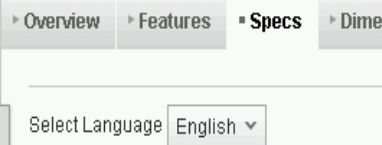


FS-N series (FS-neo) - Digital Fiber Optic Sensors



		FS-N11P		FS-N12P	FS-N11CP	FS-N12CP	FS-N13P		FS-N14P	FS-N13CP	FS-N14CP
Control output	NPN	1 output NPN open collector 24 V; 1 output max: 100 mA or less; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multiple connections); residual voltage 1 V or less				2 output NPN open collector 24 V; 1 output max: 100 mA or less; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multiple connections); residual voltage 1 V or less		-			
	PNP	1 output PNP open collector 24 V; 1 output max: 100 mA or less; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multiple connections); residual voltage 1 V or less				2 output PNP open collector 24 V; 1 output max: 100 mA or less; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multiple connections); residual voltage 1 V or less		2 output PNP open collector 24 V; 1 output max: 100 mA or less; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multiple connections); residual voltage 1 V or less			
Rating	NPN	Normal: 900 mW or less (36 mA max. at 24 V, 48 mA max. at 12 V) ¹ Eco on mode: 800 mW or less (32 mA max. at 24 V, 39 mA max. at 12 V) ¹ Eco Full mode: 470 mW or less (19 mA max. at 24 V, 23 mA max. at 12 V)						-			
	PNP	Normal: 950 mW or less (39 mA max. at 24 V, 52 mA max. at 12 V) ¹ Eco on mode: 850 mW or less (35 mA max. at 24 V, 44 mA max. at 12 V) ¹ Eco Full mode: 520 mW or less (21 mA max. at 24 V, 26 mA max. at 12 V)				Normal: 1050 mW or less (42 mA max. at 24 V, 56 mA max. at 12 V) ¹ Eco on mode: 950 mW or less (38 mA max. at 24 V, 47 mA max. at 12 V) ¹ Eco Full mode: 600 mW or less (24 mA max. at 24 V, 29 mA max. at 12 V)		Normal: 1050 mW or less (42 mA max. at 24 V, 56 mA max. at 12 V) ¹ Eco on mode: 950 mW or less (38 mA max. at 24 V, 47 mA max. at 12 V) ¹ Eco Full mode: 600 mW or less (24 mA max. at 24 V, 29 mA max. at 12 V)			
Type		Standard 1 output					High functionality 2 output				
I/O format		Cable			M8 connector ³		Cable		M8 connector ³		
Main unit/expansion unit		Main unit	Expansion unit (with output cable)	Main unit	Expansion unit (with output cable)	Main unit	Expansion unit (with output cable)	Main unit	Expansion unit (with output cable)	Main unit	Expansion unit (with output cable)
Number of inputs/ outputs	Monitor output (1 to 5 V)	—									
	External input	—			1 Input time 2 ms (ON)20 ms (OFF) or more (25 ms or more (ON/OFF) when external calibration is selected.)				—		
Light source LED		Red 4-element LED (wavelength 630 nm)									
Response time		50 μs (HIGH SPEED)250 μs (FINE)500 μs (TURBO)1 ms (SUPER)4 ms (ULTRA)16 ms (MEGA)									
Output toggle		Light-ON/Dark-ON switchable									
Timer function		Timer OFF/OFF delay/ON delay/One-shot									
APC		ON/OFF switchable (Factory setting: OFF)									
Unit expansion		Up to 16 units can be connected total (two-output type is treated as two units)									
Protection circuit		Reverse polarity protection, Over-current protection, Surge absorber									
Number of interference prevention units		0 for HIGH SPEED; 4 for FINE; 8 for TURBO/SUPER/ULTRA/MEGA (When set to double, the number of interference-prevention units will be doubled.)									
Case size		H30.3mm 1.19" × W9.8mm 0.39" × L71.8mm 2.38"									
Rating	Power voltage	12 to 24 V DC ±10% ripple (P-P) 10% or less									
Environmental resistance	Operating ambient luminance	Incandescent lamp: 20,000 lux or less, sunlight: 30,000 lux or less									
	Operating temperature range	-20 to +55°C (-4 to +131°F) (no freezing) ²									
	Operating ambient humidity	35 to 85% RH (No condensation)									
	Vibration	10 to 55 Hz, double amplitude 1.5 mm 0.06", 2 hours for each of X,Y,Z axis									
	Shock resistance	500 m/s ² 3 times for each of X,Y,Z axis									
Material	Case	Both main unit and expansion unit housing material: Polycarbonate									
Weight		Approx 75 g	Approx 45 g	Approx 22 g		Approx 80 g	Approx 70 g	Approx 22 g			
¹ Increases 100 mW (4.0 mA) for High Speed mode ² One or two more units connected: -20 to +55°C (-4 to +131°F); 3 to 10 more units connected: -20 to +50°C (-4 to +122°F); 11 to 16 more units connected: -20 to +45°C (-4 to +113°F). When using 2-outputs, one unit is counted as two units. All temperature regulations are for when the unit is mounted on a DIN rail and installed on metal sheeting. ³ Use a cable length of 30 m 98.43' or less for M8 connector and e-CON connector types.											

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Model	FS-N11MN	FS-N10
Type	Monitor output	O-line
I/O format	Cable	—
Main unit/expansion unit	Main unit	Expansion

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		s; 2 output total: 100 mA or less (used stand-alone)20 mA or less (multi ple connections); residual voltage 1 V or less	
Monitor output (1 t o 5 V)		1 output	—
External input		—	
Light source LED		Red 4-element LED (wavelength 630 nm)	
Response time		50 μs (HIGH SPEED)250 μs (FINE)500 μs (TURBO)1 ms (SUPER)4 ms (ULTRA)16 ms (MEGA)	
Output toggle		Light-ON/Dark-ON switchable	
Timer function		Timer OFF/OFF delay/ON delay/One-shot	
APC		ON/OFF switchable (Factory setting: OFF)	
Unit expansion		Up to 16 units can be connected total (two-output type is treated as two units)	
Protection circuit		Reverse polarity protection, Over-current protection, Surge absorber	
Number of interference prevention units		0 for HIGH SPEED; 4 for FINE; 8 for TURBO/SUPER/ULTRA/MEGA (When set to double, the number of interference-prevention units will be doubled.)	
Case size		H30.3mm 1.19" × W9.8mm 0.39" × L71.8mm 2.38"	
Rating	Power voltage	12 to 24 V DC ±10% ripple (P-P) 10% or less	
	Power consumption	—	
Environmental r esistance	Operating ambient luminance	Incandescent lamp: 20,000 lux or less, sunlight: 30,000 lux or less	
	Operating tempera ture range	-20 to +55°C (-4 to +131°F) (no freezing) ^{*1}	
	Operating ambient humidity	35 to 85% RH (No condensation)	
	Vibration	10 to 55 Hz, double amplitude 1.5 mm 0.06", 2 hours for each of X,Y,Z axis	
	Shock resistance	500 m/s ² 3 times for each of X,Y,Z axis	
Material	Case	Both main unit and expansion unit housing material: Polycarbonate	
Weight		Approx 75 g	Approx 20 g
^{*1} One or two more units connected: -20 to +55°C (-4 to +131°F); 3 to 10 more units connected: -20 to +50°C (-4 to +122°F); 11 to 16 more units connected: -20 to +45°C (-4 to +113°F). When using 2-outputs, one unit is counted as two units. All temperature regulations are for when the unit is mounted on a DIN rail and installed on metal sheeting.			
^{*2} Counted as 1 output when connecting with the network unit NU Series.			

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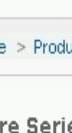
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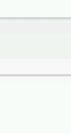
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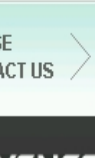
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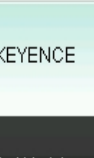
▶ New Technology Introduction (English)

More Series In Fiber Optic Sensors

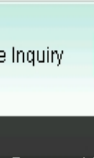
Fiber Units (1) | Amplifiers (6)



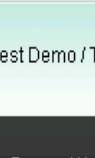
▶ FS-N series (FS-neo)
Digital Fiber Optic Sensors



▶ FS-V30 series
Digital Fiber Optic Sensors



▶ FS-V20 series
Digital Fiber Optic Sensors



▶ FS-V10 series
Digital Fiber Optic Sensors



▶ FS-VT/M series (FS01)
Manual-Calibration Fiberoptic Sensor

View all series

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- ▶ Photoelectric Sensors
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- ▶ Laser Sensors
- ▶ Inductive Proximity Sensors
- ▶ Positioning Sensors
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- ▶ Specific Solution Sensors