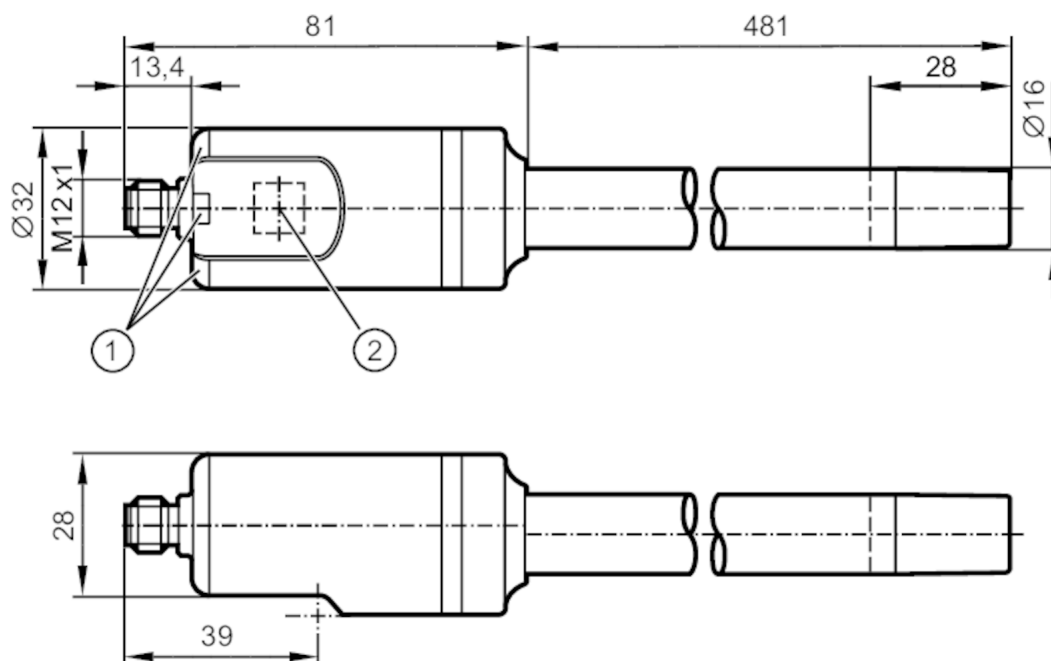


# LI2133



## Sensor for point level detection

LI0481--K-00KQPKG/US/WHG



- 1 LEDs  
2 inductive programming button



### Product characteristics

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
| Factory setting              | oils; oil-based media        |
| Probe length L [mm]          | 481                          |

### Application

|                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|
| System                            | gold-plated contacts                                                              |
| Media                             | Liquids                                                                           |
| Dielectric constant of the medium | > 1,8                                                                             |
| Recommended media                 | water; water-based media; oils; oil-based media                                   |
| Cannot be used for                | See operating instructions, chapter "Intended use".                               |
| Medium temperature [°C]           | -25...85; (Applications according to the German Federal Water Act (WHG) 0...85°C) |
| Pressure rating                   | 0.5 bar 0.05 MPa                                                                  |
| Vacuum resistance [mbar]          | -500                                                                              |

### Electrical data

|                             |                                    |
|-----------------------------|------------------------------------|
| Operating voltage [V]       | 9.6...35 DC; (IO-Link: 18...30 DC) |
| Current consumption [mA]    | < 15                               |
| Protection class            | III                                |
| Reverse polarity protection | yes                                |
| Power-on delay time [s]     | < 1                                |
| Measuring principle         | capacitive                         |

### Inputs / outputs

|                              |                              |
|------------------------------|------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2 |
|------------------------------|------------------------------|



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| Outputs                                              |                                                                                            |                                        |
|------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------|
| Total number of outputs                              | 2                                                                                          |                                        |
| Output signal                                        | switching signal; IO-Link                                                                  |                                        |
| Electrical design                                    | PNP/NPN                                                                                    |                                        |
| Number of digital outputs                            | 2                                                                                          |                                        |
| Output function                                      | OUT-OP                                                                                     | normally closed                        |
|                                                      | OUT2                                                                                       | normally open / closed; (configurable) |
| Max. voltage drop switching output DC [V]            | 2.5                                                                                        |                                        |
| Permanent current rating of switching output DC [mA] | 100                                                                                        |                                        |
| Short-circuit protection                             | yes                                                                                        |                                        |
| Type of short-circuit protection                     | yes (non-latching)                                                                         |                                        |
| Overload protection                                  | yes                                                                                        |                                        |
| Measuring/setting range                              |                                                                                            |                                        |
| Factory setting                                      | oils; oil-based media                                                                      |                                        |
| Probe length L [mm]                                  | 481                                                                                        |                                        |
| Active range A [mm]                                  | 28                                                                                         |                                        |
| Temperature measurement                              |                                                                                            |                                        |
| Measuring range [°C]                                 | -25...85                                                                                   |                                        |
| Accuracy / deviations                                |                                                                                            |                                        |
| Temperature measurement                              |                                                                                            |                                        |
| Accuracy [K]                                         | 1,5                                                                                        |                                        |
| Resolution [K]                                       | 0.1                                                                                        |                                        |
| Dynamic response T09 [s]                             | 240                                                                                        |                                        |
| Reaction times                                       |                                                                                            |                                        |
| Response time [s]                                    | < 0.3                                                                                      |                                        |
| Interfaces                                           |                                                                                            |                                        |
| Communication interface                              | IO-Link                                                                                    |                                        |
| Unterstützte Masterportklasse                        | A                                                                                          |                                        |
| Transmission type                                    | COM2 (38,4 kBaud)                                                                          |                                        |
| IO-Link revision                                     | 1.1                                                                                        |                                        |
| SDCI standard                                        | IEC 61131-9                                                                                |                                        |
| Profiles                                             | Smart Sensor ED2: Identification and Diagnosis (0x4000), Measurement Data Channel (0x800A) |                                        |
| SIO mode                                             | yes                                                                                        |                                        |
| Process data analog                                  | 5                                                                                          |                                        |
| Process data binary                                  | 2                                                                                          |                                        |
| Min. process cycle time [ms]                         | 4.5                                                                                        |                                        |
| Supported DeviceIDs                                  | Type of operation                                                                          | DeviceID                               |
|                                                      | default                                                                                    | 634                                    |
| Operating conditions                                 |                                                                                            |                                        |
| Ambient temperature [°C]                             | -25...85                                                                                   |                                        |

LI2133



Sensor for point level detection

LI0481--K-00KQPKG/US/WHG

|                     |                                                            |          |
|---------------------|------------------------------------------------------------|----------|
| Storage temperature | [°C]                                                       | -25...85 |
| Protection          | IP 68; IP 69K; (7 days / 3 m water depth / 0.3 bar: IP 68) |          |

Tests / approvals

|                      |                                                                                  |                                |
|----------------------|----------------------------------------------------------------------------------|--------------------------------|
| Approval             | WHG; General building authority approval; overflow prevention; leakage detection |                                |
| EMC                  | DIN EN 61000-6-2                                                                 |                                |
|                      | DIN EN 61000-6-3                                                                 | in a closed metal tank         |
|                      | DIN EN 61000-6-4                                                                 | in plastic or open metal tanks |
| Shock resistance     | DIN EN 60068-2-27                                                                | 12 g (11 ms)                   |
| Vibration resistance | DIN EN 60068-2-6                                                                 | 5 g (10...2000 Hz)             |
| MTTF                 | [years]                                                                          | 433                            |

Mechanical data

|                          |                     |       |
|--------------------------|---------------------|-------|
| Weight                   | [g]                 | 408.6 |
| Material                 | PP fiber-reinforced |       |
| Materials (wetted parts) | PP                  |       |
| Probe diameter           | [mm]                | 16    |

Displays / operating elements

|                    |                              |             |
|--------------------|------------------------------|-------------|
| Display            | Power                        | LED, green  |
|                    | Switching status             | LED, yellow |
| Operating elements | inductive programming button |             |

Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

Electrical connection

Connector: 1 x M12; coding: A; Contacts: gold-plated



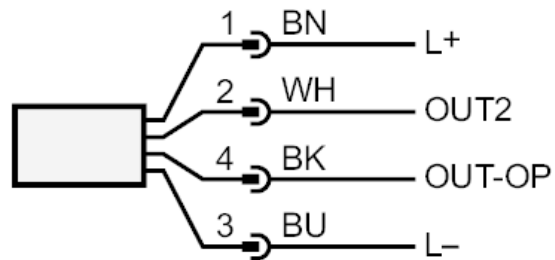
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## Sensor for point level detection

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### Connection



OUT-OP : IO-Link  
Switching output overflow prevention to the German Federal Water Act (WHG)  
Switching output leakage detection to WHG (German Federal Water Act)

OUT2 : Switching output Level  
Switching output temperature