

**Project Note**

# 230V Base Variant for a Home Smoke Detector

For a battery operated home smoke detector, Zühlke developed a 230V base variant. The safety requirements and low production costs had to be taken into account.

**Task**

To complete the current product line of Hekatron, a 230V base variant for the HSD IV home smoke detector had to be developed. This new base variant allows the power supply to be obtained either from the built-in battery or from the 230V power supply at the installation site. The functionality and design of the smoke detector were assumed. In this regard, low production costs played a very important role.

**Implementation**

Various implementation possibilities for the mechanics and electronics were developed in the conception phase. All variations were evaluated according to their technical feasibility, process capability and production costs. A final variant solution was established together with the customer.

In implementing the preferred variant, certain safety requirements and safety standards had to be taken into account. The base was developed to be compatible with different ceiling sockets. The first variants were manufactured as moulds from silicone tools and fitted with the corresponding electronic printed circuit board. The utilisability and handling of the new product was tested in field tests. The findings from these tests were incorporated into the preparation for the construction and electronics for the series.



**HEKATRON**



**Technical Data**

FFeed:  
9VDC/230VAC

Power consumption:  
< 0.4W

Protection class:  
IP42

Material:  
PC (CALIBRE)

Tools:  
Pro/Engineer 2001,  
OrCad

**Customer benefits**

- Presentation of various implementation possibilities in a short period of time.
- The customer can evaluate the development potential based on the functional model and initiate the subsequent phases.
- The interdisciplinary development team guarantees quick communications and decision-making channels.
- Access to the technology through in-house know-how, combined with contacts to a large network of external specialists.

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