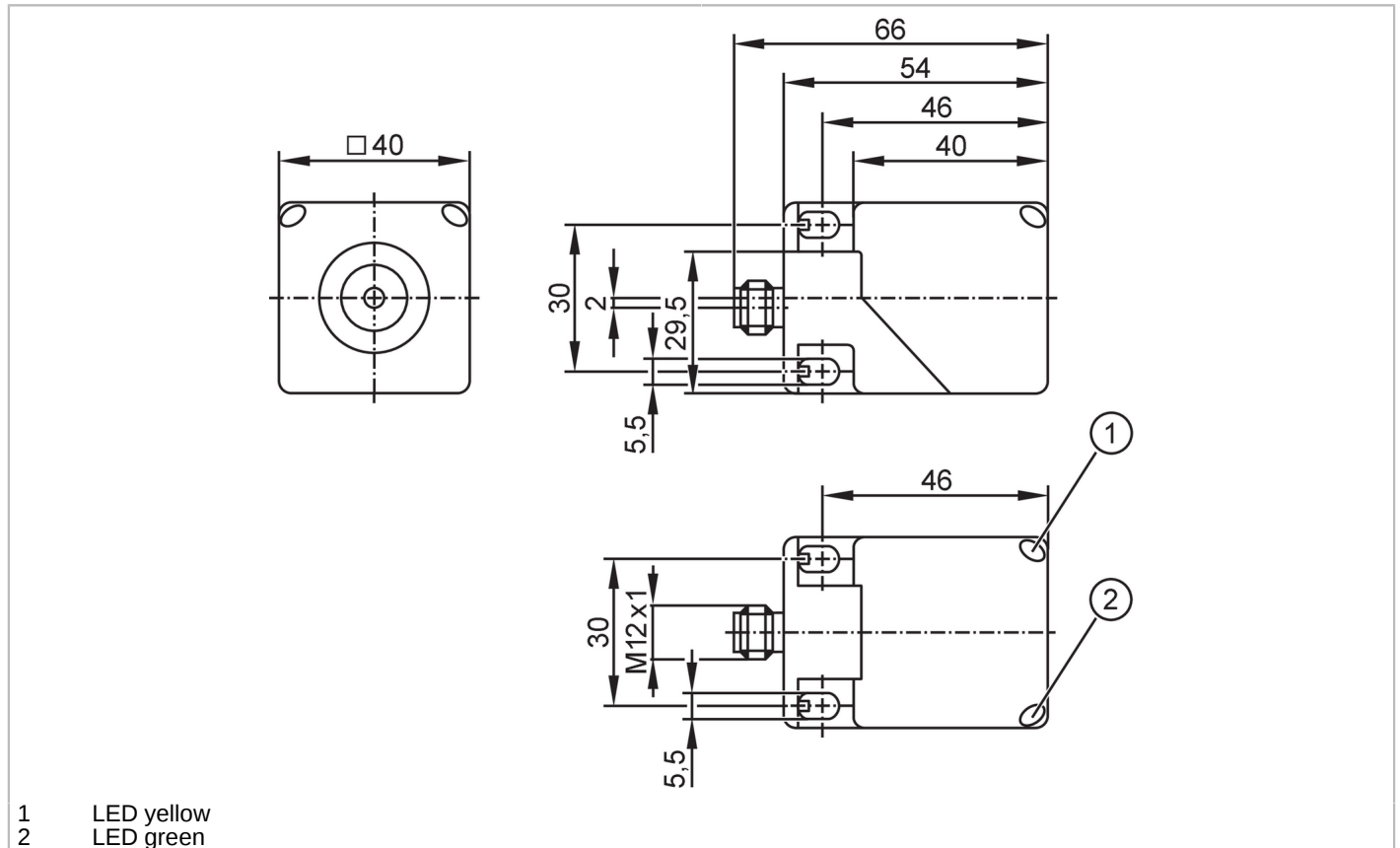


# IM5140



## Inductive analog sensor with IO-Link

IMC4015A2PKG/IO/US



| Product characteristics                              |  |
|--|--|
| Electrical design                                    | PNP/NPN; (configurable)  |
| Output function                                      | normally open / closed; (configurable)   |
| Communication interface                              | IO-Link  |
| Housing  | rectangular  |
| Dimensions [mm]                                      | 40 x 40 x 54   |
| Electrical data                                      |  |
| Operating voltage [V]                                | 15...30 DC   |
| Current consumption [mA]                             | < 33   |
| Protection class                                     | II   |
| Reverse polarity protection                          | yes  |
| Outputs  |  |
| Electrical design                                    | PNP/NPN; (configurable)  |
| Output function                                      | normally open / closed; (configurable)   |
| Max. voltage drop switching output DC [V]            | 2.5  |
| Permanent current rating of switching output DC [mA] | 100  |
| Switching frequency DC [Hz]                          | 100  |
| Analog voltage output [V]                            | 0...10; (linear; gradient: 0,714 V/mm; for frontal approach and for target made of mild steel: 45 x 45 x 1 mm) |

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|                                  |                              |  |
|----------------------------------|------------------------------|--|
| Min. load resistance             | [Ω]                          | 2000   |
| Short-circuit protection         |                              | yes  |
| Overload protection              |                              | yes  |
| <b>Monitoring range</b>          |                              |  |
| Measuring range                  | [mm]                         | 1...15   |
| Switch point IO-Link             | [mm]                         | 2.37...13.99   |
| <b>Accuracy / deviations</b>     |                              |  |
| Correction factor                |                              | steel: 1 / stainless steel: 0.9 / brass: 0.4 / aluminum: 0.4 / copper: 0.3   |
| Hysteresis                       | [% of Sr]                    | 3...15   |
| Note on hysteresis               |                              | configurable   |
| Linearity error of analog output | [%]                          | ± 2; (of the final value of the measuring range)   |
| Repeatability analog output      | [%]                          | ± 2; (of the final value of the measuring range)   |
| Temperature coefficient          | [%/K vom MEW]                | ±0,15  |
| Temperature drift                |                              | ± 5 %; (of the final value of the measuring range)   |
| <b>Reaction times</b>            |                              |  |
| Response time                    | [ms]                         | < 20   |
| <b>Interfaces</b>                |                              |  |
| Communication interface          |                              | IO-Link  |
| Transmission type                |                              | COM2 (38,4 kBaud)  |
| IO-Link revision                 |                              | 1.1  |
| SDCI standard                    |                              | IEC 61131-9  |
| Profiles                         | Smart Sensor - SSP 0         | Generic Profiled Sensor  |
|                                  | Common - I&D                 | Identification and Diagnosis   |
|                                  | Function                     | Multiple switching signal  |
|                                  | Function                     | Teach channel  |
| SIO mode                         |                              | yes  |
| Required master port class       |                              | A  |
| Min. process cycle time          | [ms]                         | 3.2  |
| IO-Link process data (cyclical)  | <b>Function</b>              | <b>bit length</b>  |
|                                  | process value                | 16   |
|                                  | device status                | 4  |
|                                  | binary switching information | 2  |
| IO-Link functions (acyclical)    |                              | switching cycles counter; switch-on cycle counter; operating hours counter; internal temperature; application specific tag |
| Supported DeviceIDs              | <b>Type of operation</b>     | <b>DeviceID</b>  |
|                                  | default                      | 1206   |
| Note                             |                              | For further information please see the IODD PDF file at "Downloads"  |
| <b>Operating conditions</b>      |                              |  |
| Ambient temperature              | [°C]                         | -25...80   |
| Protection                       |                              | IP 67  |

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| Tests / approvals          |                           |                         |
|----------------------------|---------------------------|-------------------------|
| EMC                        | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD       |
|                            | EN 61000-4-3 HF radiated  | 10 V/m                  |
|                            | EN 61000-4-4 Burst        | 2 kV                    |
|                            | EN 61000-4-6 HF conducted | 10 V                    |
|                            | EN 55011                  | class B                 |
| MTTF [years]               |                           | 230                     |
| Embedded software included |                           | yes                     |
| UL approval                | Ta                        | -25...70 °C             |
|                            | Enclosure type            | Type 1                  |
|                            | voltage supply            | Limited Voltage/Current |
|                            | UL approval number        | A026                    |
|                            | File number UL            | E174191                 |

| Mechanical data |  |                               |
|-----------------|--|-------------------------------|
| Weight [g]      |  | 152.5                         |
| Housing         |  | rectangular                   |
| Sensing face    |  | 5 positions selectable        |
| Mounting        |  | flush mountable               |
| Dimensions [mm] |  | 40 x 40 x 54                  |
| Material        |  | PA; brass white bronze coated |

| Displays / operating elements |                                |                          |
|-------------------------------|--------------------------------|--------------------------|
| Display                       | target in measuring range      | 1 x LED, yellow lights   |
|                               | target outside measuring range | 1 x LED, yellow flashing |
|                               | Power                          | LED, green               |

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

### Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: 4



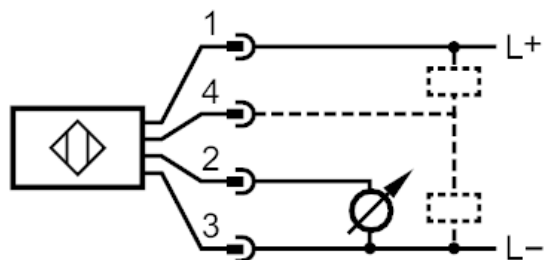
# IM5140



## Inductive analog sensor with IO-Link

IMC4015A2PKG/IO/US

### Connection



- |   |               |
|---|---------------|
| 1 | L +           |
| 2 | OUT           |
| 3 | L -           |
| 4 | OUT / IO-Link |