SMALL FOCUSED BEAM

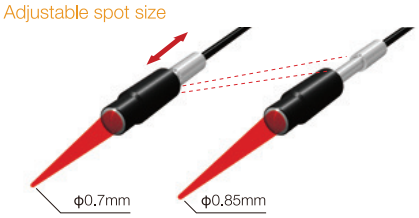
Very tiny focused spot beam
for detecting small objects

Detects small object by fine spot focus beam

Fine spot lens NF-DA03 and coaxial diffuse fiber unit NF-DK21 enables 0.2mm Dia. Spot.

Adjustable spot size

You can adjust spot size, 0.7~0.85mm, by changing length of fiber inserted in the lens NF-DA06, 20 +/- 1.5mm. Space saving Side-beam type NF-DA07 is available.



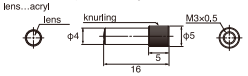
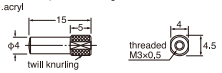
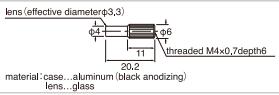
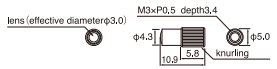
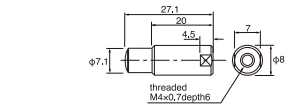
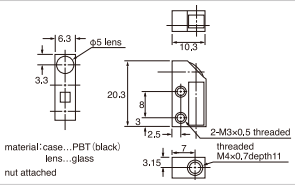
Detects small object by fine fiber core

0.125mm Dia. fiber core is built in NF-TP01 and NF-DP01 that enables detecting small object. The sleeve provides easy position adjustment.

NF-TP01 Thru-beam

NF-DP01 Diffuse

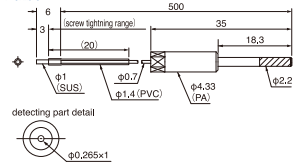
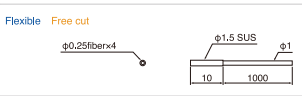
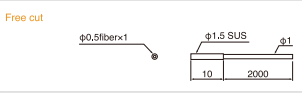
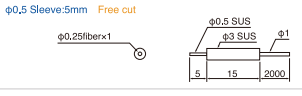
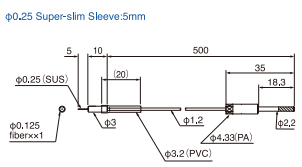
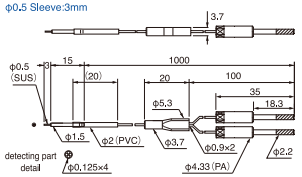
Specifications (Diffuse)

	Sensing head	Spot Size and applicable fibers (Min. detected object in parenthesized)	Center sensing distance (unit=mm)	Operation temperature (℃~℃)	Part Number
Very small spot	material:case...aluminum (black anodizing) lens...acryl 	ϕ0.2mm @ NF-DK21 ϕ0.4mm @ NF-DT01 (ϕ0.005mm gold-coated wire)	7	−20~60	NF-DA03
	material:case...aluminum (black anodizing) lens...acryl 	ϕ0.3mm @ NF-DK21 ϕ0.5mm @ NF-DT01 (ϕ0.005mm gold-coated wire)	7.5	−40~70	NF-DA04
Small spot	lens (effective diameterϕ3.3) 	ϕ0.5mm @ NF-DM02 (ϕ0.005mm gold-coated wire)	6	−40~70	NF-DA05
	lens (effective diameterϕ3.0) 	ϕ0.2mm @ NF-DK21 (ϕ0.005 gold-coated wire) ϕ0.4mm @ NF-DT01 (ϕ0.01mm gold-coated wire)	6	−40~70	NF-DA01
	lens (effective diameterϕ3.0) 	ϕ1.2mm @ NF-DK21 (ϕ0.005mm gold-coated wire) ϕ1.4mm @ NF-DT01 (ϕ0.01mm gold-coated wire)	15	−40~70	NF-DA02
Spot size adjust lens	 material:case...aluminum (black anodizing) lens...glass	ϕ0.7mm - 0.85mm @ NF-DM02 (ϕ0.2mm gold-coated wire)	about 20	−40~70	NF-DA06
Spot size adjust lens side view	 material:case...PBT (black) lens...glass nut attached	ϕ0.5mm - 0.8mm @ NF-DM02 (ϕ0.1mm gold-coated wire)	about 14	−40~70	NF-DA07

Operating humidity is 35~85%RH. Please use in 0~40℃ when it's 85%RH.

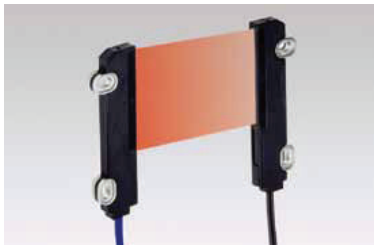
Thin and Tiny objects detected with diffuse fibers become easier to detect under higher sensitivity with longer response times or by boosting power of the emitter.

Specifications (Thru-beam/Diffuse)

		Sensing head	Sensing distance (unit=mm) Value in parenthesis is the Minimum detectable object size. (copper wire) D3RF	D2RF	BRF	Operation temperature (℃~℃)	Radius (mm)	Part Number
Thru-beam	φ1	Flexible 	7-EL 54 6-UL 50 5-PL 44 4-LG 38 3-ST 25 2-FS 15 1-HS 5	Long 30 Std 18 Fast 8	10	−40~60	R=4	NF-TR04
	φ1.5	Flexible Free cut 	7-EL 850 6-UL 550 5-PL 450 4-LG 400 3-ST 275 2-FS 150 1-HS 50	Long 350 Std 200 Fast 90	110	−40~70	R=4	NF-TR03
		Free cut 	7-EL 900 6-UL 550 5-PL 400 4-LG 350 3-ST 250 2-FS 140 1-HS 45	Long 350 Std 200 Fast 90	120	−40~70	R=15	NF-TM03
	φ3	φ0.5 Sleeve:5mm Free cut 	7-EL 170 6-UL 110 5-PL 80 4-LG 70 3-ST 50 2-FS 140 1-HS 45	Long 80 Std 40 Fast 20	30	−40~70	R=15	NF-TT01
		φ0.25 Super-slim Sleeve:5mm 	7-EL 27 6-UL 25 5-PL 21 4-LG 18 3-ST 12 2-FS 7 1-HS 2	Long 6 Std 3.5 Fast 2	1	−40~70	R=5	NF-TP01
Diffuse	φ1.5	φ0.5 Sleeve:3mm 	7-EL 28 6-UL 26 5-PL 23 4-LG 20 3-ST 13 2-FS 3 1-HS 1	Long 18 Std 5 Fast N.A.	3	−40~60	R=10	NF-DP01

Operating humidity is 35~85%RH. Please use in 0~40℃ when it's 85%RH.

SCREEN BEAM ARRAY



NF-TS40 series

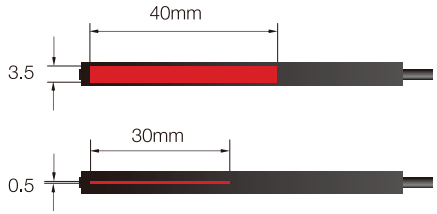
40 x 3.5mm Beam Array type with SUS (stainless steel) mounting metal.

SUS (stainless steel) mounting

A rugged Stainless Steel mounting enables tough tightening of mounting position without breaking the mounting hole.

Adjustable line beam

40 x 3.5mm area of Beam Array is possible to change by using optional slit that limits the array into 30 x 0.5mm

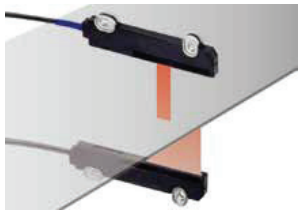


Fine sensing of 0.4mm diameter

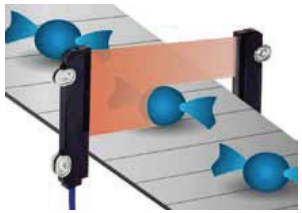
The Clear optical system of the NF-TS40 ensures 0.4mm diameter detection at a 3500mm sensing distance (with D3RF amplifier)

Applications

Control of dropping pills



Control of meandering sheet



Counting on a conveyor