Process Solutions You Can Trust





JTCD-300

Fast Thermal Conductivity Analyzer





APPLICATION

- · Extractive gas analysis
- · Process and quality monitoring
 - LEL monitoring
 - safety meassurements
- · Continous measurement of components like H₂, CO₂, O₂, He, Ar, CH₄, N₂, NH₃, CO, SF₆ and more
 - used in gas, food, glass and many more industires

BENEFITS

- High sensitivity e.g. 0 to 0.5 Vol.-% H_2 in N_2 ; noise < 10 ppm H_2 in N_2
- · Durable measuring cell
- Multi gas mode
- Offsetting the cross sensitivity of an interfearing component possible
- Quick response time (T90 < 1 s)
- Comfortable menu and operater navigation at calibration and parameterisation
- Classic two-point calibration or one-point calibration
- RS232-access to all (measuring) data and parameters
- Corrosion and condensate protection for sample gas path availabe
- Up to 6 years lifetime for optional O₂ sensor

FEATURES

- Precise and long-term stable gas analysis according to the thermal conductivity measuring principle
- Microprocessor based
- 128 x 64 point graphic display
- Operation via 3 keys or PC-based service program
- Small robust aluminum housing for field operation (protection class IP65)
- Linear electrically isolated current output 4 to 20 mÅ, start and end point concentration freely selectable
- 3 configurable relays for alarm message and device status
- Precise linearisation for binary gas mixtures like e.g. H_2 , He, CO_2 , $\check{C}H_4$ in N_2 or Ar in the permanent storage; additional customer specific linearisation with polynomial of 6th order
- Indication in ppm or Vol.-%, resolution adjustable up to 1 ppm
- Pressure resistant and vacuum leaktight gas path out of stainless steel (SS316Ti)

















JCT Analysentechnik

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TECHNICAL DATA

| MODEL | JTCD-300 |
|-------|----------|
| | |

| Technology | fast thermal conductivity and fuel cell for O ₂ measruement |
|------------|--|
|------------|--|

MEASUREMENT

| Gas to be measured | see table "Gas to be measured and ranges", O ₂ | | | |
|----------------------|--|--|--|--|
| Measurement range(s) | see table "Gas to be measured and ranges" with O_2 sensor: $0-5$ Vol.% $0-100$ Vol.% O_2 | | | |
| Measurement unit(s) | ppm or % | | | |
| Zero drift | < 1 % per month, averaged across 12 months | | | |
| Accuracy | ambient temperature: < 1 % of smallest range per 10 K temperature change flow: < 1 % of smallest range per 10 l/h pressure (800 hPa < p < 1,200 hPa): < 1 % of smallest range per 10 hPa | | | |
| Repeatability | $<$ 1 % of range O_2 sensor: +/- 1 Vol.% @ 100 % O_2 | | | |
| Response time (T90) | < 1 sec at flow rate higher 60 l/h (application dependend) for O ₂ sensor: < 10 sec | | | |

OPERATION

| Ambient temperature | -20°C to +50 $^{\circ}\text{C}$ (–4 $^{\circ}\text{F}$ to +122 $^{\circ}\text{F}$) with glass balls filling: –5 $^{\circ}\text{C}$ to +50 $^{\circ}\text{C}$ (23 $^{\circ}\text{F}$ to 122 $^{\circ}\text{F}$) with O $_{\!2}$ sensor: 0° to +45 $^{\circ}\text{C}$ | |
|------------------------------------|---|--|
| Sample flow rate | 60 – 80 NI/h (option: 10 – 150 I/h) | |
| Sample gas pressure requirement | 0.8 to 1.2 bara <u>option (not available with O₂ sensor):</u> standard version: max. 20 bara for flammable gases: max. 3 bara | |
| Sample gas temperature requirement | max. 80 °C at 25 °C ambient temperature / max. 50 °C at 50 °C ambient temperature min. –20 °C for version without glass beads / min. –5 °C for version with glass beads dry, non-condensing sample gas | |

CONSTRUCTION

| Dimensions (W x H x D) | 144 x 80 x 85 mm without accessories with O_2 sensor: approx. 230 x 200 x 85 mm | |
|----------------------------|---|--|
| Weight | approx. 1.1 kg without accessories with O_2 sensor: 1.6 kg | |
| Sample inlet connection | 6 mm OD pipe stubs | |
| Sample outlet connection | 6 mm OD pipe stubs | |
| Mounting | wall mounting | |
| Protection class | IP65 | |
| Area classification | safe zone | |
| Flammable gas protection | glass balls filling available | |
| Sample gas path protection | corrosion and / or condensate protection available | |
| Approvals | CE | |

ELECTRICS

| Power supply | 2130 VDC | |
|-------------------------------|--|--|
| Power consumption | typical: 500 mA / max: 1 A | |
| Measurement signal output | 1 x analog output 420 mA 3 x relay contact 2 x analog output 010 V and 2 x analog input (option) | |
| Communication / Interface | RS 232 digital interface | |
| Cross sensitivitiy correction | available against source from external analyzer or integrated $\ensuremath{O_2}$ measurement | |

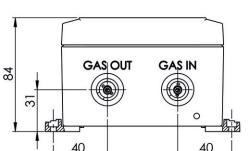
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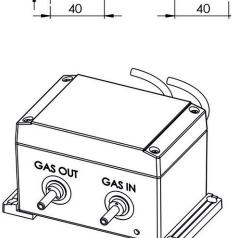
GAS TO BE MEASURED AND RANGES

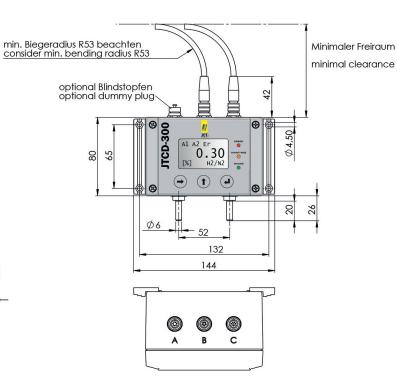
| Mea- suring Gas | Carrier Gas | Basic range | Smallest range | Smallest supressed zero range | Multi Gas Mode |
|-----------------------|----------------------|----------------|----------------|-------------------------------------|-------------------|
| H_2 | O_2 | 0% - 100% | 0% - 0.5% | 98% - 100% | Yes |
| H_2 | N ₂ / air | 0% - 100% | 0% - 0.5% | 98% - 100% | Yes |
| H_2 | Ar | 0% - 100% | 0% - 0.4% | 99% - 100% | Yes |
| H_2 | He | 20% - 100% | 20% - 40% | 85% - 100% | On request |
| H_2 | CH ₄ | 0% - 100% | 0% - 0.5% | 98% - 100% | On request |
| H ₂ | CO_2 | 0% - 100% | 0% - 0.5% | 98% - 100% | On request |
| He | N_2 / air | 0% - 100% | 0% - 0.8% | 97% - 100% | Yes |
| He | Ar | 0% - 100% | 0% - 0.5% | 98% - 100% | Yes |
| CO_2 | N_2 / air | 0% - 100% | 0% - 3% | 96% - 100% | Yes |
| CO_2 | Ar | 0% - 60% | 0% - 10% | - | Yes |
| Ar | N_2 / air | 0% - 100% | 0% - 3% | 96% - 100% | Yes |
| Ar | CO_2 | 40% - 100% | - | 80% - 100% | Yes |
| CH ₄ | N_2 / air | 0% - 100% | 0% - 2% | 96% - 100% | Yes |
| CH ₄ | Ar | 0% - 100% | 0% - 1.5% | 97% - 100% | Yes |
| O_2 | N_2 | 0% - 100% | 0% - 15% | 85% - 100% | Yes |
| O_2 | Ar | 0% - 100% | 0% - 2% | 97% - 100% | Yes |
| N_2 | Ar | 0% - 100% | 0% - 3% | 97% - 100% | Yes |
| N_2 | CO_2 | 0% - 100% | 0% - 4% | 96% - 100% | On request |
| NH ₃ | H_2 | 0% - 100% | 0% - 5% | 95% - 100% | On request |
| CO ₂ | H_2 | 0% - 100% | 0% - 2% | 99% - 100% | On request |
| SF ₆ | N ₂ / air | 0% - 100% | 0% - 2% | 96% - 100% | On request |
| | | | | | |

DIMENSIONAL DRAWING

dimensions in mm









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