



Part no.: 50116853
LS318B/9D-M12
Throughbeam photoelectric sensor
transmitter



Figure can vary

Contents

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

Technical data

| Basic data | |
|-------------------------------|---|
| Series | 318B |
| Operating principle | Throughbeam principle |
| Device type | Transmitter |
| Special design | |
| Special design | Deactivation input |
| Optical data | |
| Operating range | Guaranteed operating range |
| Operating range | 0 ... 10 m |
| Operating range limit | Typical operating range |
| Operating range limit | 0 ... 15 m |
| Light source | LED , Red |
| LED light wavelength | 620 nm |
| LED group | Exempt group (in acc. with EN 62471) |
| Transmitted-signal shape | Pulsed |
| 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 |
| Inputs | |
| Number of deactivation inputs | 2 Piece(s) |
| Deactivation inputs | |
| Deactivation input 1 | |
| Active switching state | Low |
| Deactivation input 2 | |
| Active switching state | High |
| Timing | |
| Readiness delay | 300 ms |
| Connection | |
| Connection 1 | |
| Type of connection | Connector |
| Function | Signal IN Voltage supply |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |
| Encoding | A-coded |
| Mechanical data | |

Part no.: 50116853 – LS318B/9D-M12 – Throughbeam photoelectric sensor

| | |
|---------------------|---------------|
| Thread size | M18 x 1 mm |
| Dimension (Ø x L) | 18 mm x 46 mm |
| Housing material | Plastic , 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

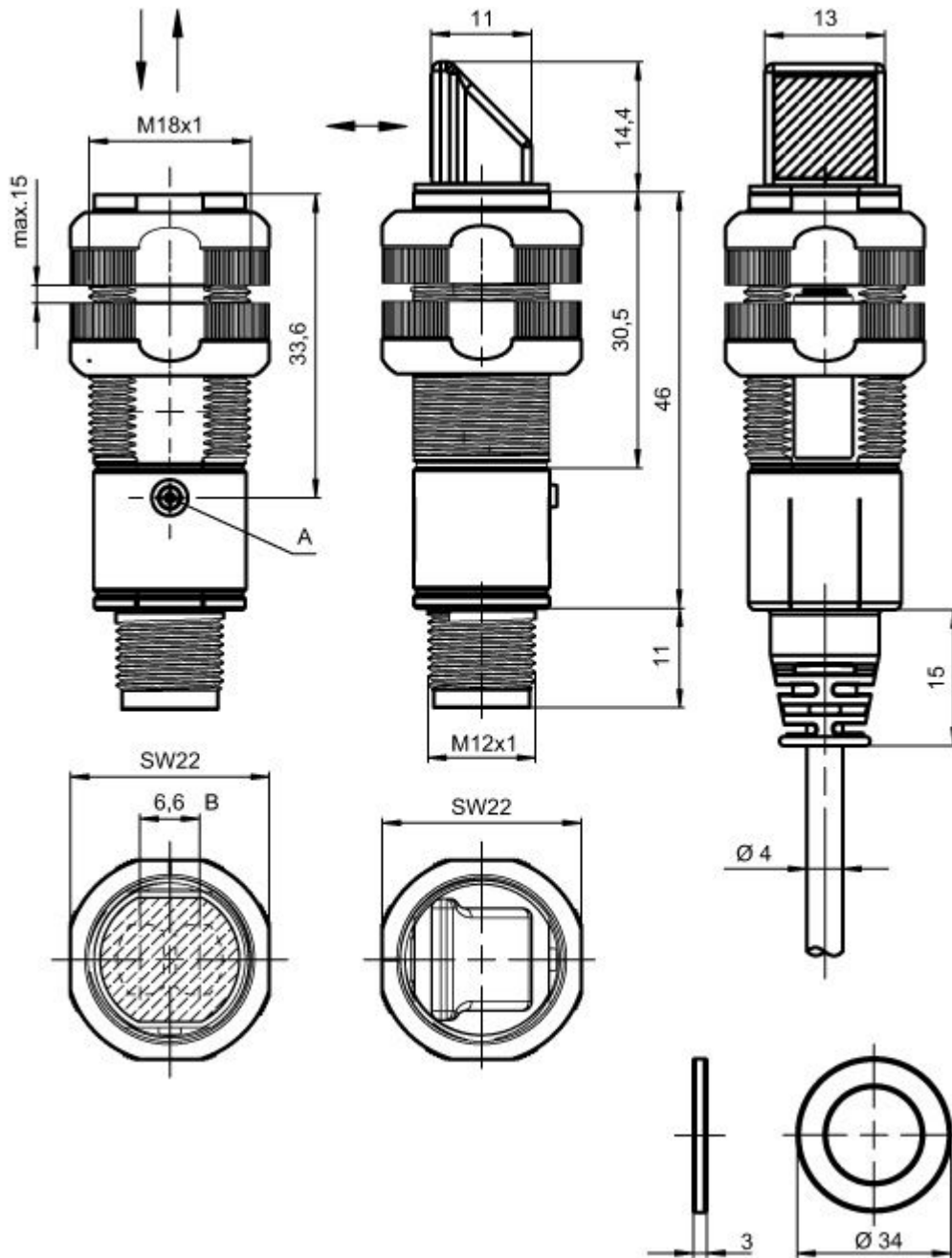
| | |
|----------------------|---------------|
| Degree of protection | IP 67 |
| Protection class | III |
| Certifications | c UL US |
| Standards applied | IEC 60947-5-2 |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 85365019 |
| eCl@ss 8.0 | 27270901 |
| eCl@ss 9.0 | 27270901 |
| ETIM 5.0 | EC002716 |
| ETIM 6.0 | EC002716 |

Dimensioned drawings

All dimensions in millimeters



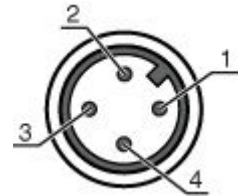
B Optical axis
A Indicator diode

Electrical connection

| Connection 1 | |
|--------------------|-----------------------------|
| Type of connection | Connector |
| Function | Signal IN Voltage supply |
| Thread size | M12 |
| Type | Male |
| Material | Plastic |
| No. of pins | 4 -pin |

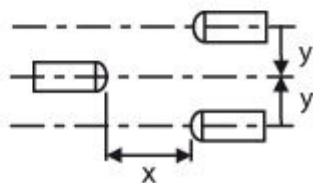
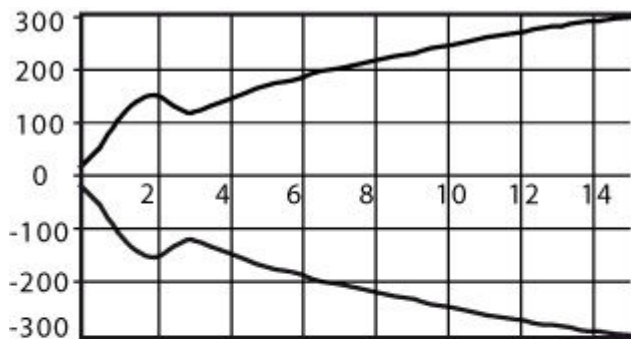
| | |
|---------------------|---------|
| Connection 1 | |
| Encoding | A-coded |

| Pin | Pin assignment |
|-----|----------------|
| 1 | V+ |
| 2 | IN2 |
| 3 | GND |
| 4 | IN1 |



Diagrams

Typ. response behavior






x Distance [m]
y Misalignment [mm]

Operation and display

LEDs

| LED | Display | Meaning |
|-----|--------------------------|-------------------------|
| 1 | Green, continuous light | Operational readiness |
| | Yellow, continuous light | Transmitted beam active |

Suitable receivers

| | Part no. | Designation | Article | Description |
|---|----------|---------------|---|---|
|  | 50116845 | LE318B/2N-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 2 Piece(s) Switching output 1: Transistor, NPN, Light switching Switching output 2: Transistor, NPN, Dark switching Switching frequency: 500 Hz Connection: Connector, M12, Plastic, 4 -pin |
|  | 50116847 | LE318B/4P-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 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 |
|  | 50122549 | LE318B/PX-M12 | Throughbeam photoelectric sensor receiver | Operating range limit: 0 ... 15 m Supply voltage: DC Digital switching outputs: 1 Piece(s) Switching output 1: Transistor, PNP, Dark switching Switching frequency: 500 Hz 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 | Pre-set range (optional): n/a: operating range acc. to data sheet XXXX: pre-set 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 |

Note

A list with all available device types can be found on the Leuze electronic 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)


- 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 | Connection 1: Connector, M12, Axial, Female, A-coded, 4 -pin 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 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 |

Part no.: 50116853 – LS318B/9D-M12 – Throughbeam photoelectric sensor

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 |
|  | 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 |

** Included in delivery contents