

UNIVERSAL PHOTOELECTRIC SENSORS

S10 series

Basic line of standard tubular M18 metal IP69K photoelectric sensors

- Base optic functions available
- IP69K protection
- AISI-316L stainless steel versions
- Ideal for pharmaceutical and food industries
- Standard 3 wire output configuration



NEW PERFORMANCES

The new S10 series of photoelectric sensors in tubular M18 metal housing is ideal for the more critical applications in the pharmaceutical or food industries. The IP69K mechanical protection guarantees resistance against washing with water jets reaching 80°C temperature and 100 bar pressure. Moreover, for a better resistance against more aggressive chemical agents and detergents, AISI-316L stainless steel versions are available with excellent resistance against acid corrosion. The S10 series includes adjustable 10, 35 or 60 cm proximities and 14 mm fixed focus, 4 m retroreflex, 3 m polarised retroreflex and 1 m for transparents, 18 m through beam. The M12 connections requires only 3 wires for power supply and NPN or PNP output.

S50 series

Extended range of standard 'One for All' photoelectric tubular M18 sensors

- All optic functions and Laser versions
- M18 flat plastic with universal fixing
- Available in M18 metal housing
- Axial or radial optics, cable or connector
- Standard 4 wire NO-NC NPN or PNP output



NEW PERFORMANCES

The S50 series offers all the optic functions with the best performances in the standard M18 housing, ranging from the universal also with Laser class 1 emission, to the most advanced as foreground and/or background suppression, contrast, luminescence or distance sensors with analogue output. All models are available in the innovative flat plastic housing with universal fixing, with M18 nuts and M3 screws, or the more traditional cylindrical metal housing. Axial or radial optics, cable or M12 connection with 4 wire standard configuration and NO-NC NPN or PNP antivalent outputs are available. The S50 series is the 'One for All' solution for industrial automation.

S51 series

Cost-effective basic line of standard M18 tubular photoelectric sensors

- Selection of universal optic functions
- The best performances at the best price
- Flat plastic or metal M18 housing
- Axial or radial, cable or conn. versions
- Standard 3 wire and dark/light inputs



NEW PERFORMANCES

The S51 series represents the most cost-effective solution for optic detection in industrial automation. The cost reduction, guaranteed by the automated production and economy of scale, does not compromise the performances that are the best for all basic optic functions. The diffuse proximity has a fixed 10 cm distance or adjustable reaching 40 cm. The retroreflex reaches 4 m or 3 m in the polarised version. The through beam couple offers an operating distance reaching 18 m. All models are available both in a flat plastic housing or cylindrical metal housing, with either axial or radial optics, with cable or M12 connection and NPN or PNP output.

S15 series

Tubular photoelectric sensors

- Small housing of only 40 mm
- Cable output
- No sensitivity adjustment trimmer
- IP69K mechanical protection



NEW SERIES

The main characteristic of the new M18 tubular S15 sensors is the housing length of only 40 mm. The S15 series is supplied without the sensitivity adjustment trimmer to ease and speed installation. Cable or pig-tail versions are available. This feature reduces drastically the possibility of allowing the operator to modify the sensor's performances and so guaranteeing major reliability and productivity. The main optic functions used in the industrial market are available, polarised retroreflex, non-polarised retroreflex, diffuse proximity and through beam. These sensors are ideal for the most critical applications with harsh environmental conditions thanks to the IP69K mechanical protection.

S40/S41 series

Extended range of miniature European style photoelectric sensors

- Cost-effective trimmer universal models
- High-performance models with teach-in
- Background suppression and Laser RRX
- Polarised retroreflex for transparents
- 4 wire NO/NC output or Remote



NEW PERFORMANCES

The S40 series and cost-effective S41 basic line represent the most complete offer of miniature photoelectric sensors with standard European market dimensions and fixing. Different models are available including 6 m through beam, 3 m polarised retroreflex, also with 6 m Laser emission, 0.7 m retroreflex for transparents, 35 cm fixed focus proximity and 15 cm Laser versions, 10 cm background suppression and 6 cm Laser versions for more precise detection. The S40 series presents NO output with Remote input for models with teach-in setting, whereas the S41 cost-effective line has NO-NC antivalent output for models with trimmer adjustment. All versions have NPN or PNP output with cable or M8 connection.

S8 series

Advanced line of miniature photoelectric sensors

- Compact dimensions (14x42x25 mm)
- 10 kHz switching frequency
- Extremely focussed spot, under 1 mm (Laser vers.)
- Very high resolutions
- Coaxial versions



NEW SERIES

The new S8 series of compact sensors offers excellent detection performances, usually associated with sensors that have larger dimensions and a higher price. The series offers Laser models with coaxial polarised retroreflex for the detection of transparent objects, biaxial retroreflex, background suppression, diffuse proximity optic functions as well as contrast sensors with RGB emission. The Laser versions present extremely focussed spot inferior to 1 mm and switching frequencies that are amongst the highest on the market reaching 10kHz. The retroreflex models supply great reliability and plant productivity thanks to an additional ALARM output for dirty lenses. Connector M8 or M12 'pig-tail' versions are available.

UNIVERSAL PHOTOELECTRIC SENSORS

S3Z series

Basic line of miniature Far East style photoelectric sensors

- 50-250 mm background suppression
- 0.7 m proximity, 15 cm with narrow beam
- 4 m polarised retroreflex
- 15 m through beam
- Standard 3 wire output configuration



NEW MODELS

The high operating distances and cost effective price, make the S3Z series a reference in the miniature format with dimensions and standard fixing affirmed on the market, in particular in the Far East. Different models are available: 15 m through beam, 4 m polarised retroreflex, 70 cm diffuse proximity and narrow beam for between 50 and 150 mm. Moreover, a 5 to 25 cm background suppression model with multi-turn mechanical trimmer setting is available. Versions with NPN or PNP output, with dark or light operating mode and with cable or M8 connection are foreseen. The plastic housing is completely overprinted, guaranteeing maximum mechanical protection also in presence of frequent washing.

S7 series

Fibre optic amplifiers in a compact format for DIN rail

- High-resolution models with display
- 12 bit resolution and 50 μ s response time
- Trimmer or teach-in versions
- Wide range of accessory fibre optics
- 4 wire NO/NC output or Remote input



NEW MODELS

The S7 sensors represent the ideal solution for the mounting of different units on DIN rails allowing to displace the various fibre optic detection points in different machine positions, also in limited spaces or in presence of mechanical constraints or high temperatures. Models with only 50 μ s response time and 4-digit display indication are available for applications requiring high-precision and speed detection of small objects or minimum colour or grey-scale contrasts. Standard 500 μ s and 10 bit models are ideal for applications with higher operating distances. Sensor setting is easy and rapid thanks to the *EASYtouch*TM system or trimmer adjustment in more cost-effective models.

S60 series

Extended photoelectric sensor range in the compact 50x50 'One for All' format

- Universal and application optic functions
- Laser class 1 versions for long distances
- Polarised retroreflex for transparents
- Contrast and UV luminescence sensors
- Standard 4 wire NO-NC NPN or PNP



NEW PERFORMANCES

The S60 series, in the compact 50x50 housing, only 15 mm wide, offers the most advanced optic functions, together with the universal ones for presence detection, available also with Laser class 1. The different models include polarised retroreflex with coaxial optics for the detection of reflective and transparent objects, foreground and background suppression, white light contrast sensors for the detection of coloured marks, UV emission luminescence sensor and the distance sensor with analogue output. Versions with cable or two-position rotatable M12 connector are available, with NPN or PNP standard output.

S62 series

High-performance background suppression and polarised retroreflex

- Sensors with LED or Laser emission
- Background suppr. from 3 cm to 2 m
- Polarised retroreflex up to 20 m
- Distance sensor 50 to 150 mm
- NPN/PNP output NO-NC configuration



NEW SERIES

The S62 series offers the maximum performances in the main optic detection functions. The background suppression models reach a 3-30 cm range with visible red LED emission, or 6-60, 6-120 and 20-200 cm with infrared LED emission. The polarised retroreflex models with visible red LED emission present a very long operating distance reaching 10 m with high immunity against reflection received from shiny objects. Versions with visible red Laser emission are available with both 3-15 or 5-35 cm background suppression and polarised retroreflex up to 22 m and distance measurement 50-150 mm. The Laser sensors are characterised by a very small light spot and a low response time that guarantee excellent detection repeatability.

S90 series

Extended range of compact photoelectric sensors in metal housing

- Background suppression and polarised retroreflex
- Laser class 1 versions for long distances
- Contrast and UV lumin. sensors
- High mechanical protection degree
- Standard 4 wire NO-NC NPN or PNP output



NEW PERFORMANCES

The S90 series, developed in the sturdy compact 41x49x15 mm metal housing, offers all the application and universal optic functions, available also with Laser class 1 emission. The series includes polarised retroreflex with coaxial optics for the detection of reflective or transparent objects, foreground and background suppression, contrast sensor with white light emission for register mark detection, luminescence sensor with UV emission for fluorescent mark detection. Versions with NPN or PNP output are available with standard M12 connector rotatable in 4 positions.

S2Z series

New line of Maxi photoelectric sensors ideal for critical applications

- Base optic functions
- IP67 mechanical protection
- Timing functions (ONE-SHOT, ON / OFF Delay)
- Connection block with spring clamps to ease cabling



NEW SERIES

The new S2Z series offers 4 models with base optic functions: 50 m through beam, 7 m polarised retroreflex, 1 m diffused proximity and 2 m background suppression. Versions with continuous 10 a 30Vdc and alternate 24...240 Vac / 12...240 Vdc free-voltage, available with timing versions, adjustable from 0.1 to 5 seconds. The outputs can have a SPDT relay contact or transistor with double NPN/PNP open collector solution. The connection block facilitates connections and simplifies installation. The sturdy plastic housing guarantees excellent resistance to particularly harsh working environments.


UNIVERSAL PHOTOELECTRIC SENSORS

Tubular



		S5	S10	
OPERATING DISTANCES	SERIES			
	Through beam	0...12 m	0...18 m	
	Retroreflex (on R2 reflector)	0.1...4 m	0.1...4 m	
	Polarised retroreflex (on R2 reflector)	0.1...3 m	0.1...3 m	
	Retroreflex for transparents (on R2 reflector)	0.1...0.8 m	0.1...0.8 m	
	Diffuse proximity	1...10 cm 1...35 cm 0...60 cm	1...10 cm 1...35 cm 0...60 cm	
	Fixed focus proximity	15 mm	14 mm	
	Background suppression			
	Foreground suppression			
	Distance sensor			
	Through beam with fibre optic	0...85 mm		
	Diffuse proximity with fibre optic	0...22 mm		
TECHNICAL DATA	Power supply	Vdc 10...30 Vac 15...264	10...30	
	Output	Vac/dc		
		PNP	•	•
		NPN	•	•
		NPN/PNP	•	
		relay (SCR)	(•)	
	Connection	other		
		cable	•	
		connector pig-tail	•	•
	Approximate dimensions (mm)	M18 x 55/68	M18 x 55/67	
Housing material	ABS	NI plated brass AISI-316L stainless steel		
Mechanical protection	IP67	IP69K		



S15
0...20 m
0.1...4 m
0.1...3 m
1...10 cm 1...35 cm
12...30  
.
.
.
.
M18 x 40
ABS
IP69K








UNIVERSAL PHOTOELECTRIC SENSORS

Tubular



		SERIES	S50	S51
OPERATING DISTANCES	Through beam		0...25 m 0...60 m	0...20 m
	Retroreflex (on R2 reflector)		0.1...4 m	0.1...4 m
	Polarised retroreflex (on R2 reflector)		0.1...4 m 0.1...16 m	0.1...3 m
	Retroreflex for transparents (on R2 reflector)		0.1...1.3 m	
	Diffuse proximity		0...10 cm 0...40 cm 0...70 cm 0...35 cm	0...10 cm 1...45 cm
	Fixed focus proximity		10 cm	
	Background suppression		5...10 cm	
	Foreground suppression		4...10 cm	
	Distance sensor		5...10 cm	
	Through beam with fibre optic		0...100 mm	
	Diffuse proximity with fibre optic		0...30 mm	
TECHNICAL DATA	Power supply	Vdc Vac Vac/dc	10...30 II3	10...30
	Output	PNP NPN NPN/PNP relay (SCR) other	• • 0...10 V	• •
	Connection	cable connector terminal block	• • 	• •
	Approximate dimensions (mm)		M18 x 55/68	M18 x 55/68
	Housing material		PBT NI plated brass	PBT NI plated brass
	Mechanical protection		IP67	IP67



SDS	SL5
	0...60 m  <i>cl.1</i>
	0.03...12 m  <i>cl.1</i>
	0...35 cm  <i>cl.1</i>
2...10 cm 4...12 cm	
10...30  	10...30  
.	.
.	.
.	.
.	.
M18 x 100 (SDS5) M18 x 80 (SDS10)	M18 x 66
ABS (SDS5) NI plated brass (SDS10)	ABS
IP67	IP67

UNIVERSAL PHOTOELECTRIC SENSORS

Miniature and fiber optic



			SMall	S40	
OPERATING DISTANCES	SERIES				
	Through beam		0...2 m	0.1...6 m	
	Retroreflex (on R2 reflector)		5...150 cm	0.1...3 m	
	Polarised retroreflex (on R2 reflector)		10...100 cm	0.1...2.5 m 0.1...6 m	
	Retroreflex for transparents (on R2 reflector)			0.1...0.7 m	
	Diffuse proximity			0.5...30 cm 4...15 cm	
	Fixed focus proximity		3...15 mm 3...20 mm 3...30 mm 3...50 mm		
	Background suppression			1.5...10 cm 2...6 cm	
	Foreground suppression				
	Distance sensor				
	Through beam with fibre optic				
Diffuse proximity with fibre optic					
TECHNICAL DATA	Power supply	Vdc	10...30	10...30	
		Vac			
		Vac/dc			
	Output	PNP		•	•
		NPN		•	•
		NPN/PNP			
		relay			
		other			
	Connection	cable		•	•
		connector			•
terminal block					
Approximate dimensions (mm)		8 x 23 x 12	12 x 32 x 20		
Housing material		polycarbonate	ABS		
Mechanical protection		IP67	IP67		



S41

0.1...6 m

0.1...2.5 m

0.1...0.7 m

0.2...35 cm

110 mm

10...30  

.

.

.

.

12 x 32 x 20

ABS

IP67







UNIVERSAL PHOTOELECTRIC SENSORS

Miniature and fiber optic



		S3Z	S3	
OPERATING DISTANCES	SERIES			
	Through beam	0...15 m	0...5 m	
	Retroreflex (on R2 reflector)		0.1...2.5 m	
	Polarised retroreflex (on R2 reflector)	0.05...4 m	0.1...2 m	
	Retroreflex for transparents (on R2 reflector)		0.2...0.8 m	
	Diffuse proximity	0...70 cm 5...15 cm	0...10 cm 0...50 cm	
	Fixed focus proximity		12 mm	
	Background suppression	5...25 cm		
	Foreground suppression			
	Distance sensor			
	Through beam with fibre optic		0...110 mm	
	Diffuse proximity with fibre optic		0...33 mm	
TECHNICAL DATA	Power supply	Vdc Vac Vac/dc	10...30	
	Output	PNP	•	•
		NPN	•	•
		NPN/PNP		•
		relay		
		other		
	Connection	cable	•	•
		connector	•	•
		pig-tail		
	Approximate dimensions (mm)	11 x 31 x 19	13 x 42 x 29	
Housing material	PC/PBT	ABS		
Mechanical protection	IP67	IP66		









S8	S7
0...10 m  ^{cl.2} 0.1...5 m	
0...0.8 m	
0...50 cm	
2...20 cm  ^{cl.2} 5...30 cm	
	0...300 mm 0...150 mm 0...75 mm 0...100 mm 0...50 mm 0...25 mm
12...30  	12...24  
.	.
.	.
.	.
.	.
14 x 42 x 25	10 x 40 x 65
ABS	ABS
IP67	IP65 IP50 (trimmer vers.)


















UNIVERSAL PHOTOELECTRIC SENSORS

Compact



		S6	S60	
OPERATING DISTANCES	SERIES			
	Through beam 	0...20 m	0...20 m 0...60 m 	
	Retroreflex (on R2 reflector) 	0.1...6 m		
	Polarised retroreflex (on R2 reflector) 	0.1...5 m	0...3.2 m (coaxial) 0.1...6.5 m 0.1...20 m 	
	Retroreflex for transparents (on R2 reflector) 	0.1...1 m	0...1.7 m (coaxial)	
	Diffuse proximity 	1...90 cm 5...200 cm	1...100 cm 5...200 cm 0...60 cm 	
	Fixed focus proximity 			
	Background suppression 	0.1...10 cm 3...25 cm 10...50 cm	7...20 cm 5...10 cm 	
	Foreground suppression 	5...20 cm	7...20 cm	
	Distance sensor 		5...15 cm	
	Through beam with fibre optic 			
	Diffuse proximity with fibre optic 			
TECHNICAL DATA	Power supply	Vdc Vac	10...30  	
	Output	Vac/dc	15...264	
		PNP	•	•
		NPN	•	•
		NPN/PNP	•	
		relay	•	
	Connection	other		0...10 V
		cable	•	•
		connector	•	•
	terminal block			
Approximate dimensions (mm)		18 x 50 x 50	15 x 50 x 50	
Housing material		ABS	ABS	
Mechanical protection		IP65	IP67	



S62	S90
	0...20 m  0...60 m 
0.5...8.5 m  0.3...20 m 	0...3.2 m (coaxial) 0.1...6.5 m  0.1...20 m  0...1.7 m (coaxial)
	1...100 cm 5...200 cm  0...60 cm 
30...300 mm 60...600 mm 60...1200 mm 200...2000 mm 30...150 mm  50...350 mm 	7...20 cm  5...10 cm 
	7...20 cm
80 ± 40 mm 	
10...30  	10...30  
.	.
.	.
.	.
.	.
18 x 50 x 50	15 x 50 x 41
ABS	zama
IP67	IP67

UNIVERSAL PHOTOELECTRIC SENSORS

Maxi






OPERATING DISTANCES

SERIES		S2	S2Z
Through beam		0...10 m 0...50 m	0...50 m
Retroreflex (on R2 reflector)		0.1...5 m	
Polarised retroreflex (on R2 reflector)		0.1...3 m	0.2...7 m
Retroreflex for transparents (on R2 reflector)			
Diffuse proximity		1...90 cm 1...200 cm	0...1 m
Fixed focus proximity			
Background suppression			20...200 cm
Foreground suppression			
Distance sensor			
Through beam with fibre optic			
Diffuse proximity with fibre optic			

TECHNICAL DATA

Power supply	Vdc	10...30	12...24
	Vac		
Output	Vac/dc	15...264	12...240
	PNP		•
	NPN		•
	NPN/PNP	•	
	relay other	•	•
Connection	cable		
	connector		
	terminal block	•	•
Approximate dimensions (mm)		26 x 58 x 85	25 x 67.5 x 90
Housing material		PBT	PBT
Mechanical protection		IP66	IP67



S20	S30
0.1...50 m	0...50 m
0.1...8 m	0.1...10 m
0.1...2 m	0.05...2 m
10...50 cm	20...110 cm
10...30  	10...30 
	17...264
.	.
.	.
	.
.	.
	.
26 x 65 x 55	32 x 85 x 73
ABS	policarbonato
IP66	IP67