


# Three-way safety

DAFDD — Make safety your priority with the comprehensive protection concept from Doepke – the expert for protection against electrical damage!

- protection against fault currents
- protection against short-circuits and overload
- protection against arc faults





# Safety<sup>3</sup> = DAFDD

Our fire protection switch, the DAFDD (arc-fault detection device, AFDD), offers reliable protection against fault currents, short-circuits, overload and arc faults.

- DAFDD**
- reduces the risk of fire in fixed installations
  - it unites three functions in a single unit: RCCB + MCB + AFD
  - just three narrow modular units
  - simple troubleshooting: signal indicates cause of tripping (LED flashing code, indicator triggered by fault current and contact position)
  - last AFD fault code is saved, can be read out again
  - integrated overvoltage protection (> 270 V)
  - self-monitoring of AFD unit
  - fault current type A (pulsating current-sensitive and AC current-sensitive) and A KV (slow-blow)
  - line protection: tripping characteristic B (standard protection for lighting and socket circuits) or tripping characteristic C (for high inrush or peak currents)
  - satisfies the standards DIN EN 61009-1 and DIN EN 62606



DIN VDE 0100-420 prescribes arc-fault detection devices in:

- common rooms and bedrooms in nurseries, nursing homes and accessible housing as per DIN 18040-2
- rooms and locations at risk of fire due to processed or stored materials (e.g. in the wood and paper industry), due to flammable building materials or fire-spreading structures (chimney effect) and for irreplaceable goods (e.g. in museums)



## More than just fire protection: one device, three functions

### Electric arcs and arc faults in serial and parallel

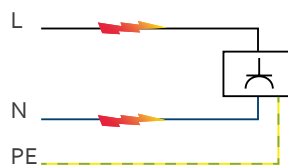
Electric arcs can occur for operational reasons when opening or closing mechanical contacts. They do not present any hazard.

Arc faults can be caused even by minor damage or insulation defects on conducting lines. If they go unnoticed, they can become a fire risk in the electrical installation. Parallel arc faults are detected by miniature circuit-breakers and residual current circuit-breakers, while serial arc faults can go unnoticed if no AFD unit is present.

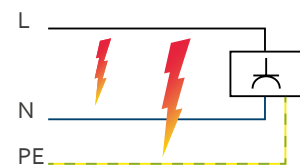
If these dangerous arc faults keep occurring for days, months or even years, they exert thermal stresses on the surrounding material, which cause changes to it and, in the worst-case scenario, can lead to devastating fires.

### Types of arc fault

serial fault:



parallel fault:



### Fault code display (repeated three times)

- continuously lit green: normal operation
- 1 × yellow: serial fault
- 2 × yellow: dimmer fault
- 3 × yellow: parallel fault
- 4 × yellow: overvoltage (> 270 V)
- 5 × yellow: temperature (> 115 °C)
- 6 × yellow + continuous yellow/red: internal error

# The DAFDD

## – the advantages at a glance

- guaranteed three-way protection: fault current and overcurrent protection, as well as arc fault switch-off in one device
- easy assembly thanks to compact design
- separate displays for each protective device
- AFD fault cause is displayed by LED blinking sequence and saved so it can be re-read
- continuous self-monitoring of the AFD unit in compliance with standards
- overcurrent protection available with characteristic B and C
- residual current circuit-breaker Type A and Type A KV (slow-blow)
- reduced fire risk in fixed installations
- reliable support: technical consultation and personal assistance from planning through to installation of the safety concept

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