hager RCBO-AFDD ARC Fault Detection Device User Guide

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hager RCBO-AFDD ARC Fault Detection Device

Product Information

The product being discussed in this manual is an RCBO-AFDD or MCB-AFDD. It is designed to protect electrical circuits from arc faults, residual current faults, overloads, and short circuits. The device has a test button and LED indicators to help with troubleshooting. The product is manufactured by Hager LTD in the United Kingdom.

Product Usage Instructions

1. **If the AFDD has tripped, perform a diagnostic by following the steps below:**
    - Switch off the AFDD.
    - Press the test button.
    - Check the status of the LED using Table 1 in the manual.
    - Check the status of the yellow flag.
2. If the LED is off, check the power supply voltage and/or connection to the AFDD. If voltage is okay, replace the AFDD. If voltage is below 216V or above 253V, assume an internal AFDD error.
3. If the LED is blinking yellow, assume an overvoltage issue and check the electrical installation and/or power supply.

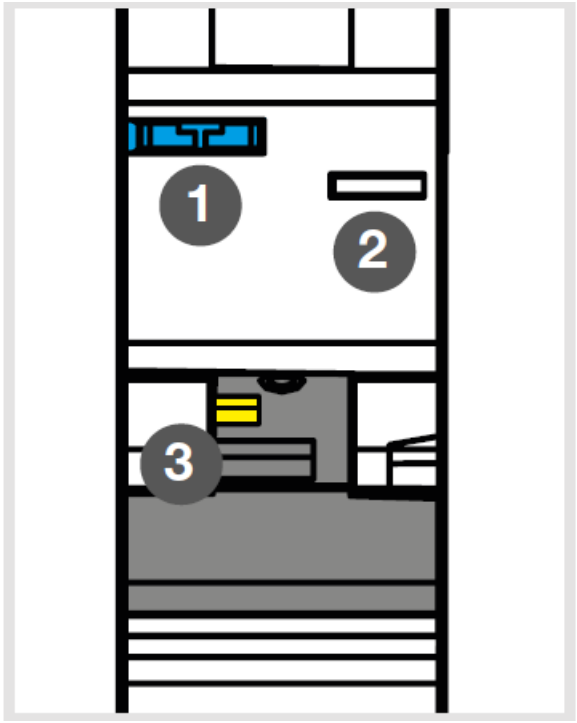
4. If the LED is steady yellow, perform standard electrical troubleshooting and check for short circuits or overloads.
5. If the LED is steady red, assume a residual current fault (only for RCBO-AFDD) and switch off load. Perform standard electrical troubleshooting and contact technical support if necessary.
6. If the LED is blinking red/yellow, check fixed cables of the installation and appliances.
7. If the LED is blinking red, assume a parallel arc fault and disconnect all appliances. Measure insulation resistance and identify the fault. If necessary, replace involved appliances or perform firmware update.
8. If the LED is blinking red/green with yellow flag absence, assume AFDD has manually tripped. Check for short circuit or overload and perform standard electrical troubleshooting.
9. If the LED is blinking red/green with yellow flag presence, assume AFDD has manually tripped. Check for short circuit or overload and perform standard electrical troubleshooting.
10. If the LED is blinking yellow, assume an internal failure and contact technical support.

What to do if the AFDD has tripped?
Customer:
Date:
Circuit:
Connected load:

Safety

The outgoing lines may only be connected or disconnected in a de-energized state.

Perform a diagnostic

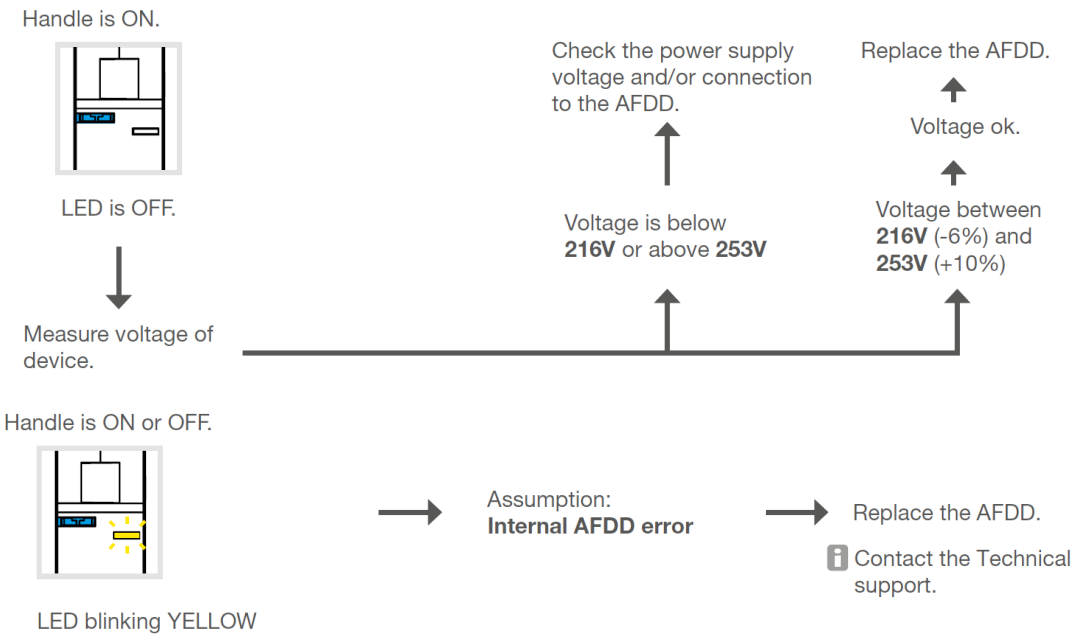


LED color-codes

Indicator		LED Status
	LED OFF	AFDD is OFF or internal failure
	Blinking RED/GREEN + yellow flag absence	AFDD manually tripped
	Blinking RED/GREEN + yellow flag presence	Overload or Short-Circuit
	Steady RED	Residual current fault Only for RCBO-AFDD
	Blinking RED/YELLOW	Series arc fault
	Blinking RED	Parallel arc fault
	Steady YELLOW	Overvoltage
	Blinking YELLOW	Internal failure Contact the technical support

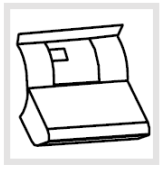
Troubleshooting

AFDD troubleshooting

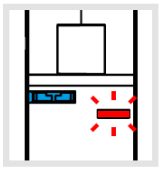


Standard electrical troubleshooting

Handle is OFF.



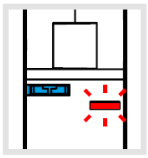
Yellow flag absence



LED blinking RED/GREEN

→ **AFDD manually tripped**

Yellow flag presence



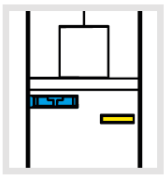
LED blinking RED/GREEN

→ **Short-circuit**

or

→ **Overload**

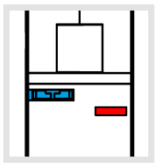
→ Do standard electrical troubleshooting and check the appearance of short-circuit or overload.



LED steady YELLOW

→ Assumption: **Overvoltage**

→ Check the electrical installation and/or the power supply.



LED steady RED

→ Assumption:
Residual current fault
Only for RCBO-AFDD

→ 1. Switch off load.
2. Do standard electrical troubleshooting.

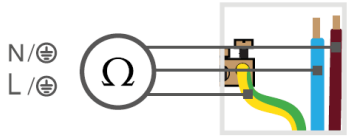
Arc fault troubleshooting

Handle is OFF.

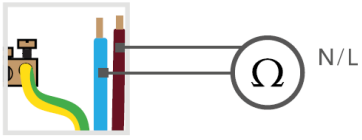
LED blinking RED

→ **Parallel Arc Fault**

→ Make sure that the handle is OFF.
Disconnect all appliances that can be damaged during the insulation test.



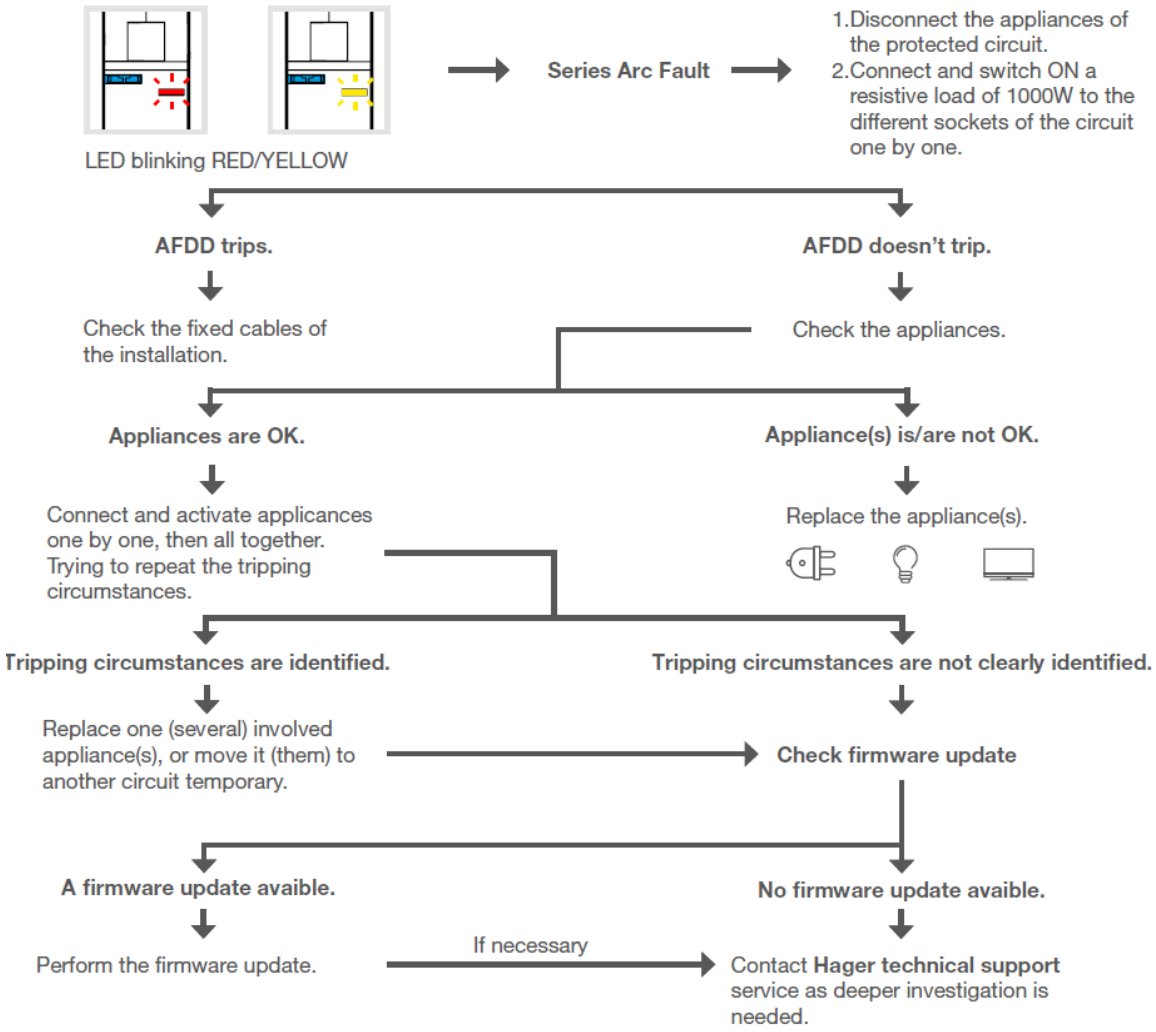
1. Measure the insulation resistance.



2. Measure the insulation resistance.

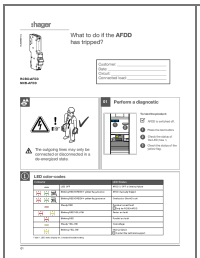
If the measured value bigger than 1 MΩ. → Fixed wiring is OK. → Check the appliances.

If the measured value smaller than 1 MΩ. → Identify the fault and repair the circuit.



Hager technical support: +441952675689
technical@hager.co.uk

Documents / Resources

	hager RCBO-AFDD ARC Fault Detection Device [pdf] User Guide RCBO-AFDD, MCB-AFDD, RCBO-AFDD ARC Fault Detection Device, ARC Fault Detection Device, Fault Detection Device, Detection Device