

Thermo-FID ES / TG

Flame ionization detector – 19" Rack mounted

Technical data

Weight Injectors	9 kg
Weight Membrane pump	10 kg
Dimension Injectors	W = 483 mm H = 135 mm D = 310 mm
Dimension Membrane pump	W = 445 mm H = 154 mm D = 320 mm
Measured value display	selectable
	ppm
	mg/m ³
	g/m ³
	Vol%
	%UEG
Linearity	< 4% above measurement range
Measured value output	0(4)mA to 20mA; burden 600Ω not galvanically isolated
Ambient temperature with injectors	-5°C to 40°C
Ambient temperature with membrane pump	+5°C to 40°C
Air humidity	< 90% rel. humidity, + 20°C
	< 50% rel. humidity, + 40°C
Geographical altitude	0 to 1500 m above NN
Protection class (DIN40050)	IP20



The Thermo-FID ES is a Total hydrocarbon-analyzer in a 19" rack or table top housing. Burner air and zero gas are standardized provided and cleaned via a 400 °C heated catalyzer build in the analyzer. The sample gas pump; standard with Air jet vacuum air injectors and the external instrument air @ 3,5 Bar G. Optional is an external membrane pump.

General application

The Thermo-FID is applied in a variety of applications for all kind of industries, environmental protection and as well for research and development. The implementations reach from an LEL-control, for emission to analytical exhaust control for the chemical industry and in the field of engine-development. Furthermore there is process optimization and the FID is also used in the field of analytical control of TLV- and TRC- values.

(Leakage control; Exhaust Emission control; Plantmonitoring; Methanefree Measurements)

Technical design

The electronic system of the FID allows several extra functions. The integrated CPU allows a menu-driven handling as well as a full automatic self-control and failure analysis of the system. On the alphanumeric display are shown several operation and service instructions in clear text which give an easy maintenance process. The process-controlled and dynamic amplifier analysis always within the optimum range. The amplified signals are digitized directly at the detector and get transmitted as digital data to the CPU for the analysis. Therefore there is no distortion of the little currents 10-13th Amp.

Accreditation	17. BImSchV / TA Air (936/806016) QUAL 1 (DIN EN 14181 and DIN EN ISO 14956) MCerts (Sira MC 050062/05)	
Vacuum system	Injectors	Membrane pump
Measurement range	0.5 mg org.C/m ³ to 100000 mg org.C/m ³	2 mg org.C/m ³ to 100000 mg org.C/m ³
Detection limit	< 0.01 mg org.C/m ³	< 0.05 mg org.C/m ³
Response time (T90)	<,5,0 s if measured value > 20 mg org.C/m ³ < 3,0 s if measured value < 20 mg org.C/m ³	
Sample gas (Flow)	ca. 25 l/h with 1013 hPa alternative ca. 2 l/h; ca. 5 l/h; ca. 60 l/h	ca. 25 l/h with 1013 hPa
Sample gas-pressure	800 mBar to 1600 mBar	800 mBar to 1200 mBar
Detector-temperature	T2: 110 °C to 200 °C T3: 130 °C to 165 °C T4: 95 °C bis 100 °C	
Supplementary heating system (PT100)	T2: 0 °C to 260 °C T3: 0 °C to 180 °C T4: 0 °C to 110 °C	
Catalyst-temperature	400 °C	
Instrument air	3.0 Bar to 3.9 Bar / < 2 Nm ³ /h Quality to ISO8573-1 minimum 1.2.1	Ambient air for Membrane pump
Fuel gas	Hydrogen 0.7 Bar to 1.0 Bar / < 80 ml/min Quality 5.0	
Burner air	Via internal heated catalyzer optional synthetic air 1.0 Bar to 1.5 Bar	
Calibration gas	2.0 Bar to 2.5 Bar / < 130 NI/h concentration 60 % to 80 % of the measurement range in relation to C3H8	
Zero point gas	By internal standard catalyzer or optional Nitrogen 2.0 Bar to 2.5 Bar / < 130 NI/hQuality 5.0	
Nominal voltage	115 V ± 10 % or 230 V ± 10 %; 48 Hz to 62 Hz; < 250 W	
Supplementary heating system (Probe, external catalyzt)	115 V ± 10 % or 230 V ± 10 %; 48 Hz to 62 Hz; < 1000 W	

Additional Information for ES



Table top housing TG



External membrane Pump.

Order data

Thermo-FID 'ES'	19" rack	207.000000
-----------------	----------	------------

Options

Status- and alarm board	4x 0/4-20mA galv. separation/ 4 potentialfree alarmcontacts	407.950033.D
Module TOC - Methane	inclusive Status-/Alarmboard	407.060071.A
Internal Membrane pump	Set membrane pump internal sample-gas pump	407.990085
External Membrane pump	Set membrane pump external sample-gas pump	407.990085
Dilution probe 1:10/ 1:20	Dilution Probe heated without enclosure	407.040203
External Zero gas	Conversion kit Zero gas external	407.020047
<i>Heated 2/3 Direction Control Valve 180°C max. For E S, TG and FE</i>	to measure two measuring streams	407.040204
MSU 4/8x HT	On request	-
MSU Ambient air 8/16-times	8-times 3HE 1x 407.950045.B	407.970085
	16-times EHE 2x 407.950045.B	407.970086
Inlinestripper	-	207.930000
Flame Trap ATEX 94/9/EG	In Line Flame Trap FS30 Eex d IIC	407.030103