FLEXIBLE R4mm

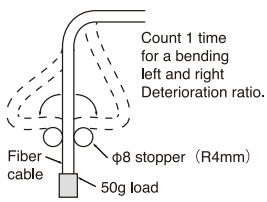
You can mount this flexible fiber unit on a robot arm that moves continuously.

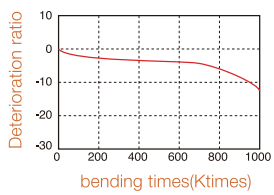
Withstands over 800,000 flexes in bending test.

Fiber cable only shows 10% deterioration even after 800,000 flexes in the bending tests at 90 dgree under 50g load. Good for mounting on a robot arm.

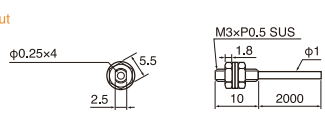
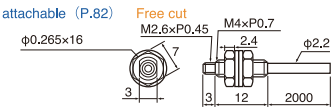
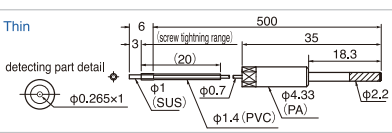
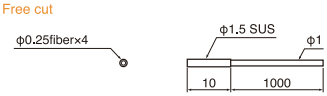
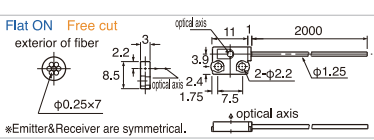
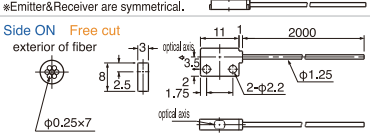
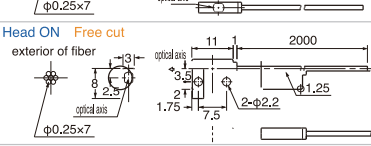
Test conditions are :

- Bending speed: 30time/minutes
- Angle: +/- 90 deg. Per bending
- Count one time for a bending left and right



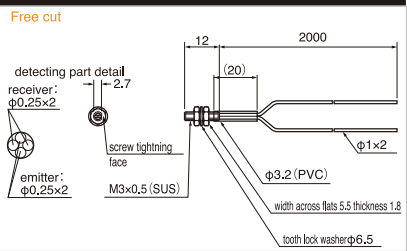
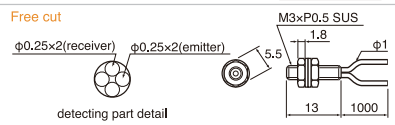
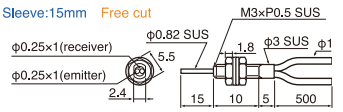
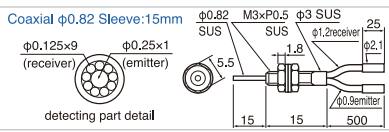
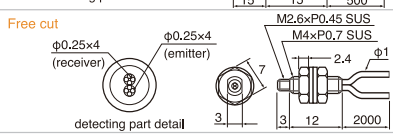
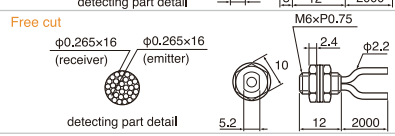
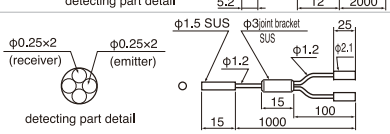
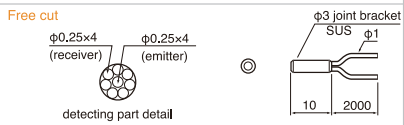
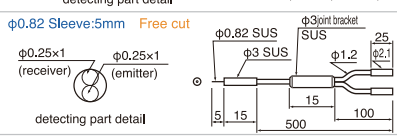
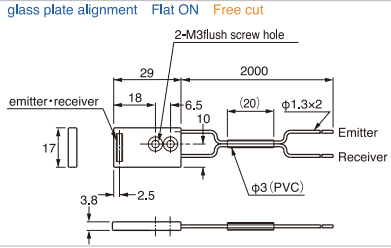
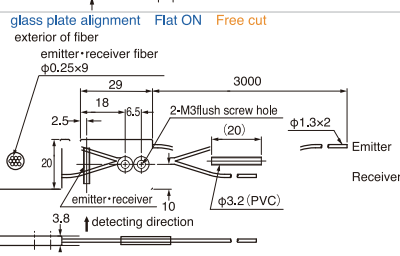


Specifications (Thru-beam)

		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	M3	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-TR02
Thru-beam	M4	Lens attachable (P.82) Free cut 	7-EL 4,000 6-UL 1,800 5-PL 1,400 4-LG 1,200	3-ST 850 2-FS 500 1-HS 175	Long 800 Std 400 Fast 250	330	−40～70	R=4	NF-TR01
Thru-beam	ϕ1	Thin 	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
Thru-beam	ϕ1.5	Thin 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
Thru-beam	Square	Flat ON Free cut exterior of fiber  ※Emitter&Receiver are symmetrical.	7-EL 1,600 6-UL 1,510 5-PL 1,320 4-LG 1,150	3-ST 750 2-FS 410 1-HS 130	Long 750 Std 450 Fast 280	300	−40～60	R=4	NF-TE05
Thru-beam	Square	Side ON Free cut exterior of fiber 	7-EL 3,600 6-UL 3,600 5-PL 3,600 4-LG 3,150	3-ST 2,000 2-FS 1,100 1-HS 320	Long 2,700 Std 1,300 Fast 600	1,100	−40～60	R=4	NF-TR05
Thru-beam	Square	Head ON Free cut exterior of fiber 	7-EL 3,600 6-UL 3,600 5-PL 3,580 4-LG 3,060	3-ST 1,980 2-FS 1,400 1-HS 500	Long 2,700 Std 1,800 Fast 850	1,100	−40～60	R=4	NF-TR06

Operating humidity is 35~85%RH. Please use in 0~40°C when it's 85%RH
Sensing distance of diffuse type is for 500 x 500mm white paper.

Specifications (Diffuse/Limited 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
Diffuse	M3	Free cut 	7-EL 88 6-UL 80 5-PL 70 4-LG 60 3-ST 40 2-FS 20 1-HS 7	Long 40 Std 20 Fast 14	20	−40～70	R=4	NF-DR08
		Free cut 	7-EL 300 6-UL 180 5-PL 130 4-LG 100 3-ST 80 2-FS 45 1-HS 16	Long 70 Std 30 Fast 15	20	−40～70	R=4	NF-DR02
		φ0.82 Sleeve:15mm Free cut 	7-EL 190 6-UL 125 5-PL 70 4-LG 65 3-ST 45 2-FS 25 1-HS 8	Long 40 Std 15 Fast 5	10	−40～70	R=4	NF-DT02
		Coaxial φ0.82 Sleeve:15mm 	7-EL 240 6-UL 120 5-PL 100 4-LG 85 3-ST 60 2-FS 35 1-HS 10	Long 70 Std 40 Fast 15	15	−40～70	R=4	NF-DT04
	M4	Free cut 	7-EL 300 6-UL 180 5-PL 140 4-LG 120	Long 120 Std 50 Fast 25	35	−40～70	R=4	NF-DR06
	M6	Free cut 	7-EL 1,100 6-UL 700 5-PL 600 4-LG 500	3-ST 350 2-FS 230 1-HS 70	Long 350 Std 200 Fast 80	130	−40～70	R=4	NF-DR01
	φ1.5		7-EL 300 6-UL 180 5-PL 150 4-LG 130	3-ST 80 2-FS 45 1-HS 18	Long 70 Std 30 Fast 15	20	−40～70	R=4	NF-DR04
	φ3	Free cut 	7-EL 450 6-UL 250 5-PL 190 4-LG 160	3-ST 1,120 2-FS 70 1-HS 25	Long 120 Std 50 Fast 25	35	−40～70	R=4	NF-DR03
		φ0.82 Sleeve:5mm Free cut 	7-EL 190 6-UL 125 5-PL 75 4-LG 65 3-ST 45 2-FS 25 1-HS 8	Long 40 Std 15 Fast 5	10	−40～70	R=4	NF-DR05
Limited Diffuse	Square	glass plate alignment Flat ON Free cut 	7-EL 0～23 6-UL 0～23 5-PL 0～22 4-LG 0～22 3-ST 0～21 2-FS 0～20 1-HS 5～13	Long 0～23 Std 0～17 Fast 0～12	15	0 ～70	R=4	NF-DC06
		glass plate alignment Flat ON Free cut 	7-EL 0～38 6-UL 0～38 5-PL 0～38 4-LG 0～38 3-ST 0～34 2-FS 0～31 1-HS 4～22	Long 0～36 Std 0～30 Fast 0～15	使用不可	0 ～70	R=4	NF-DC04

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