

Diffuse reflective fiber units

High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Green light Red light

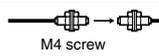
| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} | Standard object ^{*2} (min. sensing object: Gold wire) | Model | Permissible bending radius |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------|----------------------------|
| Teflon-covered ^{*3} ; withstands chemicals and harsh environments (operating ambient temperature: -30°C to 70°C Free-cut |  | E3X-DA□-S | 160 95 30 | 200x200 (0.005 mm ø) | E32-D12F | 40 mm |
| | | E3X-DA□-N | 120 95 45 | 200x200 (0.01 mm ø) | | |
| | | E3X-MDA | 95 70 30 | 200x200 (0.005 mm ø) | | |
| | | E3X-NA□(V) | 50 | 100x100 (0.03 mm ø) | | |
| | | E3X-NAG□ | 8 | 25x25 (0.3 mm ø) | | |
| | | E3X-NA□F | 16 | 25x25 (0.03 mm ø) | | |

- *1. Sensing distance based on white paper.
- *2. Indicates values for standard mode.
- *3. Teflon is a registered trademark of Dupont Company and Mitsui Dupont Company for their fluoride resin.

Heat resistant

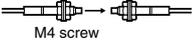
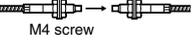
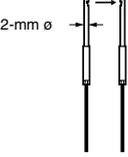
Throughbeam fiber unit

High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Red light

| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} (Parentheses: With E39-F1 Lens Unit) | Standard object ^{*2} (min. sensing object) (Parentheses: Opaque object) | Model | Permissible bending radius |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------|----------------------------|
| Resists 150°C ^{*3} ; fiber sheath fiber sheath material: fluorine resin (operating ambient temperature: -40°C to 150°C) Free-cut |  | E3X-DA□-S | 1,000 760 200 | 1.5 mm ø (0.1 mm ø) | E32-ET51 | 35 mm |
| | | E3X-DA□-N | 950 760 280 | 1.5 mm ø (0.01 mm ø) | | |
| | | E3X-MDA | 650 500 200 | 1.5 mm ø (0.1 mm ø) | | |
| | | E3X-NA□(V) | 400 | 1.5 mm ø (0.03 mm ø) | | |
| | | E3X-NA□F | 120 | 1.5 mm ø (1 mm ø) | | |

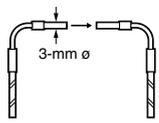
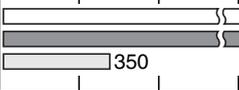
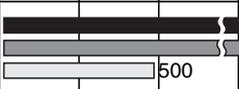
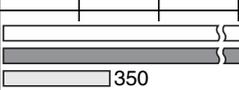
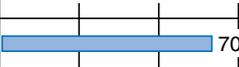
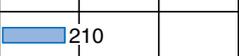
- *1. Sensing distance based on white paper.
- *2. Indicates values for standard mode.
- *3. For continuous operation, use the products within the temperature ranging from -40°C to 130°C.
- *4. Indicates the heat resistant temperature at the fiber tip.
- *5. Teflon is a registered trademark of the Dupont Company and the Mitsui Dupont Chemical Company for their fluoride resin.
- *6. Longer sensing distance by using the lens unit E39-F1.

High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Red light

| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} (Parentheses: With E39-F1 Lens Unit) | Standard object ^{*2} (min. sensing object) (Parentheses: Opaque object) | Model | Permissible bending radius |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------|----------------------------|
| Resists 200°C; flexible (R10); fiber sheath material: Teflon ^{*5} (operating ambient temperature: -40°C to 200°C) |  | E3X-DA□-S | 360 (2,650) 280 (2,100) 70 (520) | 1.0 mm ø (0.005 mm ø) | E32-T81R-S NEW | 10 mm |
| | | E3X-DA□-N | 350 280 100 | 1.5 mm ø (0.01 mm ø) | | |
| | | E3X-MDA | 230 (1,700) 180 (1,300) 70 (520) | 1.0 mm ø (0.005 mm ø) | | |
| | | E3X-NA□(V) | 180 | 1.0 mm ø (0.2 mm ø) | | |
| | | E3X-NA□F | 50 | 1.0 mm ø (0.5 mm ø) | | |
| Resists 350°C ^{*4} , with spiral tube; high mechanical strength; fiber sheath material: stainless steel (operating ambient temperature: -60°C to 350°C) |  | E3X-DA□-S | 600 (4,000) ^{*6} 450 (3,400) 120 (900) | 1.0 mm ø (0.005 mm ø) | E32-T61-S NEW | 25 mm |
| | | E3X-DA□-N | 570 (4,000) ^{*6} 450 (3,400) 170 (1,300) | 1 mm ø (0.01 mm ø) | | |
| | | E3X-MDA | 390 (3,000) 300 (2,200) 120 (900) | 1.0 mm ø (0.005 mm ø) | | |
| | | E3X-NA□(V) | 300 (3,000) | 1.0 mm ø (0.03 mm ø) | | |
| | | E3X-NA□F | 90 | 1.0 mm ø (0.5 mm ø) | | |
| Side-view; resists 150°C ^{*3} , suitable for detecting minute sensing objects; fiber sheath material: fluorine resin (operating ambient temperature: -40°C to 150°C) Free-cut |  | E3X-DA□-S | 300 230 60 | 1.0 mm ø (0.005 mm ø) | E32-T54 | 35 mm |
| | | E3X-DA□-N | 290 230 80 | 1 mm ø (0.01 mm ø) | | |
| | | E3X-MDA | 190 150 60 | 1.0 mm ø (0.005 mm ø) | | |
| | | E3X-NA□(V) | 130 | 1.0 mm ø (0.03 mm ø) | | |
| | | E3X-NA□F | 35 | 1.0 mm ø (0.3 mm ø) | | |

^{*1}. Sensing distance based on a white paper.
^{*2}. Indicates values for standard mode.
^{*3}. For continuous operation, use the products within the temperature ranging from -40°C to 130°C.
^{*4}. Indicates the heat resistant temperature at the fiber tip.
^{*5}. Teflon is a registered trademark of the Dupont Company and the Mitsui Dupont Chemical Company for their fluoride resin.
^{*6}. Longer sensing distance by using the lens unit E39-F1.

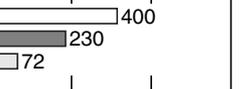
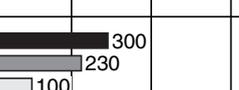
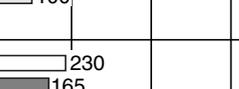
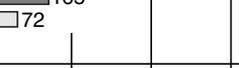
High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Red light

| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} (Parentheses: With E39-F1 Lens Unit) | Standard object ^{*2} (min. sensing object) (Parentheses: Opaque object) | Model | Permissible bending radius |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------|----------------------------|
| Resists 200°C ^{*4} ; L-shaped; fiber sheath material: stainless steel SUS |  | E3X-DA□-S |  | 1.7 mm ø (0.1 mm ø) | E32-T84S-S NEW | 25 mm |
| | | E3X-DA□-N |  | 1.7 mm ø (0.01 mm ø) | | |
| | | E3X-MDA |  | 1.7 mm ø (0.1 mm ø) | | |
| | | E3X-NA□(V) |  | 1.7 mm ø (0.03 mm ø) | | |
| | | E3X-NA□F |  | 1.7 mm ø (0.4 mm ø) | | |

- *1. Sensing distance based on a white paper.
- *2. Indicates values for standard mode.
- *3. For continuous operation, use the products within the temperature ranging from -40°C to 130°C.
- *4. Indicates the heat resistant temperature at the fiber tip.
- *5. Teflon is a registered trademark of the Dupont Company and the Mitsui Dupont Chemical Company for their fluoride resin.
- *6. Longer sensing distance by using the lens unit E39-F1.

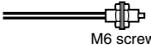
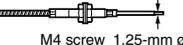
Diffuse reflective fiber unit

High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Red light

| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} | Standard object ^{*2} (min. sensing object: Gold wire) | Model | Permissible bending radius |
|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------|----------------------------|
| Resists 150°C ^{*3} ; fiber sheath material: fluorine resin (operating ambient temperature: -40°C to 150°C) Free-cut |  | E3X-DA□-S |  | 200x200 (0.005 mm ø) | E32-ED51 | 35 mm |
| | | E3X-DA□-N |  | 200x200 (0.01 mm ø) | | |
| | | E3X-MDA |  | 100x100 (0.005 mm ø) | | |
| | | E3X-NA□(V) |  | 150x150 (0.03 mm ø) | | |
| | | E3X-NA□F |  | 50x50 (0.03 mm ø) | | |

- *1. Sensing distance based on a white paper.
- *2. Indicates values for standard mode.
- *3. For continuous operation use the product within a temperature range of -40° to 130°C.
- *4. Indicates the heat-resistant temperature at the fiber tip.

High resolution mode Standard mode
 Super long-distance mode Super high-speed mode
 Red light

| Features | Shape | Applicable Amplifier Unit | Sensing distance (mm) ^{*1} | | | Standard object ^{*2} (min. sensing object: Gold wire) | Model | Permissible bending radius |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------------------------------------------------------------------|-------------------------|----------------------------|
| Resists 200°C ^{*4} ; fiber sheath material: fluorine resin (operating ambient temperature: -40°C to 200°C) |  | E3X-DA□-S | 150 90 27 | | | 200x200 (0.005 mm ø) | E32-D81R-S E32-D81R | 10 mm |
| | | E3X-DA□-N | 120 90 30 | | | 200x200 (0.01 mm ø) | | |
| | | E3X-MDA | 90 63 27 | | | 100x100 (0.005 mm ø) | | |
| Resists 350°C ^{*4} ; fiber sheath material: stainless steel (operating ambient temperature: -60°C to 350°C) |  | E3X-DA□-S | 150 90 27 | | | 200x200 (0.005 mm ø) | E32-D61-S NEW | 25 mm |
| | | E3X-MDA | 90 60 27 | | | | | |
| 300°C Operating ambient temperature: -40 to +300°C Fiber sheath material: SUS |  | E3X-DA□-N | 120 90 30 | | | 200x200 (0.01 mm ø) | E32-D61 NEW | 25 mm |
| | | E3X-NA□(V) | 45 | | | 100x100 (0.03 mm ø) | | |
| | | E3X-NA□F | 15 | | | 25x25 (0.03 mm ø) | | |
| 400°C Operating ambient temperature: -40 to +400°C Fiber sheath material: SUS |  | E3X-DA□-N | 80 60 20 | | | 100x100 (0.01 mm ø) | E32-D73 | 25 mm |
| | | E3X-NA□(V) | 30 | | | 50x50 (0.03 mm ø) | | |
| | | E3X-NA□F | 10 | | | 25x25 (0.03 mm ø) | | |
| Resists 400°C ^{*4} ; fiber sheath material: stainless steel (operating ambient temperature: -40°C to 400°C) | | E3X-DA□-S | 100 60 18 | | | 200x200 (0.005 mm ø) | E32-D73-S NEW | |
| | | E3X-MDA | 60 40 18 | | | | | |

^{*1}. Sensing distance based on white paper.
^{*2}. Indicates values for standard mode.
^{*3}. For continuous operation use the product within a temperature range of -40° to 130°C.
^{*4}. Indicates the heat-resistant temperature at the fiber tip.