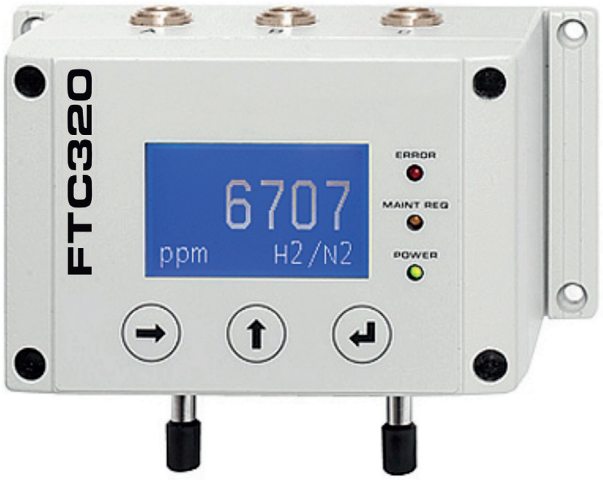
JCT Process Analytics

FTC-320

Fast Thermal Conductivity Analyzer



APPLICATION

- Extractive gas analysis
- Process and quality monitoring
  - LEL monitoring
  - safety meassurements
- Continous measurement of components like H_2, CO_2, O_2, He, Ar, CH_4, N_2, NH_3, CO, SF_6 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

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 mA, 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, CH_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)

TECHNICAL DATA

MODEL	FTC-320
Technology	fast thermal conductivity

MEASUREMENT

Gas to be measured	see table "Gas to be measured and ranges"
Measurement range(s)	see table "Gas to be measured and ranges"
Measurement unit(s)	ppm or %
Zero drift	< 2 % of smallest range per
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
Response time (T90)	< 1 sec at flow rate higher 60 l/h (applicaiton dependend)

OPERATION

Ambient temperature	–20 °C to +50 °C (–4 °F to +122 °F) with glass balls filling: –5 °C to +50 °C (23 °F to 122 °F)
Sample flow rate	60 – 80 Nl/h (option: 10 – 150 l/h)
Sample gas pressure requirement	0.8 to 1.2 bara option: standard version: max. 20 bara with flow measurement: max. 2 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

CONSTRUCTION

Dimensions (W x H x D)	144 x 80 x 85 mm without accessories
Weight	approx. 1.8 kg without accesories
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

ELECTRICS

Power supply	21...30 VDC
Power consumption	typical: 500 mA / max: 1 A
Measurement signal output	1 x analog output 4...20 mA 3 x relay contact 2 x analog output 0...10 V and 2 x analog input (option)
Communication / Interface	RS 232 digital interface

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