

S300 PA


ADVANCED MAXI PHOTOELECTRIC
MULTIVOLTAGE SENSORS

- Industrial plastic housing with IP67 mechanical protection
- Timing function from 0.6-16 s ON delay, OFF delay and ONE SHOT
- Terminal block for both Vdc and Vac/ Vdc free voltage
- Distance trimmer for mechanical background suppression models

APPLICATIONS

- Packaging end of line, palletizers
- Outdoor or indoor gates control
- Manufacturing plants



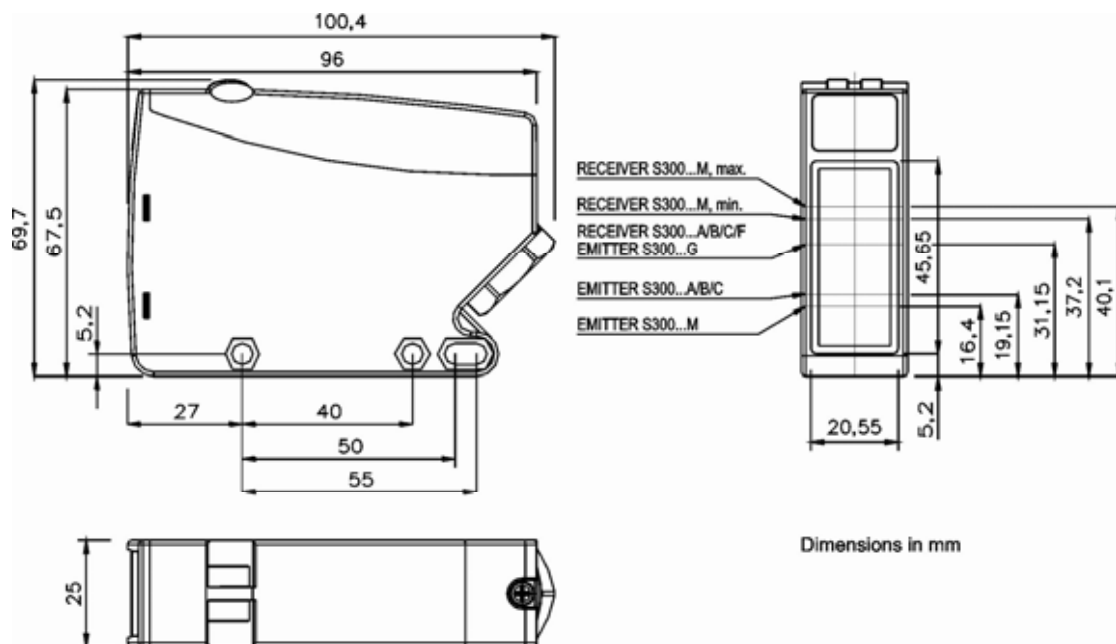
(*)DC models:
ATEX II 3DG

S300 PA		
Through beam		0...50 m
Retroreflective (on R2 reflector)		0,1...15 m
Polarized retroreflective		0,1...10 m
Diffuse proximity		0,05...2 m
Background suppression		0,2...2 m
Power supply	Vdc	12...30 V
	Vac	
	Vac/dc	24...240 Vac/24...60 Vdc
Output	PNP	
	NPN	
	NPN/PNP	•
	relay	•
Connection	other	
	cable	
	connector	•
	pig-tail	
Approximate dimensions (mm)		25x100x70
Housing material		PBT
Mechanical protection		IP67

TECHNICAL DATA

Power supply	12 ... 30 Vdc (mod. S300...2) 24...240 Vac/24...60 Vdc (mod. S300...1)
Ripple	10% max.
Consumption (output current excluded)	35 mA max. (mod. S300...2) 3 VA max. (mod. S300...1)
Light emission	red LED 660 nm (mod. S300...B) IR LED 940 nm (mod. S300...C) IR LED 880 nm (mod. S300...A/G/M)
Setting	sensitivity trimmer (mod. S300...A/B/C/F), DARK/LIGHT dip-switch (mod. S300...A/B/C/F/M) 7-turns distance adjustment trimmer (mod. S300...M) dip-switch mode ON delay/OFF delay/ON-OFF delay/single pulse (ONE-SHOT) (mod. S300...x06) timing trimmer (mod. S300...x06)
Indicators	yellow OUTPUT LED (excl. mod. S300...G) green STABILITY LED, POWER LED (mod. S300...G)
Output	PNP or NPN open collector (mod. S300...2); electromechanical SPDT 250 Vac/30 Vdc (mod. S300...1)
Output current	100 mA (mod. S300...2) 3 A max. (mod. S300...1)
Saturation voltage	2,4 V max.
Response time	1 ms (mod. S300...2-A/B/C/M) 2 ms (mod. S300...2-F/G) 25 ms (mod. S300...1)
Switching frequency	500 Hz (mod. S300...2-A/B/C/M) 250 Hz (mod. S300...2-F/G) 20 Hz max. (mod. S300...1)
Connection	terminal block
Dielectric strength	500 Vac, 1 min between electronics and housing
Insulating resistance	>20 MΩ, 500 Vdc between electronics and housing
Electrical protection	class 2 (mod. S300...2)
Mechanical protection	IP67 (IEC/EN60529)
Ambient light rejection	according to EN 60947-5-2
Vibrations	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Housing material	PBT 30% glass fiber-reinforced
Lens material	frontal window and lens in PC
Operating temperature	-25 ... 55 °C
Storage temperature	-25 ... 70 °C
Weight	120 g (mod. S300...2), 130 g (mod. S300...1)

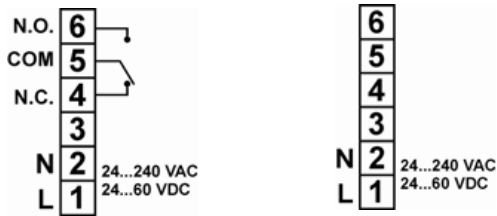
DIMENSIONS



CONNECTIONS

VAC MODELS

Through beam emitter

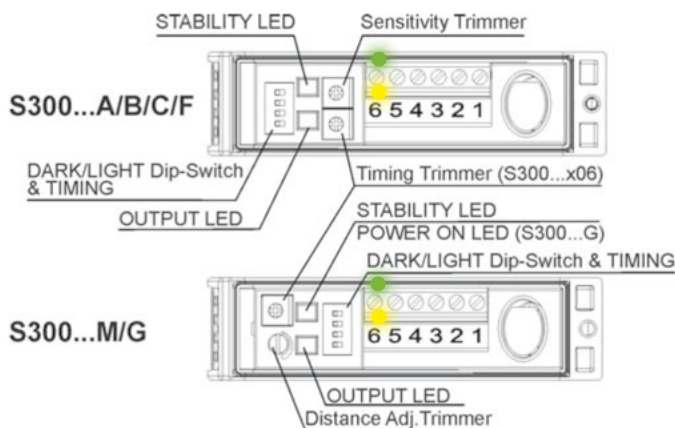


VDC MODELS

Through beam emitter



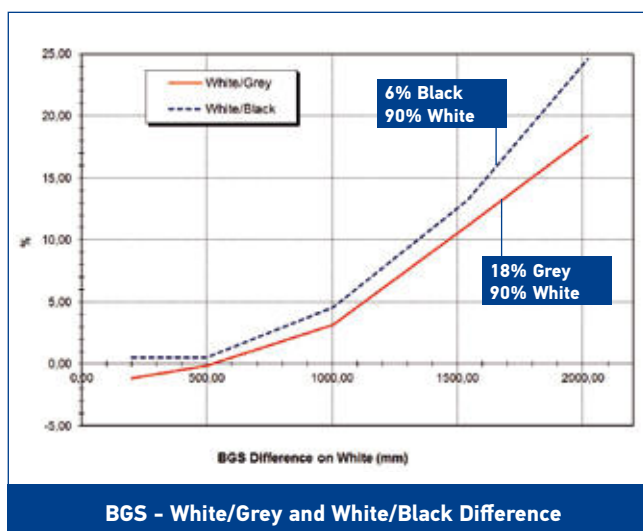
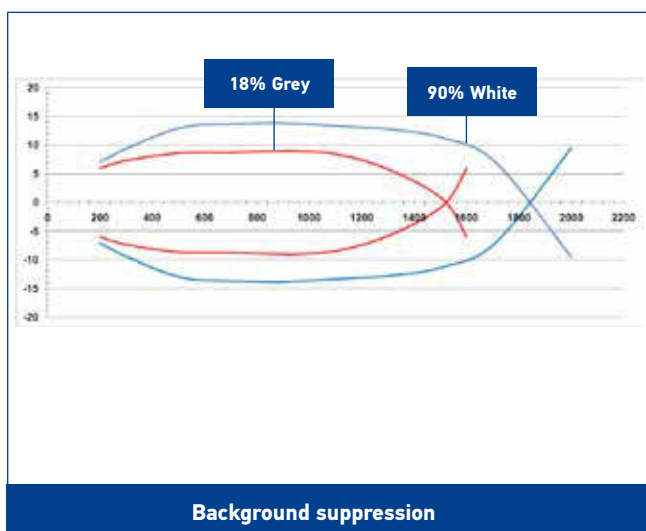
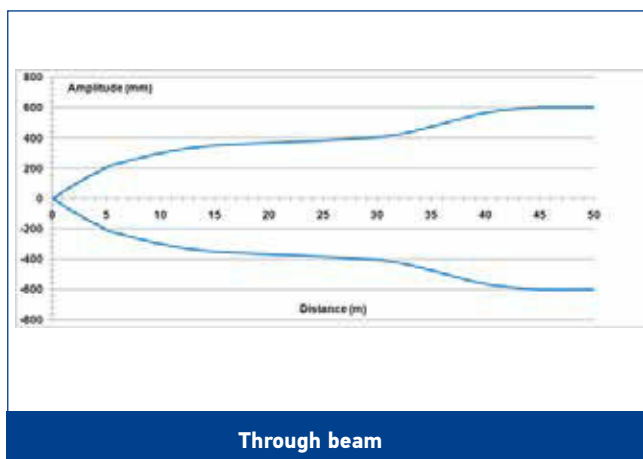
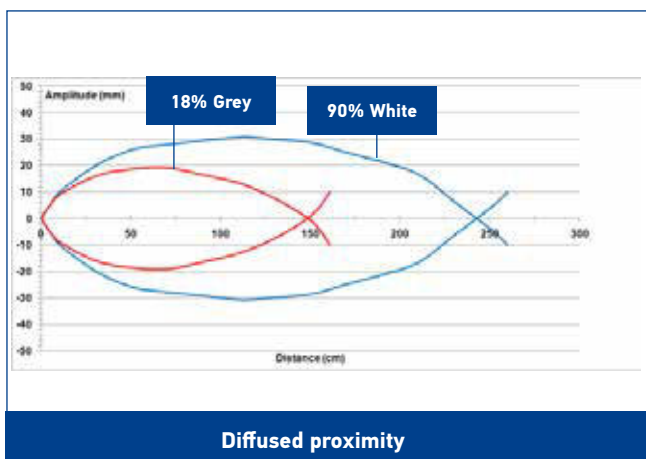
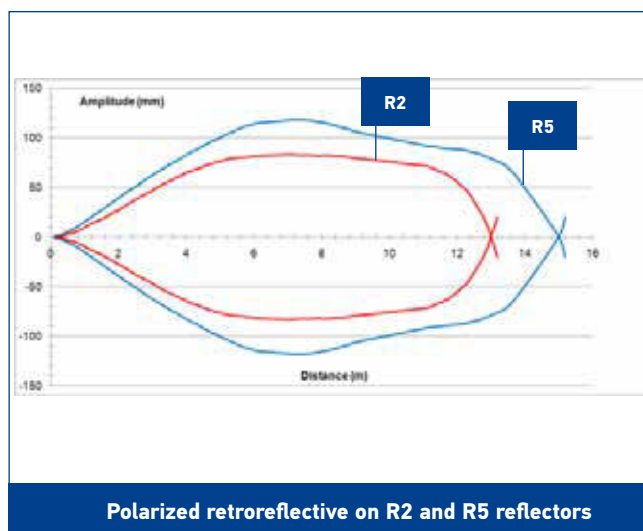
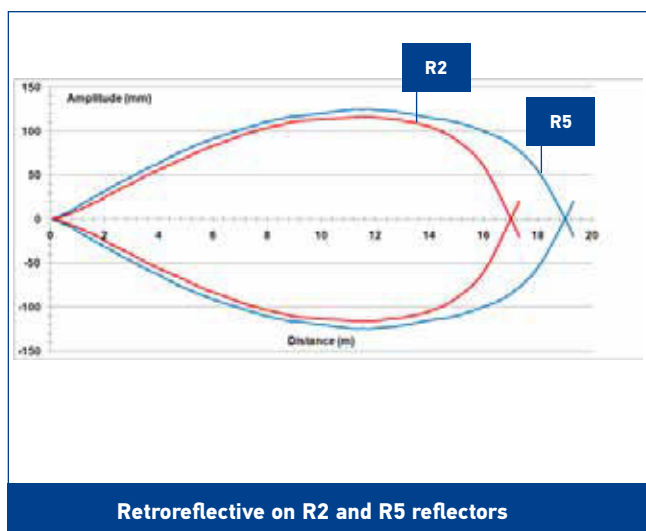
INDICATORS AND SETTINGS



Settings

The **M** model presents a **multiturn adjustment screw** for the adjustment of the background suppression distance using a mechanical variation of the optic triangulation angle. The **other models have a mono-turn electronic trimmer** that adjusts the sensitivity and the sensor operating distance. The operating distance can be increased by rotating the screws clockwise. Trimmers can be used to adjust the output activation and deactivation delay time whilst functioning mode selection is performed through DIP SWITCHES.

DETECTION DIAGRAMS

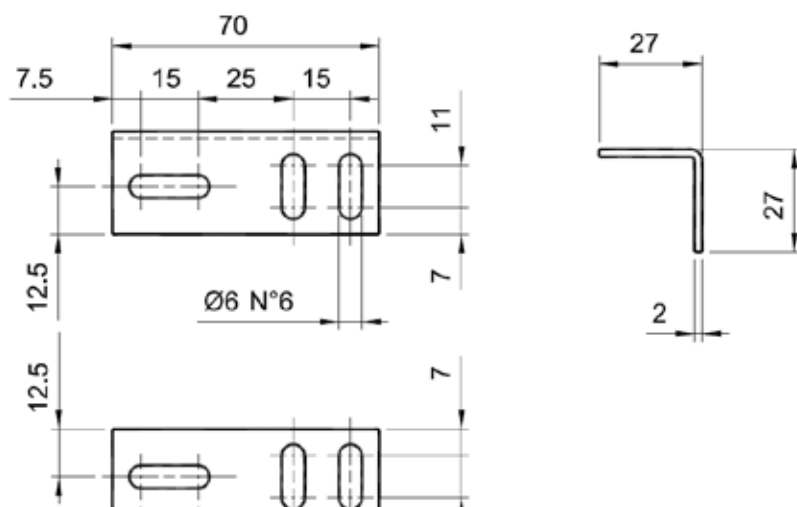


MODEL SELECTION AND ORDER INFORMATION

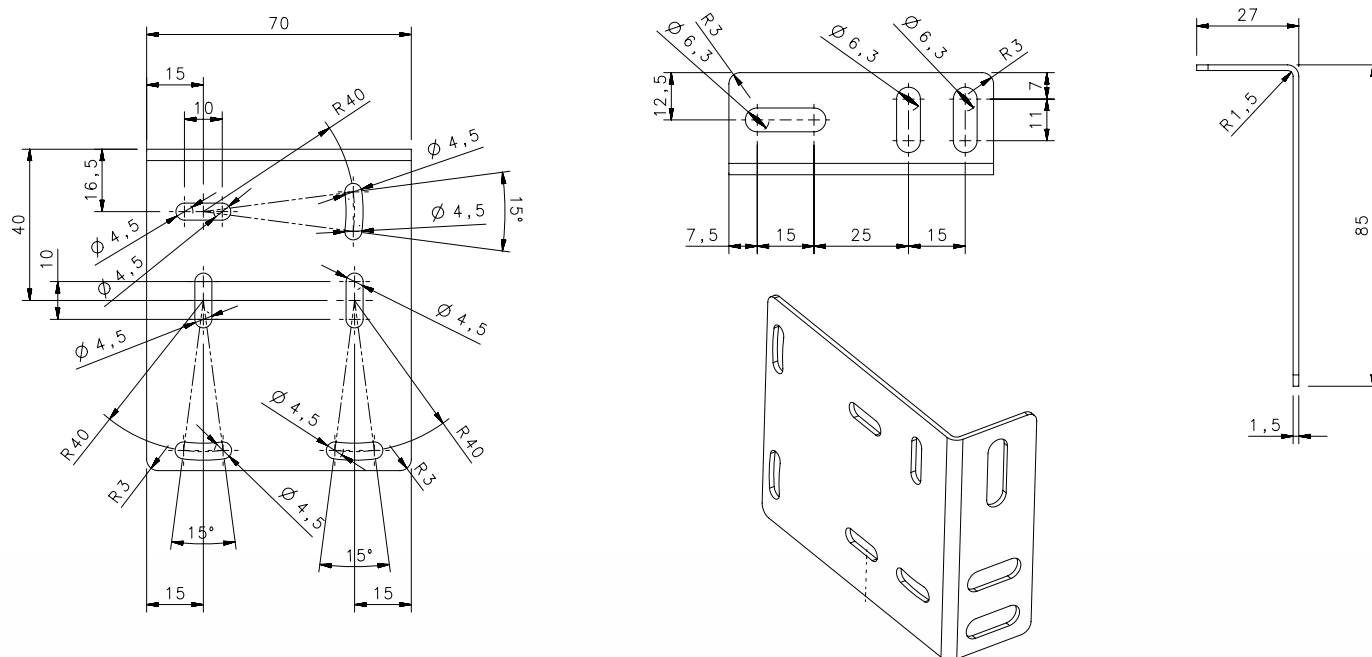
OPTIC FUNCTION	POWER SUPPLY	OUTPUT	SETTING	MODEL	ORDER No.
Retroreflective (IR LED 880 nm)	12...30 Vdc	NPN/ PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-A01-OC	951451500
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-A06-OC	951451510
	24...240 Vac/24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-A01-RX	951451480
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-A06-RX	951451490
Polarized retroreflective (red LED 660 nm)	12...30 Vdc	NPN/ PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-B01-OC	951451540
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-B06-OC	951451550
	24...240 Vac/24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-B01-RX	951451520
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-B06-RX	951451530
Diffused proximity (IR LED 940 nm)	12...30 Vdc	NPN/ PNP	Sensitivity trimmer D/L dip-switch	S300-PA-2-C01-OC	951451420
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-C06-OC	951451430
	24...240 Vac/24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-C01-RX	951451400
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-C06-RX	951451410
Through beam receiver	12...30 Vdc	NPN/ PNP	Sensitivity trimmer and D/L dip-switch	S300-PA-2-F01-OC	951451600
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-2-F06-OC	951451610
	24...240 Vac/24...60 Vdc	Relay	Sensitivity trimmer and D/L dip-switch	S300-PA-1-F01-RX	951451580
			Timing and sensitivity trimmers, D/L dip-switch	S300-PA-1-F06-RX	951451590
Through beam emitter (IR LED 880 nm)	12...30 Vdc	-	-	S300-PA-2-G00-EX	951451570
	24...240 Vac/24...60 Vdc		-	S300-PA-1-G00-EX	951451560
Background suppression (IR LED 880 nm)	12...30 Vdc	NPN/ PNP	7-turns distance adjustment trimmer and /L dip-switch	S300-PA-2-M01-OC	951451460
			Timing and 7-turns distance adj. trimmers, D/L dip-switch	S300-PA-2-M06-OC	951451470
	24...240 Vac/24...60 Vdc	Relay	7-turns distance adjustment trimmer and D/L dip-switch	S300-PA-1-M01-RX	951451440
			Timing and 7-turns distance adj. trimmers, D/L dip-switch	S300-PA-1-M06-RX	951451450

ACCESSORIES

ST-511



ST-S300-PA



MODEL	DESCRIPTION	ORDER No.
ST-511	mounting bracket	95ACC2810
ST-S300-PA	mounting bracket	95ACC7870

S300 PR




HEAVY DUTY SENSOR FOR OUTDOOR APPLICATIONS AND HARSH ENVIRONMENTS

- Industrial plastic housing with IP67 mechanical protection
- Defogging system function
- Double independent timing functions with double time scale from 0-2s or 0-10s, One-Delay, Off Delay, ONE SHOT

APPLICATIONS

- Packaging end of line, palletizers
- Outdoor or indoor gates control
- Automotive plants
- Automated warehousing



(*)DC models:
ATEX II 3DG

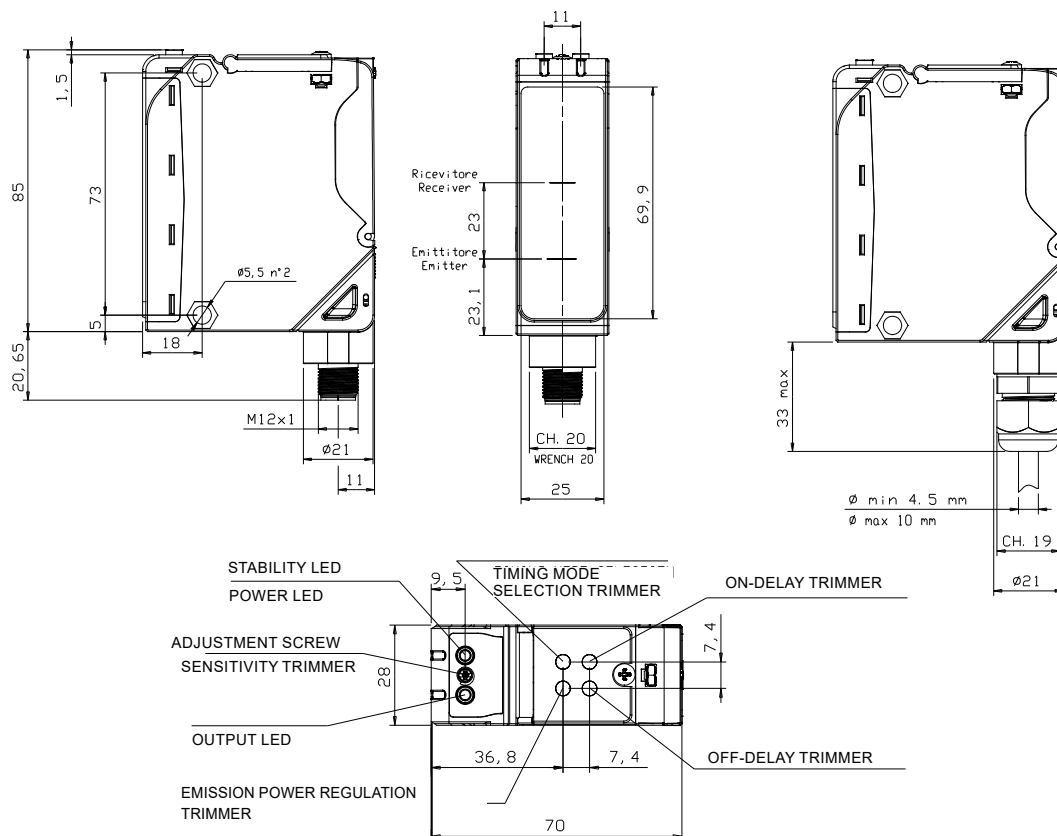
S300 PR

Through beam		0...60 m
Polarized retroreflective		0,1...22 m
Diffuse proximity		0,05...5 m
Background suppression		0,4...2,5 m
Power supply	Vdc	10...30 V
	Vac	
	Vac/dc	24...240 Vac/24...60 Vdc
Output	PNP	
	NPN	
	NPN/PNP	•
	relay	•
	other	
Connection	cable	
	connector	•
	pig-tail	
Approximate dimensions (mm)		25x100x70
Housing material		PBT
Mechanical protection		IP67

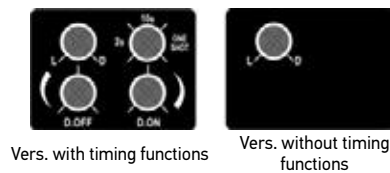
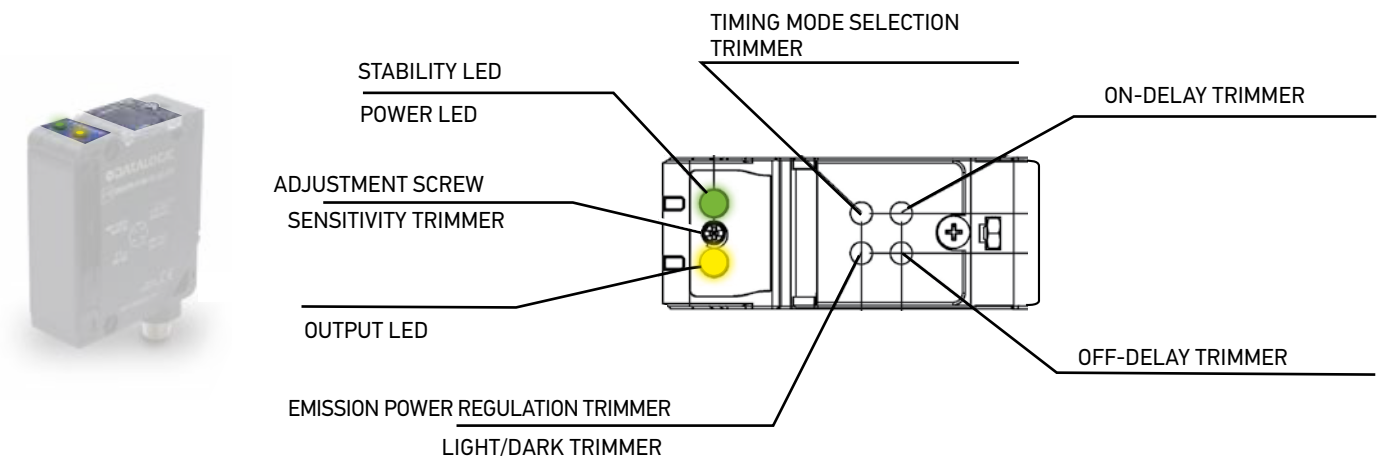
TECHNICAL DATA

Power supply	10 ... 30 Vdc (mod. S300...2/5) 24...240 Vac/24...60 Vdc (mod. S300...1)
Ripple	10% max. 30 mA max. (mod. S300...2/5-B/C) 35 mA max. (mod. S300...2/5-M) 25 mA max. (mod. S300...2/5-F) 20 mA max. (mod. S300...2/5-G) 3 VA max. (mod. S300...1) red LED 660 nm (mod. S300...B) IR LED 880 nm (mod. S300...C/G/M)
Consumption (output current excluded)	sensitivity trimmer, DARK/LIGHT trimmer (mod. S300...F/C/B) 15 turns adjustment screw/DARK/LIGHT trimmer (mod. S300...M) emission power regulation trimmer (mod. S300...G) versions with timing functions: time base selection and one shot trimmer/ON DELAY trimmer/OFF DELAY trimmer (mod. S300...x06)
Light emission	yellow OUTPUT LED (excl. mod. S300...G) green STABILITY LED, POWER LED (mod. S300...G)
Setting	PNP or NPN open collector (mod. S300...2/5); Electromechanical SPDT 250 Vac/30 Vdc (mod. S300...1)
Indicators	100 mA (mod. S300...2/5) 3 A max. (mod. S300...1) 2,4 V max.
Output	1 ms (mod. S300...2/5-B/C/F/G) 2 ms (mod. S300...2/5-M) 20 ms (mod. S300...1)
Output current	500 Hz (mod. S300...2/5-B/C/F/G) 250 Hz (mod. S300...2/5-M) 25 Hz (mod. S300...1)
Saturation voltage	terminal block, M12 4-pole connector (only DC mod.)
Response time	500 Vac, 1 min between electronics and housing >20 MΩ, 500 Vdc between electronics and housing
Switching frequency	class 2 (mod. S300...2/5)
Connection	IP67 (IEC/EN60529)/cable gland EN50262
Dielectric strength	according to EN 60947-5-2
Insulating resistance	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
Electrical protection	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
Mechanical protection	PBT 30% glass fiber-reinforced
Ambient light rejection	frontal window and lens in PC
Vibrations	-40 ... 55 °C
Shock resistance	-40 ... 70 °C
Housing material	
Lens material	
Operating temperature	
Storage temperature	
Weight	140 g (mod. S300...2/5), 150 g (mod. S300...1)

DIMENSIONS



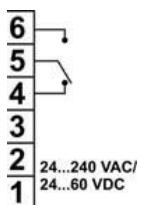
INDICATORS AND SETTINGS



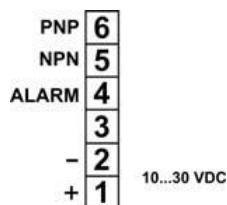
CONNECTIONS

TERMINAL BLOCK

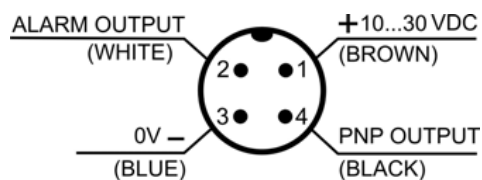
VAC/VDC MODELS



VDC MODELS



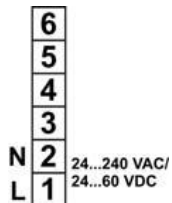
M12 CONNECTOR (only DC models)



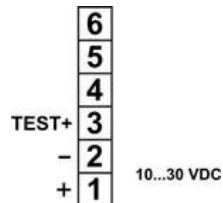
Through beam emitter

TERMINAL BLOCK

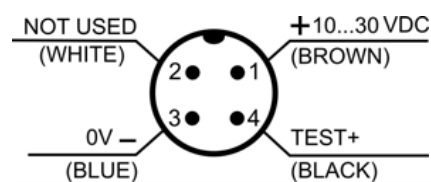
AC MODELS



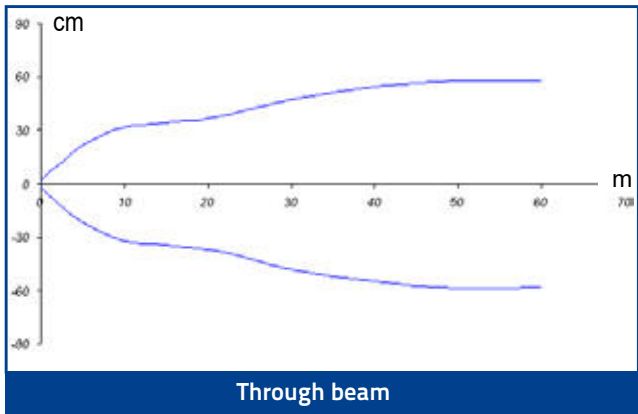
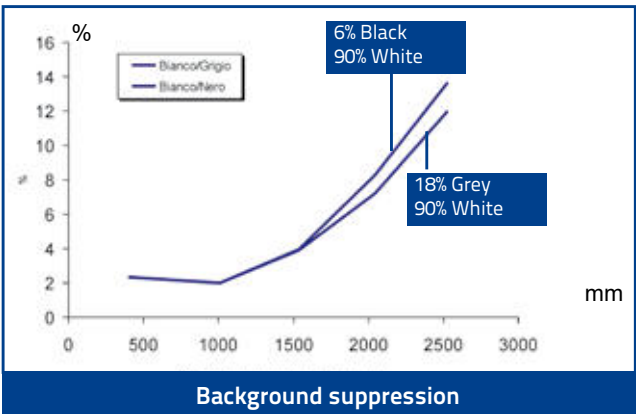
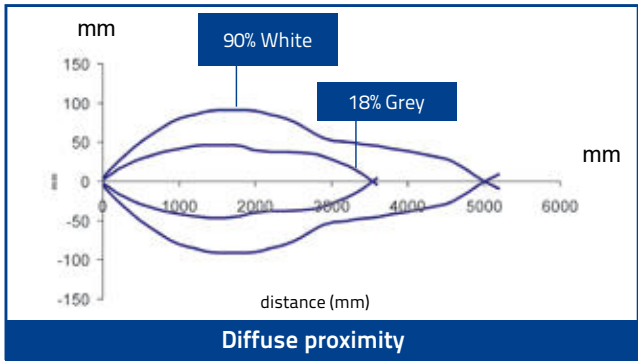
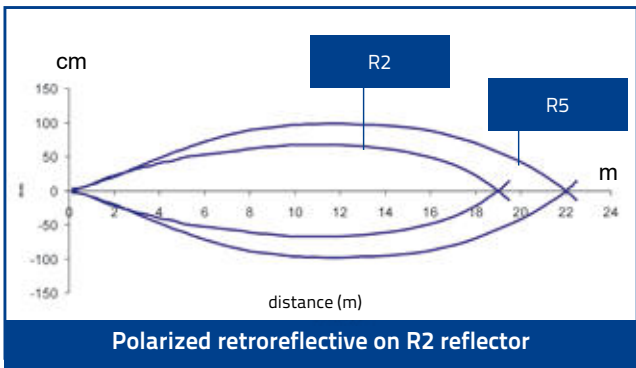
DC MODELS



M12 CONNECTOR (only DC models)



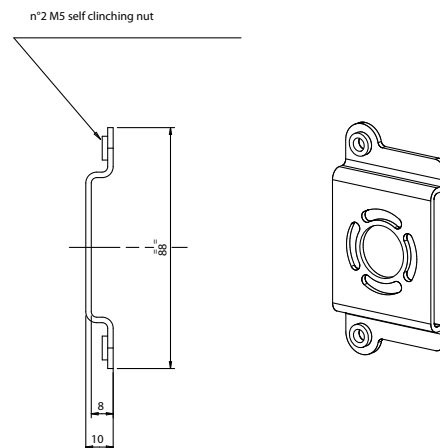
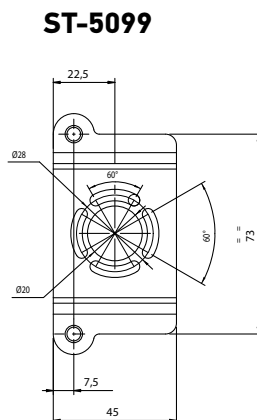
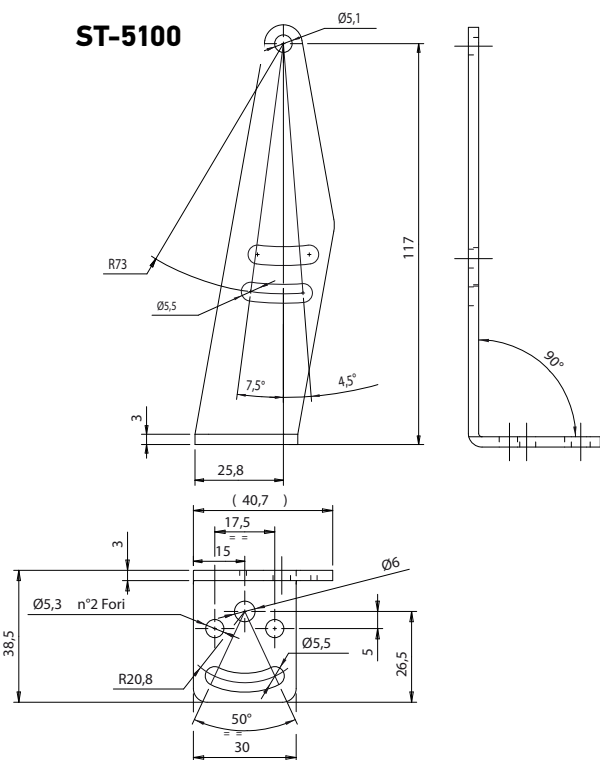
DETECTION DIAGRAMS



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	OUTPUT	CONNECTION	SETTING	MODEL	ORDER NO.
Polarized retroreflective	NPN/PNP	Vdc - Terminal block	Sensitivity and D/L trimmers	S300-PR-2-B01-OC	951451000
			Timing, sensitivity and D/L trimmers	S300-PR-2-B06-OC	951451010
		Vdc - M12 Connector	Sensitivity and D/L trimmers	S300-PR-5-B01-OC	951451020
			Timing, sensitivity and D/L trimmers	S300-PR-5-B06-OC	951451030
	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-1-B01-RX	951451040
			Timing, sensitivity and D/L trimmers	S300-PR-1-B06-RX	951451050
Diffused proximity	NPN/PNP	Vdc - Terminal block	Timing, sensitivity and D/L trimmers; defogging function	S300-PR-1-B06-RX-M	951451060
			Sensitivity and D/L trimmers	S300-PR-2-C01-OC	951451070
		Vdc - M12 Connector	Timing, sensitivity and D/L trimmers	S300-PR-2-C06-OC	951451080
			Sensitivity and D/L trimmers	S300-PR-5-C01-OC	951451090
	Relay	Vac - Terminal block	Timing, sensitivity and D/L trimmers	S300-PR-5-C06-OC	951451100
			Sensitivity and D/L trimmers	S300-PR-1-C01-RX	951451110
Through beam receiver	NPN/PNP	Vdc - Terminal block	Timing, sensitivity and D/L trimmers	S300-PR-1-C06-RX	951451120
			Timing, sensitivity and D/L trimmers; defogging function	S300-PR-1-C06-RX-M	951451130
		Vdc - M12 Connector	Sensitivity and D/L trimmers	S300-PR-2-F01-OC	951451210
			Timing, sensitivity and D/L trimmers	S300-PR-2-F06-OC	951451220
	Relay	Vac - Terminal block	Sensitivity and D/L trimmers	S300-PR-5-F01-OC	951451230
			Timing, sensitivity and D/L trimmers	S300-PR-5-F06-OC	951451240
Through beam emitter	-	Vdc - Terminal block	Sensitivity and D/L trimmers	S300-PR-1-F01-RX	951451250
			Timing, sensitivity and D/L trimmers	S300-PR-1-F06-RX	951451260
		Vdc - M12 Connector	Timing, sensitivity and D/L trimmers; defogging function	S300-PR-1-F06-RX-M	951451270
			Sensitivity and D/L trimmers	S300-PR-2-G00-EX	951451280
	-	Vac - Terminal block	Emission power regulation trimmer	S300-PR-5-G00-EX	951451290
			Emission power regulation trimmer	S300-PR-1-G00-EX	951451300
Background suppression	NPN/PNP	Vdc - Terminal block	Defogging function	S300-PR-1-G00-EX-M	951451310
			Sensitivity and D/L trimmers	S300-PR-2-M01-OC	951451140
		Vdc - M12 Connector	Timing, sensitivity and D/L trimmers	S300-PR-2-M06-OC	951451150
			Sensitivity and D/L trimmers	S300-PR-5-M01-OC	951451160
	Relay	Vac - Terminal block	Timing, sensitivity and D/L trimmers	S300-PR-5-M06-OC	951451170
			Sensitivity and D/L trimmers	S300-PR-1-M01-RX	951451180
			Timing, sensitivity and D/L trimmers	S300-PR-1-M06-RX	951451190
			Timing, sensitivity and D/L trimmers; defogging function	S300-PR-1-M06-RX-M	951451200

ACCESSORIES



MODEL	DESCRIPTION	ORDER No.
ST-5099	mounting BRACKET	95ACC2830
ST-5100	mounting BRACKET	95ACC2840

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A1-02-G-03	95A251380
		5 m	CS-A1-02-G-05	95A251270
		7 m	CS-A1-02-G-07	95A251280
		10 m	CS-A1-02-G-10	95A251390
	4-pole, P.U.R.	2 m	CS-A1-02-R-02	95A251540
		5 m	CS-A1-02-R-05	95A251560
Radial M12 Connector	4-pole, grey, P.V.C.	3 m	CS-A2-02-G-03	95A251360
		5 m	CS-A2-02-G-05	95A251240
		7 m	CS-A2-02-G-07	95A251245
		10 m	CS-A2-02-G-10	95A251260
	4-pole, P.U.R.	2 m	CS-A2-02-R-02	95A251550
		5 m	CS-A2-02-R-05	95A251570
Axial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A1-22-B-03	95ACC1480
		5 m	CV-A1-22-B-05	95ACC1490
		10 m	CV-A1-22-B-10	95ACC1500
		15 m	CV-A1-22-B-15	95ACC2070
		25 m	CV-A1-22-B-25	95ACC2090
Radial M12 Connector	4-pole, shielded, black, P.V.C.	3 m	CV-A2-22-B-03	95ACC1540
		5 m	CV-A2-22-B-05	95ACC1550
		10 m	CV-A2-22-B-10	95ACC1560
Axial M12 Connector	4-pole, U.L., black, P.V.C.	3 m	CS-A1-02-U-03	95ASE1120
		5 m	CS-A1-02-U-05	95ASE1130
		10 m	CS-A1-02-U-10	95ASE1140
		15 m	CS-A1-02-U-15	95ASE1150
		25 m	CS-A1-02-U-25	95ASE1160
Radial M12 Connector	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
	4-pole, black	Connector- not cabled	CS-A2-02-B-NC	G5085003