

AFDD+ - arc fault detection device application guide

The technology behind the AFDD+ (Arc Fault Detection Device) will help you to further reduce the risk of fire.

Conventional devices are unable to detect any arc flashes occurring inside your electrical installation.



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

The device permanently checks your electrical installation to identify the fault patterns that are characteristic of arc flashes.

With this application guide, Eaton seeks to make it easier for you to localize the sources of any such faults.

Application guide

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 green. If you want the device to display the trip cause again, hold down the test button when switching on the device.

Troubleshooting

Arc flash due to installation / load fault:

- Dirty switches
- Sluggish switches
- Switches that emit visible and audible sparks
- Cables that have been damaged by crushing
- Broken 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
- Replace
- Tighten or replace the pins
- Replace only when no voltage is present
- Clean through repeated actuation or replace

Other faults: Remedy:

- Overvoltage
 - Overtemperature
- 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.

The light sequence red-orange-green at the first power-up following the test indicates that the device is functioning properly.

What is important to note when connecting the AFDD?

The AFDD has designated connections for the mains side and the load side.

The mains 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 branch requires a separate AFDD. The 32/40 A types are intended for branches with high loads only (e.g. electrical radiators).

How can the trip cause be attributed to a particular load?

- 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

You can reach Eaton's support team via the following email address:

TechSupportEMEA@eaton.com

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

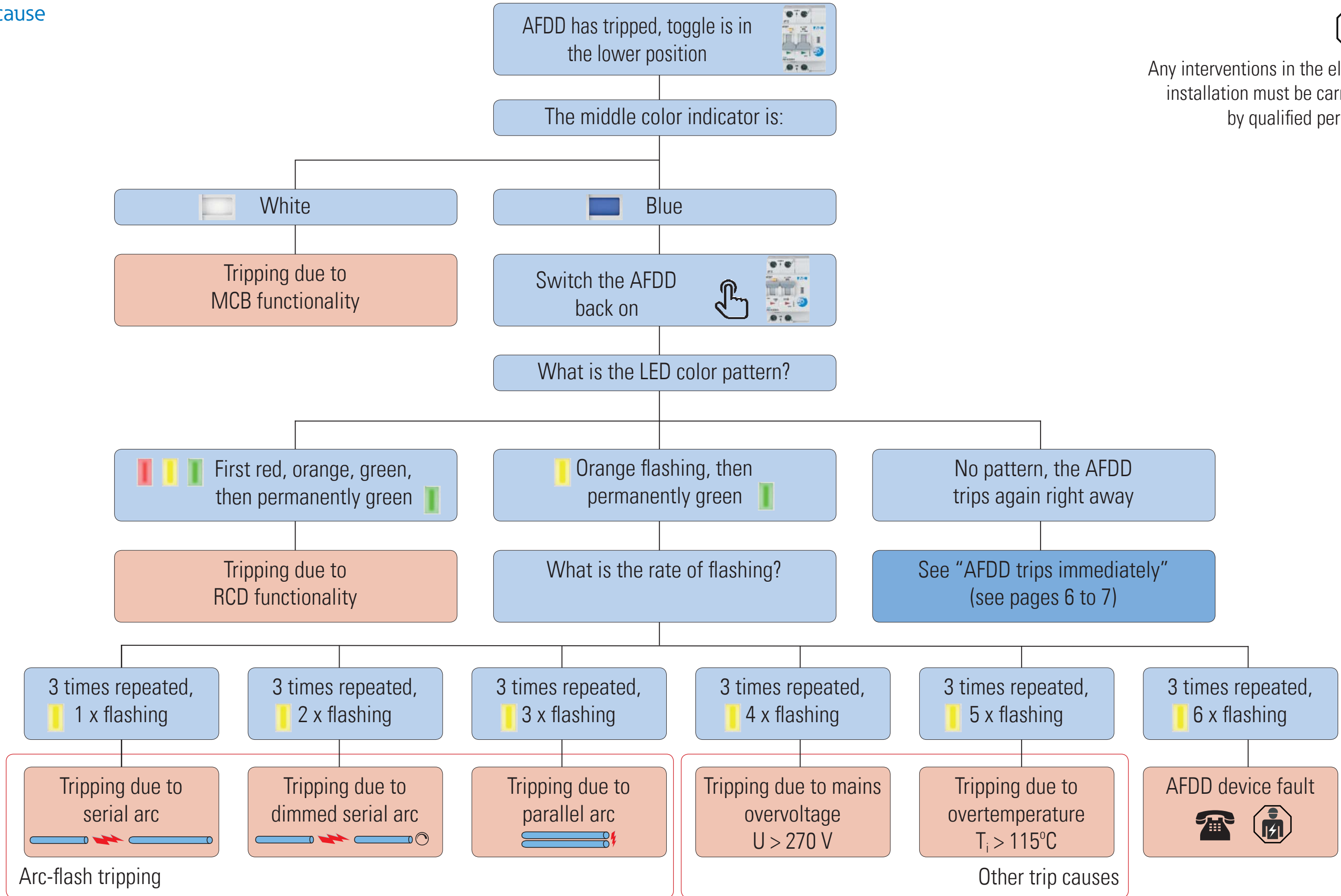
Information about the faulty load

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

Trip cause



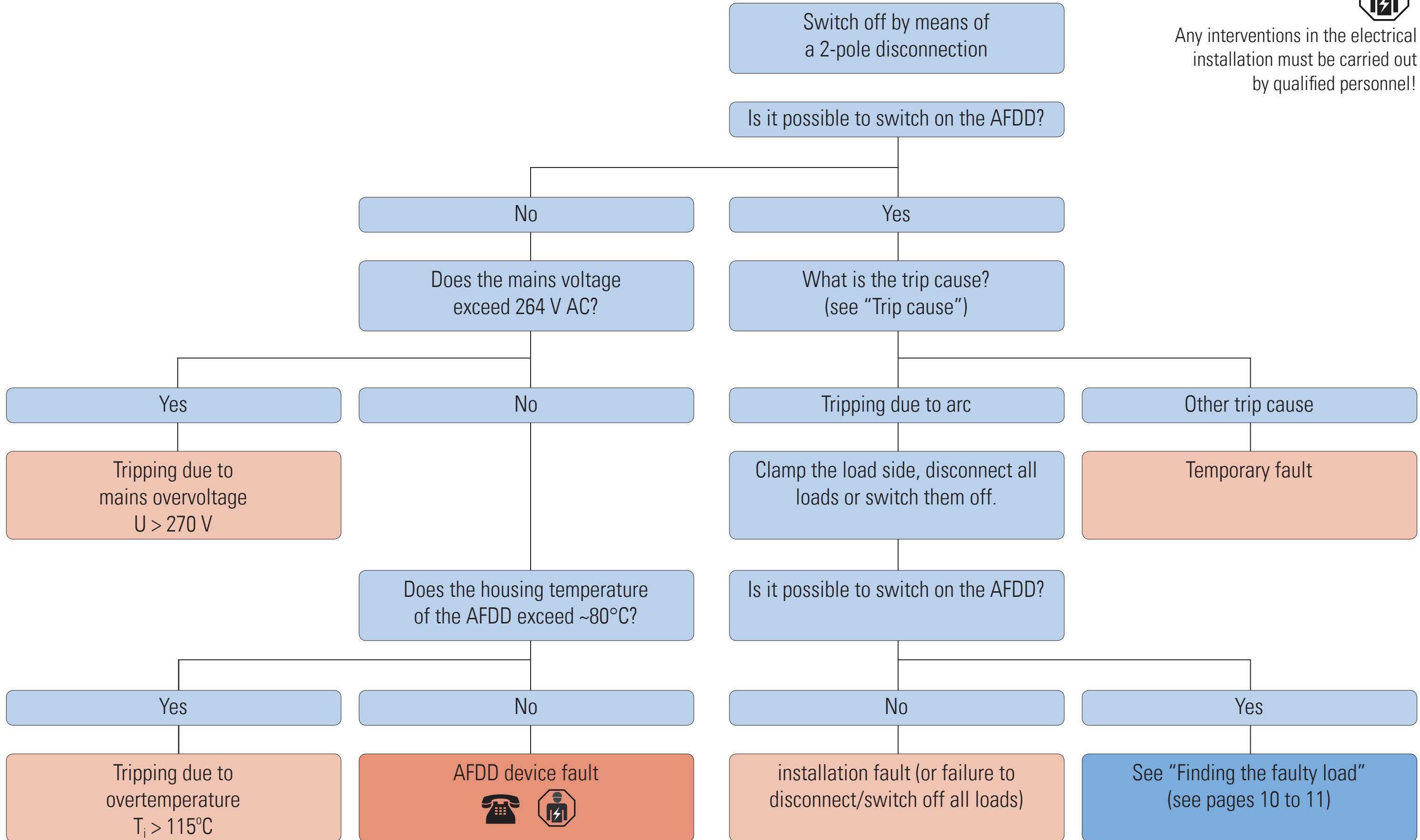
Any interventions in the electrical installation must be carried out by qualified personnel!



AFDD trips immediately



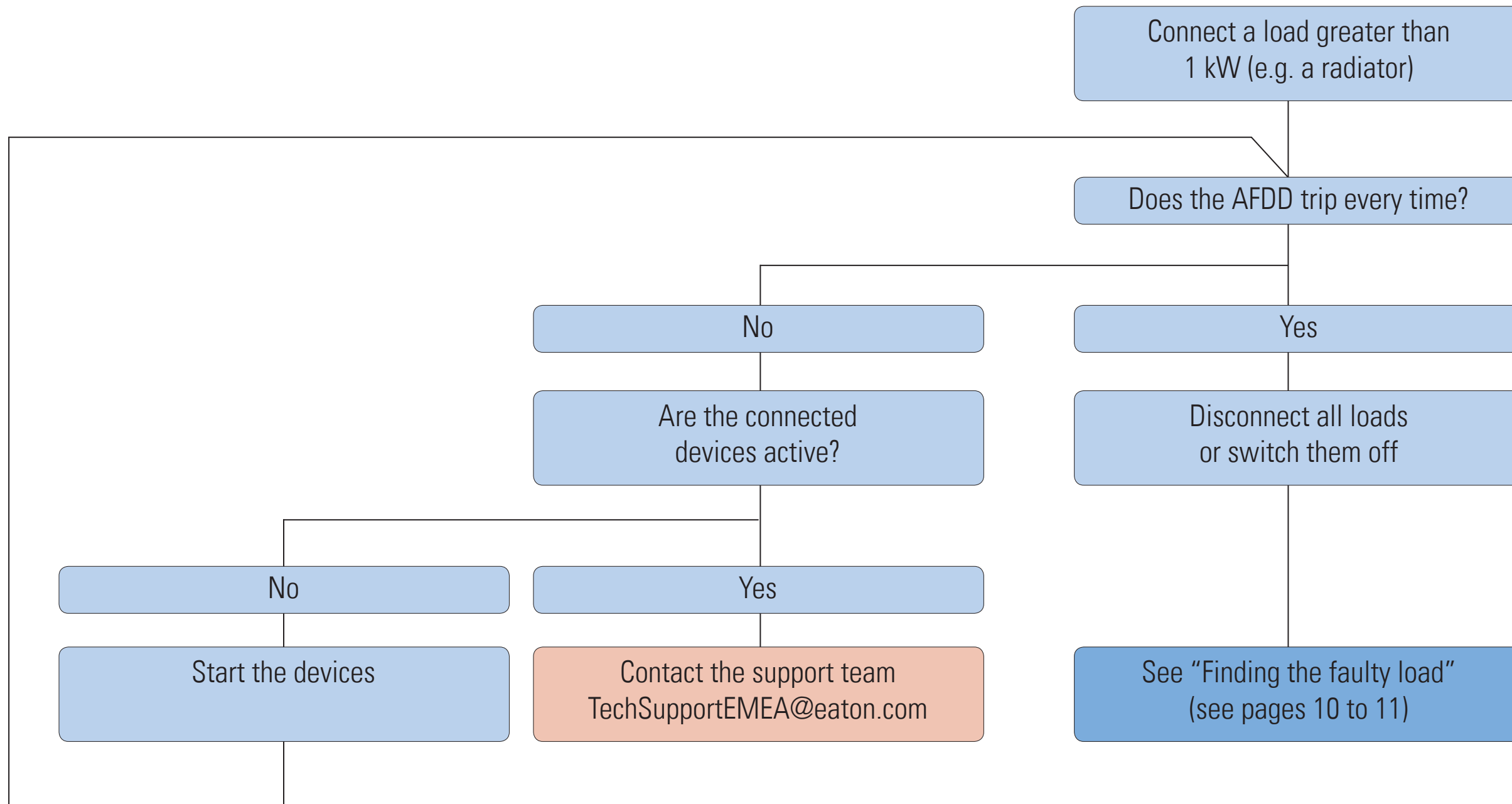
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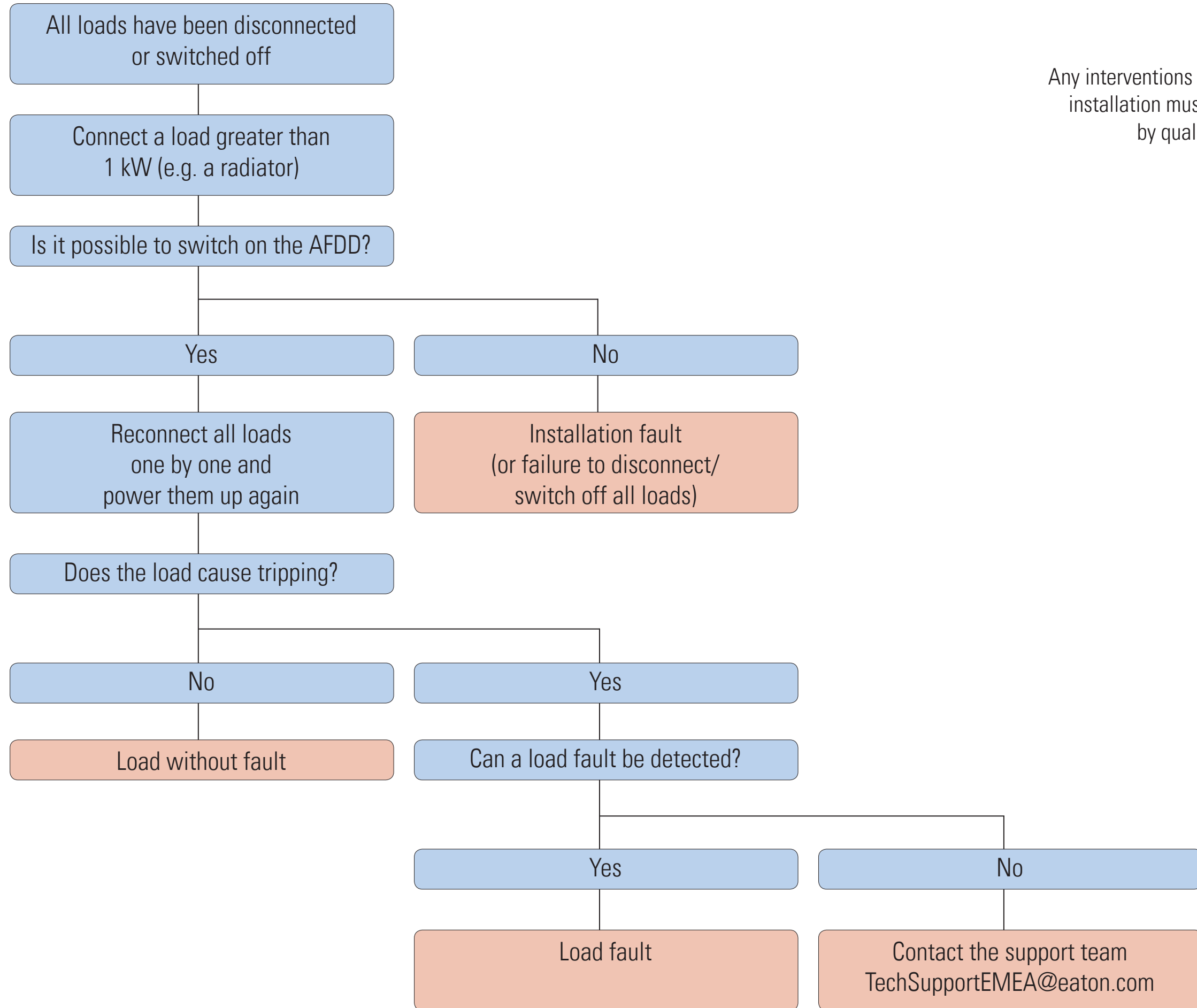
The AFDD trips infrequently



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



Finding the faulty load



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

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