# Technical Data F130I




*Fig. 1 F130I*

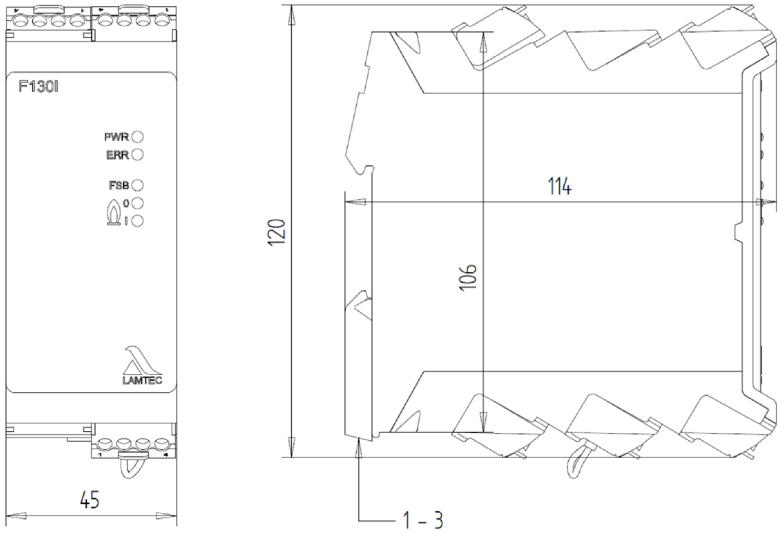


*Fig. 2 Dimensions F130I*

Housing material: Plastic

The right to make technical changes is reserved.

| **Input parameters** | |
|---|---|
| **Auxiliary power/device supply** | |
| Supply voltage[1] | Factory setting<br>230 VAC +10 % -15 % or<br>120 VAC +10 % -20 % |
| Mains frequency[1] | 47 Hz ... 63 Hz |
| Power consumption | ≤ 10 VA |
| Internal device fusing | 50 mAT for 230 V device<br>100 mAT for 120 V device |
| External device fusing (mandatory) | min. 500 mAT<br>max. 4 AT |
| **Ionisation input** | |
| Supply voltage[1, 2] (Auxiliary power) | Device supply voltage |
| Ionisation current | from 1 µADC Flame ON |
| Mode | Continuous operation capable |

[1] The product may not be transported, stored or operated outside the specified range. If it is, any guarantees with regard to safety-related functions lose their validity.

[2] The attainable ionisation current at the plant is dependent on the supply voltage. The higher the supply voltage, the higher the sensitivity of the Ionisation lance. The min. sensitivity of the device of 1 uA is independent on the supply voltage. See also Chapter F130I connection diagram 120 V device.

| | |
|---|---|
| Connection cable for ionisation electrode | possible length: ca.150 m/492,12 ft (under good conditions)(Note! The possible cable length depends on the attenuation properties of the cable used in connection with the depends on the high resistance of the individual flame. For a stable flame detection the minimum sensor current should not be undercut!) |
| Connection cable for auxiliary power | < 3 m/9.8 ft |
| **UV input** | |
| Sensor voltage supply (Auxiliary power) | > 200 VAC- lead mains potential |

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| **Input parameters** | |
|---|---|
| Permitted external input voltage to X16/1 for connection of a switch contact | 230 VAC 50/60 Hz |
| Input current in the ON state | $I_{min}$ = 100 µA |
| Mode | Intermittent operation<br>Burner restart every ≤ 24 h necessary |
| Connection cable | < 10 m/32.8 ft |
| **LDR input** | |
| Sensor voltage supply (Auxiliary power) | ≤ 42 V - lead mains potential |
| Detectable sensor resistance range | 220 Ω ... 220 KΩ Flame ON |
| Sensor current | ≤ 100 µA |
| Mode | Intermittent operation<br>Burner restart ≤ 24 h necessary |
| Short-circuit detection | Yes |
| Connection cable | < 10 m/32.8 ft |
| **Output parameters** | |
| **Output contact status signal** | |
| Contact | Not safety-oriented, floating contact |
| Contact type | NO, in the event of a malfunction, the contact is closed. |
| Protection class | SKII, base isolation for the flame signal |
| Permissible switching voltage[1] | 230 VAC cos φ ≥ 0.3 |
| Contact fusing (internal) | 1 AT |
| Specified external contact fusing[1] | 0.5 AT |
| **Flame signal output contact** | |
| Contact | Safety-oriented, floating contact |
| Contact type | NO, for "flame ON", the contact is closed |
| Protection class | SKII, base isolation for the status signal |
| Permissible switching voltage[1] | ≤ 230 VAC ≤ 48 VDC |
| Permissible switching current[1] | Max. 0.5 A cos φ 0,4 Min. 10 mA<br>provide external spark suppression for inductive loads,<br>do not switch capacitive loads. |
| Contact fuse (soldered) | 0.5 AT |
| Safety time (FFDT) Response time in the event of the flame going out | $t_{V\ Off}$ configurable to 1 s or 3 s (standard 1 s) by using the DIP switch |
| Switch-on time | $t_{V\ On}$ ≤ 1 s |
| **Analogue output (current loop)** | - Leads mains potential not safety oriented |
| Current | 0/4 … 20 mA |
| Load | max. 240 Ω |
| Intrinsic error | ± 2 % from 1/3 of the value range |
| Connection cable | Connection cable ≥ 10 m/32.8 ft must be shielded and applied one side to FPE. |
| **Shunt measuring** | |
| Transmission ratio ionisation current to voltage to be measured | 10 mV (DC) = 1 µA (DC) |
| Intrinsic error | ≤ 2 % |
| Electrical safety | Contact protection by means of protective impedances |

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| **Output parameters** | |
|---|---|
| Min. impedance of the connected measuring device | at least 1 MOhm potential-free |
| Connection cable | < 1 m/3.3 ft |
| **Technical capacity** | |
| Connection cross section | flexible 0.25 ... 2.5 $mm^2$/24 AWG ... 14 AWG<br>rapid 0.20 ... 2.5 $mm^2$/24 AWG ... 14 AWG |
| Mode | Continuous operation for:<br>• Ionisation flame monitoring<br>Intermittent operation for:<br>• Ionisation flame monitoring<br>• Optical monitoring |
| Safety integrity level | DIN EN 61508 Part 2 - SIL 3 |
| Overvoltage category | DIN EN 60730-1, ÜK III |
| Susceptibility to interference | DIN EN 298 |
| Emitted interference | DIN EN 55022, Class B |
| **Environmental capacity** | |
| Protection class | DIN EN 60529, IP20 |
| Ambient temperature[1] | -20 °C … +60 °C/-4 °F ... 140 °F<br>Environmental category D according to GL VI Part 7 |
| Relative humidity | 3K5, 5 % ... 95 % as per DIN EN 60721-3-3 |
| Vibration and oscillation | GL, VI Part 7, Para. 9, characteristic 1 (0.7g/1.54 lb) |
| **Storage/transport conditions** | |
| Storage location | Enclosed spaces |
| Air temperature[1] | -20 °C … +80 °C/-4 °F ... 176 °F |
| Relative humidity | According to DIN EN 60721-3-3:<br>• Transport 2K3, up to 95 %<br>• Storage 1K3, 5 % ... 95 % |
| Weight | approx. 0.5 kg/1.1 lb |

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## Order Information

| Flame monitor F130I | Order number |
|---|---|
| Flame monitor F130I supply voltage 230 VAC | 659G1001 |
| Flame monitor F130I supply voltage 120 VAC | 659G1002 |

## Approvals

The information in this publication is subject to technical changes.

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