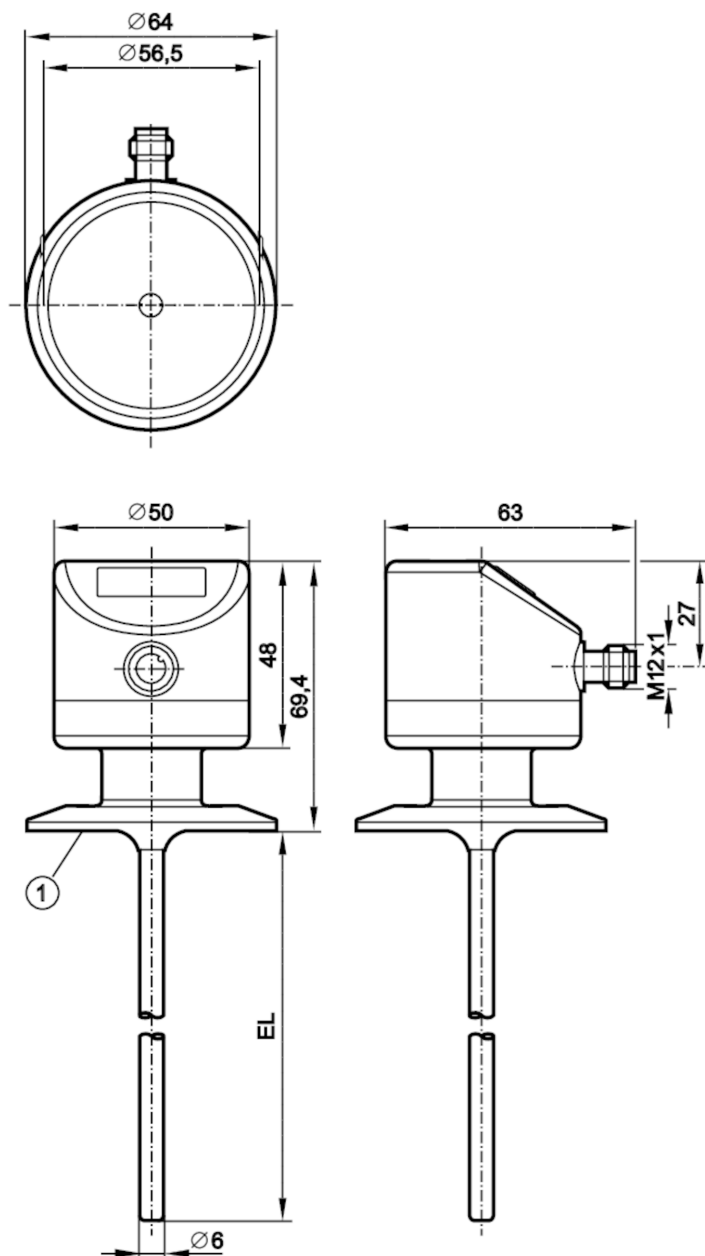


# TD2903



## Temperature transmitter with display

TD-030FFEC02-A-ZVG/US



1 2" Clamp ISO 2852  
EL = installation length



### Product characteristics

|                              |                                      |              |
|------------------------------|--------------------------------------|--------------|
| Number of inputs and outputs | Number of analogue outputs: 1        |              |
| Measuring range              | -50...150 °C                         | -58...302 °F |
| Communication interface      | IO-Link                              |              |
| Process connection           | Clamp DN50 (2") DIN 32676 (ISO 2852) |              |
| Installation length EL [mm]  | 30                                   |              |

### Application

|                   |                                         |
|-------------------|-----------------------------------------|
| Measuring element | 1 x Pt 1000; (to DIN EN 60751, class A) |
| Media             | liquids and gases                       |



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|                                                   |        |                                                                |
|---------------------------------------------------|--------|----------------------------------------------------------------|
| Pressure rating                                   | [bar]  | 100                                                            |
| Pressure rating                                   | [MPa]  | 10                                                             |
| Vacuum resistance                                 | [mbar] | -1000                                                          |
| Vacuum resistance                                 | [MPa]  | -0.1                                                           |
| <b>Electrical data</b>                            |        |                                                                |
| Operating voltage                                 | [V]    | 18...32 DC; ("supply class 2" to cULus)                        |
| Current consumption                               | [mA]   | < 50                                                           |
| Protection class                                  |        | III                                                            |
| Reverse polarity protection                       |        | yes                                                            |
| Power-on delay time                               | [s]    | 2                                                              |
| <b>Inputs / outputs</b>                           |        |                                                                |
| Number of inputs and outputs                      |        | Number of analogue outputs: 1                                  |
| <b>Outputs</b>                                    |        |                                                                |
| Total number of outputs                           |        | 1                                                              |
| Output signal                                     |        | analogue signal; IO-Link; (configurable)                       |
| Number of analogue outputs                        |        | 1                                                              |
| Analogue current output                           | [mA]   | 4...20                                                         |
| Max. load                                         | [Ω]    | 300                                                            |
| Short-circuit protection                          |        | yes                                                            |
| Overload protection                               |        | yes                                                            |
| <b>Measuring/setting range</b>                    |        |                                                                |
| Probe length L                                    | [mm]   | 30                                                             |
| Measuring range                                   |        | -50...150 °C   -58...302 °F                                    |
| Factory setting                                   |        | 0...300 °F                                                     |
| <b>Resolution</b>                                 |        |                                                                |
| Resolution of analogue output                     | [K]    | 0.04                                                           |
| Resolution of display                             | [K]    | 0.28                                                           |
| <b>Accuracy / deviations</b>                      |        |                                                                |
| Precision analogue output                         | [K]    | ± 0,3 + (± 0,1 % MS)                                           |
| Temperature coefficient<br>[% of the span / 10 K] |        | 0,1; (in case of deviation from the reference condition 25 °C) |
| <b>Response times</b>                             |        |                                                                |
| Dynamic response T05 / T09                        | [s]    | 1 / 3                                                          |
| <b>Interfaces</b>                                 |        |                                                                |
| Communication interface                           |        | IO-Link                                                        |
| Transmission type                                 |        | COM2 (38,4 kBaud)                                              |
| IO-Link revision                                  |        | 1.1                                                            |
| <b>Operating conditions</b>                       |        |                                                                |
| Ambient temperature                               | [°C]   | -25...80                                                       |
| Storage temperature                               | [°C]   | -40...100                                                      |
| Protection                                        |        | IP 67; IP 68; IP 69K                                           |

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| Tests / approvals                                                                   |                                                                                                                           |                                                               |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| EMC                                                                                 | DIN EN 61000-6-2                                                                                                          |                                                               |
|                                                                                     | DIN EN 61000-6-3                                                                                                          |                                                               |
| Shock resistance                                                                    | DIN IEC 68-2-27                                                                                                           | 50 g (11 ms)                                                  |
| Vibration resistance                                                                | DIN IEC 68-2-6                                                                                                            | 10 g (10...2000 Hz)                                           |
| Note on approval                                                                    | factory certificate available as download at <a href="http://www.factory-certificate.ifm">www.factory-certificate.ifm</a> |                                                               |
| UL approval                                                                         | UL Approval no.                                                                                                           | K001                                                          |
| Mechanical data                                                                     |                                                                                                                           |                                                               |
| Weight                                                                              | [g]                                                                                                                       | 388                                                           |
| Housing                                                                             |                                                                                                                           | cylindrical                                                   |
| Dimensions                                                                          | [mm]                                                                                                                      | Ø 64 / L = 99.4                                               |
| Materials                                                                           |                                                                                                                           | stainless steel (316L/1.4404); PEI; FKM                       |
| Materials (wetted parts)                                                            |                                                                                                                           | stainless steel (316L/1.4404) electropolished                 |
| Process connection                                                                  |                                                                                                                           | Clamp DN50 (2") DIN 32676 (ISO 2852)                          |
| Surface characteristics Ra/Rz of the wetted parts                                   |                                                                                                                           | Ra: < 0.8                                                     |
| Probe diameter                                                                      | [mm]                                                                                                                      | 6                                                             |
| Installation length EL                                                              | [mm]                                                                                                                      | 30                                                            |
| Displays / operating elements                                                       |                                                                                                                           |                                                               |
| Display                                                                             |                                                                                                                           | 7-segment LED display, 4-digit display unit / status, °C / °F |
| Remarks                                                                             |                                                                                                                           |                                                               |
| Remarks                                                                             |                                                                                                                           | MS = set measuring span                                       |
|                                                                                     |                                                                                                                           | The values for accuracy apply to flowing water.               |
| Pack quantity                                                                       |                                                                                                                           | 1 pcs.                                                        |
| Electrical connection                                                               |                                                                                                                           |                                                               |
| Connector: 1 x M12; coding: A                                                       |                                                                                                                           |                                                               |
|  |                                                                                                                           |                                                               |

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### Connection

