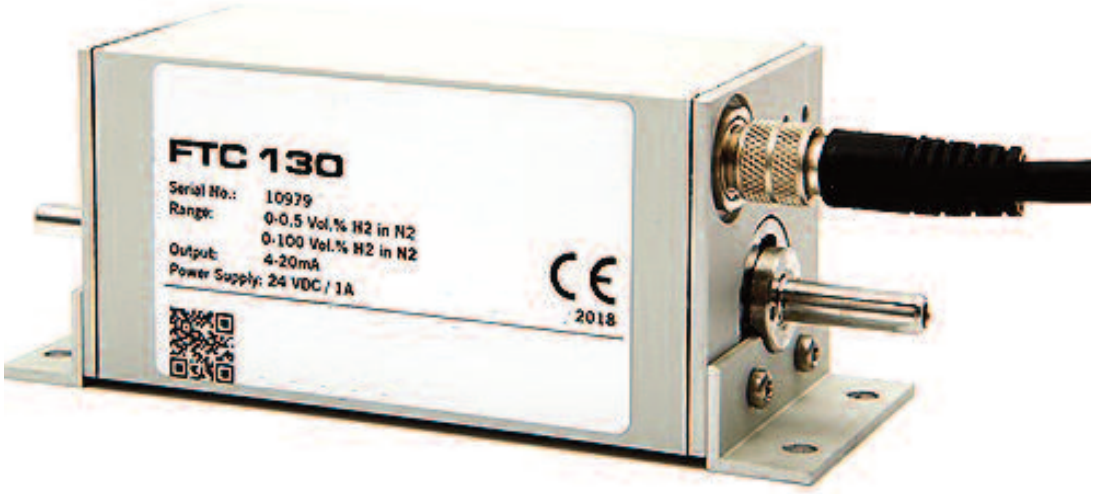
FTC130-TRA
Thermal Conductivity Detector

JCT Analysentechnik



APPLICATION

- Extractive gas analysis
- Quality and process monitoring
- Contiuous concentration determination of single gas components e.g. H_2, CO_2, O_2, He
- For the H_2-measurement at heat treatment in the metal industry
- For the H_2-measurement in miniplants

BENEFITS

- Precise and long-term stable thermal conductivity measurement
- Independent of gas flow and gas pressure
- High sensitivity independent of the ambient temperature
- Fast response time (T_{90} approx. 1 s)
- Pressure resistant gas paths out of stainless steel (10 bara)
- Robust tight aluminium housing (IP65)
- Small dimensions
- Linear signal output 4 to 20 mA
- Easy calibration with covered push buttons
- Factory configuration and calibration

FEATURES

- Based on micromechanic silicon chip
- Detector mounted in a stainless steel housing
- Stainless steel housing and electronic mounted in a sealed aluminium housing
- Operation of the detector with two heating elements and a temperature sensor at constant 63 °C
- Gas concentration corresponds to required compensation energy, depending on cooling of the chip due to varying thermal conductivity
- Especially good measuring results are achieved under following conditions:
  - at binary gas mixtures, e.g. CO_2 in N_2, O_2 in Ar or H_2 in N_2
  - if only two gas components at multi component mixtures vary in concentration, e.g. CO_2 in air
  - if the measured component has a significantly different thermal conductivity than the remaining gas components, e.g. H_2, He, or in a mixture of O_2 and N_2

TECHNICAL DATA

Model	FTC130-TRA		
Description	Thermal conductivity detector		
Operation			
	Min.	Typ.	Max.
Ambient temperature	−5 °C	-	+50 °C
Operating temperature	-	+63 °C	+75 °C
Operating pressure		0,8 to 20 bara	
Gas flow		60 to 80Nl/h	
T_{90}-time at 100 Nl/hr	-	< 1 s at > 60l/h	-
Dead volume	-	approx. 3,5 cm^3	-
Warm-up time	-	approx. 20 min	-
Construction			
Dimensions over all (W x H x D)	144 x 50 x 50 mm		
Weight (without cable)	approx. 700 g		
Sample gas inlet / outlet	Stainless steel pipe stubs 6 mm		
Sample gas wetted materials	SS316Ti, Kovar, Si, SiOxNy, Gold, epoxy, Viton®		
Electrics			
Power supply	18 to 36 VDC (24 VDC recommended)		
Current consumption	max. 700 mA		
Output signal	4 to 20 mA (setup by order)		
Communication port	RS232 19200 Baud 8 bit		
Connection cable	5 m long		
Max. working resistance	800 Ω		
Signal noise	< 1 % of samllest range		
Drift at starting point	< 2 % of smallest measuring range / week		
Repeatability	< 1 % of measuring range		
Influence of ambient temperature	< 1 % of smallest range / 10 °C		
Smallest measuring range	0,5 Vol.% for H_2 in N_2		

ORDER CODE

Order code	Description
FTC130-TRA	Thermal conductivity detector FTC130-TRA

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