

# OFS series

## DATASHEET

### Sensor Partners BV

📍 James Wattlaan 15  
5151 DP Drunen  
The Netherlands

☎ +31 (0)416 - 37 82 39

✉ [info@sensorpartners.com](mailto:info@sensorpartners.com)

🌐 [sensorpartners.com](http://sensorpartners.com)

### Sensor Partners BVBA

📍 Z.1 Researchpark 310  
B-1731, Zellik  
Belgium

☎ +32 (0)2 - 464 96 90

✉ [info@sensorpartners.com](mailto:info@sensorpartners.com)

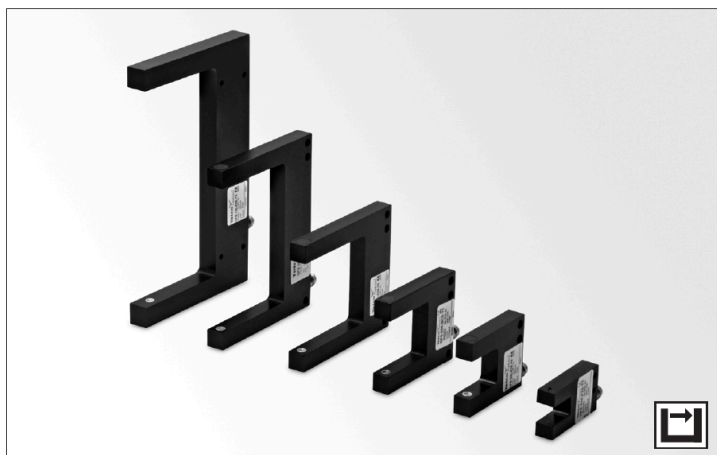
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## OPTICAL FORK SENSOR SERIES

OFS

### Description

- 2 mm to 220 mm fork width
- Aluminium housing
- Plug connection
- Infrared or visible red light source
- High power version available
- Sensitivity adjustment via potentiometer
- Switch selectable light or dark function
- Output indicator
- High tolerance to hostile environments
- 10-35 V dc supply voltage
- 3 wire, NPN or PNP output
- High switching frequency



The OFS series consists of self-contained optical fork sensors that are housed in a durable, U-shaped aluminium housing which operates in thru-beam mode, available with infrared (OFS), visible red (OFSR) or high power infrared (OFSH) light source. The series is available with a wide variety of fork opening widths, ranging from 2 mm to 220 mm.

The complete series is available as a 3 wire, NPN or PNP transistor

output with a 10-35 V dc supply voltage. All models offer sensitivity adjustment via integral potentiometer and are available with switch selectable light or dark function. The complete series offers a high switching frequency of up to 5000 Hz.

The series is protected against reverse polarity of power supplies and output signals. The output is protected against short circuit and inductive loads.

Technical Data										
		002	005	010	020	030	050	080	120	220
Supply voltage		10-35 V dc								
Reverse polarity protected		Yes								
Short circuit protected		Yes								
Current consumption		Max. 35 mA								
Maximum output load		200 mA								
Resolution	OFS	0,4 mm								
	OFSR	–			0,4 mm					
	OFSH	–			1,5 mm				–	
Operation frequency	OFS	2500 Hz			5000 Hz				2500 Hz	
	OFSR	–			5000 Hz				2500 Hz	
	OFSH	–			5000 Hz				–	
Response time	OFS	0,2 ms / 0,2 ms			0,1 ms / 0,1 ms				0,2 ms / 0,2 ms	
	OFSR	–			0,1 ms / 0,1 ms				0,2 ms / 0,2 ms	
	OFSH	–			0,1 ms / 0,1 ms				–	
Output indicator		Yellow LED								
Hysteresis		< 0,2 mm								
Light source	OFS	Infrared (880 nm)								
	OFSR	–			Visible red (660 nm)					
	OFSH	–			High power infrared (880 nm)				–	
Fork opening width		2 mm	5 mm	10 mm	20 mm	30 mm	50 mm	80 mm	120 mm	220 mm
Housing material	Fork housing	Aluminium (black anodised)								
	Lens cover	Glass								

### Environmental Data

Vibration	10-55 Hz, 0,5 mm
Shock	10 g
Light immunity, @ 15° incidence	> 50 000 lux
Temperature, operation	- 20 to +60 °C
Temperature, storage	- 40 to +80 °C
Sealing class	IP 67
Approvals	CE


Available Types									
Type	Fork Opening Size		Control Feature	Light Source		Infrared	Visible Red	Infrared (high power)	
	Width	Depth		Output					Order Reference
OFS 002	2 mm	40 mm	Sensitivity pot. and light/dark switch	NPN	DO/LO (NO/NC)	OFS 002 N3S T3	—	—	
				PNP	DO/LO (NO/NC)	OFS 002 P3S T3	—	—	
OFS 005	5 mm	17 mm	Sensitivity pot.	NPN	LO (NC)	OFS 005 N1S T3	—	—	
					DO (NO)	OFS 005 N2S T3	—	—	
				PNP	LO (NC)	OFS 005 P1S T3	—	—	
					DO (NO)	OFS 005 P2S T3	—	—	
OFS 010	10 mm			NPN	LO (NC)	OFS 010 N1S T3	—	—	
					DO (NO)	OFS 010 N2S T3	—	—	
				PNP	LO (NC)	OFS 010 P1S T3	—	—	
					DO (NO)	OFS 010 P2S T3	—	—	
OFS 020	20 mm	25 mm		NPN	LO (NC)	OFS 020 N1S T3	OFSR 020 N1S T3	OFSH 020 N1S T3	
					DO (NO)	OFS 020 N2S T3	OFSR 020 N2S T3	OFSH 020 N2S T3	
				PNP	LO (NC)	OFS 020 P1S T3	OFSR 020 P1S T3	OFSH 020 P1S T3	
					DO (NO)	OFS 020 P2S T3	OFSR 020 P2S T3	OFSH 020 P2S T3	
OFS 030	30 mm		35 mm	Sensitivity pot. and light/dark switch	NPN	DO/LO (NO/NC)	OFS 030 N3S T3	OFSR 030 N3S T3	OFSH 030 N3S T3
					PNP	DO/LO (NO/NC)	OFS 030 P3S T3	OFSR 030 P3S T3	OFSH 030 P3S T3
OFS 050	50 mm		55 mm		NPN	DO/LO (NO/NC)	OFS 050 N3S T3	OFSR 050 N3S T3	OFSH 050 N3S T3
					PNP	DO/LO (NO/NC)	OFS 050 P3S T3	OFSR 050 P3S T3	OFSH 050 P3S T3
OFS 080	80 mm	NPN			DO/LO (NO/NC)	OFS 080 N3S T3	OFSR 080 N3S T3	OFSH 080 N3S T3	
		PNP			DO/LO (NO/NC)	OFS 080 P3S T3	OFSR 080 P3S T3	OFSH 080 P3S T3	
OFS 120	120 mm	60 mm			NPN	DO/LO (NO/NC)	OFS 120 N3S T3	OFSR 120 N3S T3	—
					PNP	DO/LO (NO/NC)	OFS 120 P3S T3	OFSR 120 P3S T3	—
		205 mm			NPN	DO/LO (NO/NC)	OFS 120-205 N3S T3	OFSR 120-205 N3S T3	—
					PNP	DO/LO (NO/NC)	OFS 120-205 P3S T3	OFSR 120-205 P3S T3	—
OFS 220	220 mm	110 mm	NPN		DO/LO (NO/NC)	OFS 220 N3S T3	OFSR 220 N3S T3	—	
			PNP		DO/LO (NO/NC)	OFS 220 P3S T3	OFSR 220 P3S T3	—	

Note: Different size models are available upon request.


Connections	
	M8 Plug / Cable
Supply +	Pin 1 / Brown
Supply –	Pin 3 / Blue
Output	Pin 4 / Black

**3 pin, M8**

Sensor Plug (Male)



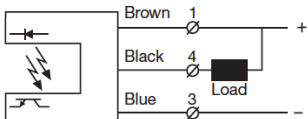
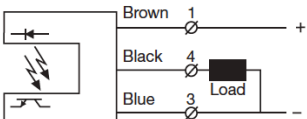
Cable Plug (Female)



Black

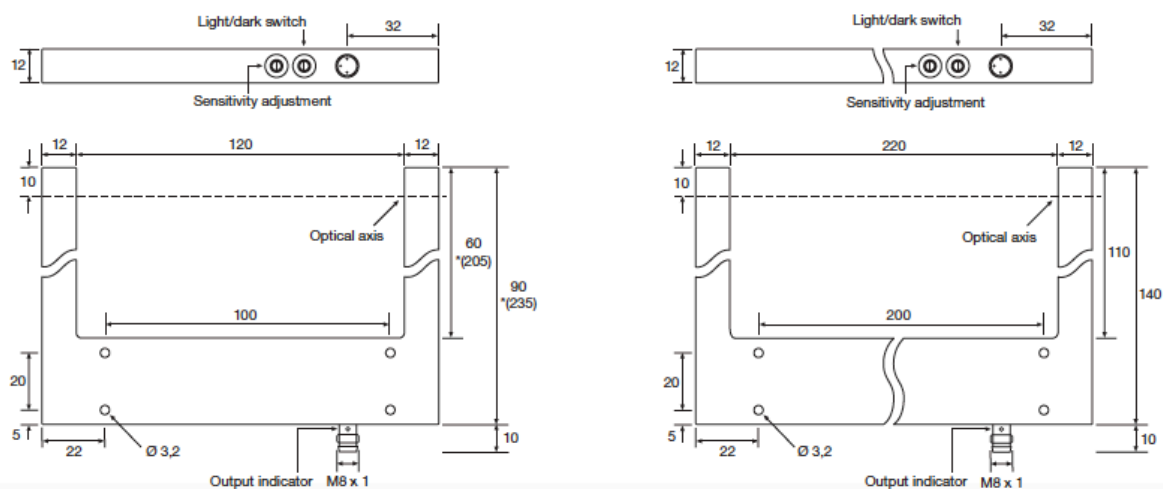
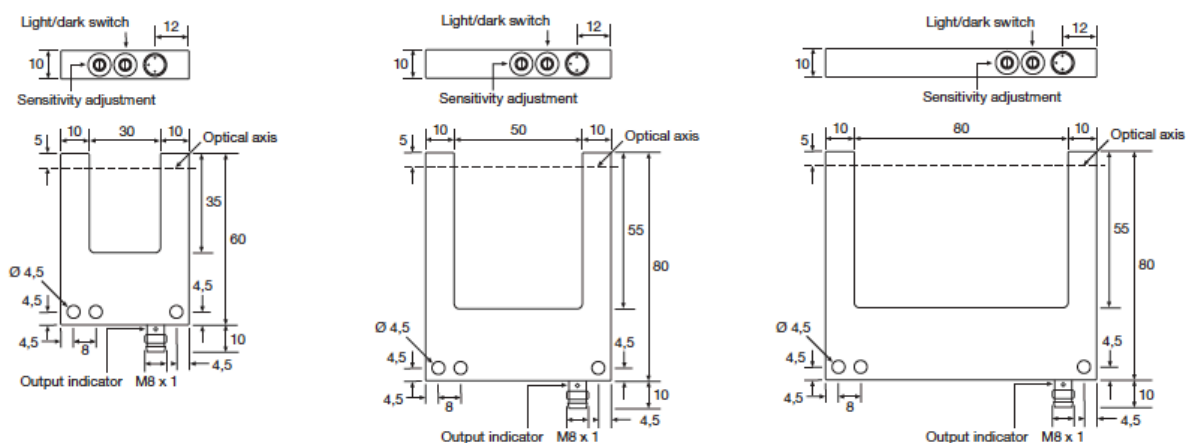
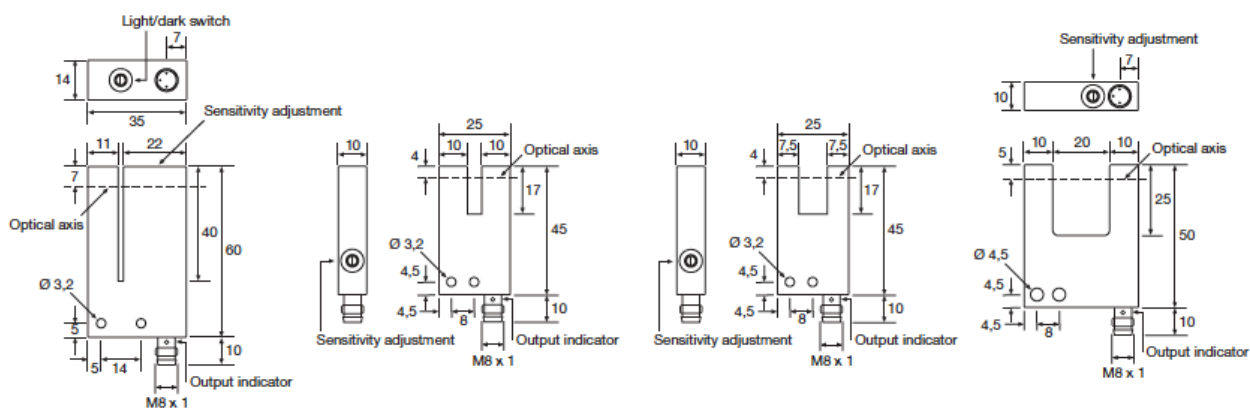
Brown

Blue

Wiring Diagrams	
 <p><b>NxS</b></p>	 <p><b>PxS</b></p>



**Dimensions and Descriptions**



(Units in mm)