

## Thermo-FID FE and FE IP65 Flameionisationdetector – Fieldhousing

### Technical data

Models	FE
	FE IP65
Weight FE	28 kg
Weight FE IP65	33.5 kg
Dimension FE	W = 470 mm H = 505 mm D = 410 mm
Dimension FE IP65	W = 500 mm H = 505 mm D = 410 mm
Measured value display	selectable
	ppm
	mg/m <sup>3</sup>
	g/m <sup>3</sup>
	Vol%
	%LEL
Linearity	< 4% above measurement range
Measured value output	0(4)mA to 20mA; burden 600Ω not galvanically isolated
Ambient temperature	-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) FE	IP54
Protection class (DIN40050) FE IP65	IP65



*Completely mounted analyser in a fieldhousing for the rough applications in the field. Especially for wall fastening or a panel construction within analytical chambers. Over a status signal or by the remotecontrol-function it is possible to control and see the analyser function in real-time. The housing is in protection class IP54, but there is as well a version for the Ex-area of zone 1 including the protection class „over pressure casing“ EEx p following ATEX 94/9/EG and the version IP65. (Leakage control; Exhaust Emission control; Plant monitoring)*

### 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 a LEL-control, over emission and immission control to analytical exhaust control for the chemical industry and in the field of engine-development. Furthermore there is process optimisation and the FID is also used in the field of analytical control of TLV- and TRC- values.

### Technical design

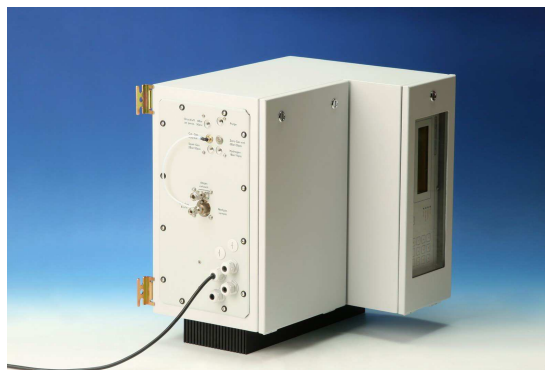
The electronic system of the FID allows several extra functions. The integrated CPU allows a menu-driven handling as well as a full automatic self-control and failure analysis of the system. On the alphanumeric display are shown several operation and service instructions in clear text which give an easy maintenance process. The process-controlled and dynamic amplifier analysis always within the optimum range. The amplified signals are digitised 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 because of badly shielded or too long signal ways.

Accreditation	17. BImSchV / TA Air (936/806016) QAL 1 (DIN EN 14181 and DIN EN ISO 14956) MCerts (Sira MC 050062/00)
Vacuum system	Injectors
Measurement range	0.5 mg org.C/m <sup>3</sup> to 100000 mg org.C/m <sup>3</sup>
Detection limit	< 0.01 mg org.C/m <sup>3</sup>
Response time (T90)	< 0.5 s if measured value > 20 mg org.C/m <sup>3</sup> < 5.0 s if measured value < 20 mg org.C/m <sup>3</sup>
Samplegas (self-drawn)	ca. 25 l/h with 1013 hPa alternative ca. 2l/h; ca. 5l/h; ca.60l/h
Samplegas-pressure	800 mBar to 1600 mBar
Detector-temperature	T2: 110 °C to 200 °C T3: 130 °C to 165 °C T4: 95 °C to 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
Instrumentair	3.0 Bar to 3.9 Bar / < 2 Nm <sup>3</sup> /h Quality to ISO8573-1 minimum 1.2.1
Fuel gas	Hydrogen 0.7 Bar to 1,0 Bar / < 80 ml/min Quality 5.0
Burnerair	Over internal catalyst or optional Synthetic air 1.0 Bar to 1.5 Bar
Calibrationgas	2.0 Bar to 2.5 Bar / < 130 NI/h concentration 60 % to 80 % of the measurement range in relation to C <sub>3</sub> H <sub>8</sub>
Zeropointgas	Over internal catalyst or optional Nitrogen 2.0 Bar to 2.5 Bar/ < 130NI/h Quality 5.0
Nominal Voltage	115 V ± 10 % or 230 V ± 10 %; 48 Hz to 62 Hz; < 250 W
Supplementary heating system (Probe, external catalyst)	115 V ± 10 % oder 230 V ± 10 %; 48 Hz bis 62 Hz; < 1000 W
Vortexcooler	7.0 Bar Instrumentair

## Additional Information for FE and FE IP65



Front FE IP65



Lower side FID FE IP65

### Order data

Thermo-FID ,FE'	fieldhousing	207.020000
Thermo-FID ,FE IP65'	protection class IP65	207.021000
Thermo-FID ,IP65' with vortexcooler	Ambient air > 40°C	207.021001

### Options

Status- and alarmboard	4 x 0/4-20mA galv. separation/ 4 potentialfree alarmcontacts	407.950033.D
Module Methanefree-Methane	inklusive Status- / Alarmkarte	407.060071.A
Probe for withdrawal of gas	180°C heated up to 3 m	407.950081
	180°C heated up to 5 m	407.950082
Dilution probe 1:10/ 1:20	Dilution probe heated without enclosure for FE	407.040203
External Zerogas	Conversion kit zerogas external	407.020047
Synthetic Air for Burnerair	Conversion kit zerogas external and synthetic air as burnerair	407.020048
MSU-Pneumatic HT-4 for FE	-	407.970081
MSU-Pneumatic HT-8 forr FE	-	407.970082
MSU-Block-HT-4 Steam	Without fittings for FE	407.970083
MSU-Block-HT-8 Steam	Without fittings for FE	407.970084
<i>Heated 2/3 Direction Control Valve 180°C max. For E S, TG and FE</i>	to measure two measuring streams	407.040204
Inlinestripper	-	207.930000
Steam relaxation unit	with condenser for FE	407.970080



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