

# S65



## ADVANCED COLOR AND CONTRAST SENSORS IN COMPACT CASE

### Color S65-V:

- 3 independent NPN or PNP outputs and RS 485 serial interface
- 3 channel color sensor with 10 tolerance levels
- Wide spectrum white light LED emission and RGB photo-receiver
- 2 push button setting with 4 digit display indicator

### Contrast S65-W:

- High 12 bit resolution and 30 kHz switching frequency
- PNP or NPN output and RS 485 serial interface

### APPLICATIONS

- Packaging lines
- Contrast reading
- Automatic machine

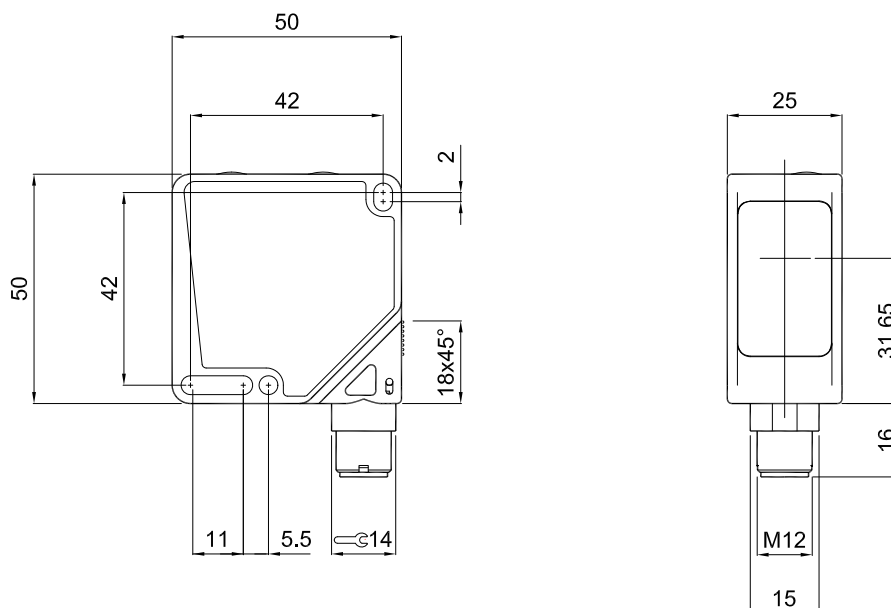


S65		
<b>Contrast sensor</b>	12...20 mm (S65-W)	
<b>Color sensor</b>	5...45 mm (S65-V)	
<b>Switching frequency</b>	30 kHz (S65-W)	
	500 Hz (S65-V19 vers.)	
	1,5 kHz (S65-V09 vers.)	
<b>Light emission</b>	white LED	
<b>Serial interface</b>	RS485	
<b>Setting</b>	push-buttons	
<b>Power supply</b>	Vdc	10...30 V
	Vac	
	Vac/dc	
<b>Output</b>	PNP	•
	NPN	•
	NPN/PNP	
	relay	
	other	0...5 V Analog output (S65-W)
<b>Connection</b>	cable	
	connector	•
	pig-tail	
<b>Approximate dimensions (mm)</b>	50x50x25	
<b>Housing material</b>	ABS	
<b>Mechanical protection</b>	IP67	

# TECHNICAL DATA

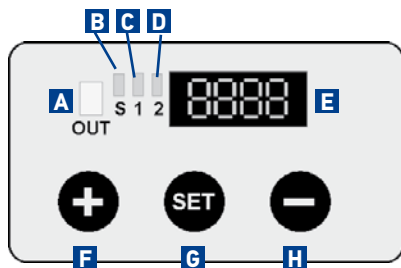
<b>Power supply</b>	10 ... 30 Vdc (limit values)
<b>Ripple</b>	2 Vpp max.
<b>Consumption (output current excluded)</b>	50 mA max. at 24 Vdc (mod. S65-W) 60 mA max. at 24 Vdc (mod. S65-V)
<b>Light emission</b>	white LED 400-700 nm
<b>Setting</b>	SET push-buttons SEL push-buttons (mod. S65-V)
<b>Indicators</b>	yellow OUTPUT LED green 4-digit display, 3 OUTPUT STATUS LEDs (S65-V), STABILITY and 2 OUTPUT DELAY LEDs (mod. S65-W)
<b>Output</b>	1 PNP or NPN; analog output (mod. S65-W) 3 PNP or NPN; RS485 serial interface (mod. S65-V)
<b>Output current</b>	100 mA max.
<b>Saturation voltage</b>	2 V max.
<b>Response time</b>	5 ms (norm) and 1 ms (fast) (mod. S65-V19) 335 $\mu$ s (mod. S65-V09) 16 $\mu$ s (mod. S65-W)
<b>Switching frequency</b>	100 Hz (norm) and 500 Hz (fast) (mod. S65-V19) 1,5 kHz (mod. S65-V09) 30 kHz (mod. S65-W)
<b>Connection</b>	M12 5-pole connector (mod. S65-W standard vers.), M12 8-pole connector (mod. S65-W vers. with RS485 serial interface) M12 8-pole connector (mod. S65-V)
<b>Dielectric strength</b>	500 Vac, 1 min between electronics and housing
<b>Insulating resistance</b>	>20 M $\Omega$ , 500 Vdc between electronics and housing
<b>Electrical protection</b>	class 2
<b>Mechanical protection</b>	IP67
<b>Ambient light rejection</b>	according to EN 60947-5-2
<b>Vibrations</b>	0,5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6)
<b>Shock resistance</b>	11 ms (30 G) 6 shock for every axis (EN60068-2-27)
<b>Minimum spot dimension</b>	3x1 mm at 19 mm (mod. S65-W) $\varnothing$ 4 mm (mod. S65-V)
<b>Depth of field</b>	$\pm$ 2 mm (mod. S65-W)
<b>Housing material</b>	ABS
<b>Lens material</b>	window and lenses in glass
<b>Operating temperature</b>	-10 ... 55 $^{\circ}$ C
<b>Storage temperature</b>	-20 ... 70 $^{\circ}$ C
<b>Weight</b>	100 g max.

# DIMENSIONS



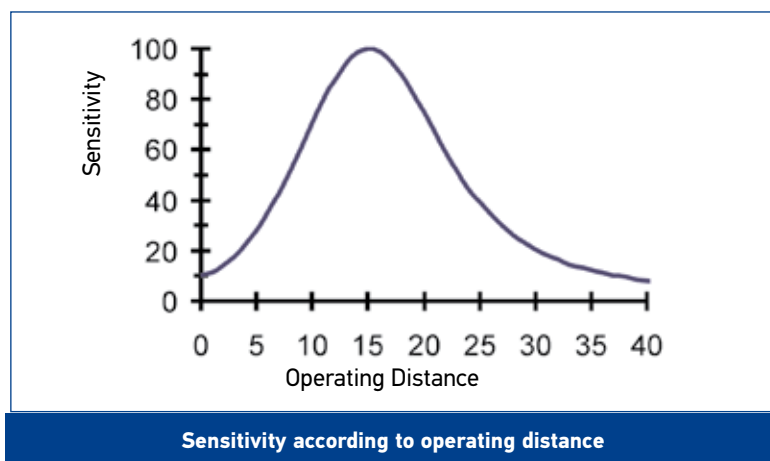
# S65-W

## INDICATORS AND SETTINGS S65-W



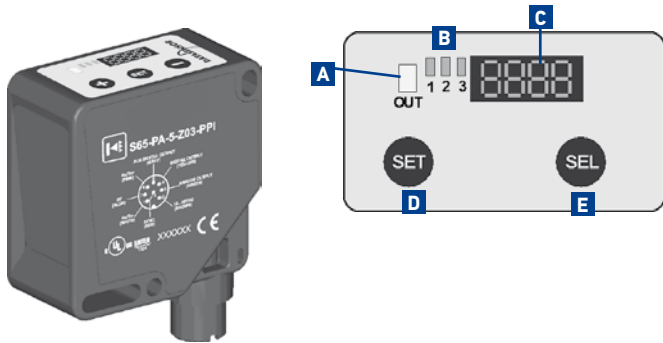
- A Output status LED
- B Stability LED
- C Delay ON LED
- D Delay OFF LED
- E 4-digit display
- F +/- push-buttons
- G SET push-button
- H M12 connector output, orientable on two positions

## DETECTION DIAGRAMS S65-W



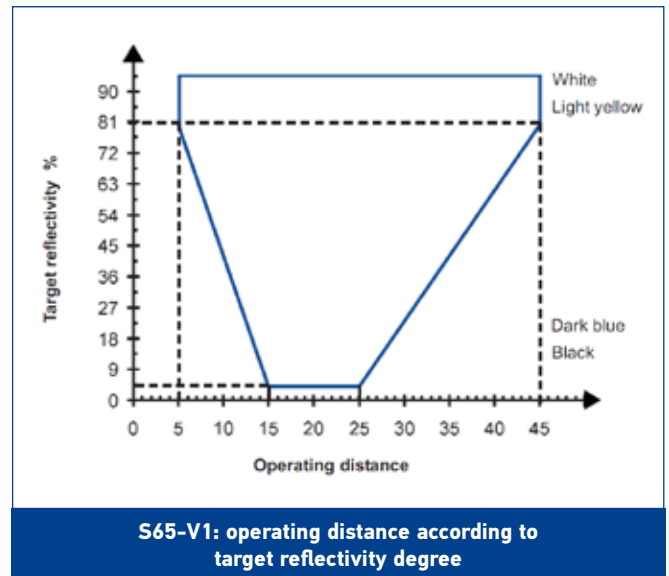
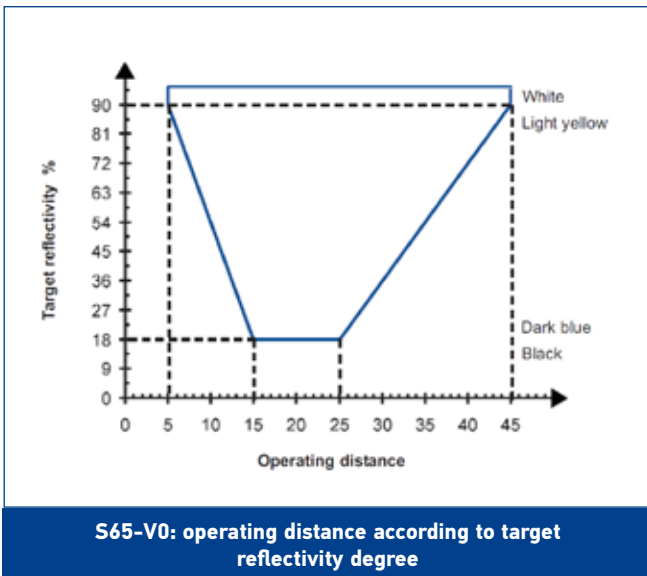
# S65-V

## INDICATORS AND SETTINGS S65-W



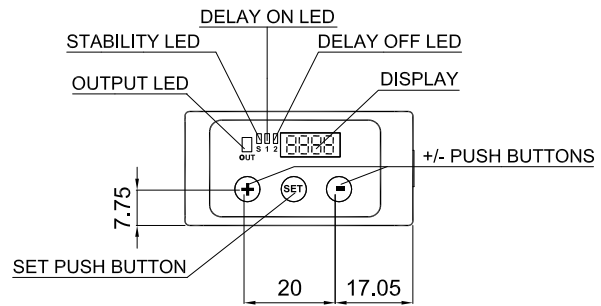
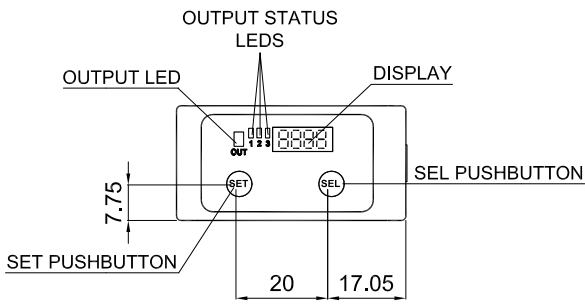
- A** Output 'OR' function LED
- B** Output status LEDs
- C** 4 digit display
- D** SET push-button
- E** SEL push-button
- F** +/- selection push-buttons
- G** M12 connector output, orientable on two positions

## DETECTION DIAGRAMS S65-W



Color sensor S65-V

Contrast sensor S65-W

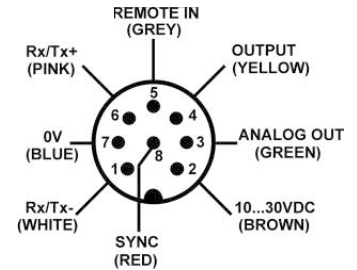
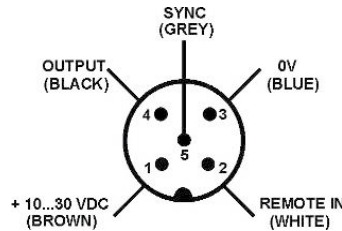
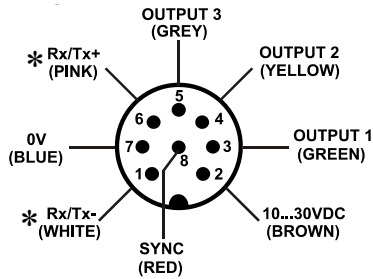


mm

## CONNECTIONS

M12 CONNECTOR - COLOR SENSOR S65-V

M12 CONNECTOR - CONTRAST SENSOR S65-W



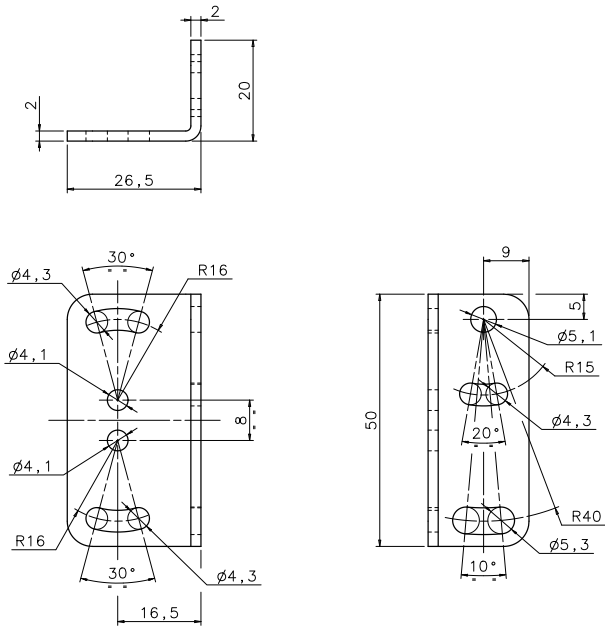
\* Available only for version with RS485 serial connection (S65-PA-5-V09-xxxZ).

## MODEL SELECTION AND ORDER INFORMATION

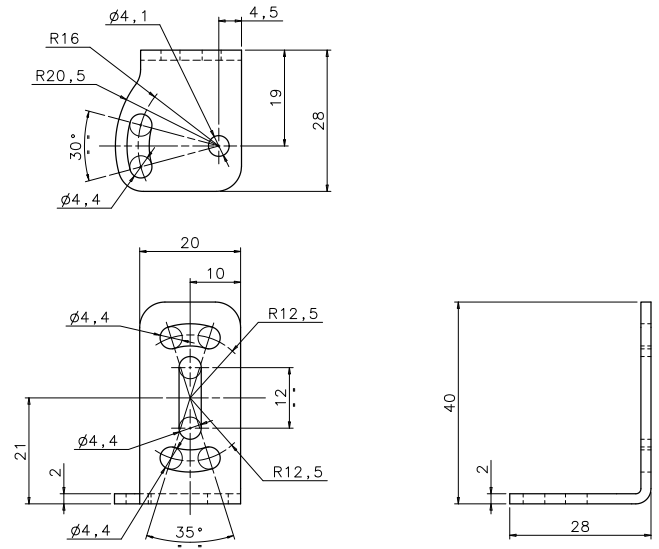
OPTIC FUNCTION	HOUSING	CONNECTION	OUTPUT	MODEL	ORDER No.
Color sensor	335 $\mu$ s	M12 8-pole Connector	PNP, RS485	S65-PA-5-V09-PPPZ	956251000
			NPN, RS485	S65-PA-5-V09-NNNZ	956251010
			PNP	S65-PA-5-V09-PPP	956251020
			NPN	S65-PA-5-V09-NNN	956251030
	5 ms (norm) or 1 ms (fast)		PNP, RS485	S65-PA-5-V19-PPPZ	956251080
			NPN, RS485	S65-PA-5-V19-NNNZ	956251090
			PNP	S65-PA-5-V19-PPP	956251100
			NPN	S65-PA-5-V19-NNN	956251110
Contrast sensor	16 $\mu$ s	M12 5-pole Connector	NPN	S65-PA-5-W09-NH	954201000
		M12 8-pole Connector	NPN, RS485	S65-PA-5-W09-NHZ	954201010
		M12 5-pole Connector	PNP	S65-PA-5-W09-PH	954201020
		M12 8-pole Connector	PNP, RS485	S65-PA-5-W09-PHZ	954201030

# 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	5-pole, grey, P.V.C.	3 m	CS-A1-03-G-03	95ACC2110	
		5 m	CS-A1-03-G-05	95ACC2120	
		10 m	CS-A1-03-G-10	95ACC2140	
	5-pole, U.L., black, P.V.C	3 m	CS-A1-03-U-03	95ASE1170	
		5 m	CS-A1-03-U-05	95ASE1180	
		10 m	CS-A1-03-U-10	95ASE1190	
		15 m	CS-A1-03-U-15	95ASE1200	
		25 m	CS-A1-03-U-25	95ASE1210	
		50 m	CS-A1-03-U-50	95A252700	
		8-pole, black, P.V.C.	3 m	CS-A1-06-B-03	95ACC2260
5 m	CS-A1-06-B-05		95ACC2270		
10 m	CS-A1-06-B-10		95ACC2280		
Radial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A2-26-B-03	95ACC1600	
		5 m	CV-A2-26-B-05	95ACC1610	
		10 m	CV-A2-26-B-10	95ACC1620	
Axial M12 Connector	8-pole, shielded, black, P.V.C.	3 m	CV-A1-26-B-03	95ACC1510	
		5 m	CV-A1-26-B-05	95ACC1520	
		10 m	CV-A1-26-B-10	95ACC1530	
		15 m	CV-A1-26-B-15	95ACC2080	
		25 m	CV-A1-26-B-25	95ACC2100	
		8-pole, U.L., black, P.V.C.	3 m	CS-A1-06-U-03	95ASE1220
			5 m	CS-A1-06-U-05	95ASE1230
	10 m		CS-A1-06-U-10	95ASE1240	
	15 m		CS-A1-06-U-15	95ASE1250	
	25 m		CS-A1-06-U-25	95ASE1260	
	50 m		CS-A1-06-U-50	95A252710	
	8-pole, black	Connector-not cabled	CS-A1-06-B-NC	95ACC2550	