



# UFS3-37N517

UFS

**FORK SENSORS**

**SICK**  
Sensor Intelligence.



Illustration may differ

### Ordering information

| Type        | part no. |
|-------------|----------|
| UFS3-37N517 | 6075478  |

Other models and accessories → [www.sick.com/UFS](http://www.sick.com/UFS)



### Detailed technical data

#### Features

|                                        |                                                                                        |
|----------------------------------------|----------------------------------------------------------------------------------------|
| <b>Functional principle</b>            | Ultrasonic detection principle                                                         |
| <b>Dimensions (W x H x D)</b>          | 20 mm x 37.4 mm x 70 mm                                                                |
| <b>Housing design</b>                  | Fork shaped                                                                            |
| <b>Fork width</b>                      | 2.6 mm                                                                                 |
| <b>Fork depth</b>                      | 42.5 mm                                                                                |
| <b>Minimum detectable object (MDO)</b> | Label size: 2 mm <sup>1)</sup><br>Label gap: 1 mm <sup>1)</sup>                        |
| <b>Label detection</b>                 | ✓                                                                                      |
| <b>Adjustment</b>                      | Teach-in button, cable (Teach-in, sensitivity, light/dark switching, Teach-in dynamic) |
| <b>Teach-in mode</b>                   | 1-point teach-in<br>2-point teach-in<br>Teach-in dynamic                               |

<sup>1)</sup> Depends on the label thickness.

#### Interfaces

|                                 |                                                                                                                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IO-Link</b>                  | ✓, V1.1                                                                                                                                                                                                                                                      |
| Data transmission rate          | COM3 (230,4 kBaud)                                                                                                                                                                                                                                           |
| Cycle time                      | 4 ms                                                                                                                                                                                                                                                         |
| VendorID                        | 26                                                                                                                                                                                                                                                           |
| DeviceID HEX                    | 0x8002A6                                                                                                                                                                                                                                                     |
| DeviceID DEC                    | 8389286                                                                                                                                                                                                                                                      |
| Process data length             | 16 Bit                                                                                                                                                                                                                                                       |
| <b>Process data structure A</b> | Bit 0 = switching signal Q <sub>L1</sub><br>Bit 1 = switching signal Q <sub>L2</sub><br>Bit 2 = switching signal Q <sub>Int1</sub><br>Bit 3 = switching signal Q <sub>Int2</sub><br>Bit 4 = alarm QoR<br>Bit 5 = Teach busy<br>Bit 6 ... 15 = measured value |

|                       |                |
|-----------------------|----------------|
| <b>Digital output</b> | Q <sub>1</sub> |
| Number                | 1              |

## Electronics

|                                        |                                                                                                                              |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Supply voltage</b>                  | 10 V DC ... 30 V DC <sup>1)</sup>                                                                                            |
| <b>Ripple</b>                          | < 10 % <sup>2)</sup>                                                                                                         |
| <b>Current consumption</b>             | 50 mA <sup>3)</sup>                                                                                                          |
| <b>Switching frequency</b>             | 1.1 kHz <sup>4)</sup>                                                                                                        |
| <b>Response time</b>                   | ≤ 440 μs <sup>5)</sup>                                                                                                       |
| <b>Jitter</b>                          | 40 μs                                                                                                                        |
| <b>Switching output</b>                | NPN                                                                                                                          |
| <b>Switching output (voltage)</b>      | NPN: HIGH = V <sub>S</sub> / LOW ≤ 3 V                                                                                       |
| <b>Switching mode</b>                  | Light/dark switching                                                                                                         |
| <b>Output current I<sub>max.</sub></b> | 100 mA <sup>6)</sup>                                                                                                         |
| <b>Input, teach-in (ET)</b>            | Teach: U < 2 V; Run: U = 10 V ... < U <sub>V</sub>                                                                           |
| <b>Initialization time</b>             | 100 ms                                                                                                                       |
| <b>Circuit protection</b>              | U <sub>V</sub> connections, reverse polarity protected<br>Output Q short-circuit protected<br>Interference pulse suppression |
| <b>Enclosure rating</b>                | IP65                                                                                                                         |

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> May not fall below or exceed U<sub>V</sub> tolerances.

<sup>3)</sup> Without load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Signal transit time with resistive load.

<sup>6)</sup> Output current minimal 0.03 mA.

## Mechanics

|                         |                                                                                   |
|-------------------------|-----------------------------------------------------------------------------------|
| <b>Housing material</b> | Zamak<br>Glass fiber reinforced plastic                                           |
| <b>Display</b>          | LED indicator green: power on<br>LED indicator, yellow: Status switching output Q |
| <b>Connection type</b>  | Cable with M12 male connector, 4-pin, 0.31 m                                      |
| <b>Cable diameter</b>   | Ø 3.5 mm                                                                          |
| <b>Weight</b>           | Approx. 100 g                                                                     |

## Ambient data

|                                      |                                |
|--------------------------------------|--------------------------------|
| <b>Ambient operating temperature</b> | +5 °C ... +55 °C <sup>1)</sup> |
| <b>Ambient temperature, storage</b>  | -20 °C ... +70 °C              |
| <b>Shock load</b>                    | According to EN 60068-2-27     |
| <b>EMC</b>                           | EN 60947-5-2 <sup>2)</sup>     |
| <b>Protection class</b>              | III <sup>3)</sup>              |

<sup>1)</sup> Do not bend below 0 °C.

<sup>2)</sup> The sensor complies with the Radio Safety Requirements (EMC) for the industrial sector (Radio Safety Class A). It may cause radio interference if used in a residential area.

<sup>3)</sup> Reference voltage DC 50 V.

|             |                              |
|-------------|------------------------------|
| UL File No. | NRKH.E191603 & NRKH7.E191603 |
|-------------|------------------------------|

- <sup>1)</sup> Do not bend below 0 °C.  
<sup>2)</sup> The sensor complies with the Radio Safety Requirements (EMC) for the industrial sector (Radio Safety Class A). It may cause radio interference if used in a residential area.  
<sup>3)</sup> Reference voltage DC 50 V.

Connection type/pinouts

|                          |                                              |
|--------------------------|----------------------------------------------|
| Connection type          | Cable with M12 male connector, 4-pin, 0.31 m |
| Connection type Detail   |                                              |
| Cable diameter           | Ø 3.5 mm                                     |
| Conductor cross section  | 0.14 mm <sup>2</sup>                         |
| Cable material           | PVC                                          |
| Length of cable          | 0.265 m                                      |
| Length of male connector | 4.5 cm                                       |
| Pinouts                  |                                              |
| BN 1                     | + (L+)                                       |
| WH 2                     | MF <sub>In/Out</sub>                         |
| BU 3                     | - (M)                                        |
| BK 4                     | Q/C                                          |

Smart Task

|                 |             |
|-----------------|-------------|
| Smart Task name | Base logics |
|-----------------|-------------|

Certificates

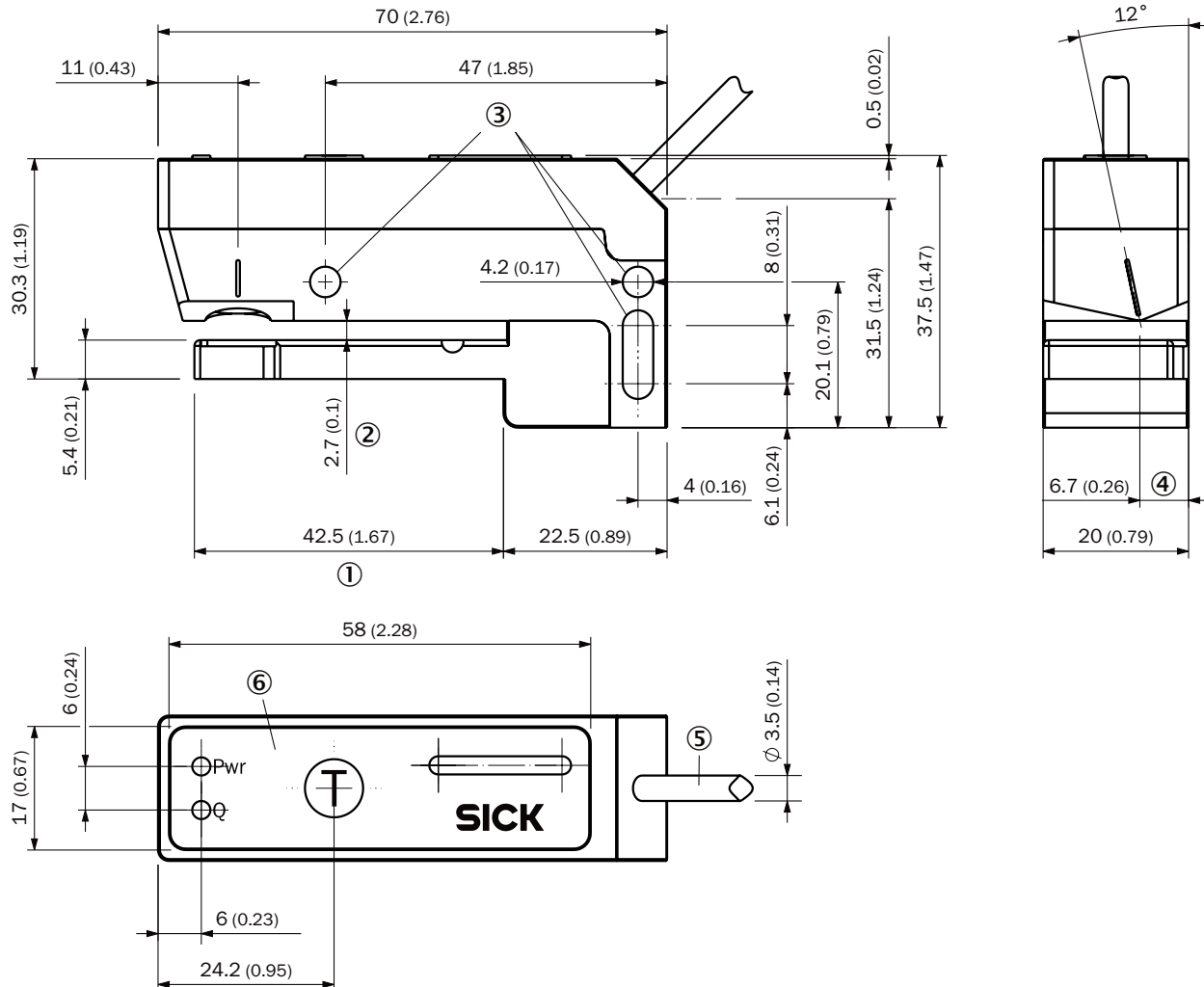
|                                                                       |   |
|-----------------------------------------------------------------------|---|
| EU declaration of conformity                                          | ✓ |
| UK declaration of conformity                                          | ✓ |
| ACMA declaration of conformity                                        | ✓ |
| Moroccan declaration of conformity                                    | ✓ |
| China RoHS                                                            | ✓ |
| cULus certificate                                                     | ✓ |
| IO-Link                                                               | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

Classifications

|              |          |
|--------------|----------|
| ECLASS 5.0   | 27270909 |
| ECLASS 5.1.4 | 27270909 |
| ECLASS 6.0   | 27270909 |
| ECLASS 6.2   | 27270909 |
| ECLASS 7.0   | 27270909 |
| ECLASS 8.0   | 27270909 |
| ECLASS 8.1   | 27270909 |
| ECLASS 9.0   | 27270909 |
| ECLASS 10.0  | 27270909 |
| ECLASS 11.0  | 27270909 |
| ECLASS 12.0  | 27270909 |

|                       |          |
|-----------------------|----------|
| <b>ETIM 5.0</b>       | EC002720 |
| <b>ETIM 6.0</b>       | EC002720 |
| <b>ETIM 7.0</b>       | EC002720 |
| <b>ETIM 8.0</b>       | EC002720 |
| <b>UNSPSC 16.0901</b> | 39121528 |

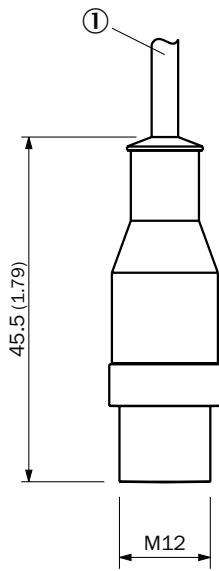
## Dimensional drawing, sensor



Dimensions in mm (inch)

- ① Fork depth
- ② Fork width
- ③ fixing hole
- ④ Detection axis
- ⑤ connection (see technical data for length of cable)
- ⑥ display and adjustment elements

### dimensional drawing, connection type

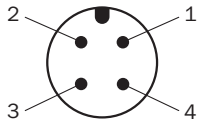


Dimensions in mm (inch)

Cable with M12 male connector

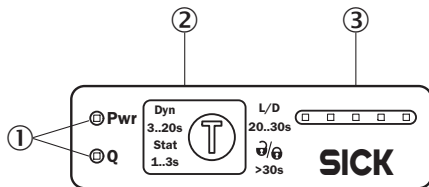
① connection (see technical data for length of cable)

### Pinouts, see table Technical data: Connection type/pinouts



M12 male connector, 4-pin, A-coding

### display and adjustment elements



① LEDs (status display)

② Teach-in button

③ Bar graph

## Recommended accessories

Other models and accessories → [www.sick.com/UFS](http://www.sick.com/UFS)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                       | Type                              | part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> WFS mounting rod, straight, including 2 x fixing screws</li> <li><b>Material:</b> Steel</li> <li><b>Details:</b> Aluminum</li> </ul>                                                                                                                                                                                                                         | BEF-M12GF-A                       | 2059414  |
| network devices                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |          |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                         | IOLA2US-01101<br>(SiLink2 Master) | 1061790  |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                         | SIG350-0004AP100                  | 6076871  |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                         | SIG350-0005AP100                  | 6076923  |
|  |                                                                                                                                                                                                                                                                                                                                                                                                                         | SIG350-0006AP100                  | 6076924  |
| connectors and cables                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                         |                                   |          |
|  | <ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 4-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 4-wire, PVC</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Zones with chemicals, Uncontaminated zones</li> </ul> | YF2A14-050VB3XLEAX                | 2096235  |

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

**For us, that is “Sensor Intelligence.”**

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)