S65-M

Time Of Flight long range background suppressor

- Long Range background suppression detection up to 5m
- Cost effective solution for precise and reliable detection
- Risk-free Infrared LED emission and embedded green LED pointer
- Two independent fully programmable outputs
- NPN/PNP or IO-Link connection models
- Rugged plastic housing in compact 50x50x24 mm format



SENSORS

APPLICATIONS

- Presence of all medium and large sized objects on conveyors
- Critical object detection in front of problematic background
- Positioning tasks in palletizing
- Position limiter for deck and robot in automotive manufacturing
- Collision prevention limit switch for AGV applications
- Checking filling level for liquid and objects

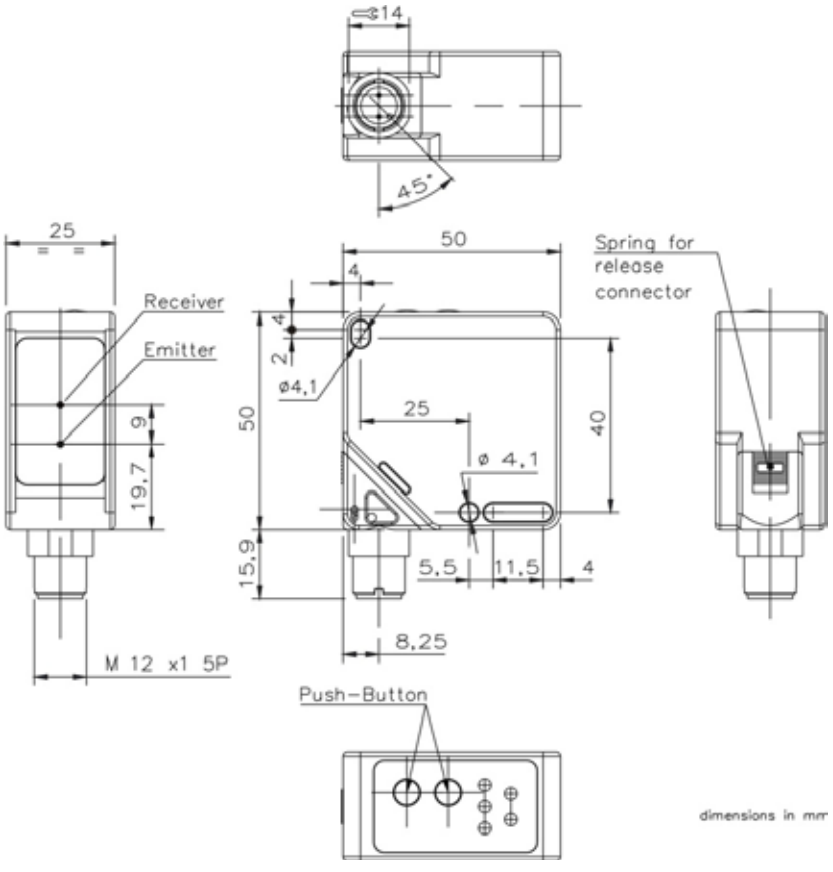
S65-M		
Operating Distance		0.3..5 m (90% white) / 0.3..4 m (18% grey) / 0.3..2.5 m (6 % black)
Hysteresis		20mm / 50mm / 80mm
Difference White 90%/Grey 18% and White 90%/Black 6%		see chart (value Typ, 1σT=25°C, ambient light <1Klux)
Repeatability error		20mm for distance > 750mm / 40mm for distance <= 750mm (1σT=25°C)
Response time		8.5 msec max.T=25°C
Operating Frequency		<65Hz
Setting		Teach-in buttons SET1, SET2
Teach-in Input		Active High (+24V) 1 sec < t < 3 sec oteach Q1 / > 3 sec oteach Q2
Supply voltage	Vdc	24 VDC ± 20%
	Vac	
	Vac/dc	
Switching output	PNP	
	NPN	
	NPN/PNP	Can be set up (PNP NPN / Light Dark) 100mA max.
	relay	
	other	IO-Link V1.1
Connections	cable	
	connector	M12 - 5 poles
	pig-tail	
Exposed material		Body ABS / Display POLYESTER
Front side material		PMMA
Dimensions		50 x 50 x 25 mm
Mechanical protection		IP67
Weight		50 g.max.
UL (requirements)		Class 2 power supply according to UL 508

Distance Sensors - S65-M

DATALOGIC

TECHNICAL DATA	
Supply voltage	24 VDC ± 20%
Consumption	< 2.2 W (excluding any loads)
Operating Distance	0.3..5 m (90% white) / 0.3..4 m (18% grey) / 0.3..2.5 m (6 % black)
Hysteresis	20mm / 50mm / 80mm
Response time	8.5 msec max.
Difference White 90%/Grey 18% and White 90%/Black 6%	see chart (value Typ, 1 , T=25°C, ambient light <1Klux)
Repeatability error	20mm for distance > 750mm / 40mm for distance <= 750mm (1 , T=25°C)
Thermal compensation error	1.5 mm /°C (T ≠ 25°C)
Switching output	Can be set up (PNP NPN / Light Dark) 100mA max.
Teach-in Input	Active High (+24V) 1 sec < t < 3 sec teach Q1 / > 3 sec teach Q2
Warming-up time	20 min typ
Warnings	Q1 (YELLOW) / Q2 (YELLOW) / ON PWR (GREEN) - PNP / NPN (GREEN)
Operating temperature	-15°... +55 °C (with device ON)
Storage temperature	-25 ... +70 °C
Electrical strength	500 VAC, 1 min between electronics and case
Insulation resistance	> 20 M , 500 VDC between electronics and case
Reading spot size	typ 200x200 mm @ 4m
Pointer spot size (green)	typ 250x250 mm @ 4m
Max. deviation of pointer/reading spot axes origin	+/- 40 mm
Emission and Wavelength	LED / 850 nm
Ambient light rejection	according to EN 60947-5-2,
Vibrations	width 0.5 mm, frequency 10 ... 55Hz, per axis (EN60068-2-6)
Shock resistance	11 ms (30 G) 6 shocks for each axis (EN60068-2-27)
Humidity	< 90% no condensation
Exposed material	Body ABS / Display POLYESTER
Front side material	PMMA
Mechanical protection	IP67
Connections	M12 - 5 poles
(Overall) Dimensions	50 x 50 x 25 mm
Weight	50 g.max.
I/O LINK Connection	NO (See parameter table on www.datalogic.com)
UL (requirements)	Class 2 power supply according to UL 508

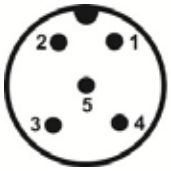
DIMENSIONS



CONNECTIONS

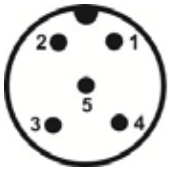
M12 CONNECTOR

S65-PA-5-M13-OO



1 (BROWN) :	+24 V ±20%
2 (WHITE) :	Q2 100mA max.
3 (BLUE) :	0 V
4 (BLACK) :	Q1 100mA max.
5 (GREY) :	REMOTE TEACH-IN

S65-PA-5-M13-OOZ



1 (BROWN) :	+24 V ±20%
2 (WHITE) :	Q2 100mA max.
3 (BLUE) :	0 V
4 (BLACK) :	C/Q1 (I/O LINK)
5 (GREY) :	REMOTE TEACH-IN

NOTE: Wire colour refers to European standard.

INDICATORS AND SETTINGS



OUTPUT LED (yellow)

Yellow LEDs on, numbered as 1 and 2, indicate activation of Q1 and Q2 outputs.

LEDs blink at the same time if measurement is out of range or not available due to the presence of environmental contamination.

POWER LED (green)

Green PWR LED on indicates that the device is switched on and operating.

ACTIVE SETUP LED (green)

Green PNP/NPN LEDs on indicate that the device is in the selected setup.

SET1 Push Button

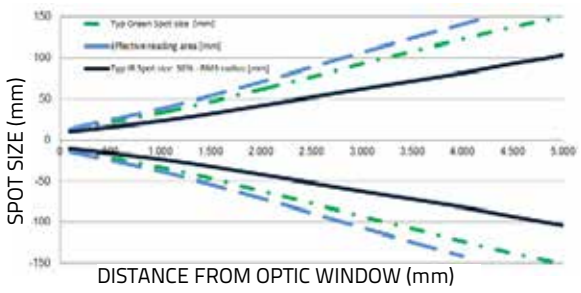
Teach-in push buttonfor Q1 and setting parameter menu

SET2 Push Button

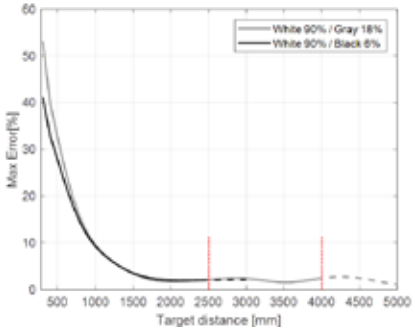
Teach-in push buttonfor Q2 and setting parameter menu

DETECTION DIAGRAMS

Typical spot size - squared section



Reading area dimension



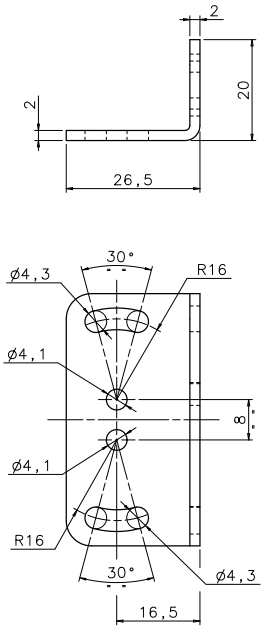
Difference white/grey – white/black

MODEL SELECTION AND ORDER INFORMATION

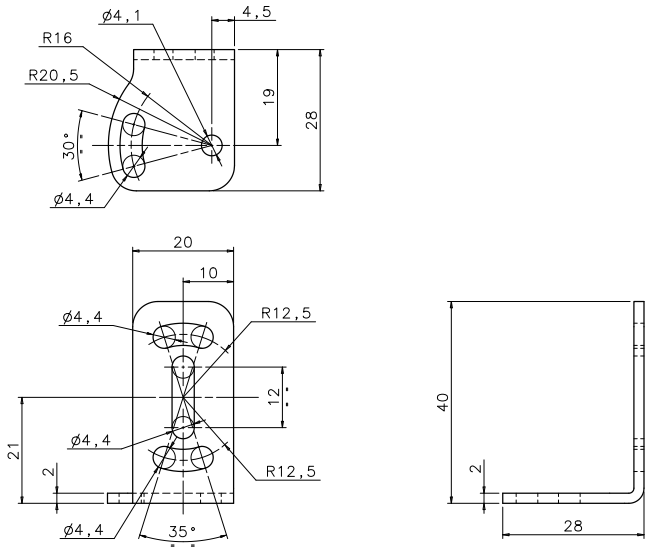
OPTIC FUNCTION	CONNECTION	OUTPUT	MODEL	ORDER No.
Background Suppression long range IR	M12 5 poles	NPN/PNP	S65-PA-5-M13-00	956251160
	M12 5 poles	IO-LINK	S65-PA-5-M13-00Z	956251170

ACCESSORIES

ST-5020



ST-5021



MODEL	DESCRIPTION	ORDER No.
ST-5020	mounting bracket 50 x 27 x 20 mm	95ACC5330
ST-5021	mounting bracket 20 x 40 x 28 mm	95ACC5340

CABLES

TYPE	DESCRIPTION	LENGTH	MODEL	ORDER No.
Axial M12 Connector	M12 5-pole conn. with 3 m unshielded cable	3 m	CS-A1-03-G-03	95ACC2110
	M12 5-pole conn. with 5 m unshielded cable	5 m	CS-A1-03-G-05	95ACC2120
	M12 5-pole conn. with 10 m unshielded cable	10 m	CS-A1-03-G-10	95ACC2140