

HAUG Ionization - for the detection of perforations



Applications

The PZ 3 perforation counter is mainly applied in the manufacturing of plastic bags. The contactless detection of perforations allows the number of bags/batches to be determined and indicates when the material rolls need to be changed.

Mode of operation

Sparks are generated at the point of the perforation of the film by means of a high-voltage electrode (counting electrode) and a suitable earthed/grounded counter-electrode. These sparks are interpreted and counted by the logic circuit integrated in the PZ 3 perforation counter and indicated visually on the display through a light-emitting diode. The counting pulses transmitted by an opto-coupler can be interpreted by an external counter and may be used for activating other machine functions (such as the control of reversing winding machines and cutting machines).

Directions for installation

The counting electrode must be mounted above the material web at a distance of approx. 10 to 20 mm and centered over the perforations to ensure the perfect functioning of the PZ 3. An earthed/grounded counter-electrode below the material web (e.g. earthed metal drum) must be in physical contact with the foil opposite the counting electrode.

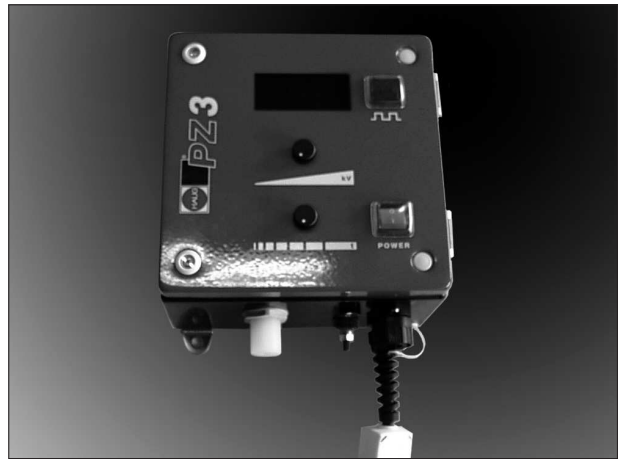
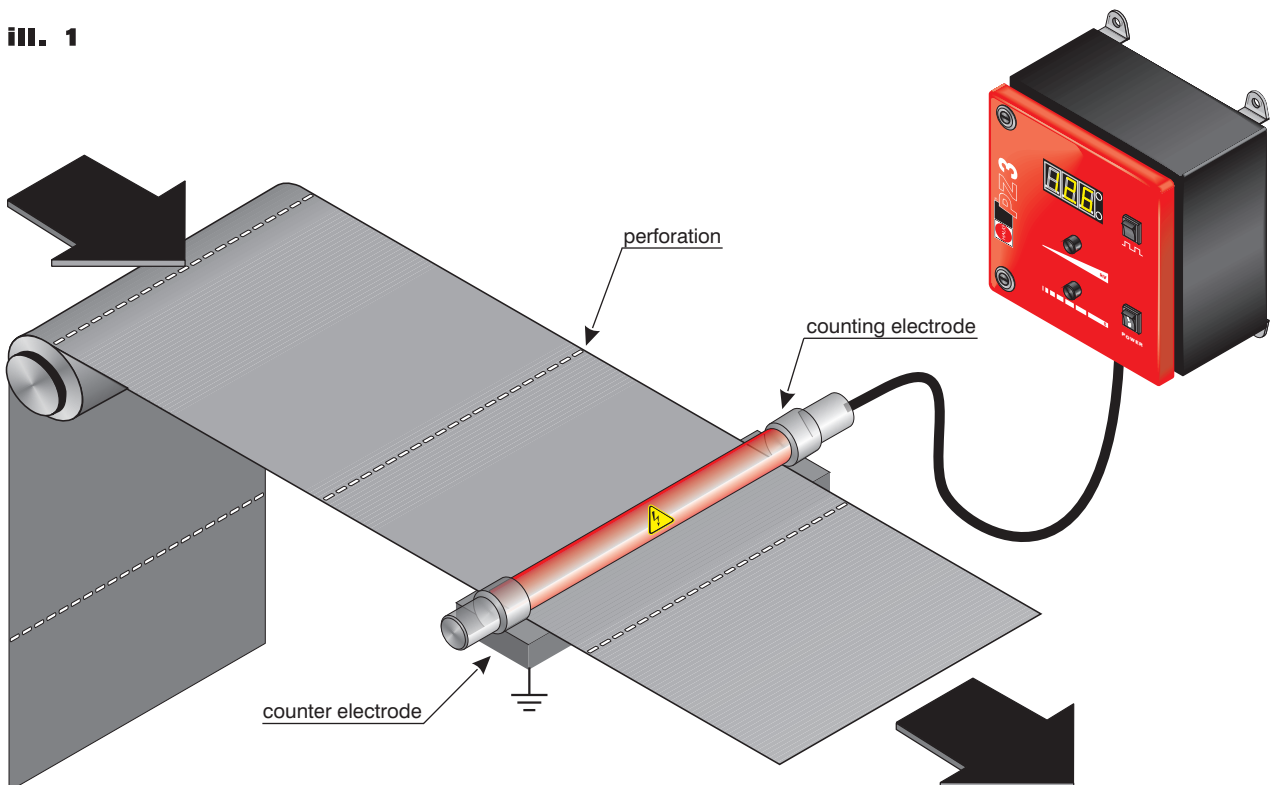


Photo 1

Special features and advantages

- The PZ 3 perforation counter offers the possibility to capture up to 900 counting pulses per minute. This corresponds to a counting rate of 15 counting pulses per second (15 Hz).
- The duration of the counting impulses is adjustable from 5 to 1000 ms. This helps to suppress subsequent spark-overs that may be triggered by "holes" in the film and should not be counted.
- The high voltage applied to the counting electrode is infinitely adjustable from 2.4 up to 17 kV_{DC}.
- The external release of the output voltage can be activated through a voltage-free contact, so that high voltage is applied to the counting electrode, for instance when the material web is moving.

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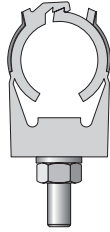
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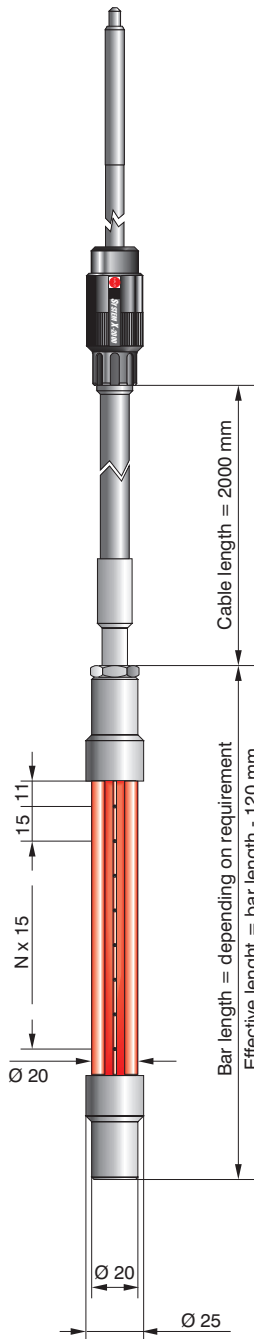


Holder for counting electrode

Order no.: 10.0004.000



Order no.: X-0404

**Technical data PZ 3**

Types: **PZ 3** (230 V) Order-No.: 12.0800.000
PZ 3 (115 V) Order-No.: 12.0801.000

Dimensions: approx. 200 x 200 x 100 mm

HV-terminals: 1 HV-terminal for counting electrodes

Power supply: 115 V_~ / 230 V_~ (50 – 60 Hz)High voltage: $U = 2.4$ to 18 kV_{DC}Short circuit current: $I_k < 1$ mA

Internal counting lock: 5 ms to 1000 ms

Counting rate: max. approx. 15 Hz, corresponding to 900 pulses per minute

External voltage at counting output: 2 V_{DC} up to max. 30 V_{DC}

Operating temperature: +5 °C to +45 °C

Transport/storage temperature: -15 °C to +60 °C

Housing: Metal, protection type IP 54

Weight: approx. 2 kg

Mains cable: 2.6 m; fixed to the device

Smallest bending radius (cable): R 50

Subject to technical changes!

Accessories

Counting electrode AS SL Order-No.: 08.8715.000

Holder for counting electrode Order-No.: 10.0004.000

Counting electrode AE 005 50 mm Order-No.: 08.8598.105

Counting electrode AE 008 80 mm Order-No.: 08.8598.108

Counting electrode AE 011 110 mm Order-No.: 08.8598.111

Signalling cable K 1

5 m, with round plug Order-No.: 06.8941.000

10 m, with round plug Order-No.: 06.8941.001

20 m, with round plug Order-No.: 06.8941.002

Round plug Order-No.: X-0616

Angled plug Order-No.: X-5718

