



**Part no.: 50107496**  
**HRTR 55/66-XL-S8**  
**Diffuse sensor with background suppression**



Figure can vary



## Contents

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- Operation and display
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## Technical data

<b>Basic data</b>	
Series	55
Operating principle	Diffuse reflection principle with background suppression
<b>Special design</b>	
Special design	All stainless steel housing Extra long light spot (XL)
<b>Optical data</b>	
Operating range	Guaranteed operating range
Operating range, white 90%	0.005 ... 0.1 m
Operating range, gray 18%	0.005 ... 0.09 m
Operating range, black 6%	0.005 ... 0.08 m
Operating range limit	Typical operating range
Operating range limit	0.005 ... 0.1 m
Beam profile	Divergent
Light source	LED, Red
LED light wavelength	620 nm
LED group	1
Transmitted-signal shape	Pulsed
Light-spot size [at sensor distance]	3 mm x 40 mm [50 mm]
Type of light-spot geometry	Rectangular
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected
<b>Performance data</b>	
Supply voltage $U_B$	10 ... 30 V, DC
Current consumption, max.	
Residual ripple	0 ... 15 %, From $U_B$
Open-circuit current	0 ... 15 mA
<b>Outputs</b>	
Number of digital switching outputs	2 Piece(s)
<b>Switching outputs</b>	
Voltage type	DC
Switching current, max.	100 mA
Switching voltage	High: $\geq(U_B-2V)$ Low: $\leq 2V$
<b>Switching output 1</b>	
Assignment	Connection 1, pin 4
Switching element	Transistor, Push-pull
Switching principle	Light switching (PNP)/dark switching (NPN)
<b>Switching output 2</b>	
Assignment	Connection 1, pin 2
Switching element	Transistor, Push-pull
Switching principle	Dark switching (PNP)/light switching (NPN)
<b>Timing</b>	
Switching frequency	1,000 Hz

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Response time	0.5 ms
Readiness delay	300 ms

**Connection**
**Connection 1**

Type of connection	Connector
Function	Voltage supply Signal OUT
Thread size	M8
Type	Male
Material	Stainless steel
No. of pins	4 -pin
Encoding	A-coded

**Mechanical data**

Dimension (W x H x L)	14 mm x 35.5 mm x 25 mm
Housing material	Stainless steel, AISI 316L
Lens cover material	Plastic with scratch-resistant Indium protective coating
Net weight	40 g
Housing color	Silver
Type of fastening	Via optional mounting device Through-hole mounting
Compatibility of materials	CleanProof+ ECOLAB

**Operation and display**

Type of display	LED
Number of LEDs	2 Piece(s)
Operational controls	Multiturn potentiometer

**Environmental data**

Ambient temperature, operation	-30 ... 55 °C
Ambient temperature, storage	-30 ... 55 °C

**Certifications**

Degree of protection	IP 67 IP 69K
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

**Classification**

Customs tariff number	85365019
eCl@ss 8.0	27270904
eCl@ss 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719

## Electrical connection

Connection 1	
Type of connection	Connector
Function	Voltage supply Signal OUT
Thread size	M8
Type	Male
Material	Stainless steel
No. of pins	4 -pin
Encoding	A-coded

Pin	Pin assignment
1	V+
2	OUT 2
3	GND
4	OUT 1





## Operation and display

### LEDs




LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Object detected

## Accessories


### Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50110274	K-D M8A-4P-10m-FAB	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: FAB
	50106152	K-D M8A-4P-2m-FAB	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: FAB
	50106153	K-D M8A-4P-5m-FAB	Connection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: FAB


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	Part no.	Designation	Article	Description
	50110273	K-D M8W-4P-10m-FAB	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 10,000 mm Sheathing material: FAB
	50106154	K-D M8W-4P-2m-FAB	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 2,000 mm Sheathing material: FAB
	50106155	K-D M8W-4P-5m-FAB	Connection cable	Connection 1: Connector, M8, Angled, Female, 4 -pin Connection 2: Open end Shielded: No Cable length: 5,000 mm Sheathing material: FAB

### Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50130916	KDS U-M8-4A-M8-4A-P1-020	Interconnection cable	Connection 1: Connector, M8, Axial, Female, 4 -pin Connection 2: Connector, M8, Axial, Male, 4 -pin Shielded: No Cable length: 2,000 mm Sheathing material: PUR

### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50040269	BT 25	Mounting device	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal