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Screen/Array

Related products

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D3RF
P.110

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Specialized Photoelectric Sensors

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Fiber Units

Easy mounting

Thread type

Cylindrical type

Sleeve type

Flexible R4/R2

Flexible R1/R2

Retro-reflective

Small object detection

Screen/Array

Limited diffuse

Narrow view/wafer mapping

Heat resistant

Chemical resistant

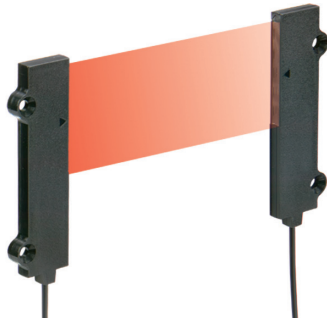
Vacuum resistant

Liquid level/liquid leakage/water detection

Lens for through-beam type

Correct use

Fiber units for detecting with light screen

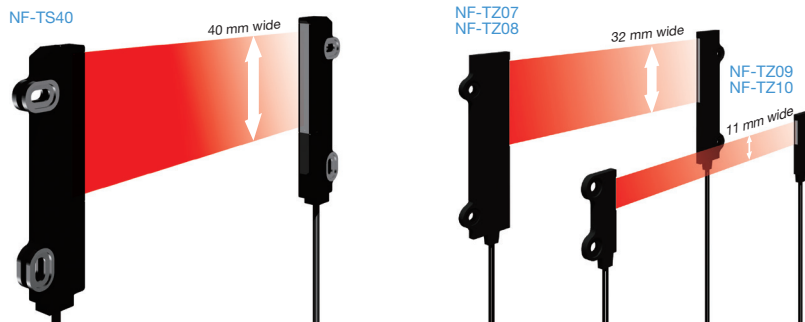


Optimal for detection of complex shapes and when workpiece passage locations are not fixed.

Screen fiber

New through-beam type

New models for 32 mm wide and 11 mm wide types in addition to new 40 mm wide type. Five models are available as optimal solutions for the detection of workpieces with complex shapes, as well as for the detection of workpiece passage locations and shapes that are not fixed.



Upgrades from the previous model

NF-TZ08	Bending radius changed from R10 mm
NF-TZ10	to a flexible R2 mm.

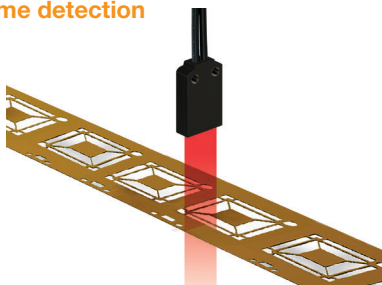
*Small changes only in sensing distance for NF-TZ09.

Slit masks for small object detection and short-distance light saturation are included for NF-TZ07, -TZ08, -TZ09, and -TZ10

Head ON diffuse type

The NF-DZ01 diffuse type enables a detection area with a spot size of 2×15 mm (at a distance of 15 mm). Optimal for the detection of workpieces with complex shapes and drilled workpieces such as lead frames.

Lead frame detection



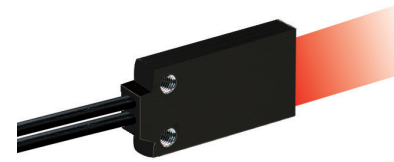
Collimated light like laser beam

Collimated light like laser beam achieved through unique optical design. Because there is little light leakage even for mounting in complex areas, superior detection stability is achieved.

Difference between screen fiber and array fiber

Screen fiber Collimated light

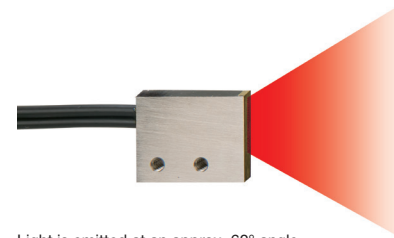
This screen fiber collimates light into a band through the lens.
Able to detect finer light differences than array fibers as a through-beam type due to collimated light.



Light path: almost parallel.

Array fiber

This array fiber aligns the fiber cores and emits light in a band.
Easy to perform light axis adjustment as a through-beam type because the light expands. Because there is more light received when detecting small objects at a short-distance when using diffuse types as compared to screen fibers, stable detection is possible.



Light is emitted at an approx. 60° angle.

Screen / Array fiber units (through-beam type)

Type	Features/dimensions (mm)	Sensing distance (mm)			Ambient temperature	Min. bending radius (mm)	Model
		D3RF	D2RF	BRF			
Through-beam type	11 mm wide screen, Flexible, Side ON, Free cut 	7-EL 3,700 6-UL 3,000 5-PL 3,000 4-LG 3,000 3-ST 2,500 2-FS 2,000 1-HS 1,500	Long 3,500 Std 2,500 Fast 1,800	2,500	-40 to +70°C	R10	NF-TZ10 Renewal Collimated light
	11 mm wide screen, Flexible, Side ON, Free cut 	7-EL 3,700 6-UL 3,000 5-PL 3,000 4-LG 3,000 3-ST 2,500 2-FS 2,000 1-HS 1,000	Long 3,000 Std 2,500 Fast 1,200	2,000	-40 to +55°C	R1	NF-TZ09 Renewal Collimated light
	32 mm wide screen, Flexible, Side ON, Free cut 	7-EL 3,700 6-UL 3,700 5-PL 3,700 4-LG 3,700 3-ST 3,700 2-FS 3,000 1-HS 2,500	Long 3,700 Std 3,000 Fast 2,500	2,500	-40 to +60°C	R10	NF-TZ08 Renewal Collimated light

●Install with an ambient humidity between 35 and 85%. In the case of 85% RH, the ambient temperature should be between 0 and 40°C.

Screen / Array fiber units (through-beam type)

Type	Features/dimensions (mm)	Sensing distance (mm)			Ambient temperature	Min. bending radius (mm)	Model
		D3RF	D2RF	BRF			
Through-beam type	<p>32 mm wide screen, Flexible, Side ON, Free cut</p>	<p>7-EL 3,700 6-UL 3,700 5-PL 3,700 4-LG 3,700 3-ST 3,700 2-FS 3,000 1-HS 2,500</p>	<p>Long 3,700 Std 3,000 Fast 2,500</p>	2,500	-40 to +55°C	R1	<p>NF-TZ07</p> <p>Renewal</p> <p>Collimated light</p>
	<p>40 mm wide screen, Flexible, Side ON, Free cut</p>	<p>7-EL 3,600 6-UL 3,600 5-PL 3,600 4-LG 3,600 3-ST 3,600 2-FS 3,600 1-HS 2,500</p>	<p>Long 3,600 Std 3,600 Fast 3,000</p>	3,600	-40 to +60°C	R2	<p>NF-TS40</p> <p>Collimated light</p>
	<p>5.25 mm wide array, Head ON, Free cut</p>	<p>7-EL 1,350 6-UL 1,260 5-PL 1,170 4-LG 990 3-ST 660 2-FS 400 1-HS 130</p>	<p>Long 650 Std 400 Fast 250</p>	300	-40 to +70°C	R25	NF-TZ05
	<p>5.25 mm wide array, Side ON, Free cut</p>	<p>7-EL 1,440 6-UL 1,350 5-PL 1,170 4-LG 1,080 3-ST 710 2-FS 430 1-HS 130</p>	<p>Long 650 Std 400 Fast 250</p>	300	-40 to +70°C	R25	NF-TZ06
	<p>5.25 mm wide array, Head ON, Free cut</p>	<p>7-EL 4,000 6-UL 1,600 5-PL 1,000 4-LG 900</p>	<p>3-ST 650 2-FS 330 1-HS 100 Fast 250</p>	330	-40 to +70°C	R25	NF-TS10
	<p>10.5 mm wide array, Head ON, Free cut</p>	<p>7-EL 4,000 6-UL 1,600 5-PL 1,000 4-LG 900</p>	<p>3-ST 650 2-FS 330 1-HS 100 Fast 250</p>	330	-40 to +70°C	R25	NF-TS14

● Install with an ambient humidity between 35 and 85%. In the case of 85% RH, the ambient temperature should be between 0 and 40°C.

Screen / Array fiber units (through-beam type/diffuse type)

Type	Features/dimensions (mm)	Sensing distance (mm)			Ambient temperature	Min. bending radius (mm)	Model	
		D3RF	D2RF	BRF				
Through-beam type	<p>13 mm wide array, Head ON, Free cut</p>	<p>7-EL 4,000 6-UL 1,500 5-PL 1,400 4-LG 1,200 3-ST 800 2-FS 400 1-HS 100</p>	<p>Long 850 Std 500 Fast 250</p>	350	-40 to +70°C	R25	NF-TS28	
	<p>30 mm wide array, Head ON, Free cut</p>	<p>7-EL 4,000 6-UL 1,400 5-PL 1,200 4-LG 1,000 3-ST 700 2-FS 300 1-HS 100</p>	<p>Long 650 Std 500 Fast 250</p>	200	-40 to +70°C	R25	NF-TS19	
Diffuse type	<p>Screen Head ON, Free cut</p>	<p>7-EL 620 6-UL 580 5-PL 500 4-LG 440</p>	<p>3-ST 280 2-FS 210 1-HS 59</p>	<p>Long 350 Std 250 Fast 100</p>	Unusable	-40 to +60°C	R25	NF-DZ01 Collimated light
	<p>Array, Head ON, Free cut</p>	<p>7-EL 600 6-UL 560 5-PL 490 4-LG 430</p>	<p>3-ST 270 2-FS 270 1-HS 51</p>	<p>Long 320 Std 170 Fast 85</p>	130	-40 to +70°C	R25	NF-DZ02
	<p>Array, Side ON, Free cut</p>	<p>7-EL 530 6-UL 500 5-PL 440 4-LG 370</p>	<p>3-ST 250 2-FS 140 1-HS 45</p>	<p>Long 320 Std 170 Fast 85</p>	100	-40 to +70°C	R25	NF-DZ03
	<p>Array, Head ON, Free cut</p>	<p>7-EL 950 6-UL 500 5-PL 450 4-LG 400</p>	<p>3-ST 250 2-FS 100 1-HS 40</p>	<p>Long 300 Std 180 Fast 80</p>	35	-40 to +70°C	R25	FD-ML02

●The sensing distances for the diffuse type fiber units are values on 500 × 500 mm white paper.
 ●Install with an ambient humidity between 35 and 85%. In the case of 85% RH, the ambient temperature should be between 0 and 40°C.

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