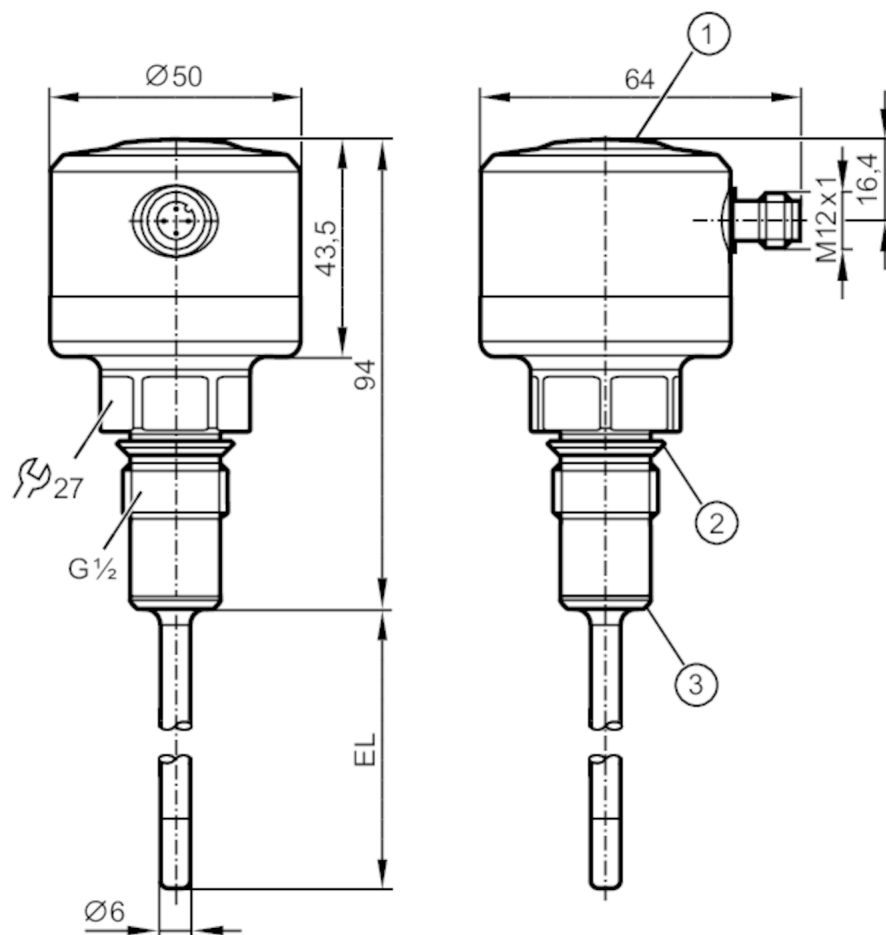


## Temperature transmitter

TCC100K1ER12-A-DKG/US



- 1 LED  
 2 Gasket FKM (for sealing on the back - not pressure resistant) / removable  
 3 pre-mounted PEEK sealing ring (removable) / metallic sealing area



## Product characteristics

|                              |                                                             |              |
|------------------------------|-------------------------------------------------------------|--------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |              |
| Measuring range              | -25...160 °C                                                | -13...320 °F |
| Communication interface      | IO-Link                                                     |              |
| Process connection           | threaded connection G 1/2 sealing cone                      |              |
| Installation length EL [mm]  | 100                                                         |              |

## Application

|                       |                      |
|-----------------------|----------------------|
| Special feature       | Gold-plated contacts |
| Measuring element     | 1 x Pt 1000          |
| Reference element     | 1 x NTC              |
| Media                 | liquids and gases    |
| Pressure rating [bar] | 160                  |

## Electrical data

|                          |                                         |
|--------------------------|-----------------------------------------|
| Operating voltage [V]    | 18...32 DC; ("supply class 2" to cULus) |
| Current consumption [mA] | 10; (24 V)                              |
| Protection class         | III                                     |



## Temperature transmitter

TCC100K1ER12-A-DKG/US

|                             |     |
|-----------------------------|-----|
| Reverse polarity protection | yes |
| Power-on delay time [s]     | 6   |
| Integrated watchdog         | yes |

### Inputs / outputs

|                              |                                                             |
|------------------------------|-------------------------------------------------------------|
| Number of inputs and outputs | Number of digital outputs: 1; Number of analogue outputs: 1 |
|------------------------------|-------------------------------------------------------------|

### Outputs

|                                                      |                                                    |
|------------------------------------------------------|----------------------------------------------------|
| Total number of outputs                              | 2                                                  |
| Output signal                                        | analogue signal; IO-Link; calibration check status |
| Electrical design                                    | PNP/NPN                                            |
| Number of digital outputs                            | 1                                                  |
| Output function                                      | normally closed; (diagnostic signal)               |
| Max. voltage drop switching output DC [V]            | 2                                                  |
| Permanent current rating of switching output DC [mA] | 100                                                |
| Diagnostic output                                    | calibration check status and error diagnostics     |
| Number of analogue outputs                           | 1                                                  |
| Analogue current output [mA]                         | 4...20                                             |
| Max. load [Ω]                                        | (U <sub>b</sub> - 15 V) x 50                       |
| Short-circuit protection                             | yes                                                |
| Type of short-circuit protection                     | pulsed                                             |
| Overload protection                                  | yes                                                |

### Measuring/setting range

|                             |                            |              |
|-----------------------------|----------------------------|--------------|
| Measuring range             | -25...160 °C               | -13...320 °F |
| Note on measuring range     | scalable                   |              |
| Factory setting             | -10...150 °C / 14...302 °F |              |
| Calibration check limit [K] | 0.5...3                    |              |
| In steps of [K]             | 0.05                       |              |

### Resolution

|                                   |      |
|-----------------------------------|------|
| Resolution of analogue output [K] | 0.05 |
|-----------------------------------|------|

### Accuracy / deviations

|                                                                |                                                                         |
|----------------------------------------------------------------|-------------------------------------------------------------------------|
| Precision analogue output [K]                                  | ± 0,2                                                                   |
| Precision IO-Link [K]                                          | ± 0,2                                                                   |
| Temperature coefficient analogue output [% of the span / 10 K] | < ± 0,02; (in case of deviation from the reference condition 25 ± 5 °C) |
| Temperature coefficient IO-Link [% of the span / 10 K]         | < ± 0,01; (in case of deviation from the reference condition 25 ± 5 °C) |

### Response times

|                                |         |
|--------------------------------|---------|
| Dynamic response T05 / T09 [s] | 1,5 / 4 |
|--------------------------------|---------|

### Software / programming

|                           |                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Parameter setting options | Display unit; scaling of the analogue output; calibration check limit; switching logic diagnostic output; simulation mode |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------|

# TCC531



## Temperature transmitter

TCC100K1ER12-A-DKG/US

| Interfaces                                        |                                                                                                                           |                     |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------|
| Communication interface                           | IO-Link                                                                                                                   |                     |
| Transmission type                                 | COM2 (38,4 kBaud)                                                                                                         |                     |
| IO-Link revision                                  | 1.1                                                                                                                       |                     |
| SDCI standard                                     | IEC 61131-9 CDV                                                                                                           |                     |
| Profiles                                          | Digital Measuring Sensor, Common Profile, Blob Transfer                                                                   |                     |
| SIO mode                                          | yes                                                                                                                       |                     |
| Required master port type                         | A                                                                                                                         |                     |
| Process data analogue                             | 1                                                                                                                         |                     |
| Process data binary                               | 1                                                                                                                         |                     |
| Min. process cycle time [ms]                      | 4.4                                                                                                                       |                     |
| IO-Link resolution temperature [K]                | 0.01                                                                                                                      |                     |
| Supported DeviceIDs                               | Type of operation                                                                                                         | DeviceID            |
|                                                   | default                                                                                                                   | 1129                |
| Operating conditions                              |                                                                                                                           |                     |
| Ambient temperature [°C]                          | -25...70                                                                                                                  |                     |
| Note on ambient temperature                       | max. internal device temperature: 125 °C                                                                                  |                     |
| Storage temperature [°C]                          | -40...100                                                                                                                 |                     |
| Protection                                        | IP 68; IP 69K                                                                                                             |                     |
| Tests / approvals                                 |                                                                                                                           |                     |
| EMC                                               | DIN EN 61000-6-2                                                                                                          |                     |
|                                                   | DIN EN 61000-6-3                                                                                                          |                     |
| Shock resistance                                  | DIN EN 68000-2-27                                                                                                         | 50 g (11 ms)        |
| Vibration resistance                              | DIN EN 60068-2-6                                                                                                          | 35 g (10...2000 Hz) |
| MTTF [years]                                      | 329                                                                                                                       |                     |
| 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.                                                                                                           | K021                |
|                                                   | File number UL                                                                                                            | E217884             |
| Mechanical data                                   |                                                                                                                           |                     |
| Weight [g]                                        | 457.3                                                                                                                     |                     |
| Dimensions [mm]                                   | Ø 50 / L = 194                                                                                                            |                     |
| Materials                                         | stainless steel (1.4404 / 316L); PEI; FKM; PFA                                                                            |                     |
| Materials (wetted parts)                          | stainless steel (1.4404 / 316L); PEEK                                                                                     |                     |
| Tightening torque [Nm]                            | 30...50                                                                                                                   |                     |
| Process connection                                | threaded connection G 1/2 sealing cone                                                                                    |                     |
| Surface characteristics Ra/Rz of the wetted parts | Ra: < 0.8                                                                                                                 |                     |
| Probe diameter [mm]                               | 6                                                                                                                         |                     |
| Installation length EL [mm]                       | 100                                                                                                                       |                     |
| Remarks                                           |                                                                                                                           |                     |
| Remarks                                           | MS = set measuring span                                                                                                   |                     |
|                                                   | operating voltage "supply class 2" according to cULus                                                                     |                     |
| Pack quantity                                     | 1 pcs.                                                                                                                    |                     |

# TCC531



## Temperature transmitter

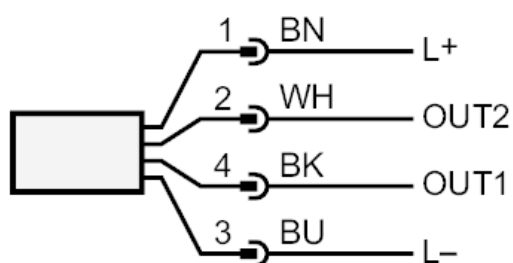
TCC100K1ER12-A-DKG/US

### Electrical connection

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



### Connection



OUT2: analogue output  
OUT1: Diagnostic output / IO-Link