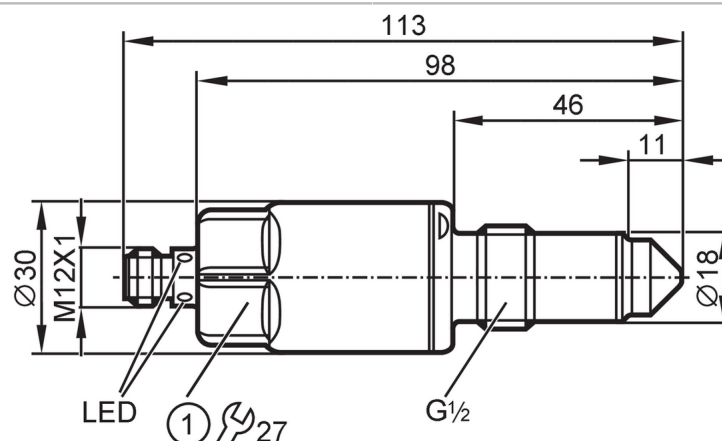


# LMT191



## Level sensor for limit detection with overspill protection (German Federal Water Act)

LMACE-A12E-QPKG-2/US



1 Tightening torque 20...25 Nm



EC 1935/2004

IO-Link

KTW/W270



### Product characteristics

|                              |                                        |
|------------------------------|----------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 2           |
| Factory setting              | water-based media                      |
| Process connection           | threaded connection G 1/2 sealing cone |

### Application

|                    |                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------|
| Special feature    | gold-plated contacts                                                                        |
| Media              | Liquids                                                                                     |
| Recommended media  | water; water-based media; oils; oil-based media                                             |
| Cannot be used for | See the operating instructions, chapter "Function and features".                            |
| Probe length [mm]  | 11                                                                                          |
| Tank pressure      | -1...40; (Applications according to the German Federal Water Act (WHG): -0,5...10 bar) bar  |
|                    | -0.1...4; (Applications according to the German Federal Water Act (WHG): -0,5...10 bar) MPa |

### Oil

|                                    |                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------|
| Medium temperature [°C]            | -40...100; (Applications according to the German Federal Water Act (WHG) 0...100 °C)       |
| Medium temperature short time [°C] | -40...150; (1 h; Applications according to the German Federal Water Act (WHG): 0...100 °C) |

### Water

|                                    |                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------|
| Medium temperature [°C]            | -40...85; (Applications according to the German Federal Water Act (WHG): 0...85 °C)        |
| Medium temperature short time [°C] | -40...150; (1 h; Applications according to the German Federal Water Act (WHG): 0...100 °C) |

### Electrical data

|                             |            |
|-----------------------------|------------|
| Operating voltage [V]       | 18...30 DC |
| Current consumption [mA]    | < 50       |
| Protection class            | III        |
| Reverse polarity protection | yes        |
| 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                                                           |                     |
| Number of digital outputs                            | 2                                                             |                     |
| 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                                      | water-based media                                             |                     |
| Reaction times                                       |                                                               |                     |
| Response time [s]                                    | < 0.5                                                         |                     |
| Interfaces                                           |                                                               |                     |
| Communication interface                              | IO-Link                                                       |                     |
| Transmission type                                    | COM2 (38,4 kBaud)                                             |                     |
| IO-Link revision                                     | 1.1                                                           |                     |
| SDCI standard                                        | IEC 61131-9                                                   |                     |
| SIO mode                                             | yes                                                           |                     |
| Required master port class                           | A                                                             |                     |
| Process data analog                                  | 1                                                             |                     |
| Process data binary                                  | 2                                                             |                     |
| Min. process cycle time [ms]                         | 2.3                                                           |                     |
| Supported DeviceIDs                                  | Type of operation                                             | DeviceID            |
|                                                      | default                                                       | 449                 |
| Operating conditions                                 |                                                               |                     |
| Ambient temperature [°C]                             | -40...85                                                      |                     |
| Note on ambient temperature                          | Medium temperature 100...150 °C                               |                     |
|                                                      | -40...60 °C                                                   |                     |
| Storage temperature [°C]                             | -40...85                                                      |                     |
| Protection                                           | IP 68; IP 69K                                                 |                     |
| Tests / approvals                                    |                                                               |                     |
| Approval                                             | WHG; General building authority approval; overflow prevention |                     |
| EMC                                                  | DIN EN 61000-6-2                                              |                     |
|                                                      | DIN EN 61000-6-4                                              | open tanks          |
|                                                      | DIN EN 61000-6-3                                              | closed tanks        |
| Shock resistance                                     | DIN EN 60068-2-27                                             | 50 g (11 ms)        |
| Vibration resistance                                 | DIN EN 60068-2-6                                              | 20 g (10...2000 Hz) |
| MTTF [years]                                         | 223.21                                                        |                     |
| UL approval                                          | UL approval number                                            | H001                |

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| Mechanical data          |      |                                                       |
|--------------------------|------|-------------------------------------------------------|
| Weight                   | [g]  | 217                                                   |
| Dimensions               | [mm] | Ø 30 / L = 113                                        |
| Material                 |      | stainless steel (1.4404 / 316L); PEEK; PEI; FKM       |
| Materials (wetted parts) |      | PEEK surface characteristics: Ra < 0,8 µm / Rz = 4 µm |
| Process connection       |      | threaded connection G 1/2 sealing cone                |

| Displays / operating elements |                  |             |
|-------------------------------|------------------|-------------|
| Display                       | Switching status | LED, yellow |
|                               | operating status | LED, green  |

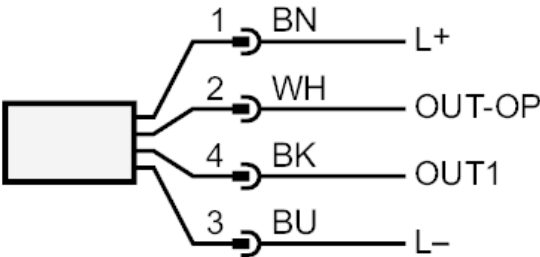
| Remarks       |        |
|---------------|--------|
| Pack quantity | 1 pcs. |

Electrical connection

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



Connection



|        |                                                                            |
|--------|----------------------------------------------------------------------------|
| OUT1:  | Switching output                                                           |
| OUT-OP | Switching output overflow prevention to the German Federal Water Act (WHG) |
|        | Colors to DIN EN 60947-5-2                                                 |
|        | Core colors :                                                              |
| BK =   | black                                                                      |
| BN =   | brown                                                                      |
| BU =   | blue                                                                       |
| WH =   | white                                                                      |