S62

DATALOGIC

THE MOST COMPLETE UNIVERSAL SENSOR IN A COMPACT 50X50 MM HOUSING

- Sensors with red, infrared LED or LASER emission
- Background suppression from 3 cm to 2 m
- Polarized retroreflective up to 20 m
- Multivoltage 24-240Vac/24-60Vdc with Relay output
- NPN/PNP output NO-NC configuration

APPLICATIONS

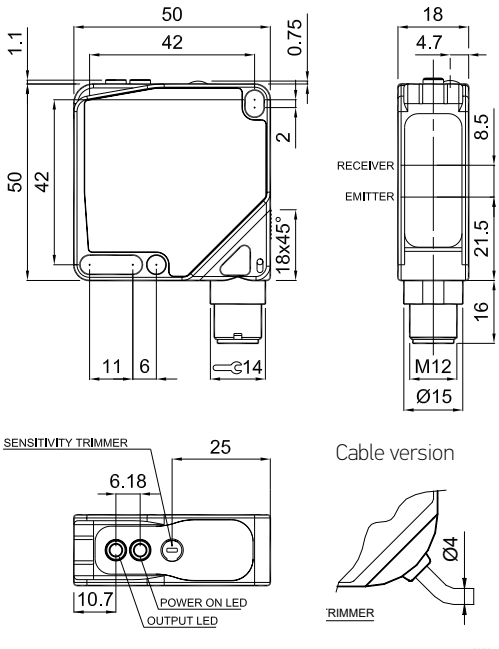
- Processing and Packaging machinery
- Conveyor lines, material handling

S62		
Through beam		0...25 m
Retroreflective (on R2 reflector)		0,1...13 m
Polarized retroreflective		0,1...8 m
		0,3...20 m (class 2 LASER)
Diffuse proximity		short 0...900 mm, long 0...2000 mm
		0...900 mm (class 2 LASER)
Background suppression		short 30...300 mm
		medium 60...600 mm
		long 60...1200 mm
		very long 200...2000 mm
		short LASER 30...150 mm (class 2 LASER)
		long LASER 50...350 mm (class 2 LASER)
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)		18x50x50
Housing material		ABS
Mechanical protection		IP67

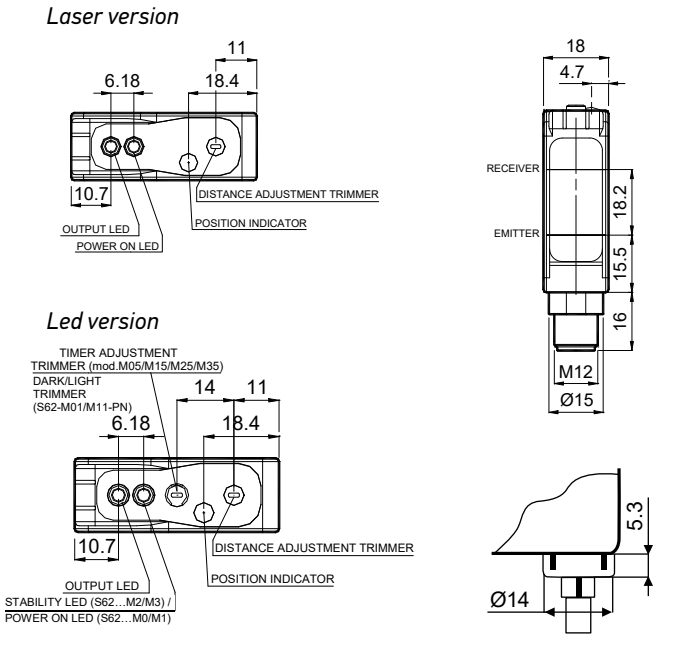
TECHNICAL DATA

Power supply	10 ... 30 Vdc (mod. S62...2/5)
	24...240 Vac/ 24...60 Vdc (mod. S62...1)
Ripple	2 Vpp max. (mod. S62...2/5), 10% max. (mod. S62...1)
Consumption (output current excluded)	30 mA max. (mod. S62...2/5)
	3 VA max. (mod. S62...1)
Light emission	red LED 640 nm (mod. S62-PA...A/B/C/G/M01/M05/M11/M15) IR LED 880 nm (mod. S62-PA...M21/M25/M31/M35) red Laser 645...665 nm (mod. S62-PL)
Setting	sensititivity adjustment trimmer
Operating mode	mono-turn LIGHT/DARK trimmer (mod. S62...RX/PN)
Indicators	yellow OUTPUT LED green STABILITY LED, POWER LED (S62...G)
Output	PNP or NPN N.O./N.C. (mod. S62...PP/NN); NPN/PNP (mod. S62...PN); electromechanical SPDT 250 Vac/30 Vdc (mod. S62...RX)
Output current	100 mA max. (mod. S62...2/5), 2 A max. (mod. S62...1)
Saturation voltage	2 V max. (mod. S62...2/5)
Response time	25 ms (mod. S62...1) 1,5 ms (mod. S62...M3x) 1 ms (mod. S62...2/5-F/G/M2x) 500 µs (mod. S62-PA...2/5-A/B/C/M0x/M1x) 200 µs (mod. S62-PL...B/C/M11) 140 µs (mod. S62-PL...M01)
Switching frequency	20 Hz (mod. S62...1) 330 Hz (mod. S62...M3x) 500 Hz (mod. S62...2/5-F/G/M2x) 1 kHz (mod. S62-PA...2/5-A/B/C/M0x/M1x) 2,5 kHz (mod. S62-PL...B/C/M11) 3,5 kHz (mod. S62-PL...M01)
Connection	M12 4-pole connector, 2 m Ø 4 mm cable vers., 2 m Ø 5 mm cable vers.
Dielectric strength	500 Vac 1 min., between electronics and housing
Insulation resistence	>20 MΩ 500 Vdc, between electronics and housing
Mechanical protection	IP67
Ambient light rejection	According to EN 60947-5-2
Vibrations	0.5 mm amplitude, 10 ... 55 Hz frequency, for each axis (EN60068-2-6)
Shock resistence	11ms (30G) 6 shock for every axis (EN60068-2-27)
Housing material	ABS
Lens material	PMMA window, policarbonate lens
Operating temperature	-10 ... 55 °C
Storage temperature	-20 ... 70 °C
Weight	40 g max. conn. vers., 90 max. cable vers.

DIMENSIONS



Background suppression

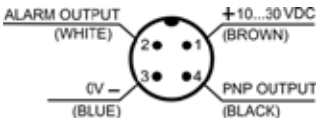


AC Models cable output

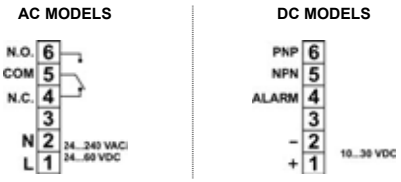
CONNECTIONS

VDC MODELS

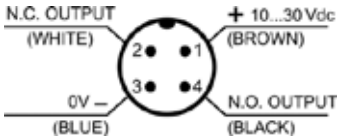
Through beam emitter



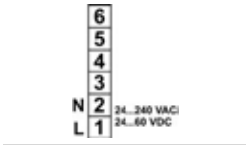
NPN/PNP version



M12 CONNECTOR

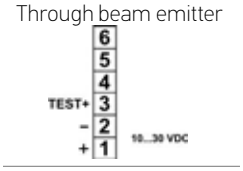


VAC MODELS



M12 CONNECTO

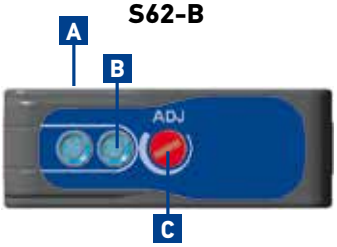
Through beam emitter



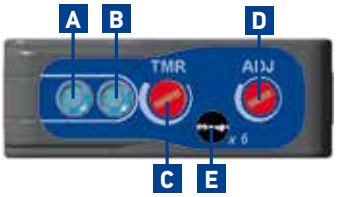
only DC models)

INDICATORS AND SETTINGS

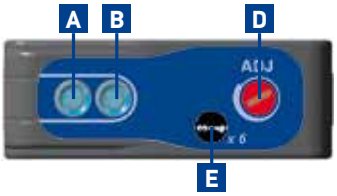
S62-B



S62-M WITH TIMER

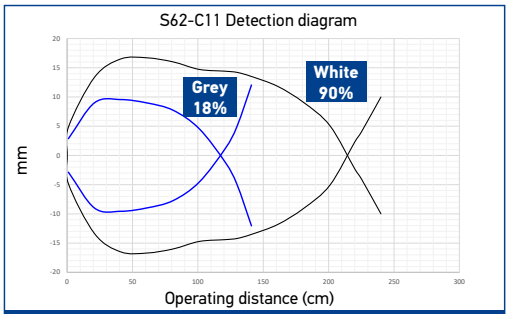


S62-M W/O TIMER

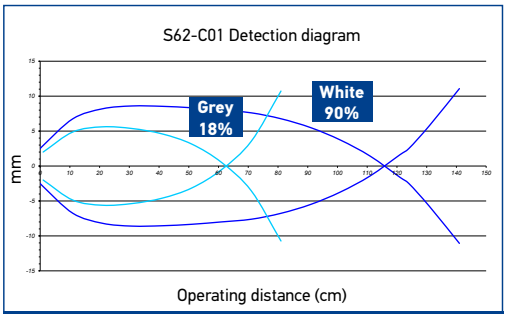


- **A** Output status LED
- **B** Stability LED or Power ON LED (laser vers.)
- **C** Timer adjustment trimmer
- **D** Distance adjustment trimmer
- **E** Geared numeric scale
- **F** M12 connector output
- **G** Cable output

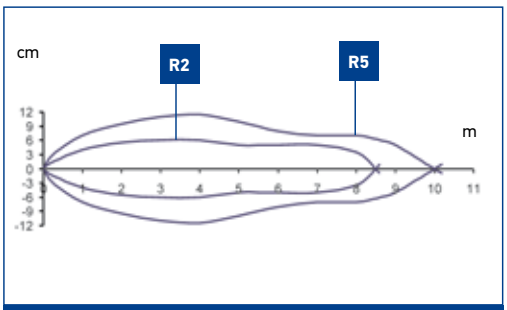
DETECTION DIAGRAMS OF MODELS WITH LED EMISSION



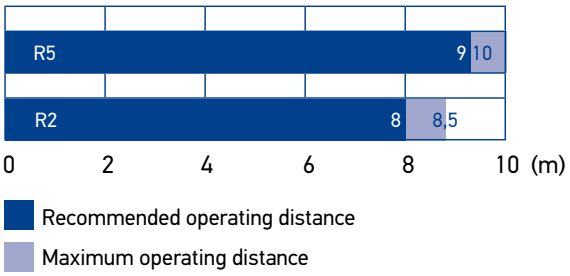
Diffused long distance

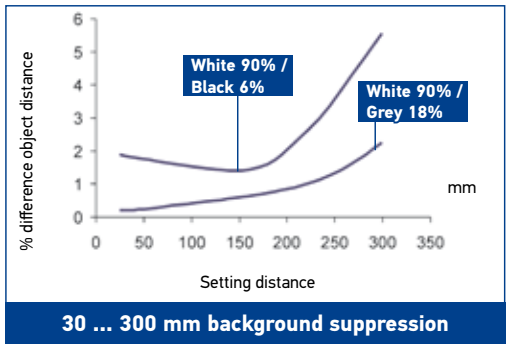


Diffused short distance

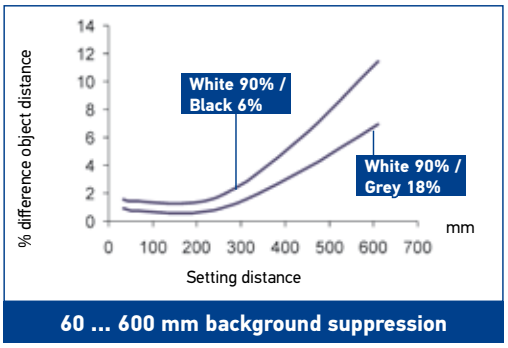


Polarized retroreflective

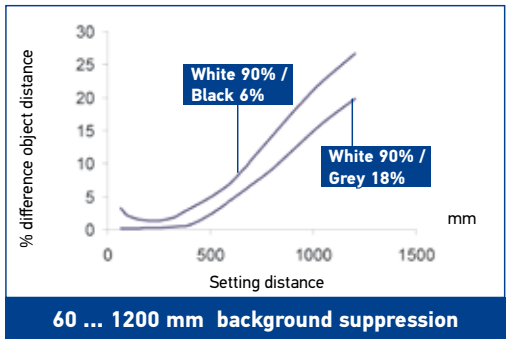




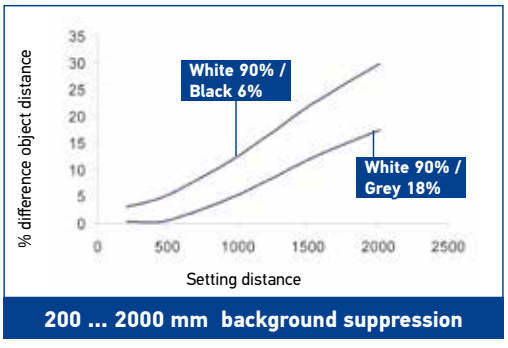
30 ... 300 mm background suppression



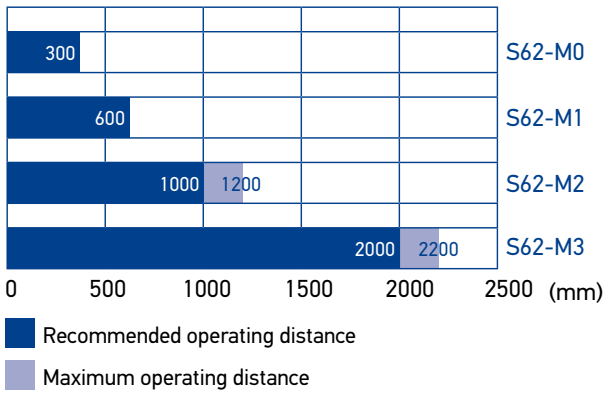
60 ... 600 mm background suppression



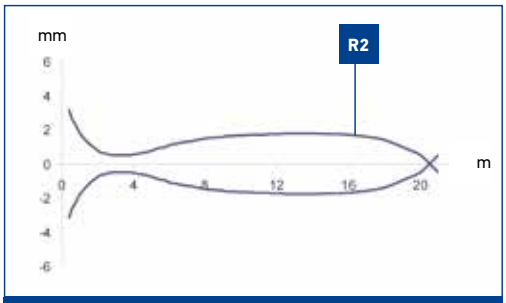
60 ... 1200 mm background suppression



200 ... 2000 mm background suppression



DETECTION DIAGRAMS OF MODELS WITH LASER EMISSION

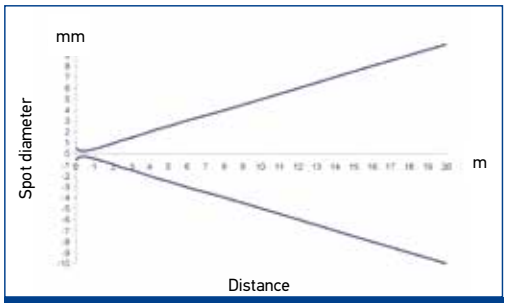


Laser polarized retroreflective

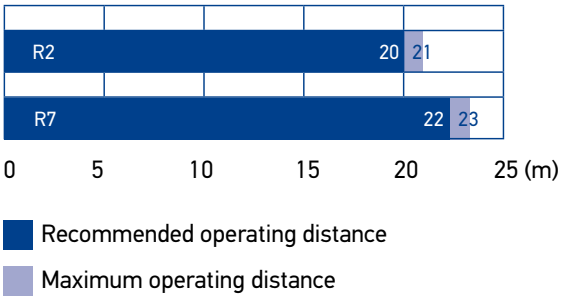
Reflector operating distances (m)

R1	R2	R6	R7 / R20	R8
0.3 ... 16	0.3 ... 20	0.4 ... 22	0.3 ... 22	0.2 ... 2

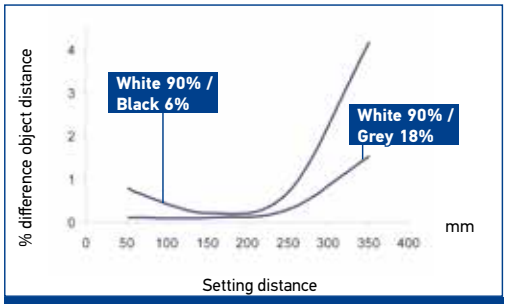
The use of the RT3970 reflecting tape is suggested.



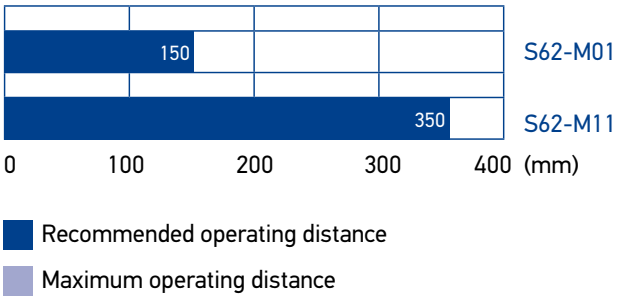
Light spot dimension - Laser polarized retroreflective



30 ... 150 mm laser background suppression



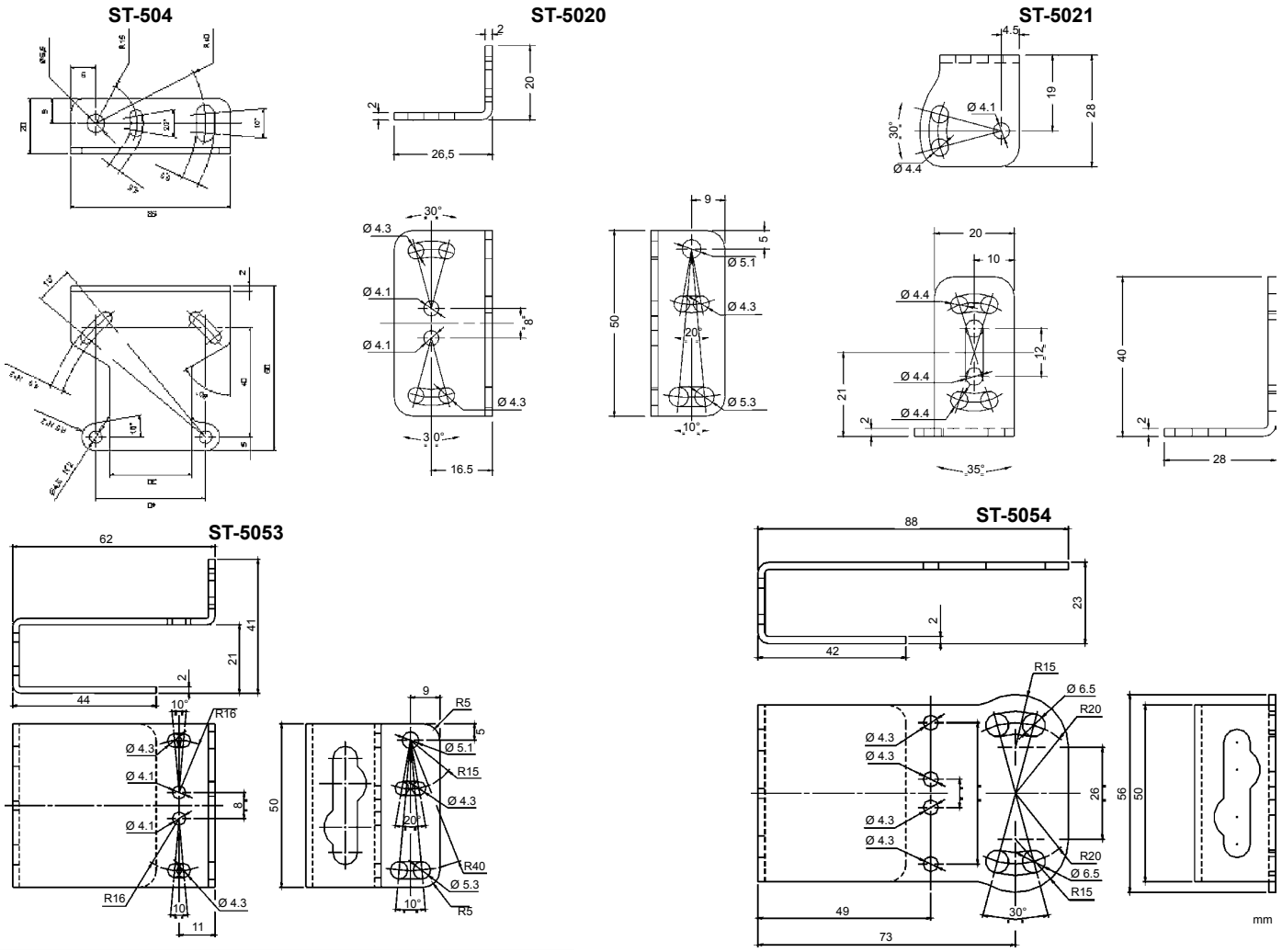
50 ... 350 mm laser background suppression



MODEL SELECTION AND ORDER INFORMATION

OPTIC FUNCTION	EMISSION	CONNECTION	SETTING	OUTPUT	MODEL	ORDER No.
Retroreflective	LED (red 640nm)	2m Cable	sensitivity trimmer (mono turn)	PNP/NPN	S62-PA-2-A01-PN	956211240
		M12 Connector		PNP/NPN	S62-PA-5-A01-PN	956211310
		Vac relay	mono-turn light/dark trimmer	Relay	S62-PA-1-A01-RX	956211180
Polarized retroreflective	LED (red 640nm)	2m Cable	sensitivity trimmer (mono-turn)	PNP/NPN	S62-PA-2-B01-PN	956211250
				PNP	S62-PA-2-B01-PP	956211010
		M12 Connector		NPN	S62-PA-5-B01-NN	956211020
				PNP/NPN	S62-PA-5-B01-PN	956211320
				PNP	S62-PA-5-B01-PP	956211000
		Vac relay	mono-turn light/dark trimmer	Relay	S62-PA-1-B01-RX	956211190
	LASER	M12 Connector	mono-turn light/dark trimmer	NPN	S62-PL-5-B01-NN	956211100
				PNP	S62-PL-5-B01-PP	956211110
Short diffused proximity	LED (red 640nm)	2m Cable	sensitivity trimmer (mono-turn)	NPN	S62-PA-2-C01-NN	956211420
				PNP/NPN	S62-PA-2-C01-PN	956211260
				PNP	S62-PA-2-C01-PP	956211380
		M12 Connector		NPN	S62-PA-5-C01-NN	956211500
				PNP/NPN	S62-PA-5-C01-PN	956211330
				PNP	S62-PA-5-C01-PP	956211460
		Vac relay	mono-turn light/dark trimmer	Relay	S62-PA-1-C01-RX	956211200
	LASER	2m Cable	sensitivity trimmer (mono turn)	NPN	S62-PL-2-C01-NN	956211440
				PNP	S62-PL-2-C01-PP	956211400
		M12 Connector		NPN	S62-PL-5-C01-NN	956211520
				PNP	S62-PL-5-C01-PP	956211480
Long diffused proximity	LED (red 640nm)	2m Cable		NPN	S62-PA-2-C11-NN	956211430
				PNP/NPN	S62-PA-2-C11-PN	956211270
				PNP	S62-PA-2-C11-PP	956211390
		M12 Connector		NPN	S62-PA-5-C11-NN	956211510
				PNP/NPN	S62-PA-5-C11-PN	956211340
				PNP	S62-PA-5-C11-PP	956211470
		Vac relay	mono-turn light/dark trimmer	Relay	S62-PA-1-C11-RX	956211210
Through beam receiver	-	2m Cable	sensitivity trimmer (mono turn)	NPN	S62-PA-2-F01-NN	956211450
				PNP/NPN	S62-PA-2-F01-PN	956211290
				PNP	S62-PA-2-F01-PP	956211410
		M12 Connector		NPN	S62-PA-5-F01-NN	956211530
				PNP/NPN	S62-PA-5-F01-PN	956211360
				PNP	S62-PA-5-F01-PP	956211490
		Vac relay	mono-turn light/dark trimmer	Relay	S62-PA-1-F01-RX	956211220
Through beam emitter	LED (red 640nm)	2m Cable	sensitivity trimmer (mono turn)	-	S62-PA-2-G00-XG	956211300
		M12 Connector			S62-PA-5-G00-XG	956211370
		Vac relay			S62-PA-1-G00-XX	956211230
Background suppression (short distance)		2m Cable	6 turns distance adjustment trimmer	PNP/NPN	S62-PA-2-M01-PN	956211280
				PNP	S62-PA-2-M01-PP	956201841
		M12 Connector		NPN	S62-PA-5-M01-NN	956201811
				PNP/NPN	S62-PA-5-M01-PN	956211350
				PNP	S62-PA-5-M01-PP	956201831
			timer adjustment trimmer	NPN	S62-PA-5-M05-NN	956201801
				PNP	S62-PA-5-M05-PP	956201821
	LASER	M12 Connector	4 turns distance adjustment trimmer	NPN	S62-PL-5-M01-NN	956211120
				PNP	S62-PL-5-M01-PP	956211130
Background suppression (medium distance)	LED (red 640nm)	2m Cable	6 turns distance adjustment trimmer	PNP	S62-PA-2-M11-PP	956201891
		M12 Connector		NPN	S62-PA-5-M11-NN	956201861
				PNP	S62-PA-5-M11-PP	956201881
			timer adjustment trimmer	NPN	S62-PA-5-M15-NN	956201851
				PNP	S62-PA-5-M15-PP	956201871
	LASER	M12 Connector	6 turns distance adjustment trimmer	NPN	S62-PL-5-M11-NN	956211140
				PNP	S62-PL-5-M11-PP	956211150
Background suppression (long distance)	LED (infrared 880nm)	2m Cable	6 turns distance adjustment trimmer	PNP	S62-PA-2-M21-PP	956201940
		M12 Connector		NPN	S62-PA-5-M21-NN	956201910
				PNP	S62-PA-5-M21-PP	956201900
			timer adjustment trimmer	NPN	S62-PA-5-M25-NN	956201930
				PNP	S62-PA-5-M25-PP	956201920
Background suppression (very long distance)		2m Cable	6 turns distance adjustment trimmer	PNP	S62-PA-2-M31-PP	956211050
		M12 Connector		NPN	S62-PA-5-M31-NN	956211060
				PNP	S62-PA-5-M31-PP	956211070
			timer adjustment trimmer	NPN	S62-PA-5-M35-NN	956211080
				PNP	S62-PA-5-M35-PP	956211090

ACCESSORIES



MODEL	DESCRIPTION	ORDER No.
ST-5020	mounting bracket	95ACC5330
ST-5021	mounting bracket	95ACC5340
ST-504	mounting bracket	95ACC2820
ST-5053	protective bracket	95ACC2410
ST-5054	protective bracket	95ACC2420
JOINT-S62	protective bracket with jointed support	95ACC2430

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
Radial M12 Connector with LED (for PNP N.O. sensors)	4-pole, grey, P.V.C.	3 m	CS-A2-12-G-03	95A251400
		5 m	CS-A2-12-G-05	95A251350
		10 m	CS-A2-12-G-10	95A251370
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		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
	4-pole, black	Connector- not cabled	CS-A1-02-B-NC	G5085002
Radial M12 Connector		Connector- not cabled	CS-A2-02-B-NC	G5085003

DATALOGIC

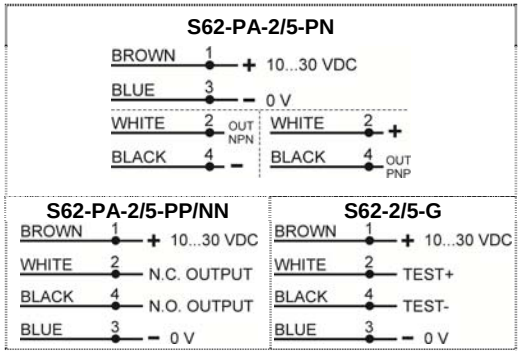
S62 SERIES
INSTRUCTION MANUAL

CONTROLS

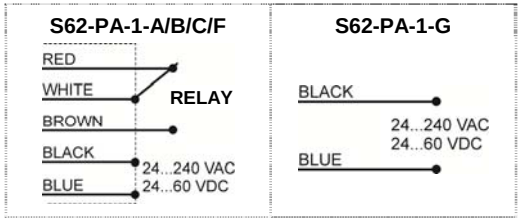
OUTPUT LED (yellow) (S62..A/B/C/F)
The yellow LED ON indicates the output status.
STABILITY LED (green) (S62..A/B/C/F)
The green LED permantely ON indicates a stable operating condition, where the signal received has a safety margin higher than 30% respect to the output switching value.
The sensor is ready to function correctly.
POWER ON LED (green) (S62..G)
The green LED ON indicates the powering status and the laser emission presence.
SENSIBILITY TRIMMER (ADJ.) (S62..A/B/C/F)
A mono-turn trimmer adjusts the sensitivity and the sensor operating distance.
Please refer to "SETTING" paragraph for the correct use procedure.
DARK/LIGHT TRIMMER (S62..RX/PN)
The LIGHT/DARK mode is selected using a mono-turn trimmer.
LIGHT MODE: clockwise rotation
DARK MODE: counter-clockwise rotation.
WARNING: *the maximum mechanical rotation range of the trimmer is 240°. Do not force over of the maximum and minimum positions.*

CONNECTIONS

DC models:



AC models:



TECHNICAL DATA

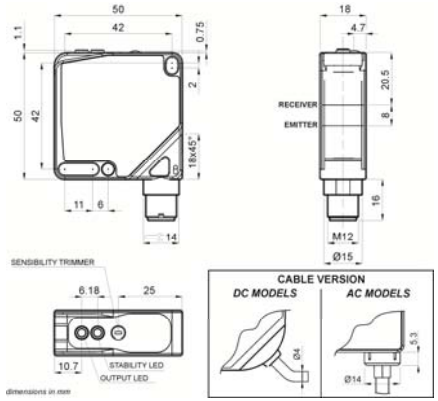
	S62-PA-2/5	S62-PA-1
Power supply:	10 … 30 VDC– Class 2 (UL508)	24…240 VAC / 24…60 VDC
Ripple:	2 Vpp max.	10 % max
Current consumption (output current excluded):	< 30 mA	< 3 VA
Outputs:	**S62..PP/NN:** PNP or NPN N.A./N.C. 30 VDC **S62..PN:** NPN/PNP; 30 VDC max (short-circuit protection)	Electromechanical SPDT 250 VAC / 30 VDC
Output current:	100 mA max (overload and overvoltage protection)	2 A max. (resistive load)
Output saturation voltage:	≤ 2 V	-
Response time:	**S62…A/B/C:** 500 µs max. **S62…F/G:** 1 ms	25 ms
Switching frequency:	**S62…A/B/C:** 1 kHz **S62…F/G:** 500Hz	20Hz
Emission type:	RED (640 nm) (S62..A/B/C/G)	
Operating distance (typical values):	**S62...B:** 0.1…8 m on R2 (Ø63 mm reflector) (EG = 2) **S62…A:** 13m on R2 (Ø63 mm reflector) (EG = 2) **S62...C01:** 90 cm on 90% White target (EG = 2) **S62...C11:** 200 cm on 90% White target (EG = 2) **S62…F/G:** 0…25 m	
Indicators:	**S62…A/B/C/F:** OUTPUT LED (YELLOW) / STABILITY LED (GREEN) **S62…G:** POWER ON LED (GREEN)	
Adjustment:	Mono-turn sensitivity adjustment trimmer Mono-turn light/dark trimmer (S62..RX/PN)	
Operating temperature:	-10 … 55 °C	
Storage temperature:	-20 … 70 °C	
Dielectric strength:	500 VAC, 1 min between electronics and housing	
Insulating resistance:	> 20 MΩ, 500 VDC between electronics and housing	
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:	ABS	
Lens material:	PMMA window, policarbonate lens	
Mechanical protection:	IP67	
Connections:	2 m cable ∅ 4 mm / M12 4-pole connector	2 m cable ∅ 5 mm
UL requirements:	VDC models: they are intended to be connected to a Class 2 transformer or class 2 power supply. VAC models: these devices shall be connected to a power-supply or system,including filters or air-gaps, of overvoltage category II ("load level – secondary circuit of a protected utility transformer"), suitable to control over-voltages at the maximum "rated impulse withstand voltage peak of 1.2KV and with a short-circuit power limit at max 500VA.	
Weight:	90 g. max. cable versions / 40 g. max. connectors versions	

SETTINGS

S62..A/B setting: Position the sensor and reflector on opposite sides. Turn the sensitivity trimmer to maximum.
Find the points where the yellow LED (OUT) in both vertical and horizontal positions and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs switch ON. If necessary, reduce sensitivity using the trimmer, in order to detect very small targets. In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.
S62..C setting: Position the sensor and turn the sensitivity trimmer at minimum: the yellow LED is OFF (litgh mode). Place the target opposite the sensor. Turn the sensitivity trimmer clockwise until the yellow LED turns ON (Target detected state, pos.A). Remove the target, the yellow LED turns OFF.
Turn the trimmer clockwise until the yellow LED turns ON (Background detected state, pos.B).
The trimmer reaches maximum if the background is not detected. Turn the trimmer in intermediate position C, between the two positions A and B. The green LED must be ON.

S62…F/G setting: Position the sensors on opposite sides. Turn the sensitivity trimmer to maximum. Find the points where the yellow LED (OUT) is switched ON and OFF in both vertical and horizontal positions, and fix the sensor in the centre between these points. Optimum operation is obtained when both LEDs switch ON.
If necessary, reduce sensitivity using the trimmer, in order to detect very small targets.
In order to improve alignment, repeat the procedure detailed above whilst progressively reducing the sensitivity.

DIMENSIONS



INSTALLATION

The sensor can be positioned by means of the two housing holes using two screws (M4x35 or longer, 1.2Nm maximum tightening torque).
Various orientable fixing brackets to ease the sensor positioning are available (please refer to the accessories listed in the general catalogue). The operating distance is measured from the front surface of the sensor optics. The M12 connector can be oriented at two different positions using the specific fastening spring and rotating the block of 180°.

TEST FUNCTION (S62...G)

The TEST+ and TEST- inputs can be used to switch off the emitter light and verify that the system is correctly operating: the receiver output should switch when the test is activated while the beam is uninterrupted: the inputs activating voltage range is 12…30 VDC, respecting the polarity.
The emission is switched OFF connecting TEST+ to VDC and TEST- to 0V.

The sensors are NOT safety devices, and so MUST NOT be used in the safety control of the machines where installed.

Datalogic S.r.l.
Via S. Vitalino 13 - 40012 Calderara di Reno - Italy
Tel: +39 051 3147011 - Fax: +39 051 3147205 - www.datalogic.com

Helpful links at www.datalogic.com: **Contact Us, Terms and Conditions, Support**.

The warranty period for this product is 36 months. See General Terms and Conditions of Sales for further details.

Under current Italian and European laws, Datalogic is not obliged to take care of product disposal at the end of its life. Datalogic recommends disposing of the product in compliance with local laws or contacting authorised waste collection centres.

821002352 Rev. C