

Technical data sheet

Throughbeam photoelectric sensor receiver set

Part no.: 50144257

SET LE46C4PM12BTU305M25D12





For illustration purposes only

Contents

- Set consists of
- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Further information
- Accessories



Set consists of

	Quantity	Part no.	Designation	Article	Description
 	1	50142989	BTU 305M.25-D12	Mounting system	Special version: Hexagon socket screw head 5 mm Design of mounting device: Mounting system Fastening, at system: Sheet-metal mounting, For 12 mm rod Mounting bracket, at device: Suited for M4 screws, Screw type, Suited for M3 screws Type of mounting device: Turning, 360°, Adjustable, Clampable Material: Metal
	1	50127033	LE46C/4P-M12	Throughbeam photoelectric sensor receiver	Operating range limit: 0 ... 150 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, PNP, Light switching Switching output 2: Transistor, PNP, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin

Technical data

Basic data

Series	46C
Operating principle	Throughbeam principle
Device type	Receiver
Pre-mounted on	Mounting system

Special version

Special version	Article set
-----------------	-------------

Optical data

Operating range	0.5 ... 120 m
Operating range	Guaranteed operating range
Operating range limit	0 ... 150 m
Operating range limit	Typical operating range

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 ... 20 mA

Outputs

Number of digital switching outputs	2 Piece(s)
-------------------------------------	------------

Switching outputs

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

Switching output 1

Assignment	Connection 1, pin 4
Switching element	Transistor, PNP
Switching principle	Light switching

Switching output 2

Assignment	Connection 1, pin 2
Switching element	Transistor, PNP
Switching principle	Dark switching

Time behavior

Switching frequency	500 Hz
Response time	1 ms
Readiness delay	300 ms

Connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

Mechanical data

Dimension (W x H x L)	20.5 mm x 76.3 mm x 44 mm
Housing material	Plastic
Plastic housing	PC-PBT
Lens cover material	Plastic / PMMA
Net weight	60 g
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	3 Piece(s)

Environmental data

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

Technical data

Certifications

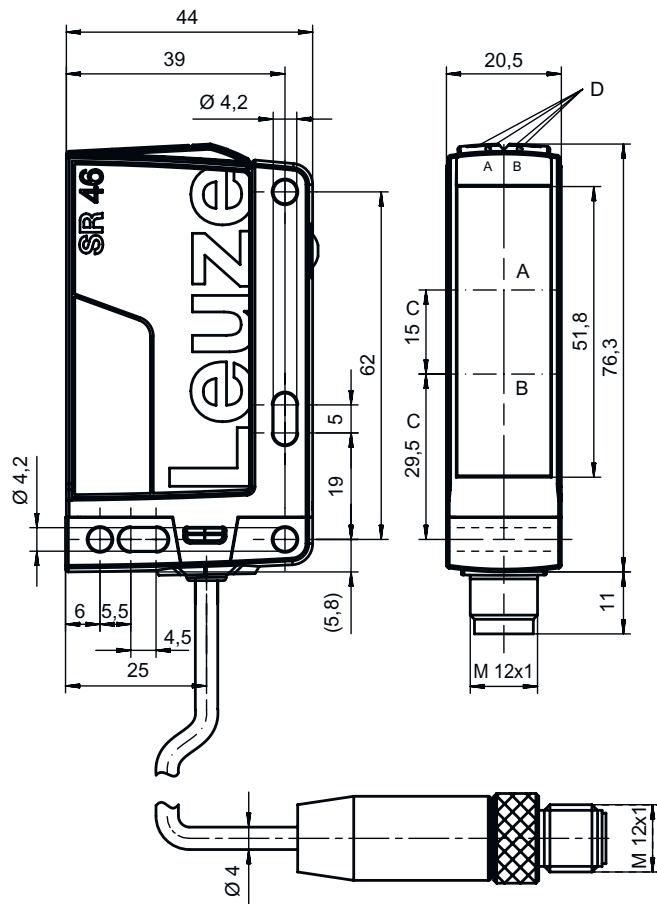
Degree of protection	IP 67
	IP 69K
Protection class	III
Standards applied	IEC 60947-5-2

Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270901
ECLASS 8.0	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ECLASS 13.0	27270901
ECLASS 14.0	27270901
ECLASS 15.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716
ETIM 10.0	EC002716

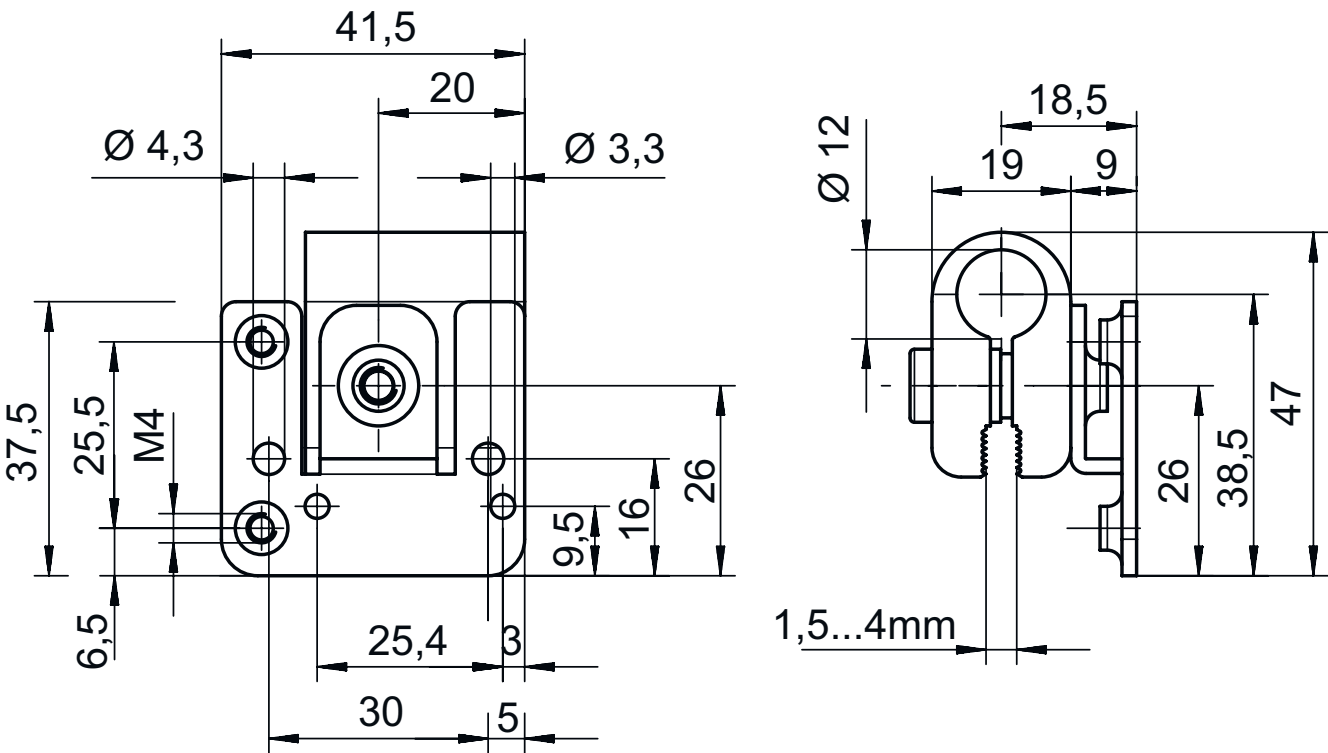
Dimensioned drawings

All dimensions in millimeters



- A Receiver
- B Yellow LED
- C Optical axis
- DA Green LED
- DB Yellow LED

Dimensioned drawings



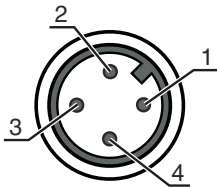
Electrical connection

Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Plastic
No. of pins	4 -pin
Encoding	A-coded

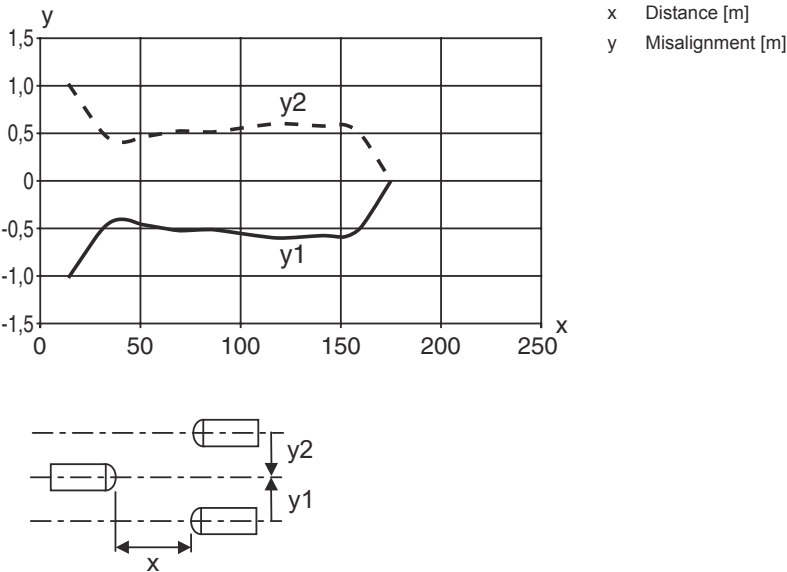
Pin Pin assignment

1	V+
2	OUT 2
3	GND
4	OUT 1



Diagrams

Typ. response behavior



Operation and display

LED	Display	Meaning
1	Green, continuous light	Operational readiness
2	Yellow, continuous light	Light path free
	Yellow, flashing	No function reserve
3	Yellow, continuous light (alignment display behind lens cover)	Light path free
	Yellow, flashing (alignment display behind lens cover)	Light path free, minimum function reserve

Suitable transmitters

	Part no.	Designation	Article	Description
	50144256	SET LS46CM12BTU305M 25D12	Throughbeam photoelectric sensor transmitter set	Pre-mounted with: Mounting system Special version: Article set Operating range limit: 0 ... 150 m Light source: LED, Red Supply voltage: DC Connection: Connector, M12, Plastic, 4 -pin

Part number code

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

AAA46C	Operating principle / construction 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
d	Light type n/a: red light I: infrared light

Part number code

EE	Light source n/a: LED L1: laser class 1 L2: laser class 2
f	Preset range (optional) n/a: operating range acc. to data sheet xxxF: Preset range [mm]
GG	Equipment 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
H	Operating range adjustment & version 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
i	Switching output/function OUT 1/IN: Pin 4 or black conductor 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 G: Push-pull switching output, PNP dark switching, NPN light switching 6: push-pull switching output, PNP light switching, NPN dark switching
J	Switching output / function OUT 2/IN: pin 2 or white conductor 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 G: Push-pull switching output, PNP dark switching, NPN light switching 6: push-pull switching output, PNP light switching, NPN dark switching
K	Electrical connection 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) 500-M12: cable, length 500 mm with M12 connector, 4-pin, axial (plug) 1000-M12: cable, length 1000 mm with M12 connector, 4-pin, axial (plug)

Note



↪ A list with all available device types can be found on the Leuze website at www.leuze.com.

Notes




Observe intended use!



- ↪ This product is not a safety sensor and is not intended as personnel protection.
- ↪ The product may only be put into operation by competent persons.
- ↪ Only use the product in accordance with its intended use.

Notes


For UL applications:	
	<div>⤵ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).</div> <div>⤵ 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)</div>


Further information

- Response time: For short decay times, an ohmic load of approx. 5kOhm is recommended

Accessories

Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50130652	KD U-M12-4A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
	50130690	KD U-M12-4W-V1-050	Connection cable	Connection 1: Connector, M12, Angled, Female, A-coded, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

Note	
	<div>⤵ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.</div>