

## Technical data sheet

### Diffuse sensor with background

Part no.: 50143916

HT46CI-1000F/6G-1500



Figure can vary

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## Technical data

### Basic data

Series	46C
Operating principle	Diffuse reflection principle with background suppression

### Special design

Special design	Preset range
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### Optical data

Black-white error	< 10% up to 1000 mm
Operating range	Guaranteed operating range
Operating range, white 90%	0.005 ... 1 m
Operating range limit	Typical operating range
Operating range limit, white 90%	0.005 ... 1 m
Permanently set operating range	1 m
Light source	LED, Infrared
LED light wavelength	860 nm
Transmitted-signal shape	Pulsed
LED group	Exempt group (in acc. with EN 62471)
Type of light spot geometry	Rectangular
Focus	Fixed

### Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected
	Transient protection

### Performance data

Supply voltage $U_B$	10 ... 30 V, DC, Incl. residual ripple
Residual ripple	0 ... 15 %, From $U_B$
Open-circuit current	0 ... 30 mA

### Outputs

Number of digital switching outputs	2 Piece(s)
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### Switching outputs

Voltage type	DC
Switching current, max.	100 mA
Switching voltage	high: $\geq(U_B - 2V)$
	Low: $\leq 2V$

### Switching output 1

Switching element	Transistor, Push-pull
Switching principle	Light switching (PNP)/dark switching (NPN)

### Switching output 2

Switching element	Transistor, Push-pull
Switching principle	Dark switching (PNP)/light switching (NPN)

### Timing

Switching frequency	250 Hz
Response time	2 ms
Readiness delay	300 ms

### Connection

#### Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	1,500 mm
Sheathing material	PUR
Cable color	Black
Number of conductors	4 -wire
Wire cross section	0.2 mm <sup>2</sup>

### Mechanical data

Dimension (W x H x L)	20.5 mm x 76.3 mm x 44 mm
Housing material	Plastic, PC-PBT
Lens cover material	Plastic / PMMA
Housing color	Red
Type of fastening	Through-hole mounting
	Via optional mounting device
Compatibility of materials	ECOLAB

### Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

### Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

### Certifications

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

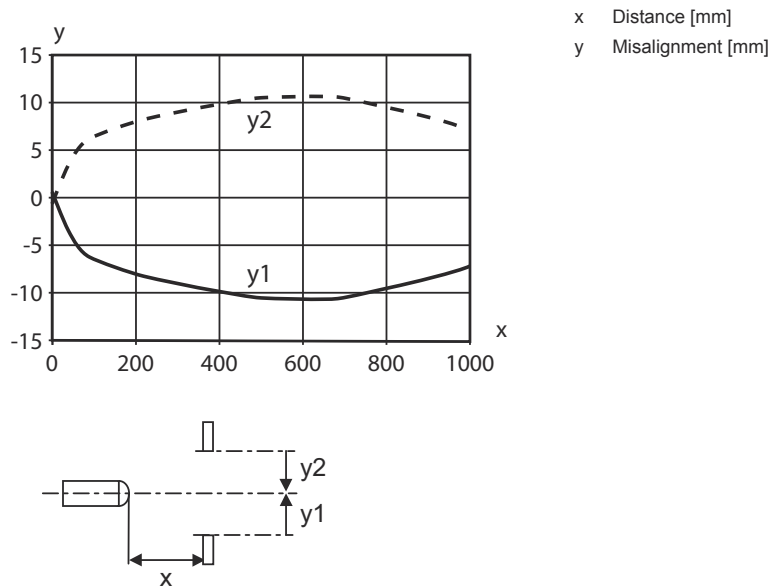
### Classification

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



# Diagrams

Typ. response behavior (white 90 %)



## Operation and display

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

## Part number code


Part designation: AAA46C d EE-f.GG H/i J-K

<b>AAA46C</b>	<b>Operating principle / construction</b> HT46C: diffuse reflection sensor with background suppression LS46C: throughbeam photoelectric sensor transmitter LE46C: throughbeam photoelectric sensor receiver PRK46C: retro-reflective photoelectric sensor with polarization filter RK46C: retro-reflective photoelectric sensor
<b>d</b>	<b>Light type</b> n/a: red light I: infrared light
<b>EE</b>	<b>Light source</b> n/a: LED L1: laser class 1 L2: laser class 2
<b>f</b>	<b>Preset range (optional)</b> n/a: operating range acc. to data sheet xxxF: preset range [mm]
<b>GG</b>	<b>Equipment</b> n/a: standard 1: 270° potentiometer 8: activation input (activation with high signal) 01: diffuse reflection sensor with background suppression (HT): HG tape (HighGain tape) is not detected from a distance of 900 mm with a set operating range of ≤ 450 mm (diffuse reflection: 6%, black) D: depolarizing media E: diffuse reflection sensor with background suppression (HT): optimized for dusty environments SL: diffuse reflection sensor with background suppression (HT): slit diaphragm 25 mm x 3 mm P: throughbeam photoelectric sensor receiver (LE): edge filter for parallel operation L: Light-band XL: extra long light spot



## Part number code

<b>H</b>	<b>Operating range adjustment &amp; version</b> n/a with diffuse reflection sensor with background suppression (HT): range adjustment via mechanical adjusting spindle n/a with retro-reflective photoelectric sensors (PRK): operating range not adjustable 1: retro-reflective photoelectric sensors (PRK/RK): sensitivity adjustment via potentiometer 3: teach-in via button P2: resolution 2 mm
<b>i</b>	<b>Switching output/function OUT 1/IN: Pin 4 or black conductor</b> 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching L: IO-Link
<b>J</b>	<b>Switching output / function OUT 2/IN: pin 2 or white conductor</b> 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching 8: activation input (activation with high signal) 9: deactivation input (deactivation with high signal) W: warning output X: pin not used
<b>K</b>	<b>Electrical connection</b> n/a: cable, standard length 2000 mm, 4-wire 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) M12: M12 connector, 4-pin (plug)


### Note

	<p>↪ A list with all available device types can be found on the Leuze website at</p>
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## Notes

 <b>Observe intended use!</b>	
	<p>↪ This product is not a safety sensor and is not intended as personnel protection.</p> <p>↪ The product may only be put into operation by competent persons.</p> <p>↪ Only use the product in accordance with its intended use.</p>

### For UL applications:


	<p>↪ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</p> <p>↪ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV/ CYJV7 or PVVA/PVVA7)</p>
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## Further information


- Light source: Average life expectancy 100,000h at an ambient temperature of 25 °C

## Accessories

### Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50105315	BT 46	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

### Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50117252	BTU 300M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M4 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

#### Note



A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.