

Technical data sheet

Throughbeam photoelectric sensor receiver

Part no.: 50116845

LE318B/2N-M12

Contents

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



For illustration purposes only



Technical data

Basic data

| | |
|---------------------|-----------------------|
| Series | 318B |
| Operating principle | Throughbeam principle |
| Device type | Receiver |

Optical data

| | |
|-----------------|-----------------|
| Operating range | see transmitter |
|-----------------|-----------------|

Electrical data

| | |
|--------------------|---|
| Protective circuit | Polarity reversal protection Short circuit protected |
|--------------------|---|

Performance data

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

Outputs

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

Switching outputs

| | |
|-------------------------|---|
| Type | Digital switching output |
| 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, NPN |
| Switching principle | Light switching |

Switching output 2

| | |
|---------------------|---------------------|
| Assignment | Connection 1, pin 2 |
| Switching element | Transistor, NPN |
| Switching principle | Dark switching |

Time behavior

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

Connection

| | |
|-----------------------|------------|
| Number of connections | 1 Piece(s) |
|-----------------------|------------|

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 ($\varnothing \times L$) | 18 mm x 46 mm |
| Thread size | M18 x 1 mm |
| Housing material | Plastic |
| Plastic housing | ABS |
| Lens cover material | Plastic |
| Net weight | 20 g |
| Housing color | Black Red |

Operation and display

| | |
|-----------------|------------|
| Type of display | LED |
| Number of LEDs | 1 Piece(s) |

Environmental data

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

Certifications

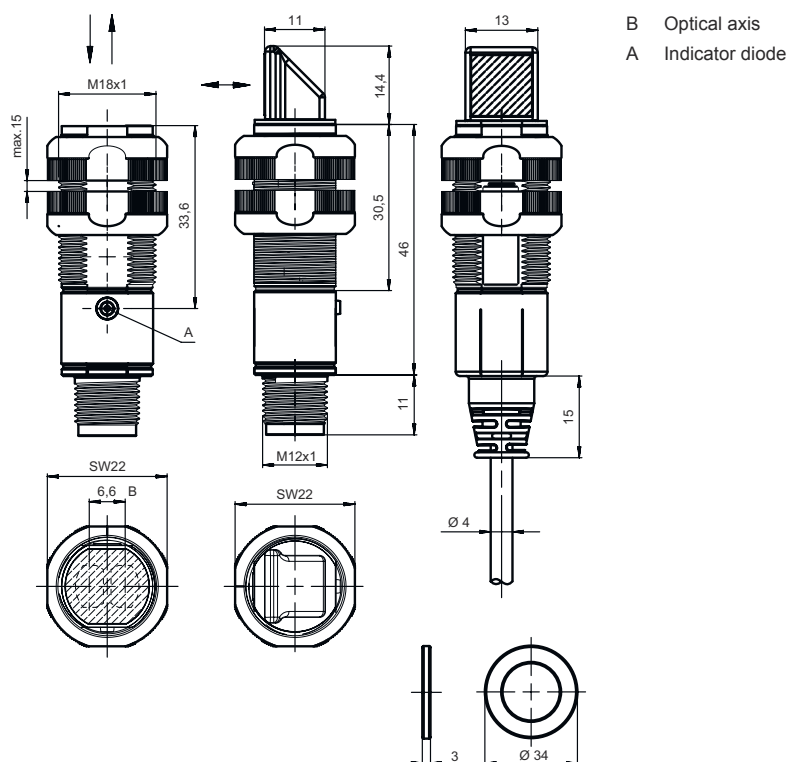
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Approvals | c UL US |
| Standards applied | IEC 60947-5-2 |

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 |
| ECLASS 16.0 | 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 |
| UNSPSC 26.08 | 39121528 |

Dimensioned drawings

All dimensions in millimeters



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 |

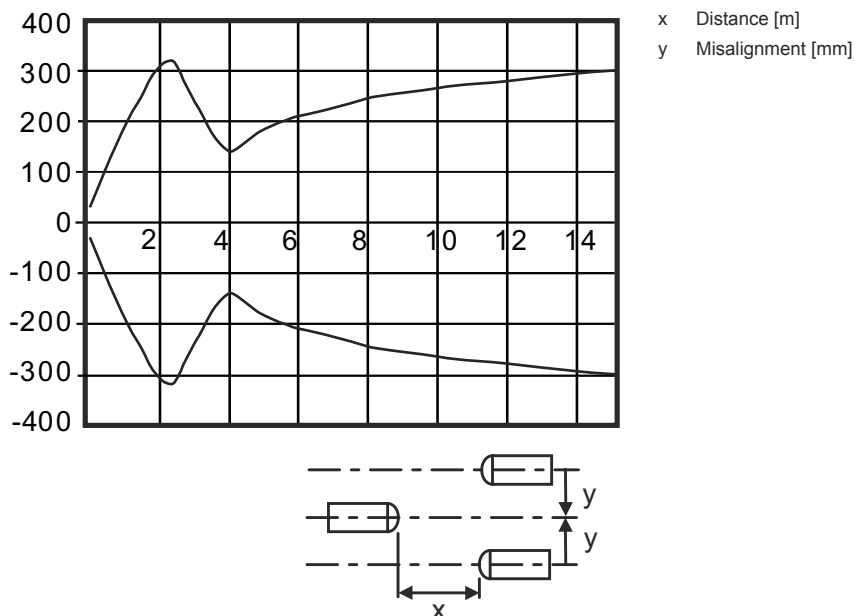
Pin Pin assignment

| 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 |
| | Yellow, continuous light | Light path free |
| | Yellow, flashing | No function reserve |

Suitable transmitters

| | Part no. | Designation | Operating range Operating range limit | Description |
|---|----------|----------------|---|--|
|  | 50126605 | LS318B.Y1 | 0 ... 10 m 0 ... 15 m | Special version: Deactivation input, Small light spot (S) Operating range limit: 0 ... 14.2 m Light source: LED, Red Supply voltage: DC Deactivation inputs: 2 Piece(s) Connection: Connector, M12, Plastic, 4 -pin |
|  | 50116853 | LS318B/9D-M12 | 0 ... 10 m 0 ... 15 m | Special version: Deactivation input Operating range limit: 0 ... 15 m Light source: LED, Red Supply voltage: DC Deactivation inputs: 2 Piece(s) Connection: Connector, M12, Plastic, 4 -pin |
|  | 50129507 | LS318BI/9D-M12 | 0 ... 16 m 0 ... 23 m | Special version: Deactivation input Operating range limit: 0 ... 23 m Light source: LED, Infrared Supply voltage: DC Deactivation inputs: 2 Piece(s) Connection: Connector, M12, Plastic, 4 -pin |

Part number code

Part designation: XXX318BY-AAAF.BB/CC-DDD

| | |
|----------------|--|
| XXX318B | Operating principle PRK: Retro-reflective photoelectric sensor with polarization filter ET: energetic diffuse reflection sensor FT: diffuse reflection sensor with fading LE: Throughbeam photoelectric sensor receiver LS: throughbeam photoelectric sensor transmitter |
| Y | Light type n/a: red light I: infrared light |
| AAAF | Preset range (optional) n/a: operating range acc. to data sheet xxxF: Preset range [mm] |
| BB | Equipment n/a: axial optics W: 90° angular optics 3: teach-in via button X: reinforced fading |
| CC | Switching output / function (OUT1 = pin 4, OUT2 = pin 2): 4: PNP transistor output, light switching P: PNP transistor output, dark switching 2: NPN transistor output, light switching N: NPN transistor output, dark switching 9: input for transmitter deactivation (deactivation with HIGH signal) D: Input for transmitter deactivation (deactivation with LOW signal) X: pin not used |
| DDD | Electrical connection n/a: cable, standard length 2000 mm, 4-wire M12: M12 connector, 4-pin (plug) 5000: cable, standard length 5000 mm, 4-wire 200-M12: cable, length 200 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.

For UL applications:





- ⌘ For UL applications, use is only permitted in Class 2 circuits in accordance with the NEC (National Electric Code).
- ⌘ 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)

Further information


- Sum of the output currents for both outputs, 50 mA for ambient temperatures > 40 °C

Accessories


Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|---|----------|--------------------|------------------|---|
|  | 50130652 | KD U-M12-4A-V1-050 | Connection cable | Application: Chemical resistant 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 | Application: Chemical resistant 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 |



Mounting technology - Mounting brackets

| | Part no. | Designation | Article | Description |
|--|----------|-------------|------------------|--|
|  | 50113548 | BT D18M.5 | Mounting bracket | Diameter, inner: 18 mm 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: Stainless steel |

Mounting technology - Rod mounts

| | Part no. | Designation | Article | Description |
|--|----------|--------------|-----------------|--|
|  | 50117490 | BTU D18M-D12 | Mounting system | Design of mounting device: Mounting system Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal |

Mounting technology - Other

| | Part no. | Designation | Article | Description |
|---|-------------|-------------|-----------|---|
|  | 50117258 | BT 318P-LS | Fastening | Contains: 10x Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable Type of mounting device: Rigid Material: Plastic Shock absorber: No |
|  | 50121904 ** | BT318B-OM | Fastening | Design of mounting device: Mounting clamp Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Swiveling, Adjustable, Turning Material: Plastic Shock absorber: No |

** Included in delivery contents

Accessories

Note



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