Laser Displacement **Sensors**

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

through-beam type

Correct use

Narrow view/wafer mapping



D3RF O P.110





Featuring a built-in lens and narrow aperture that minimizes light leakage.

- Long range detection together with minimized light leakage
- Retro-reflective type and diffuse type also available for wafer mapping

Ultra-narrow view and ultra-thin type

Aperture 2° or less Ultra-narrow view

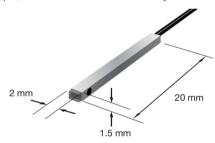
Ultra-narrow view which restricted the spread of light to the limit. Optimal for wafer mapping due to a design that minimizes light leakage.

Straight view: NF-TG01 Side view: NF-TG02, NF-TG03



Ultra-thin type: NF-TG04 Ultra-thin

Ultra-thin design with a thickness of just 1.5 mm. Almost no mounting space needed. Of course, since this is a side view type, the fiber cable can be easily handled.



Retro-reflective types and diffuse types are also available

Ultra-thin fiber units and reflectors

Ultra-thin design with a thickness of just 2 mm. Wafer mapping that was only possible on through-beam types which require much cable installation is now possible on retro-reflective types. Of course, since this is a space-saving side view type, the fiber cable can be easily handled.

*Reflector thickness is 2.2 mm.



Diffuse type and limited diffuse reflective type are also available Diffuse type NF-DR09 Limited diffuse reflective type

NF-DC03







Narrow view/wafer mapping fiber units (through-beam type)

Тур		Features/dimensions (mm)	Sensing distance (mm)			Ambient	Min. bending	Model
ıyp	ЭЕ		D3RF	D2RF	BRF	temperature	radius (mm)	Model
I nrougn-beam type	ø3.7	2° aperture, Free cut Screw installing range) 2000 part (62.2) - 8 - (20) 63.5 (polycarbonate) 63.7 (SUS) 62.2	7-EL 3,600 2,100 2,458 3,600 4-L6 3,200 790 4-148 790 4-188 790 4-188 790 4-188 790 4-188 790 4-188 790 4-188 790 4-	3,000 Std 2,000 Fast 1,300	2,300	-40 to +60°C	R25	NF-TG01 Ultra-narrow view

●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.

Narrow view/wafer mapping fiber units (through-beam type: side view)

Тур			Features/dimensions (mm)	Sensing distance (mm)			Ambient	Min. bending	Model
	Type			D3RF	D2RF	BRF	temperature	radius (mm)	iviouei
		2 × 1.5	3° aperture, Free cut Prism Light axis Mounting base surface 20 2000 Detecting part detail 1.5 \$\frac{1}{2} \text{ axis} = \text{ (0.5)} 1.7 \text{ SUS} \text{ Detecting part (o1)} \text{ o2 (PVC)} Polycarbonate	7-EL 1,000 6-UL 900 5-PL 790 4-LG 690 3-ST 450 2-FS 260 1-HS	Long 500 Std 300 Fast 150	220	-40 to +60°C	R10	NF-TG04 Ultra-thin
			2° aperture, Free cut (Screw installing range) 25 2000 2000 3.7 Light SUS 94 (PVC) Polycarbonate Detecting part (e2.5)	7-EL 3,600 6-UL 3,600 6-PL 3,600 4-US 3,300 3-ST 2,100 2-FS 1,780 1-HS 510	2,500 Std 1,600 Fast 800	900	-40 to +60°C	R25	NF-TG03 (Ultra-narrow view)
	ç	9 4	2° aperture, Flexible, Free cut 25 2000 3.7 2000 3.7 2000 25 2000 2000 Detecting part detail par	7-EL 3,600 6-UL 3,600 5-PL 3,600 4-US 3,300 3-ST 2,1100 2-FS 1,500 1-HS 520	2,500 Std 1,600 Fast 800	1,000	-40 to +60°C	R1	NF-TG02 (Ultra-narrow view)
			5° aperture, Free cut	7-EL 4,000 2,800 2,800 4,000 5,PL 1,48 4,000 4,000 3,000	Long 4,000 Std 3,000 Fast 2,000	1,700	-40 to +70°C	R25	NF-TS12
			3° aperture, Free cut Detecting part detail 2.8 3 aperture, Free cut Lens (BK7) Lens (BK7) 3.6 SUS303 01 30 2000	7-EL 4,000 2,000 6-UL 2-FS 4,000 1,000 5-PL 300 4-LG 1,000	Long 3,000 Std 1,600 Fast 700	750	-40 to +70°C	R25	NF-TS22

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Photoelectric Sensors

Specialized Photoelectric Sensors

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Lens for through-beam type

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Flexible R4/R2

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TIOXIDIO TITTILE

Retro-reflective

Small object detection

Screen/Array

Limited diffuse

Narrow view/ wafer mapping

Heat resistant

Chemical resistant

Vacuum resistant

Toolotant

Liquid level/liquid leakage/ water detection

through-beam type

Correct use

Narrow view/wafer mapping fiber units (retro-reflective type/diffuse type/limited diffuse reflective type)

Туре		Features/dimensions (mm)	Sensing dis			Ambient	Min. bending	Model
		Wafer mapping, Ultra-small type, Free cut	D3RF	D2RF	BRF	temperature	radius (mm)	
Retro-reflective type	4 × 2	15.8 14.7 1.95 2-M1.4 × 0.3 threaded Mounting part (SUS) Base (ABS) 11.9 Prism 19, 2	7-EL 590 6-UL 550 6-PL 480 4-LG 420 3-ST 270 2-FS 180 1-HS 70	Long 350 Std 230 Fast 130	Unusable	-40 to +60°C	R10	NF-RG01 Ultra-thin
Diffuse type	Square	Long range detection, Flexible, Free cut Detecting part detail Multi core fiber 90.075 × 151 Glass lens (BK7) 9.5 Housing (SUS) 9.5 15 2000 Diagram for attaching the included mounting bracket Glass lens (BK7) 9.5 15 2-M3 × 0.5 2000 16 17 18 18 19 19 19 10 10 10 10 10 10 10	7-EL 1,070 6-UL 990 5-PL 880 4-IG 770 3-ST 500 2-F6 310 1-H6	Long 600 Std 380 Fast 200	250	-40 to +60°C	R1	NF-DR09
Limited diffuse reflective type	Square	Possible to detect object even at a thickness of Emitting/receiving fiber o1.5 x 1 Detecting part detail Housing 4000 6.5 (ABS) 2 - 6.5 (B) 2 - 6.5 (CO) 2 - 6.5 (CO) 2 - 6.5 (ABS) 4000 6.5 (CO) 2 - 6.5 (CO) 4000 6.5 (CO) 4000 6.5 (CO) 4000 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 6.5 (CO) 6.5 (CO) 6.5 (CO) 6.5 (CO) 6.5 (CO) 6.5 (CO)	7-EL 2 to 310 6-UL 3 to 160 5-PL 4 to 130 4-L9 5 to 120 3-ST 5 to 110 2-FS 10 to 95 1-H8 12 to 60	Long 10 to 55 Std 10 to 45 Fast 13 to 35	55	-40 to +60°C	R25	NF-DC03

- 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.

