

ZYGGOT ARC

Arc flash protection system





Smart protection against Arc Flashes

The **Zyggot Arc Protects** electrical systems and components because detects arc flash through intelligent network sensors that detect UV radiation. This radiation exists in any electric arc, in its initial moments, and even before visible light (a phase already associated with air

expansion and overheating). It can be applied in low, medium high voltage electrical panels and external applications. It can be applied in low, medium high voltage electrical panels and external applications.



> Features



Detection in the early phases of the arc



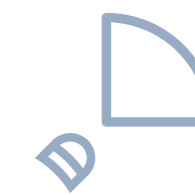
Ultra fast action, less than 0.3 milliseconds



Does not detect visible light, avoiding false tripping



No current reading required

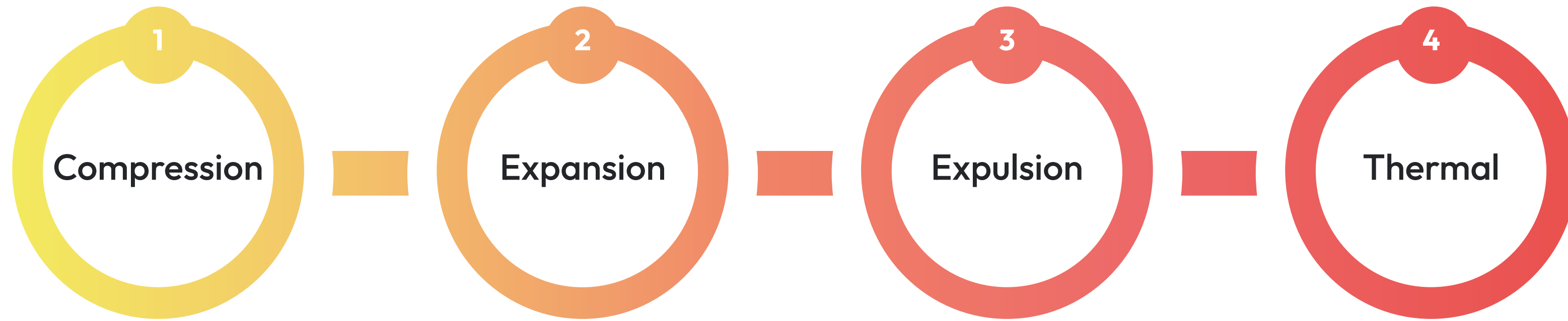


Wide detection area (90°)



Solution that results in the lowest incident energy on the market

> Arc Phases



Detection period of Zyggot Arc sensors

Detection period of conventional sensors

The arc discharge increases the internal pressure. In this phase, the air ionization produces ultraviolet waves that are detected by the Zyggot Arc sensors.

(5 - 15 milliseconds)

The high pressure causes the opening of the pressure relief devices.

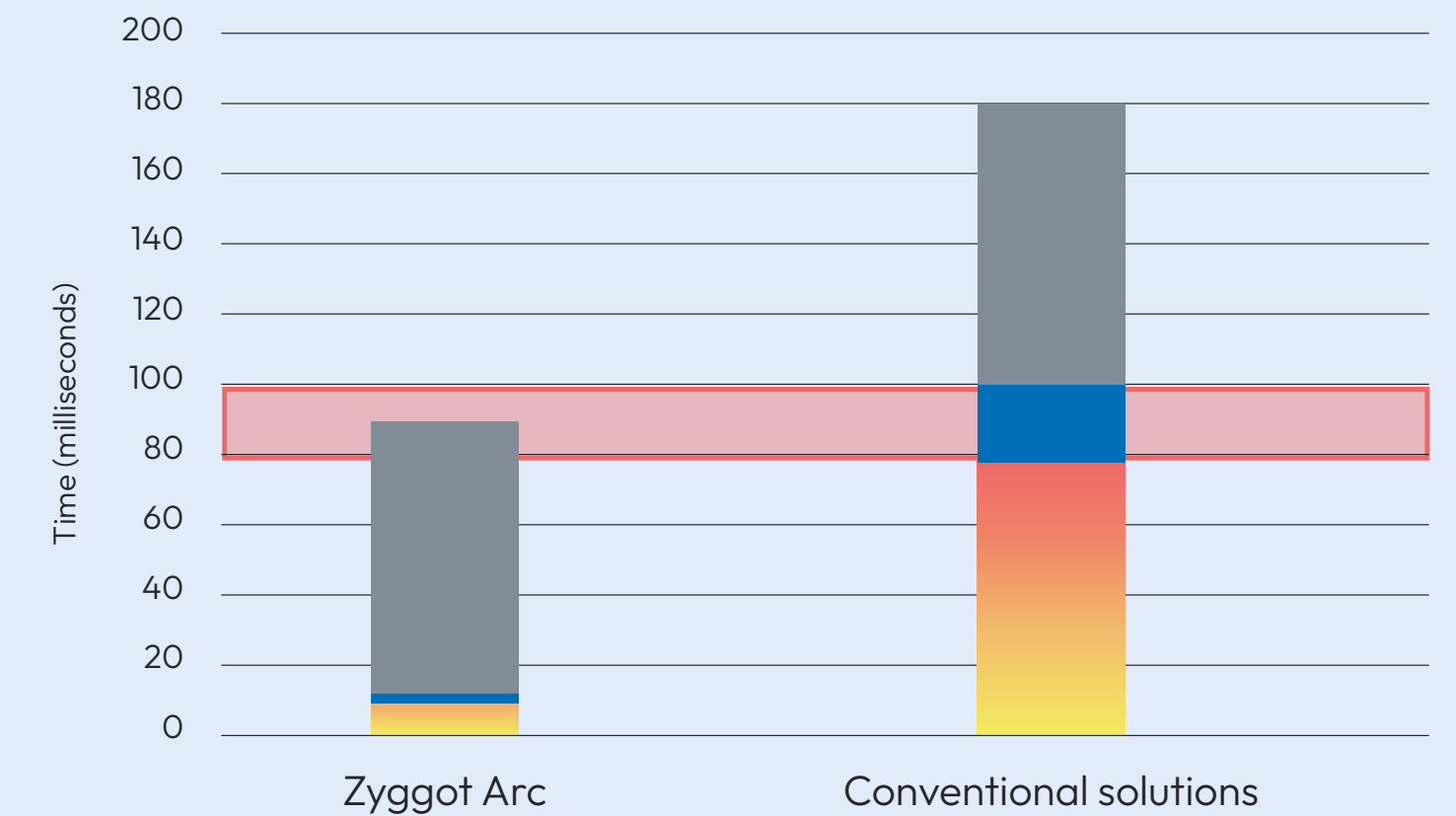
(5 - 15 milliseconds)

The internal pressure drops. The exhaust effect continues at constant pressure until the internal temperature of the panel and the arc is equalized.

(40 - 60 milliseconds)


The arc totally damages insulating materials, conductive and structuring materials. The temperature rises to several thousand degrees centigrade. This phase is due to the dissipation of thermal energy.

Study case: Comparison between Zyggot Arc and conventional solutions




Source: Kumpulainen, L.; Dahl, S. Minimizing hazard to personnel, damage to equipment, and process outages by optical arc-flash protection. In: "IEEE Petroleum and Chemical Industry Conference", Europe, 2010.

COMMUNICATION

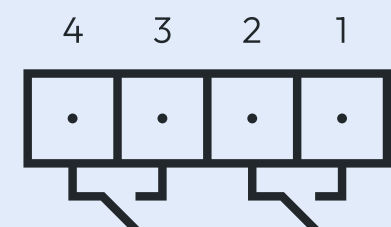
 RS-485 Modbus-RTU (slave)

SENSORS INPUT

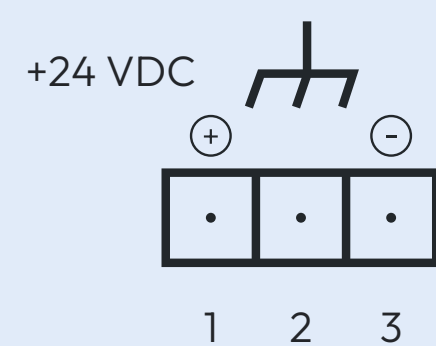
 Mini USB connector for sensors communication



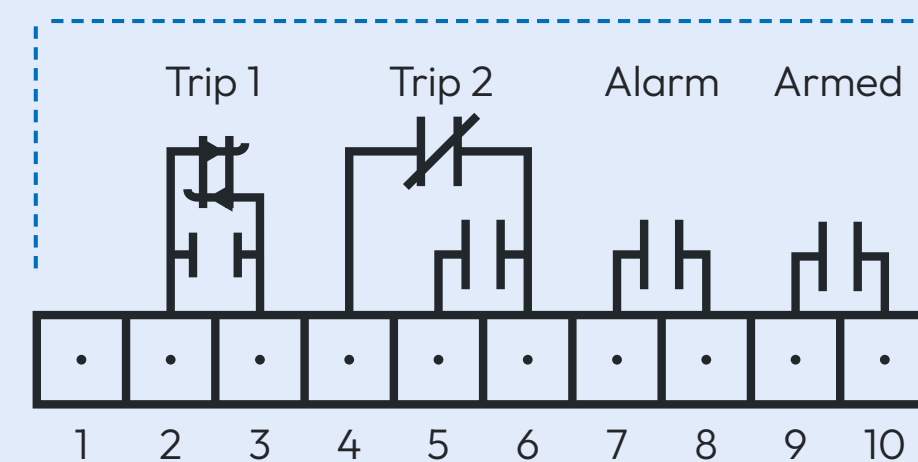
2 DIGITAL INPUTS

4 3 2 1

 Reset/ inhibit aux. 1 (reserved)

EXTERNAL (POWER SUPPLY)

+24 VDC

 1 2 3

INTERNAL (CIRCUIT)



> Relay characteristics

Dedicated to act when the Zyggot sensor performs detection. The detection is ultrafast with total sending time of the trip signal of up to 300 microseconds. To guarantee this time, the system uses a static contact in parallel with the relay contact and an ultra fast digital communication network (CAN).

All accessories are provided, such as fastening brackets, allowing quick installation, error-free and without the use of tools.

POWER SUPPLY

24 VDC

HUMIDITY

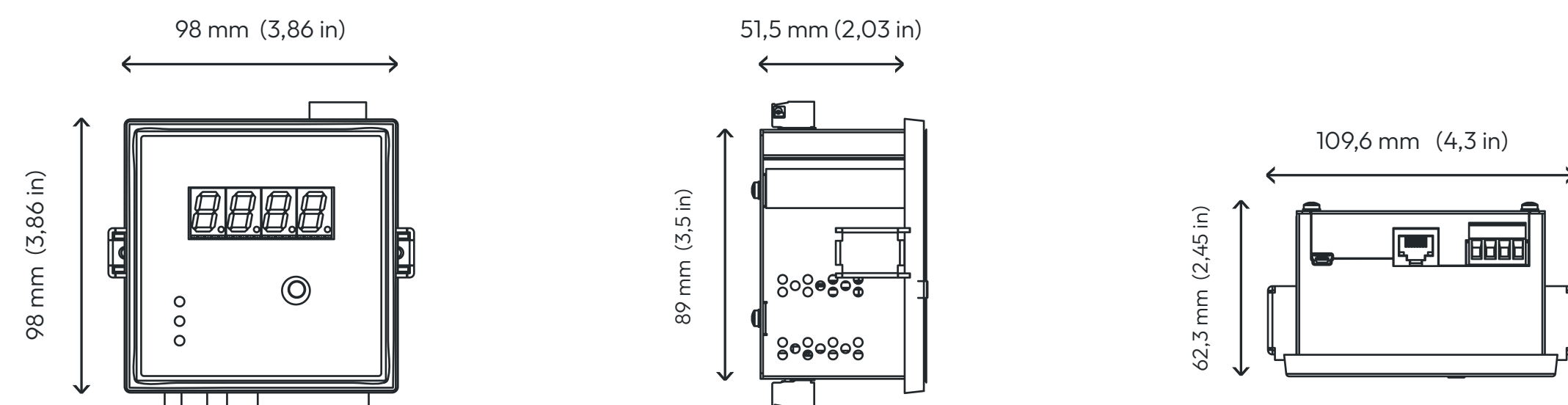
5 % to 95%

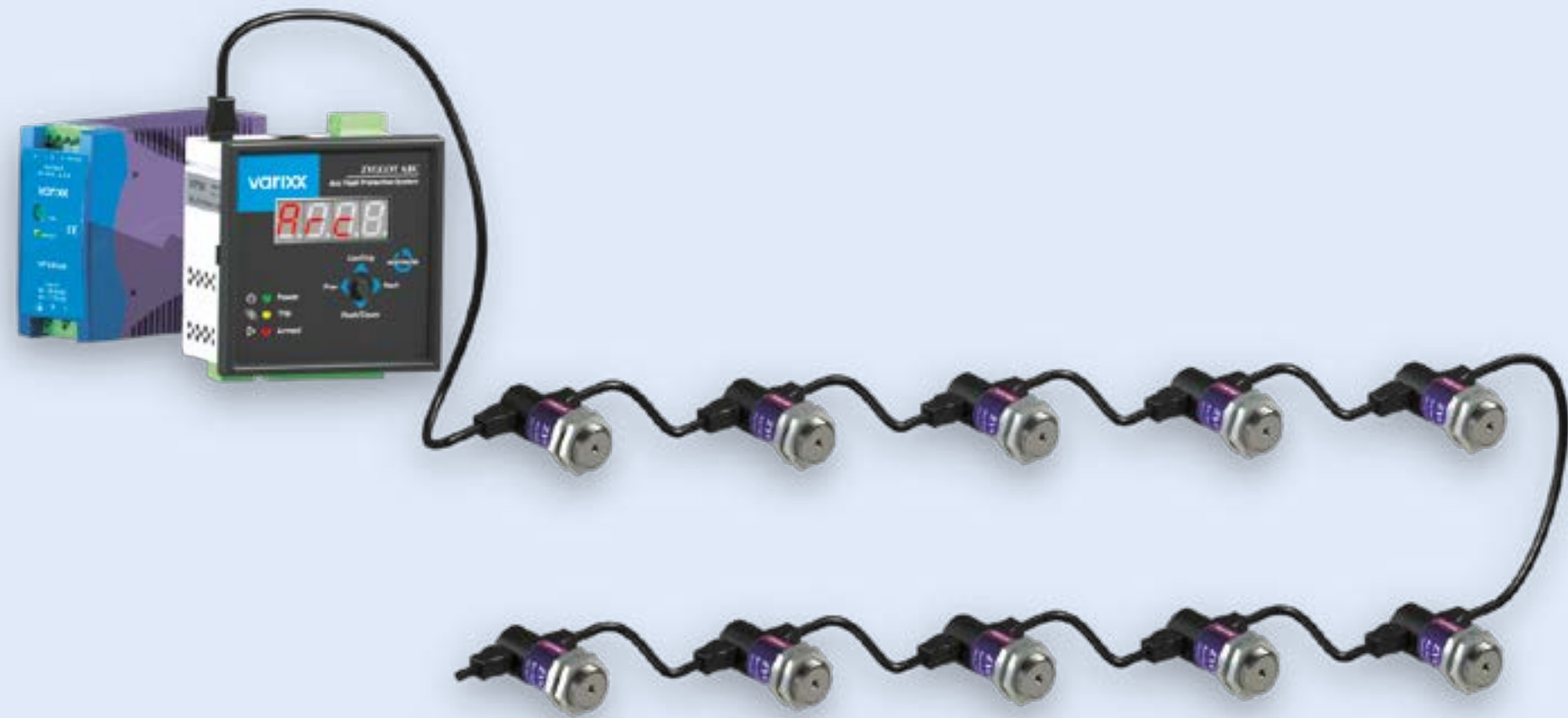
NUMBER OF SENSORS

Up to 50 sensors

OUTPUTS

2 trip static contact/relay





The cables are supplied in sizes from 0.3 to 8 meters.

Two options for different applications



UVA Sensor

For applications in sheltered environments until 3kV.



UVB Sensor

For applications in non-sheltered environments or applications above 3kV.

> Sensors characteristics

Zyggot Arc's sensors dispenses the current reading because it realizes the protection through the detection of the ultraviolet radiation, produced in any voltaic arc before the visible light (which is associated with the phase of expansion of the air and overheating).

POWER SUPPLY

24 VDC

MEASUREMENT ANGLE

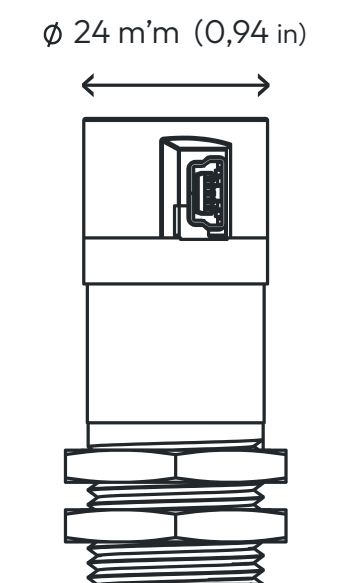
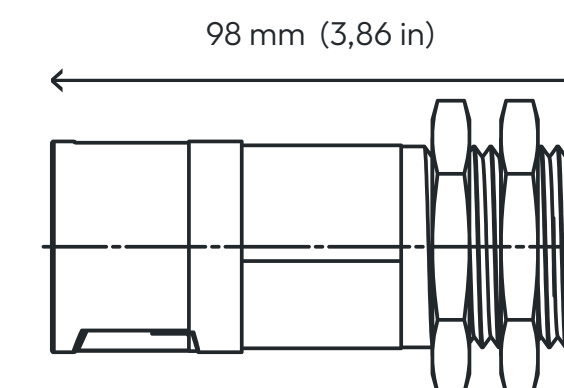
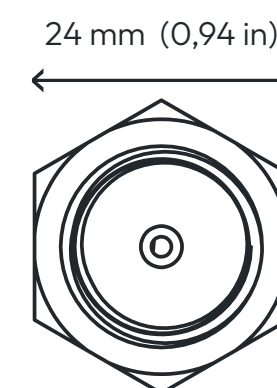
90°

COMMUNICATION

CAN

MATERIAL

2 trip static contact/relay





Learn more technical details about Zyggot Arc, Varixx's Ultraviolet detection and arc protection system.

And also get to know Varixx's online thermography system, Zyggot Temperature, which predictively monitors and protects low and medium voltage or other critical electrical connections.

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