

# Opto Proximity Switches

## SIMATIC PXO400

K31 form

### Overview

Cubic molded plastic enclosure, IP65, connection using cable or M8 connector

Diffuse sensor; energetic sensor

- Sensing range 60 cm (adjustable using potentiometer)

Diffuse sensor with background suppression

- Sensing range 3 to 15 cm (adjustable using potentiometer)

Retroreflective sensor

- Sensing range 2 m (adjustable using potentiometer)
- Supplied without reflector

Thru-beam sensor

- Sensing range 6 m (adjustable using potentiometer)

Sensor for plastic optical fibers






- Sensing range depending on type of optical fiber

Rated operating voltage 24 V DC


Electronics output pnp or npn

Supplied without mounting material

### Technical specifications

Operating mode		<b>Diffuse sensor</b>	<b>Diffuse sensor with background suppression</b>	<b>Retroreflective sensor with polarization filter</b>
				
Sensing range	cm	60 (adjustable)	3 ... 15 (adjustable)	200 (adjustable)
Standard target	mm	200 x 200 (white)	100 x 100 (white)	Reflector type D 84
Operating voltage range (DC)	V	10 ... 30 (max. 20% residual ripple)		
No-load current $I_0$ , max.	mA	15	25	15
Rated operating current $I_e$	mA	200		
Switching frequency	Hz	1000	500	1000
Switching time	ms	0.5	1	0.5
Wavelength (illuminant)	nm	880 (IR)	660 (red)	660 (red, polarized)
Displays		<ul style="list-style-type: none"> <li>• Switching status: Yellow LED</li> <li>• Surplus light: Green LED</li> </ul>		
Enclosure material		Molded plastic (PBTP, Crastin)		
Degree of protection		IP65		
Ambient temperature	°C	-25 ... +55		
Temperature coefficient	%/K	0.3		
Type		3RG70 10-...	3RG70 14-...	3RG70 11-...
Operating mode		<b>Thru-beam sensor</b>	<b>Sensor for plastic optical fibers</b>	
				
Sensing range	cm	600 (adjustable)	Depending on type of optical fiber	
Standard target	mm	-	100 x 100 (white)	
Operating voltage range (DC)	V	10 ... 30 (max. 20 % residual ripple)		
No-load current $I_0$ , max.	mA	15		
Rated operating current $I_e$	mA	200		
Switching frequency	Hz	1000		
Switching time	ms	0.5		
Wavelength (illuminant)	nm	880 (IR)	660 (red)	
Displays		<ul style="list-style-type: none"> <li>• Switching status: Yellow LED</li> <li>• Surplus light: Green LED</li> </ul>		
Enclosure material		Molded plastic (PBTP, Crastin)		
Degree of protection		IP65		
Ambient temperature	°C	-25 ... +55		
Temperature coefficient	%/K	0.3		
Type		3RG70 12-...	3RG70 13-...	

## Selection and Ordering data

Operating mode	Sensing range	Illuminant	Wiring	Switching output	Ckt. diag. No.	Order No.
	cm					
 Diffuse sensor	60 (adjustable via potentiometer)	880 (IR)	2 m cable, PUR, 3 0.14 mm <sup>2</sup>	pnp, light-ON	1	A 3RG70 10-0AB01 3RG70 10-0AA01 3RG70 10-0GB00 3RG70 10-0GA00
				pnp, dark-ON	1	
				npn, light-ON	1	
				npn, dark-ON	1	
	M8 connector, 3-pole, type A	pnp, light-ON	1	A 3RG70 10-7AB01 3RG70 10-7AA01 3RG70 10-7GB00 3RG70 10-7GA00		
		pnp, dark-ON	1			
		npn, light-ON	1			
		npn, dark-ON	1			
Diffuse sensor with back-ground suppression	3 ... 15 (adjustable via potentiometer)	660 (red)	2 m cable, PUR, 3 0.14 mm <sup>2</sup>	pnp, light-ON	1	3RG70 14-0AB00 3RG70 14-0AA00 3RG70 14-0GB00 3RG70 14-0GA00
				pnp, dark-ON	1	
				npn, light-ON	1	
				npn, dark-ON	1	
	M8 connector, 3-pole, type A	pnp, light-ON	1	3RG70 14-7AB00 3RG70 14-7AA00 3RG70 14-7GB00 3RG70 14-7GA00		
		pnp, dark-ON	1			
		npn, light-ON	1			
		npn, dark-ON	1			
Retroreflective sensor	200 (adjustable via potentiometer)	660 (red, polarized)	2 m cable, PUR, 3 0.14 mm <sup>2</sup>	pnp, light-ON	1	A 3RG70 11-0AB01 3RG70 11-0AA01 3RG70 11-0GB00 3RG70 11-0GA00
				pnp, dark-ON	1	
				npn, light-ON	1	
				npn, dark-ON	1	
	M8 connector, 3-pole, type A	pnp, light-ON	1	A 3RG70 11-7AB01 3RG70 11-7AA01 3RG70 11-7GB00 3RG70 11-7GA00		
		pnp, dark-ON	1			
		npn, light-ON	1			
		npn, dark-ON	1			
Thru-beam sensor	600 (adjustable via potentiometer)	880 (IR)	2 m cable, PUR, 3 0.14 mm <sup>2</sup>	pnp, light-ON	1	A 3RG70 12-0AB01 3RG70 12-0AA01 3RG70 12-0GB00 3RG70 12-0GA00
				pnp, dark-ON	1	
				npn, light-ON	1	
				npn, dark-ON	1	
	M8 connector, 3-pole, type A	Emitter	2	3RG70 12-0BG01 3RG70 12-7AB01 3RG70 12-7AA01 3RG70 12-7GB00 3RG70 12-7GA00 3RG70 12-7BG01		
		pnp, light-ON	1			
		pnp, dark-ON	1			
		npn, light-ON	1			
Sensor for plastic optical fibers	Depends on FO conductor	660 (red)	2 m cable, PUR, 3 0.14 mm <sup>2</sup>	pnp, light-ON	1	3RG70 13-0AB00 3RG70 13-0AA00 3RG70 13-0GB00 3RG70 13-0GA00
				pnp, dark-ON	1	
				npn, light-ON	1	
				npn, dark-ON	1	
	M8 connector, 3-pole, type A	pnp, light-ON	1	3RG70 13-7AB00 3RG70 13-7AA00 3RG70 13-7GB00 3RG70 13-7GA00		
		pnp, dark-ON	1			
		npn, light-ON	1			
		npn, dark-ON	1			

## Accessories

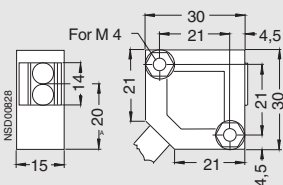
Mounting bracket for forms K30, K31

3RX7 910

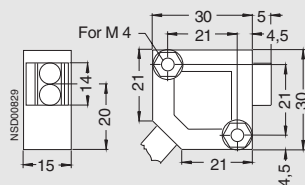
A: Subject to export regulations: AL = N and ECCN = EAR99H

## Dimensions

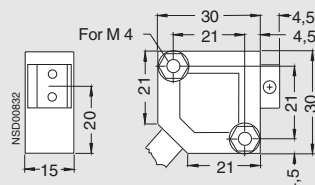
3RG70 10-0..., 3RG70 12-0...,  
3RG70 14-0...



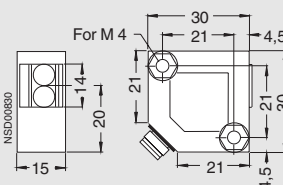
3RG70 11-0...



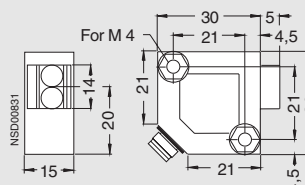
3RG70 13-0...



3RG70 10-7..., 3RG70 12-7...,  
3RG70 14-7...



3RG70 11-7...



3RG70 13-7...

