving parts (robot hand) and it is not easily broken.

※Free cut type's sensing distance can be shortened about max. 20% than the normal according to condition of the cable. [(FC-3) should be used for cutting fiber cable.]

## ■ Through-Beam Type

(based on Non-glossy white paper)

| Type          | Appearance                         | Feature               | Sensing distance (mm) | Min. Sensing Target <sup>※3</sup> | Allowable Bend Radius | Cable length (L) | Ambient Temperature | Model       |
|---------------|------------------------------------|-----------------------|-----------------------|-----------------------------------|-----------------------|------------------|---------------------|-------------|
| Bolt type     | Standard type                      | M3                    | 150 <sup>※2</sup>     | ∅0.5                              | R15                   | 1m (Free cut)    | -40 to 70°C         | FT-310-05   |
|               |                                    | M3                    | 150 <sup>※2</sup>     | ∅0.5                              | R15                   | 2m (Free cut)    | -40 to 70°C         | FT-320-05   |
|               |                                    | M3 (SUS type, 90mm)   | 150 <sup>※2</sup>     | ∅0.5                              | R15 (SUS part R10)    | 2m (Free cut)    | -40 to 70°C         | FTS-320-05  |
|               |                                    | M3 (SUS type, 45mm)   |                       |                                   |                       |                  |                     | FTS1-320-05 |
|               |                                    | M3 (SUS type, 45mm)   |                       |                                   |                       |                  |                     | FTS2-320-05 |
|               |                                    | M4                    | 500 <sup>※2</sup>     | ∅1                                | R30                   | 2m (Free cut)    | -40 to 70°C         | FT-420-10   |
|               | M4 (SUS type, 90mm)                | 500 <sup>※2</sup>     | ∅1                    | R30 (SUS part 10)                 | 2m (Free cut)         | -40 to 70°C      | FTS-420-10          |             |
|               | M4 (SUS type, 45mm)                | 500 <sup>※2</sup>     | ∅1                    | R30 (SUS part 10R)                | 2m (Free cut)         | -40 to 70°C      | FTS2-420-10         |             |
|               | Heat-resistant type                | M4                    | 300 <sup>※2</sup>     | ∅1                                | R30                   | 2m (Free cut)    | -40 to 105°C        | FT-420-10H  |
|               |                                    | M4                    | 500 <sup>※2</sup>     | ∅1                                | R50                   | 2m (Free cut)    | -40 to 150°C        | FT-420-15H1 |
|               |                                    | M4 (Glass type)       | 400 <sup>※2</sup>     | ∅1                                | R25                   | 2m               | -40 to 250°C        | GT-420-13H2 |
|               | Flexible type <sup>※4</sup>        | M3                    | 110 <sup>※1</sup>     | ∅0.3                              | R1                    | 2m (Free cut)    | -40 to 60°C         | FT-320-05R  |
|               |                                    | M4                    | 500 <sup>※1</sup>     | ∅0.5                              | R1                    | 2m (Free cut)    | -40 to 60°C         | FT-420-10R  |
|               | Break-resistant type <sup>※4</sup> | M3                    | 110 <sup>※1</sup>     | ∅0.3                              | R5                    | 2m (Free cut)    | -40 to 60°C         | FT-320-06B  |
| M4            |                                    | 400 <sup>※1</sup>     | ∅0.6                  | R5                                | 2m (Free cut)         | -40 to 60°C      | FT-420-13B          |             |
| Cylinder type | Standard type                      | ∅1.5mm                | 150 <sup>※2</sup>     | ∅0.5                              | R15                   | 2m (Free cut)    | -40 to 70°C         | FTC-1520-05 |
|               |                                    | ∅2mm                  | 150 <sup>※2</sup>     | ∅0.5                              | R15                   | 2m (Free cut)    | -40 to 70°C         | FTC-220-05  |
|               |                                    | ∅2mm (SUS type, 15mm) | 150 <sup>※2</sup>     | ∅0.5                              | R15 (SUS part10R)     | 2m (Free cut)    | -40 to 70°C         | FTCS-220-05 |
|               |                                    | ∅3mm                  | 150 <sup>※2</sup>     | ∅1                                | R30                   | 2m (Free cut)    | -40 to 70°C         | FTC-320-10  |

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※2: The sensing distance is a standard for red LED of BF4 Series and 10% of red LED is applied when it is green LED. It is applied to 40% of sensing distance for BF3RX.

※3: Min. sensing target is a value measured opaque material in accurate output status and the sensing distance is different with the rated sensing distance ※2.

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• **Break-resistant optical fiber:** The fiber units contain a large number of independent fine fibers, by ensuring a high degree of flexibility. It can be used for moving parts (robot hand) and it is not easily broken.

※Free cut type's sensing distance can be shortened about max. 20% than the normal according to condition of the cable.

[(FC-3) should be used for cutting fiber cable.]

※FT-420-13 was discontinued. FT-420-13B is replacement.

※Glass type is for BF5R, BF4R Series.

(A) Photoelectric Sensors

(B) Fiber Optic Sensors

(C) Door/Area Sensors

(D) Proximity Sensors

(E) Pressure Sensors

(F) Rotary Encoders

(G) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets

(H) Temperature Controllers

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(R) Graphic/ Logic Panels



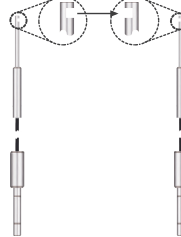



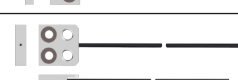


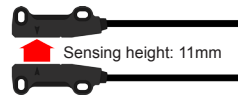

(S) Field Network Devices

(T) Software

# Fiber Optic Cable

## ■ Through-Beam Type

(based on Non-glossy white paper)

| Type                          | Appearance                         | Feature   | Sensing distance (mm)          | Min. Sensing Target <sup>※3</sup> | Allowable Bend Radius | Cable length (L) | Ambient Temperature | Model       |               |
|-------------------------------|------------------------------------|---|--------------------------------|-----------------------------------|-----------------------|------------------|---------------------|-------------|---------------|
| Cylinder type                 | Flexible type <sup>※4</sup>        |    | Ø3mm                           | 110 <sup>※1</sup>                 | Ø0.3                  | R1               | 2m (Free cut)       | -40 to 60°C | FTC-220-05R   |
|                               | Break-resistant type <sup>※4</sup> |    | Ø3mm                           | 110 <sup>※2</sup>                 | Ø0.3                  | R5               | 2m (Free cut)       | -40 to 60°C | FTC-1520-06B  |
|                               | Standard type                      |    | Ø2.47mm Side view              | 120 <sup>※1</sup>                 | Ø0.0125               | R15              | 2m                  | -40 to 60°C | FTCSN-2520-05 |
| Flat type                     | Flexible type                      |    | Top view                       | 110 <sup>※1</sup>                 | Ø0.04                 | R1               | 1m (Free cut)       | -40 to 60°C | FTFU-210-05R  |
|                               |                                    |    | Side view                      | 110 <sup>※1</sup>                 | Ø0.04                 | R1               | 1m (Free cut)       | -40 to 60°C | FTFN-210-05R  |
|                               |                                    |    | Flat view                      | 100 <sup>※1</sup>                 | Ø0.04                 | R1               | 1m (Free cut)       | -40 to 60°C | FTF-210-05R   |
|                               |                                    |   | Side view+ Top view (Bending)  | 110 <sup>※1</sup>                 | Ø0.04                 | R1               | 1m (Free cut)       | -40 to 60°C | FTFB-210-05R  |
|                               |                                    |  | L type Top view height 12.2mm  | 500 <sup>※1</sup>                 | Ø0.06                 | R1               | 1m (Free cut)       | -40 to 60°C | FTLU-310-10R  |
|                               |                                    |   | L type Top view height 17.2mm  |                                   |                       |                  |                     |             | FTLU1-310-10R |
| L type Top view height 22.2mm | FTLU2-310-10R                      |   |                                |                                   |                       |                  |                     |             |               |
| Right angle                   | Flexible type                      |  | M4                             | 460 <sup>※1</sup>                 | Ø0.5                  | R1               | 1m (Free cut)       | -40 to 60°C | FTR-410-10R   |
| Area type                     | Flexible type                      |  | Ø1mm                           | 750 <sup>※5</sup>                 | Ø0.07                 | R2               | 1m (Free cut)       | -40 to 60°C | FTW11-210-10R |
| Plastic                       | Standard type                      |  | Plastic injection molding type | 500 <sup>※2</sup>                 | Ø1                    | R30              | 2m (Free cut)       | -40 to 70°C | FTP-320-10    |

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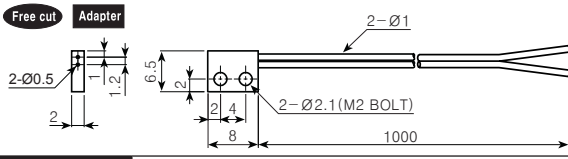
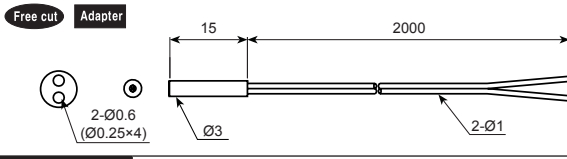
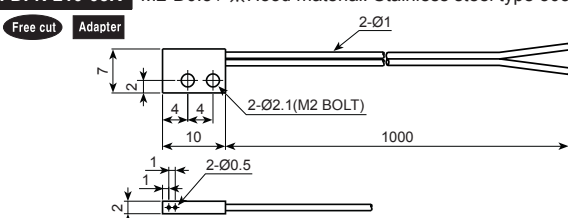
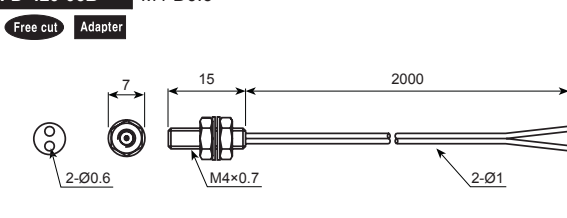
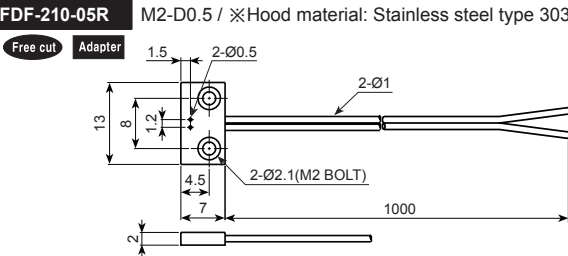
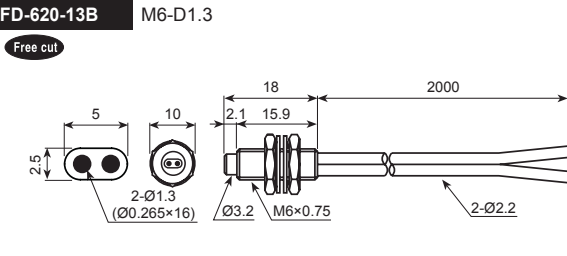
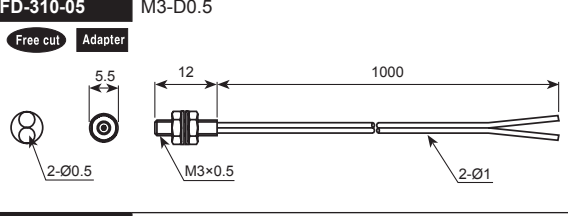
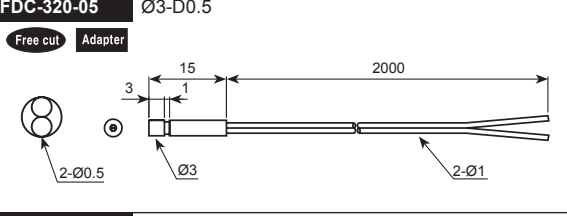
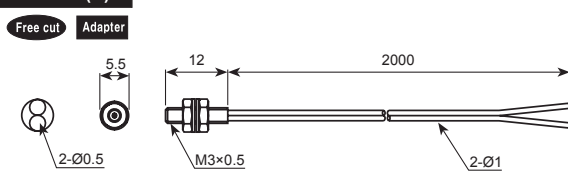
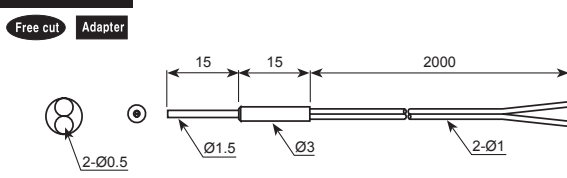
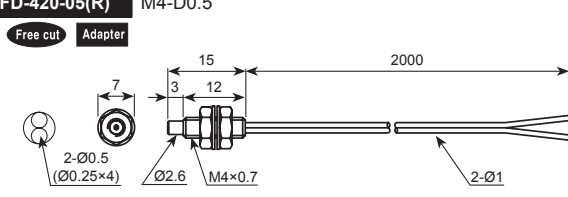
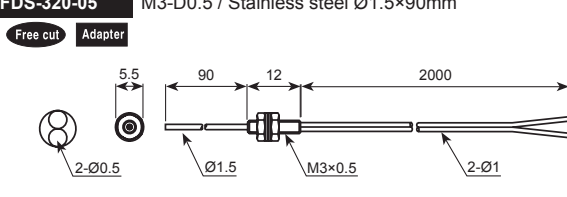
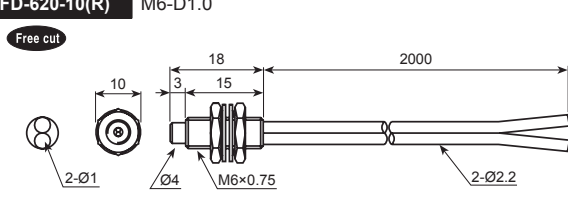
※5: The sensing distance is a standard for BF5 Series, and it is varied by operation mode.

(Ultra fast mode: 450mm / Fast mode: 750mm / Standard mode: 1400mm / Long distance mode, Ultra long distance mode: 1800mm)

※Free cut type's sensing distance can be shortened about max. 20% than the normal according to condition of the cable.

[(FC-3) should be used for cutting fiber cable.]

## Dimensions

| Model               | Diffuse reflective type   | Model              | Diffuse reflective type   |
|---------------------|---|--------------------|---|
| <b>DFDU-210-05R</b> | M2-D0.5 / ※Hood material: Stainless steel type 303<br> | <b>FDC-320-06B</b> | M3-D0.6<br>                               |
| <b>DFDN-210-05R</b> | M2-D0.5 / ※Hood material: Stainless steel type 303<br> | <b>FD-420-06B</b>  | M4-D0.6<br>                               |
| <b>DFD-210-05R</b>  | M2-D0.5 / ※Hood material: Stainless steel type 303<br> | <b>FD-620-13B</b>  | M6-D1.3<br>                               |
| <b>FD-310-05</b>    | M3-D0.5<br>   | <b>FDC-320-05</b>  | Ø3-D0.5<br>                              |
| <b>FD-320-05(R)</b> | M3-D0.5<br>  | <b>FDCS-320-05</b> | Ø3-D0.5 / Stainless steel Ø1.5x15mm<br> |
| <b>FD-420-05(R)</b> | M4-D0.5<br>  | <b>FDS-320-05</b>  | M3-D0.5 / Stainless steel Ø1.5x90mm<br> |
| <b>FD-620-10(R)</b> | M6-D1.0<br>  |                    |   |

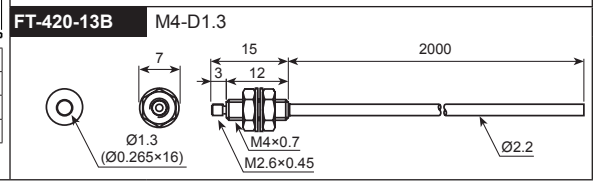
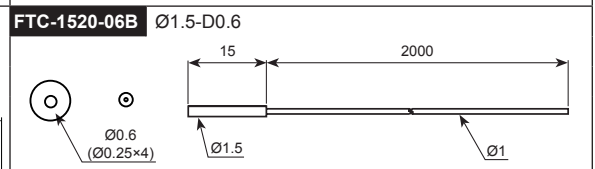
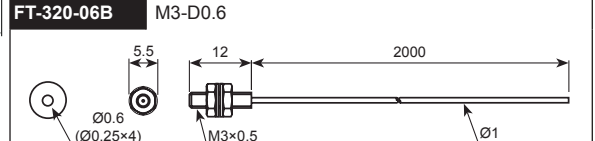
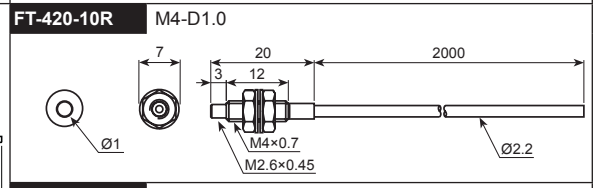
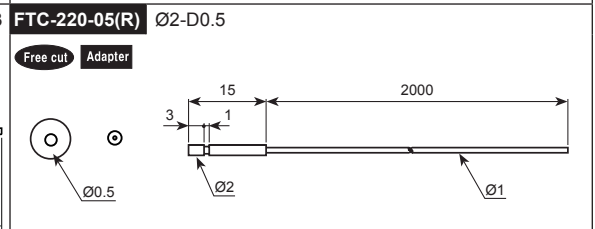
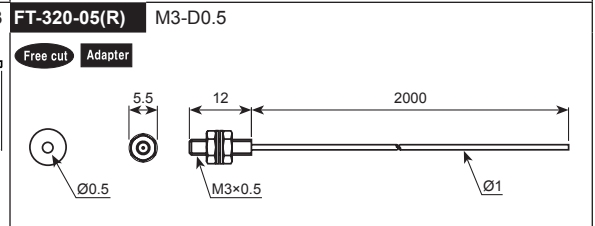
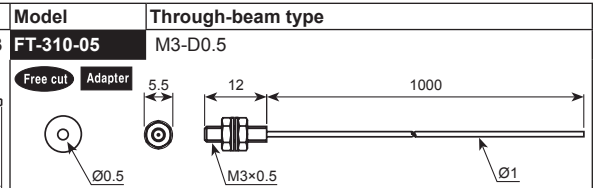
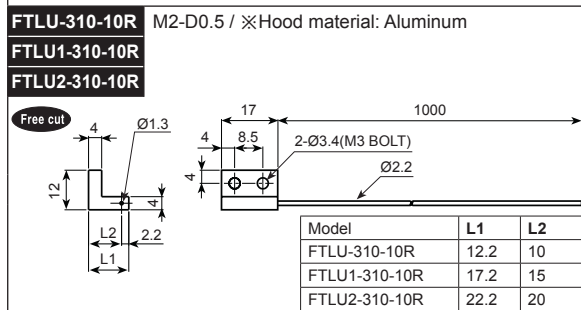
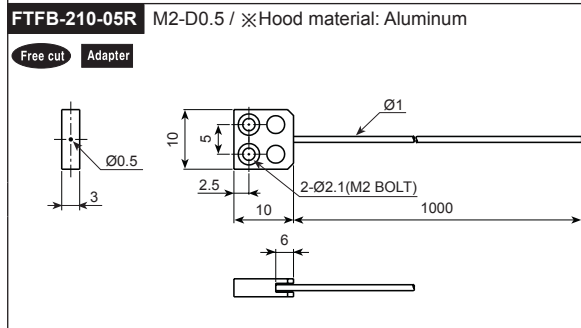
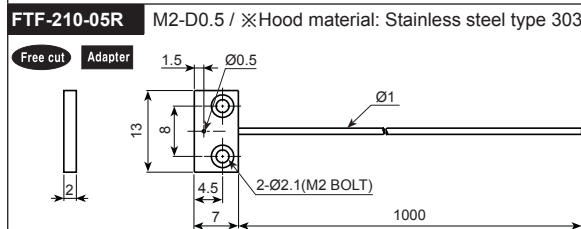
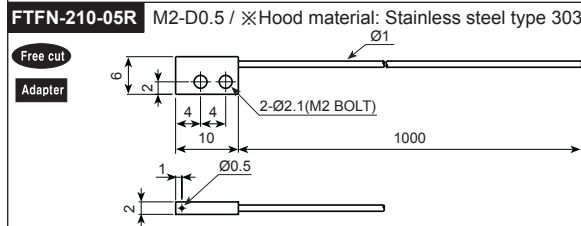
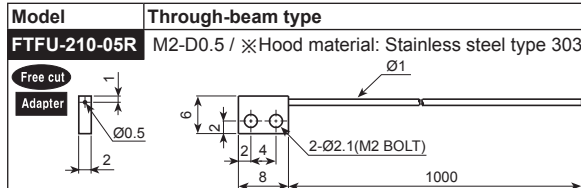
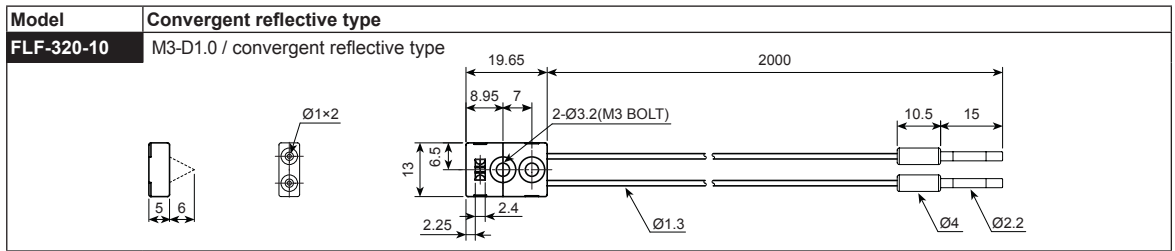
- (A) Photoelectric Sensors
- (B) Fiber Optic Sensors
- (C) Door/Area Sensors
- (D) Proximity Sensors
- (E) Pressure Sensors
- (F) Rotary Encoders
- (G) Connectors/ Connector Cables/ Sensor Distribution Boxes/ Sockets
- (H) Temperature Controllers
- (I) SSRs / Power Controllers
- (J) Counters
- (K) Timers
- (L) Panel Meters
- (M) Tacho / Speed / Pulse Meters
- (N) Display Units
- (O) Sensor Controllers
- (P) Switching Mode Power Supplies
- (Q) Stepper Motors & Drivers & Controllers
- (R) Graphic/ Logic Panels
- (S) Field Network Devices
- (T) Software

# Fiber Optic Cable

## ■ Dimensions

| Model                                  | Diffuse reflective type                                | Model                                  | Diffuse reflective type                       |
|--|--|--|---|
| <b>FD-320-06B</b><br>Free cut Adapter  | M3-D0.6<br>  | <b>FDS2-320-05</b><br>Free cut Adapter | M3-D0.5 / Stainless steel Ø1.5x45mm<br>       |
| <b>FDS-420-05</b><br>Free cut Adapter  | M4-D0.5 / Stainless steel Ø1.5x90mm<br>                | <b>FD-320-F1</b><br>Free cut Adapter   | Co-axial M3 / Ø0.5, Ø0.25x9<br>               |
| <b>FDS2-420-05</b><br>Free cut Adapter | M4-D0.5 / SUS Ø1.5x45mm<br>                            | <b>FD-620-F2</b><br>Free cut           | Co-axial M6 / Ø1.0, Ø0.265x16<br>             |
| <b>FDS-620-10</b><br>Free cut          | M6-D1.0 / SUS Ø2.5x90mm<br>                            | <b>FD-620-10H</b><br>Free cut          | M6-D1.0 / Heat-resistant 105°C<br>            |
| <b>FDS2-620-10</b><br>Free cut         | M6-D1.0 / SUS Ø2.5x45mm<br>                            | <b>FD-620-15H1</b><br>Free cut         | M6-D1.5 / Heat-resistant 150°C<br>            |
| <b>FDP-320-10</b><br>Free cut          | D1.0x2 / Plastic<br>                                   | <b>GD-420-20H2</b><br>Free cut         | M4-D0.05x1000 / Heat-resistant 250°C<br>      |
| <b>FD-320-F</b><br>Free cut Adapter    | Co-axial M3 / Ø0.5, Ø0.25x4<br>                        | <b>GD-620-20H2</b><br>Free cut         | M6-D0.05x1000 / Heat-resistant 250°C<br>      |
| <b>FDR-610-10R</b><br>Free cut         | M6-D1.0 / ※Hood material: Stainless steel type 303<br> | <b>FDCSN-320-05</b><br>Free cut        | Ø3 / Stainless steel Ø1.47x20 / Side view<br> |

## ■ Dimensions



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- (T) Software

# Fiber Optic Cable

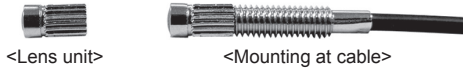
## Dimensions

| Model                                  | Through-beam type           | Model                            | Through-beam type                                      |
|--|-----------------------------|----------------------------------|--|
| <b>FTC-1520-05</b><br>Free cut Adapter | Ø1.5-D0.5<br>               | <b>FTP-320-10</b><br>Free cut    | D1.0 / Plastic<br>                                     |
| <b>FTCS-220-05</b><br>Free cut Adapter | Ø2-D0.5 / SUS Ø1.0×15mm<br> | <b>FTS-420-10</b><br>Free cut    | M4-D1.0 / Stainless steel Ø1.5×90m<br>                 |
| <b>FTS-320-05</b><br>Free cut Adapter  | M3-D0.5 / SUS Ø1.0×90mm<br> | <b>FTS2-420-10</b><br>Free cut   | M4-D1.0 / Stainless steel Ø1.5×45m<br>                 |
| <b>FTS1-320-05</b><br>Free cut Adapter | M3-D0.5 / SUS Ø1.0×35mm<br> | <b>FT-420-10H</b><br>Free cut    | M4-D1.0 / Heat-resistant 105°C<br>                     |
| <b>FTS2-320-05</b><br>Free cut Adapter | M3-D0.5 / SUS Ø1.0×45mm<br> | <b>FT-420-15H1</b><br>Free cut   | M4-D1.5 / Heat-resistant 150°C<br>                     |
| <b>FT-420-10</b><br>Free cut           | M4-D1.0<br>                 | <b>GT-420-13H2</b><br>Free cut   | M4-D1.3 / Heat-resistant Max. 250°C / Glass<br>        |
| <b>FTC-320-10</b><br>Free cut          | Ø3-D1.0<br>                 | <b>FTR-410-10R</b><br>Free cut   | M4-D1.0 ※Hood material: Stainless steel type 303<br>   |
| <b>FTW11-210-10R</b><br>Free cut       | M2-D1.0<br>                 | <b>FTCSN-2520-05</b><br>Free cut | Ø2.47-D0.5 / Stainless steel Ø0.8×15mm / Side view<br> |



## ■ Lens Unit For Long Distance Detection (sold separately)

### ◎ Model : FTL-M26



### ◎ Mounting of lens

Mount the lens unit on the 3mm projecting point of the front hood.

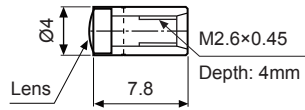
### ◎ Ambient temperature range of lens unit

It should be used within -40 to 100°C. (not over 100°C.)

### ◎ Applicable fiber optic cable and max. mounting distance

- FT-420-10 : 2500mm
- FT-420-10H : 1500mm

### ◎ Dimensions

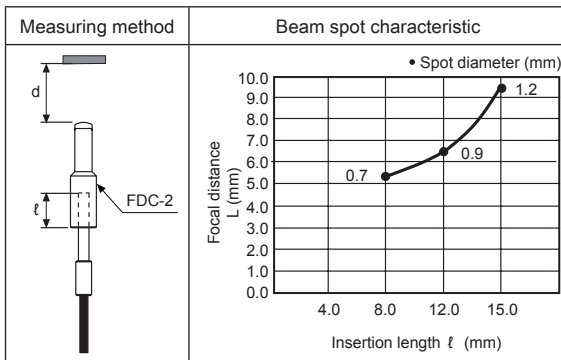


## ■ Micro Spot Fiber Optic Cable And Lens Unit (sold separately)

### ◎ Model

- Fiber optic cable: FDC-320-F
- Micro spot lens: FDC-2

### ◎ Feature data

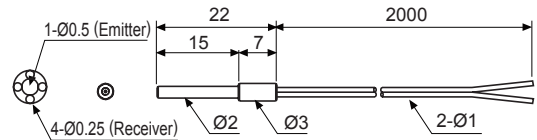


### ◎ Ambient temperature range of lens unit

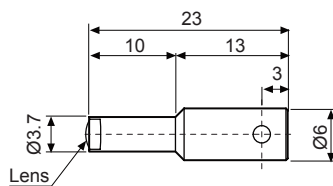
It should be used within -40 to 100°C. (not over 100°C.)

### ◎ Dimensions

#### • FDC-320-F



#### • FDC-2



## ■ Protection Tube For Fiber Optic Cable (sold separately)

### ◎ Application

• Protect cable from impact or cutting (unit: mm)

| Model   | Appearance and Dimension | L    |
|---------|--------------------------|------|
| FTH-305 |                          | 500  |
| FTH-310 |                          | 1000 |
| FTH-405 |                          | 500  |
| FTH-410 |                          | 1000 |
| FDH-605 |                          | 500  |
| FDH-610 |                          | 1000 |

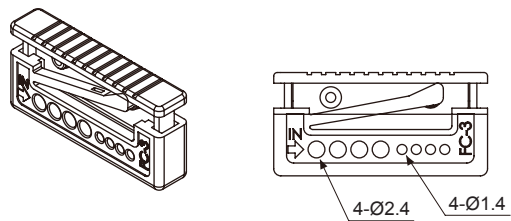
※Additional 8mm is for tube coupling.

## ■ Accessory

### ◎ Fiber cutter

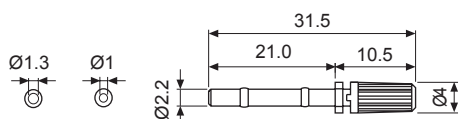
Applications: Cutting fiber optic cable, free cut type

#### • FC-3



### ◎ Adapter

Adapter: Adapter marked fiber optic cable should be used with adapter (unit: mm)



※The inside diameter Ø1 (standard and black)

※The inside diameter Ø1.3(Only applied to the receiver of FD-320-F1 and dark gray.)

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(B) Fiber Optic Sensors

(C) Door/Area Sensors

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(E) Pressure Sensors

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