Flame detector FD 2011 / FD 2012

EN 298 / EN 230 2003

19“ PCB 3HE / 6TE
DIN 41612

2-chanal system

continuous operation ionisation with common or separate spark and supervision electrode

intermitted UV-mode

integrated power supply
230V or 115V / 50-60Hz

measuring points for flame signal

The flame detector system FD 201x is designed for operation at continuous operating heat treating units. The universal use and also the easy integration in the main system are specific for this supervision unit. It also complies with the requirement of the European Standard EN 298 and EN 230. Fail safe ionization supervision is working with common or separate spark and supervision electrodes. UV-supervision is working in intermitted mode. Mixing mode UV and ionisation is possible with FD20xx. Operation is visualized by 2/3 LED's. Signal contacts are given potential free, measuring points for the flame signal on the front plate.

DATASHEET

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Achim Rosenberg (Business manager)

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Technichal data

operating voltage

115V or 230V, 50/60Hz; -10% / +15%

current consumption

at 230V - app. 26mA, at 115V - app. 52mA

losding

app. 6,0VA

power loss

max. 4,2W

contact load

AC: cos.φ = 1.0

- max. load 50VA
- max. voltage 230V
- max. current 0,25A

DC:

- max. load 6W
- max. voltage* 24V
- max. current 0,25A

** do not use for low-voltage protection (VDE 0100 DIN 40803) VDE 0860/08.91*

switching frequency

at cos.φ = 0,6 and at cos.φ = 1,0: 2,5 x 10^5

model

PCB 100x160 mm with front panel 3HE/6TE, socket for mounting on DIN 41612 model F, z + d, 32 pins.

FD-flame signal

>1...2µA, metering points on terminal, metering without current circuit interruption, maximum 30µA.

Attention! High voltage!

≥ 2µA ON

≤ 1,5µA OFF

temperature range

0°C / +60°C

operation mode

continuous operation ionisation EN298 and EN230 also with common spark- and supervising electrode UV-operation intermitted.

weight

app. 350g

protection class

IP00

CE marking No. 0063BT1339

protection for the contacts:

a. AC: RC-combination or varistor (metalloxyd)

b. DC: diodes (U_{block} > 5 x U_{valve})

Safety shut-off devices can not be switched directly!

maximum length of cable:

Ionisation supervision max. 75m, ionisation cable separate from power, UV-supervision max. 50m, cable Ölflex YSLY-JZ 3 x 1,5mm².

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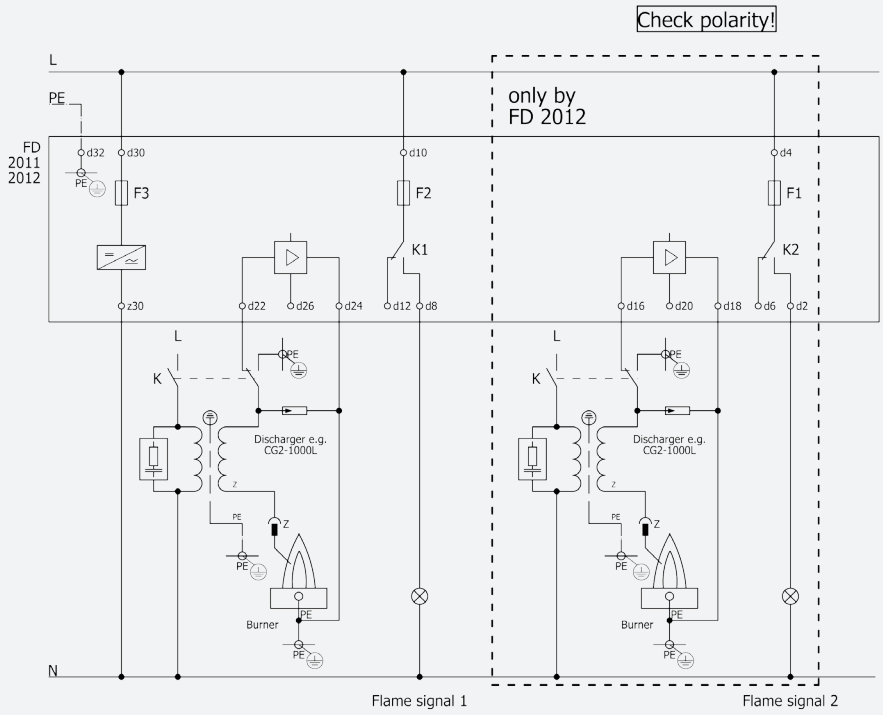
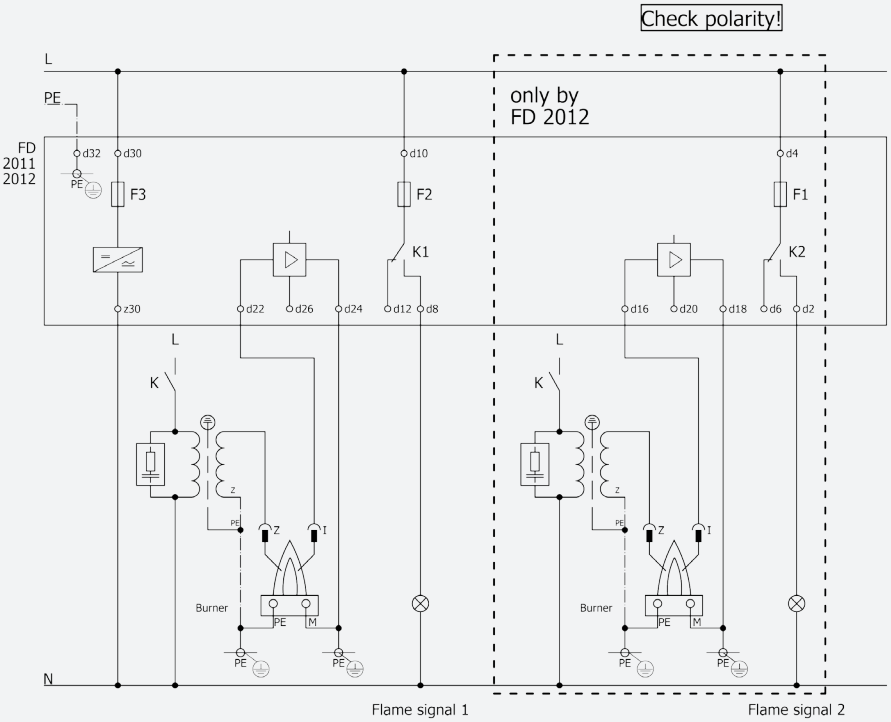
Connection example 1/3 for FD 2011, FD 2012

Monitoring of ionisation with common spark- and monitoring electrode



Connection example 2/3 for FD 2011, FD 2012

Monitoring of ionisation with separate ignition- and monitoring electrode



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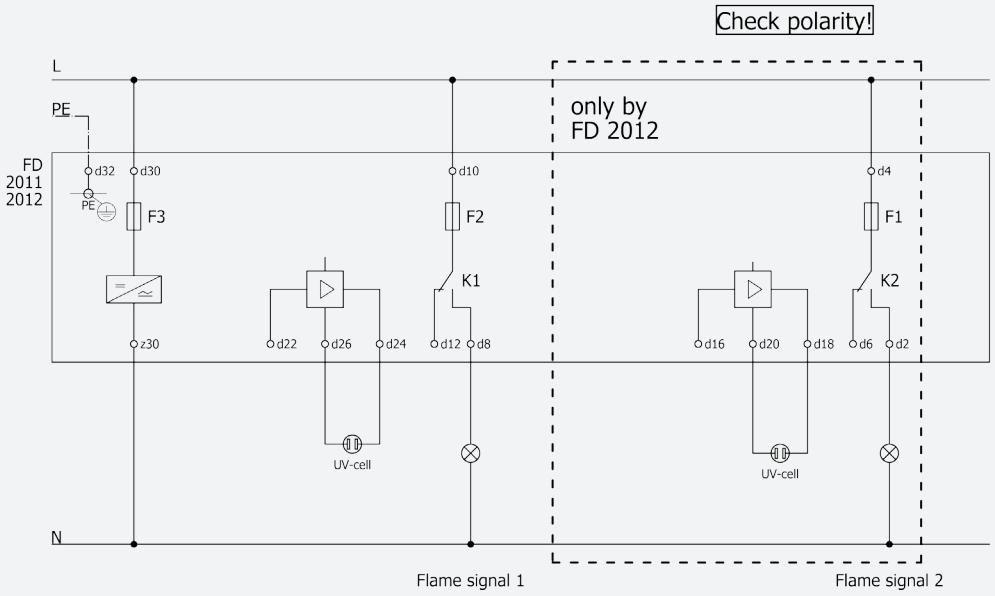
Connection example 3/3 for FD 2011, FD 2012

Monitoring with UV-tube



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Appendix to flame detector FD 2011, FD 2012

For a failure-free operation of the Flade detector FD 201x, you should pay attention on the early stage of development. Additional modifications on existing plants increase the costs. To prevent unnecessary expenses, please follow the remarks:

General

The flame detector FD 201x is certificated and subjected to EN 298/ EN 230. Installation and handling of the flame detector by authorised specialists only.

Advice for cable laying outside the switchboard:

- The flame detector FD 201x should be installed vibration-free.
- Electronically components should be installed in shielded areas, according to there sensitivity.
- Don't install the flame detector FD 201x close to a frequency converter or transformers.
- Separate laying of measuring- / data cores and high voltage cores or cables.
- In general we advice a separate laying of ignition cable.

Advice for the installation inside the switchboard:

- If a power transformer is used, we advice a power transformer with shield winding.
- Valves, contactors, relays and ignition transformers must have a protective circuit as follows:
  - DC voltage: recovery diode;
  - AC voltage: RC-combination / varistor parallel to the coil;
- Eathing measures:
  - Decide on a adequate central earth point, which receives all earth cores and shields.
  - In an exceptional case it could be necessary to lay the shield on a separate terminal block.
  - The cross-section of an earth core must be big enough.
  - A loop laying of an earth core must be avoided.
  - Every earthing must be direct on the central earth bar and on the feeder earth.

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Before initial start-up of flame detector FD 201x check the following:

- The phasing of voltage must be adhered.
- Has the unit got fluctuation of temperature, otherwise it is for seeing, that no condensation water arose.
- Is the voltage supply identical to the specification on the flame detector (link on the blank).

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