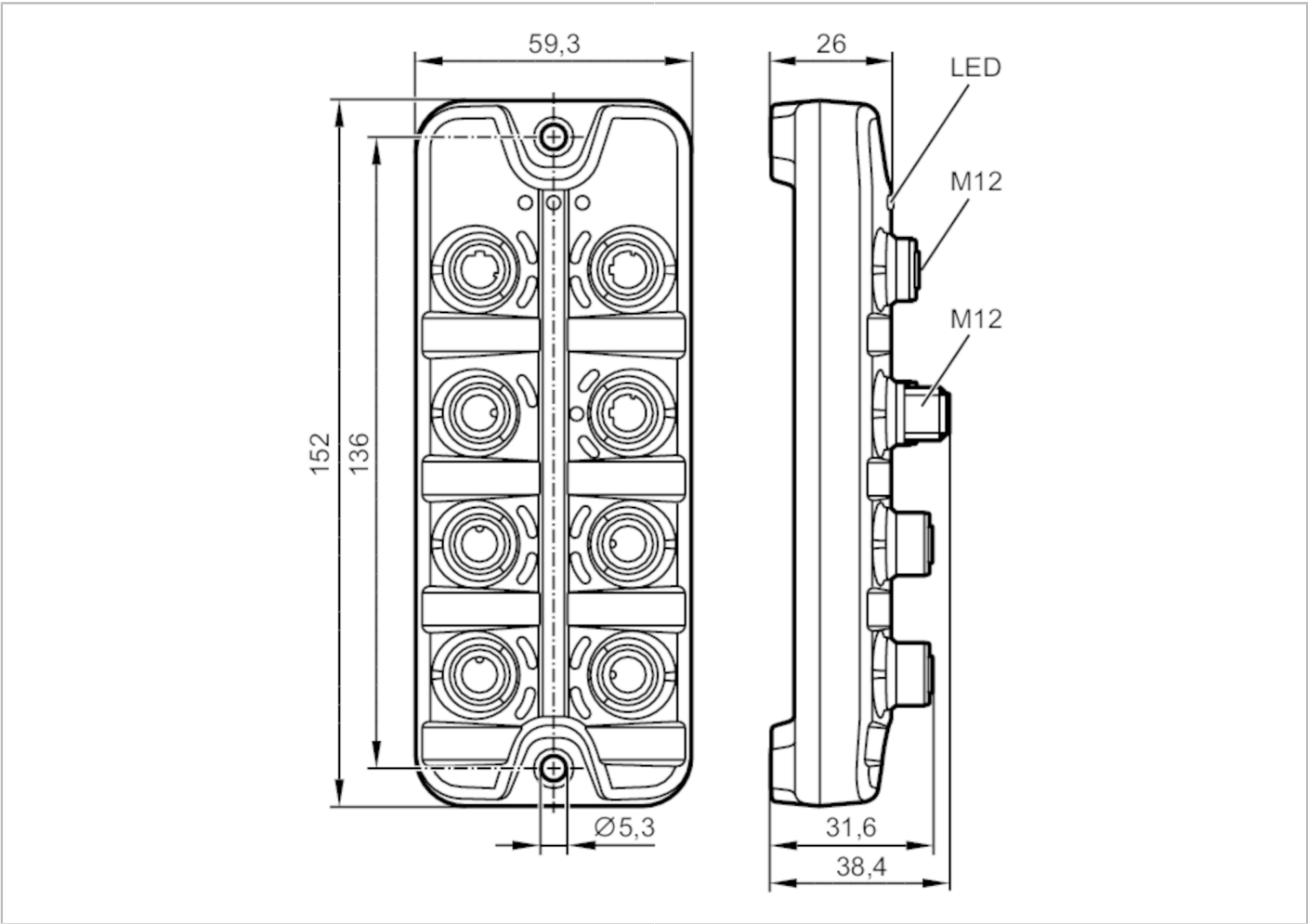


# AL1331



## IO-Link master with EtherCAT interface

IO-Link Master DL EC 4P IP69K



| Application                        |                                                           |
|------------------------------------|-----------------------------------------------------------|
| Application                        | hygienic systems; I/O modules for field applications      |
| Daisy-chain function               | fieldbus interface                                        |
| Electrical data                    |                                                           |
| Operating voltage [V]              | 20...28 DC; (US; to SELV/PELV)                            |
| Current consumption [mA]           | 300...3900; (US)                                          |
| Protection class                   | III                                                       |
| sensor supply US                   |                                                           |
| Max. current load total [A]        | 3.6                                                       |
| Inputs / outputs                   |                                                           |
| Total number of inputs and outputs | 8; (configurable)                                         |
| Number of inputs and outputs       | Number of digital inputs: 8; Number of digital outputs: 4 |



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| Inputs                                          |                           |                                                                                       |
|-------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------|
| Number of digital inputs                        |                           | 8; (IO-Link Port Class A: 4 x 2)                                                      |
| Switching level high                            | [V]                       | 11...28                                                                               |
| Switching level low                             | [V]                       | 0...5                                                                                 |
| Digital inputs protected against short circuits |                           | yes                                                                                   |
| Outputs                                         |                           |                                                                                       |
| Number of digital outputs                       |                           | 4; (IO-Link Port Class A: 4 x 1)                                                      |
| Max. current load per output                    | [mA]                      | 200                                                                                   |
| Short-circuit proof                             |                           | yes                                                                                   |
| Interfaces                                      |                           |                                                                                       |
| Communication interface                         |                           | Ethernet; IO-Link                                                                     |
| Ethernet - EtherCAT                             |                           |                                                                                       |
| Transmission standard                           |                           | 10Base-T; 100Base-TX                                                                  |
| Transmission rate                               |                           | 10; 100                                                                               |
| Protocol                                        |                           | EtherCAT                                                                              |
| Factory settings                                |                           | MAC address: see type label                                                           |
| Ethernet - Internet of Things                   |                           |                                                                                       |
| Transmission standard                           |                           | 10Base-T; 100Base-TX                                                                  |
| Transmission rate                               |                           | 10; 100                                                                               |
| Protocol                                        |                           | TCP/IP JSON                                                                           |
| Factory settings                                |                           | IP address: 169.254.x.x                                                               |
|                                                 |                           | subnet mask: 255.255.0.0                                                              |
|                                                 |                           | gateway IP address: 0.0.0.0                                                           |
|                                                 |                           | MAC address: see type label                                                           |
| IO-Link Master                                  |                           |                                                                                       |
| Transmission type                               |                           | COM 1 / COM 2 / COM 3                                                                 |
| IO-Link revision                                |                           | 1.1                                                                                   |
| Number of ports class A                         |                           | 4                                                                                     |
| Operating conditions                            |                           |                                                                                       |
| Ambient temperature                             | [°C]                      | -25...60                                                                              |
| Storage temperature                             | [°C]                      | -25...85                                                                              |
| Max. relative air humidity                      | [%]                       | 90                                                                                    |
| Protection                                      |                           | IP 65; IP 66; IP 67; IP 69K; (operation with stainless steel protective caps: IP 69K) |
| Degree of soiling                               |                           | 2                                                                                     |
| Tests / approvals                               |                           |                                                                                       |
| EMC                                             | EN 61000-6-2              |                                                                                       |
|                                                 | EN 61000-6-4              |                                                                                       |
| Shock resistance                                | DIN EN 60068-2-27         |                                                                                       |
| Vibration resistance                            | DIN EN 60068-2-64 2009-04 |                                                                                       |
|                                                 | DIN EN 60068-2-6 2008-10  |                                                                                       |
| MTTF                                            | [years]                   | 90                                                                                    |

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### Mechanical data

|           |                                                           |       |
|-----------|-----------------------------------------------------------|-------|
| Weight    | [g]                                                       | 282.8 |
| Materials | housing: PA grey; socket: stainless steel (1.4404 / 316L) |       |

### Accessories

|                        |                                                  |
|------------------------|--------------------------------------------------|
| Accessories (supplied) | Protective cap: 1 x M12, stainless steel, E12542 |
|------------------------|--------------------------------------------------|

### Remarks

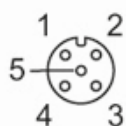
|               |                                                                |
|---------------|----------------------------------------------------------------|
| Remarks       | For further information please see the operating instructions. |
| Pack quantity | 1 pcs.                                                         |

### Electrical connection - Process connection

#### IO-Link Port Class A X01...X04

|   |                          |
|---|--------------------------|
| 1 | Sensorversorgung (US) L+ |
| 2 | digital input            |
| 3 | Sensorversorgung (US) L- |
| 4 | C/Q IO-Link              |
| 5 | not used                 |

Connector: M12



### Electrical connection - voltage supply

#### X31

|   |                |
|---|----------------|
| 1 | + 24 V DC (US) |
| 2 | not used       |
| 3 | GND (US)       |
| 4 | not used       |

Connector: M12





## IO-Link master with EtherCAT interface

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### Electrical connection - Ethernet

#### EtherCAT X21, X22

|   |          |
|---|----------|
| 1 | TX +     |
| 2 | RX +     |
| 3 | TX -     |
| 4 | RX -     |
| 5 | not used |

#### IoT X23

|   |          |
|---|----------|
| 1 | TX +     |
| 2 | RX +     |
| 3 | TX -     |
| 4 | RX -     |
| 5 | not used |

Connector: M12

