

AFDD+ Arc Fault Detection Device Application Guide



Thanks to the highly sensitive electronics of the AFDD+, arc fault detection is now possible.



Powering Business Worldwide

Arc Fault Detection Device - Application Guide

The technology behind the AFDD+ (Eaton's Arc Fault Detection Device) will help you further reduce the risk of fire. Conventional devices are unable to detect any arc faults occurring inside your electrical installation. The device permanently checks your electrical installation to identify patterns that are characteristic of arc faults. With this application guide, Eaton intends to make it easier for you to localize the sources of such faults.

Trip cause

The AFDD+ will only emit the signature trip-flash pattern at the first power-up following a trip event. If the AFDD+ is switched off and on again, the light sequence will be red, orange and permanently green. If you want the device to display the trip cause again, hold down the test button when switching on the device.

Troubleshooting

Arc fault due to installation / load fault:

- Dirty switches
- Sluggish switches
- Switches that emit visible and audible sparks
- all kinds of damaged cables
- Loose pins
- Bulb replacement under voltage
- Old devices that are no longer in use (the switch is already corroded)

Remedy:

- Clean or replace
- Replace
- Replace
- Replace
- Tighten or replace the pins
- Replace only when no voltage is present
- Clean through repeated actuation or replace

Other faults:

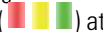
- Overvoltage
- Overtemperature



Remedy:

- Contact your network operator
- Check the temperature of the distribution board and the load situation

FAQ

How can I check if the AFDD+ is functioning properly?

Pressing the test button will initiate a functional test of the entire AFDD unit, including the electronics and finally trips the AFDD+. The light sequence red-orange-permanently green () at the power-up following the test indicates that the device is functioning properly.

In case the AFDD+ LED blinks (3 times, 6x ) when switched on, the device didn't pass the self check and needs to be replaced. In addition if the AFDD+ LED blinks ( , ...) or when the device LED is not emitting any light the device either needs replacement or further checks need to be performed.

What is important to note when connecting the AFDD+?

The AFDD+ has designated connections for the line side and the load side.

The line side is to be connected to the lower terminals, and the load side to the upper terminals.

Can I use the AFDD+ as a root switching device?

For technical reasons, the AFDD+ cannot be used as a root switching device. Each final circuit requires a separate AFDD+, as also stated in IEC 60364-4-42 and in IEC 60364-5-53 the 32/40 A types are intended for final circuits with high loads only (e.g. electrical radiators).

Particular type of load?

The AFDD+ arc fault trip cause indication can differentiate between 3 types of arcs:

- Serial arc: an arc occurring on loads in general (including dimmed loads with nearly 0 % dimming)
- Dimmer arc: an arc occurring on dimmed lamps, adjustable hand tools, ...
- Parallel arc: an arc between L and N, Arc on loads with high starting currents, ...

Support

For technical inquiries please get in contact with your local Eaton team.

The support engineer will need the following information:

General information

- Description of the installation
- How many AFDD units do you have installed?
- How many of them are functioning properly?

AFDD+ information

- Part no.
- MCB characteristics
- RCCB characteristics

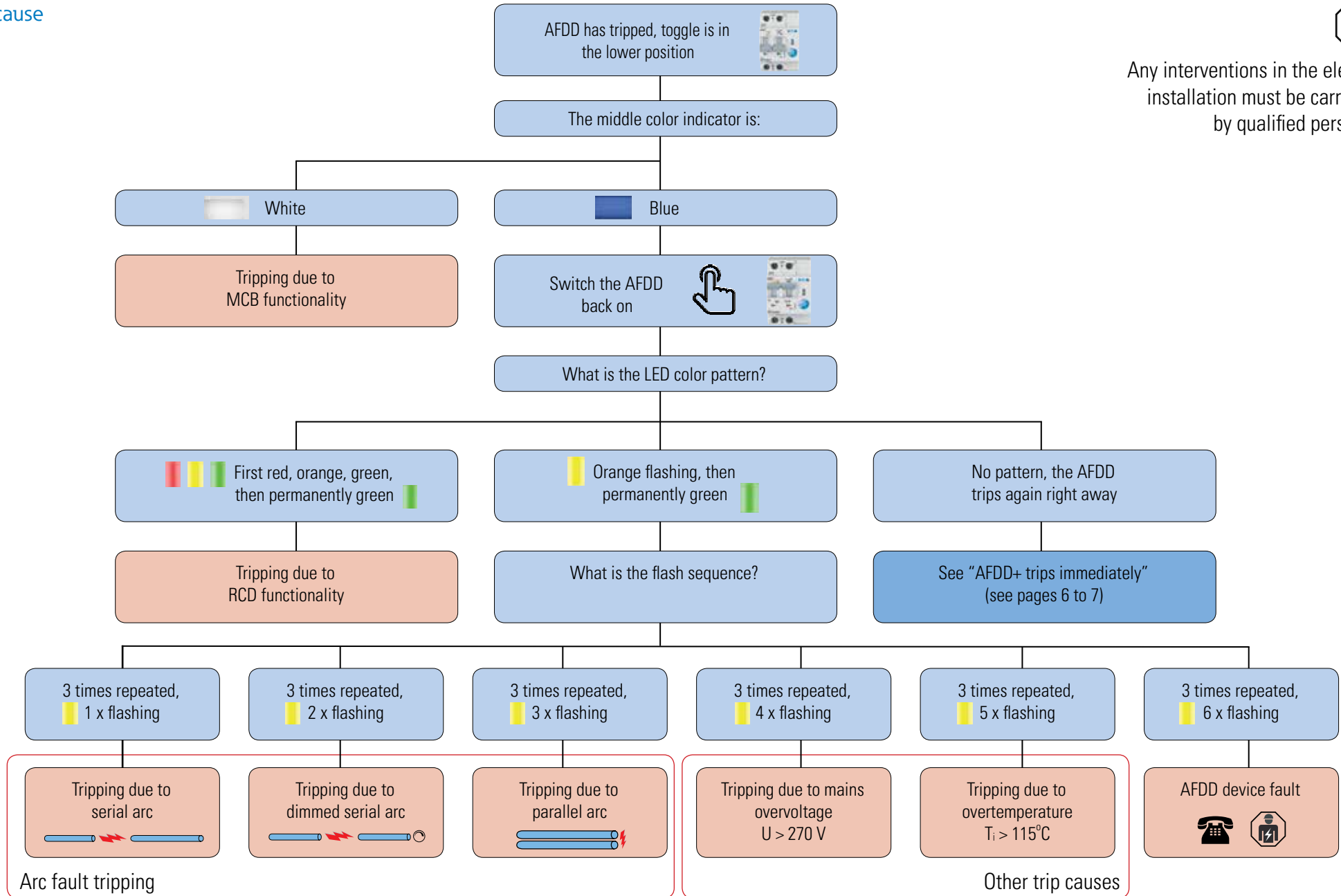
Information about the faulty load

- Manufacturer
- Part no.
- Photos (device, nameplate)
- Supplier

Trip cause



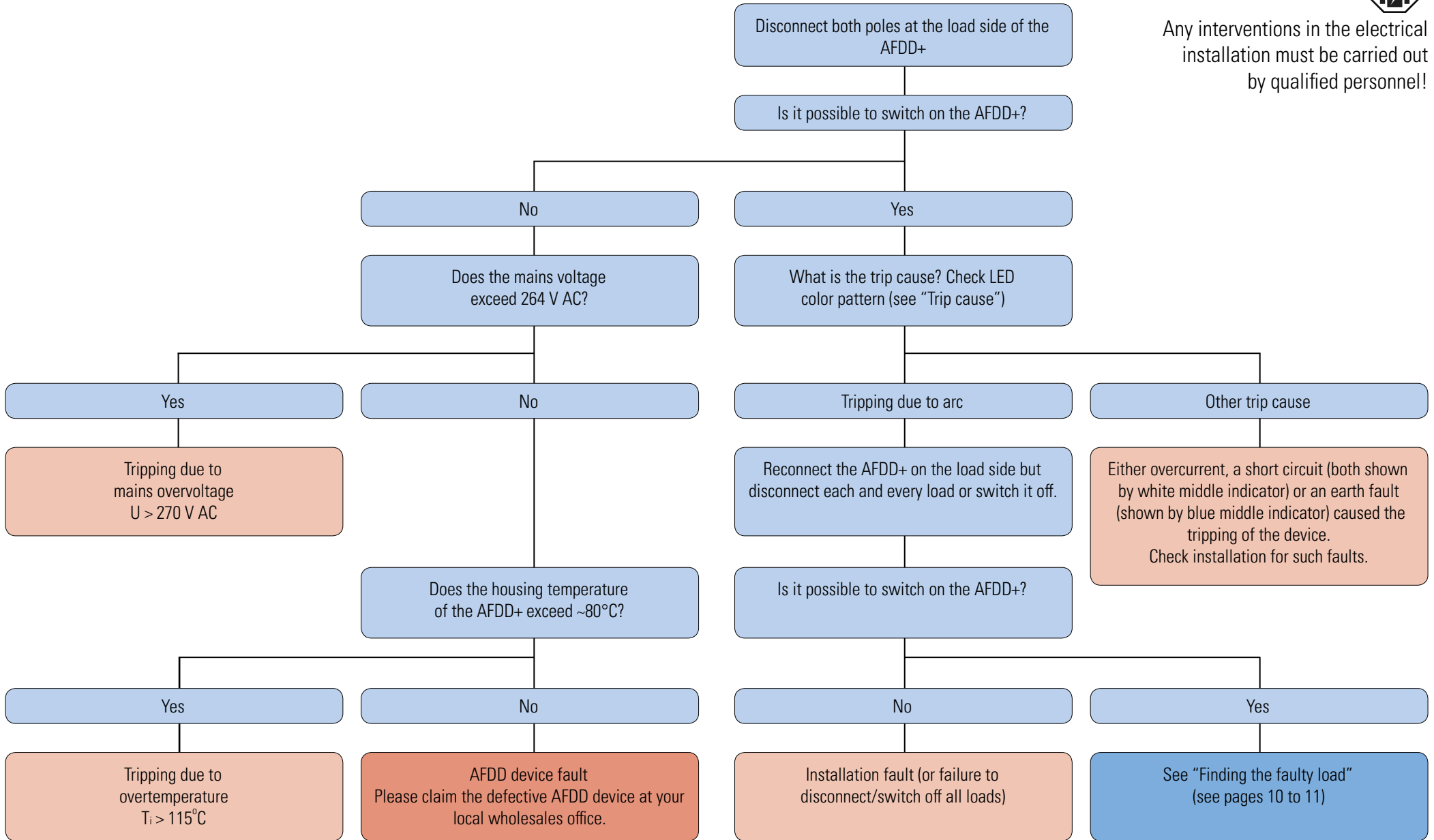
Any interventions in the electrical installation must be carried out by qualified personnel!



AFDD+ trips immediately



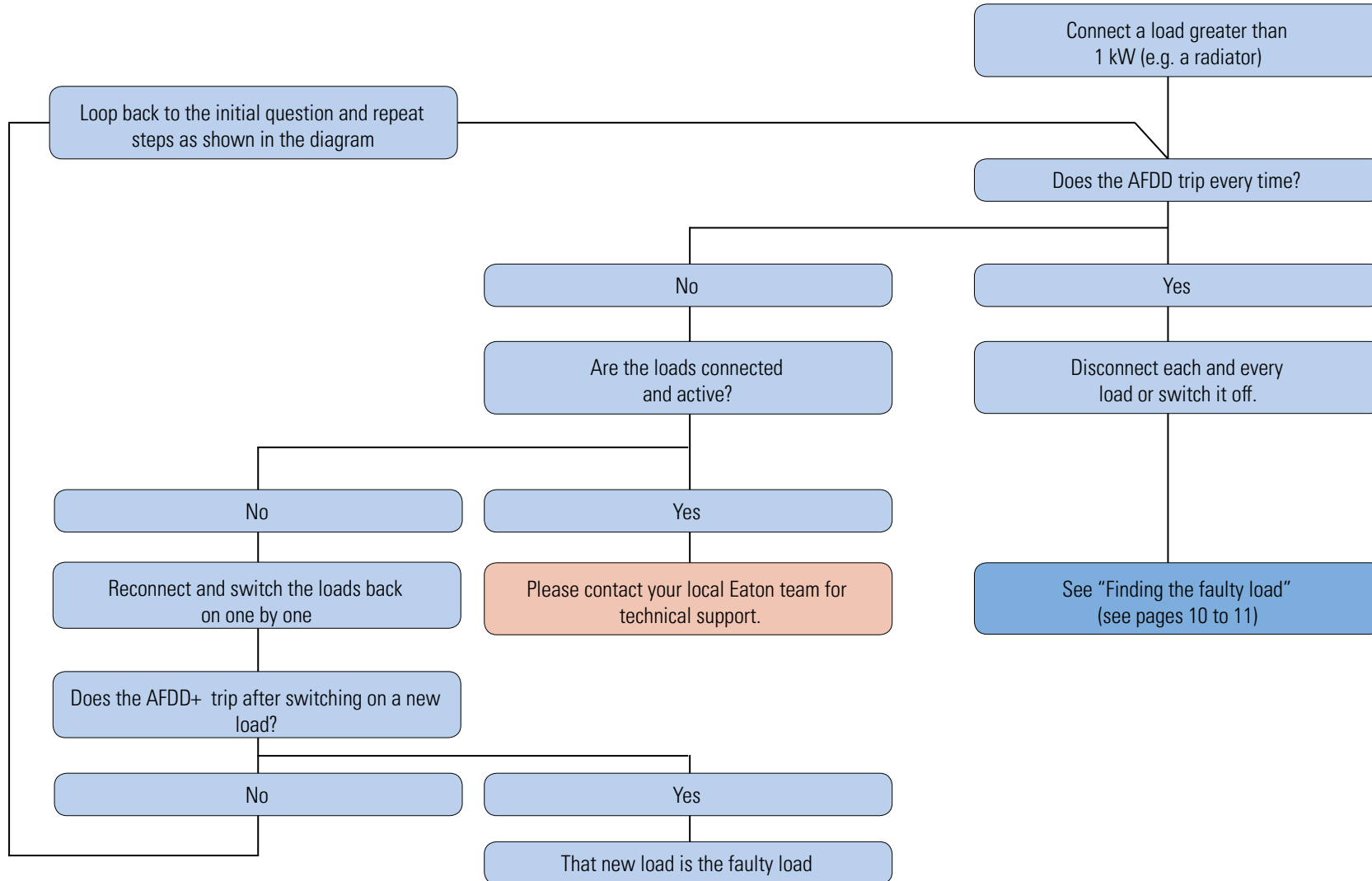
Any interventions in the electrical installation must be carried out by qualified personnel!



The AFDD+ trips infrequently



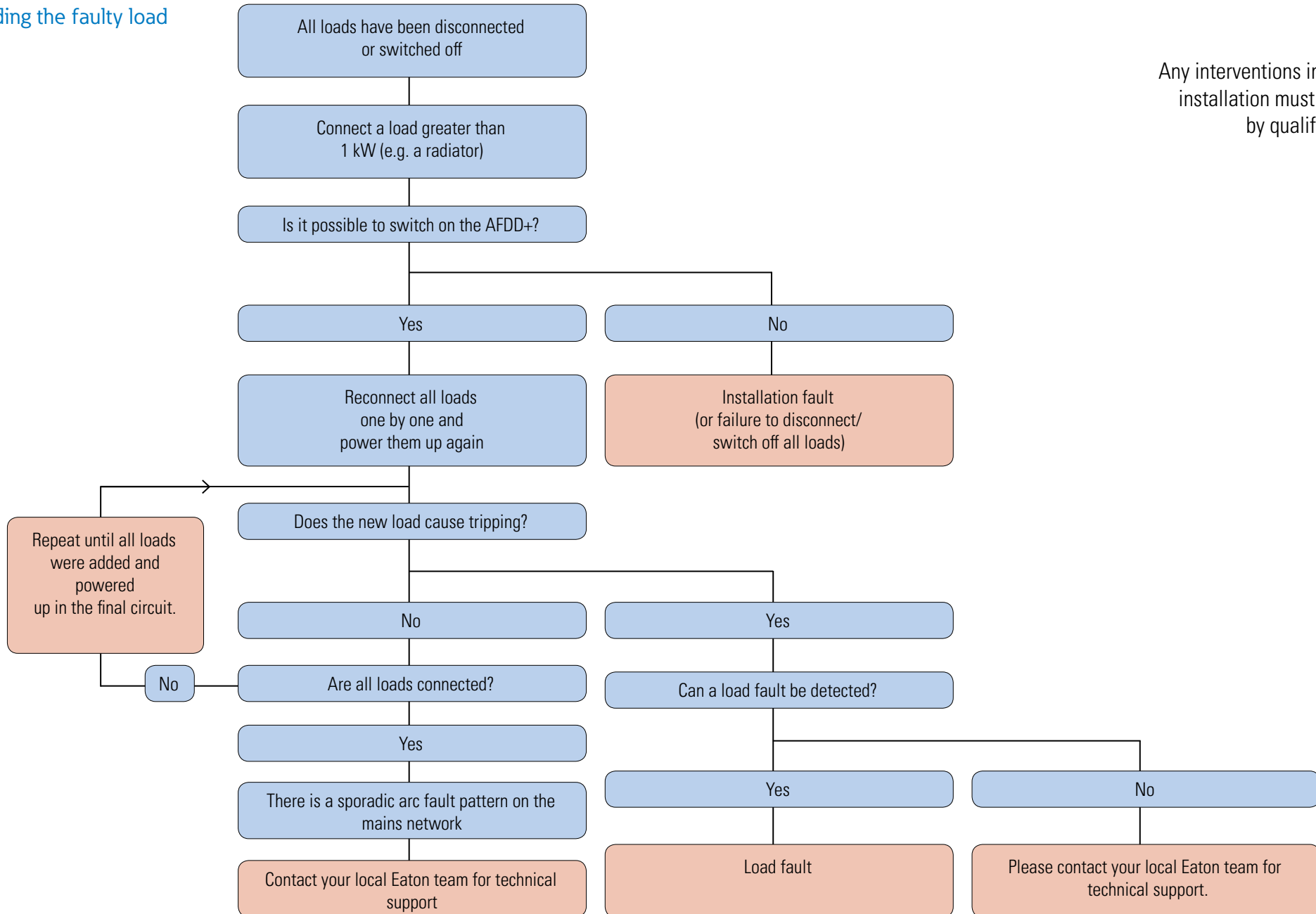
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Finding the faulty load



Any interventions in the electrical installation must be carried out by qualified personnel!



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