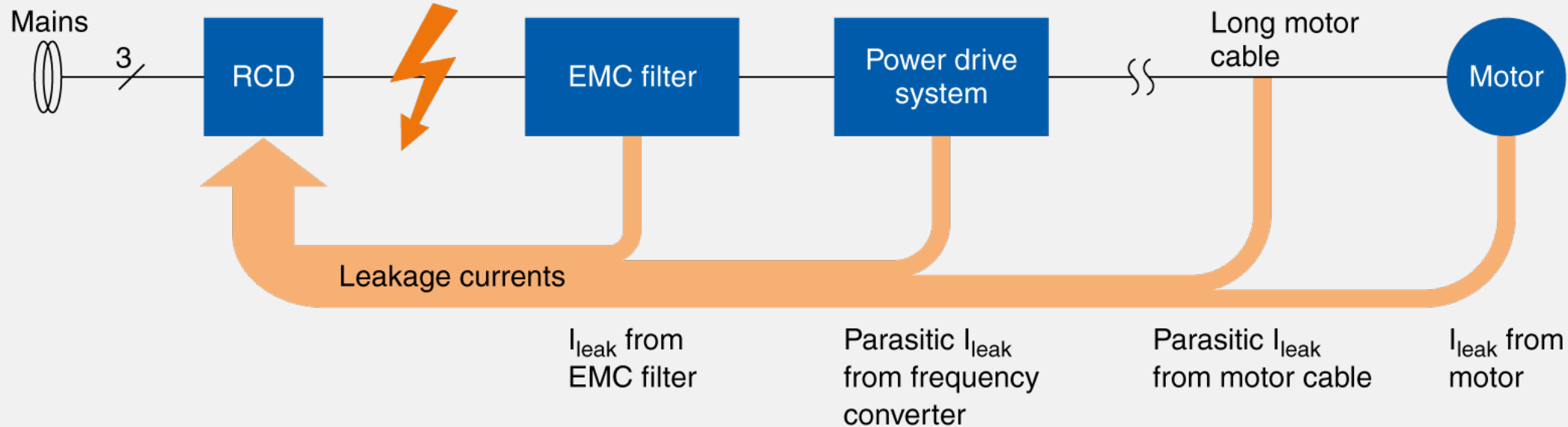


# LeaXield™ active leakage current filter



# Earth leakage currents – A cost and safety risk



- High earth leakage currents are typical for variable-speed drives
- RCDs (residual current devices) often trip by mistake
- Machine downtimes can lead to high costs
- Plant availability is not ensured



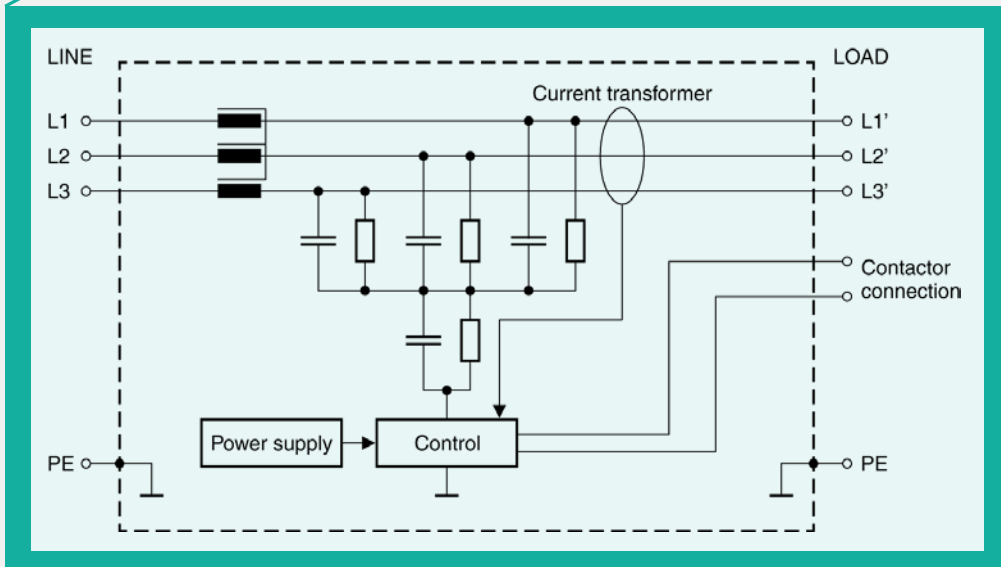
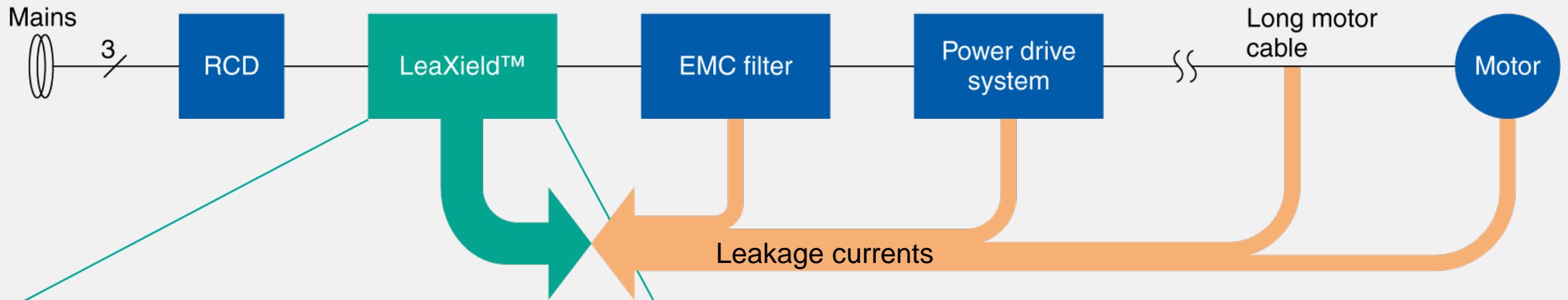
**A compact and economic solution is needed!**

# Introducing LeaXield™



- Active compensation of earth leakage currents over a broad frequency range
- Installed between the RCD and the EMC filter
- No additional power supply needed
- Very convenient installation, especially in existing systems

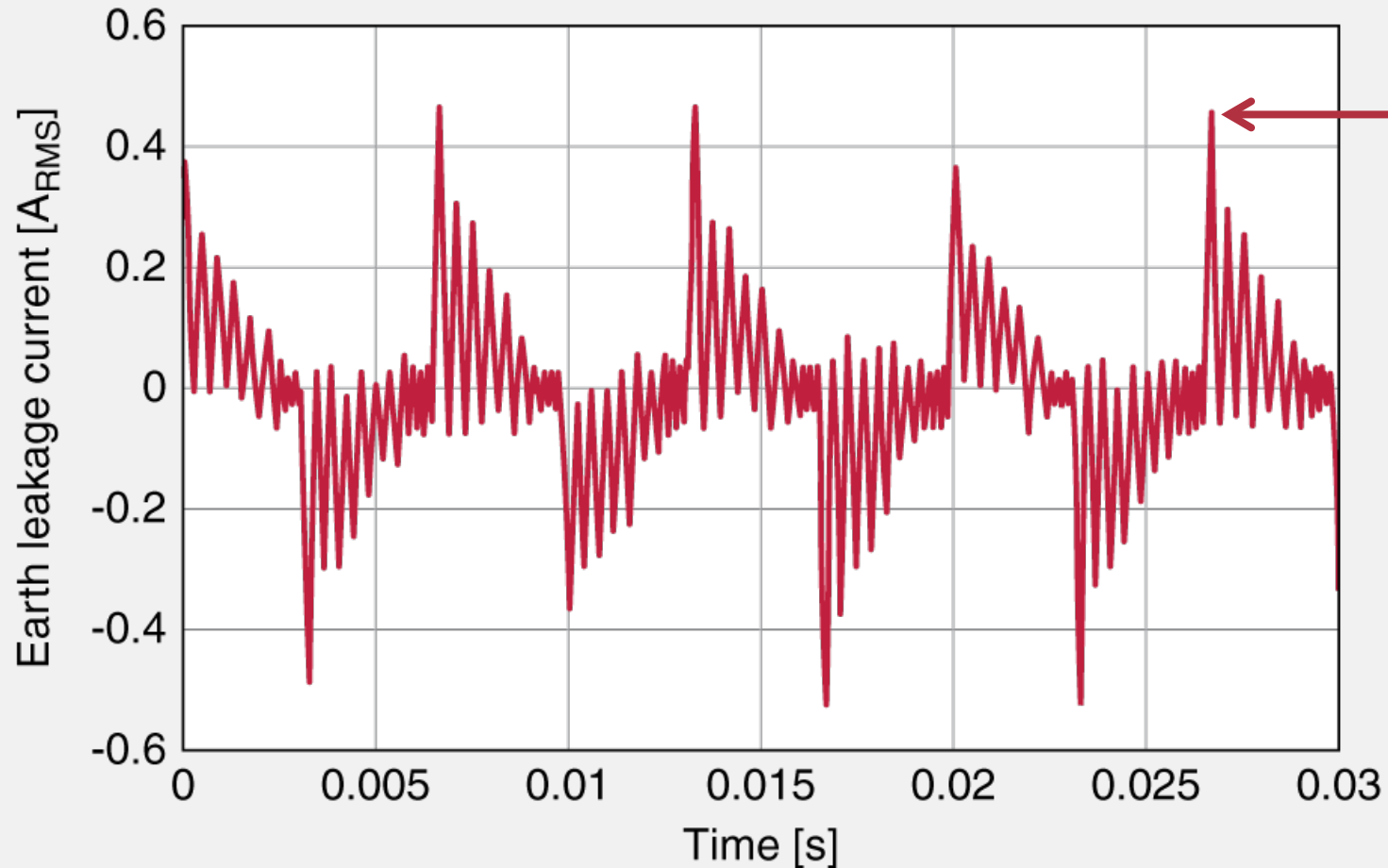
# Functional principle of LeaXield™



- Residual current from the load side is measured
  - Electronics generates a 180° phase-shifted current with same amplitude
  - This current is applied to each phase by capacitive coupling
- ➔ **No earth leakage current flows through the RCD**
- ➔ **Unintended tripping is avoided**

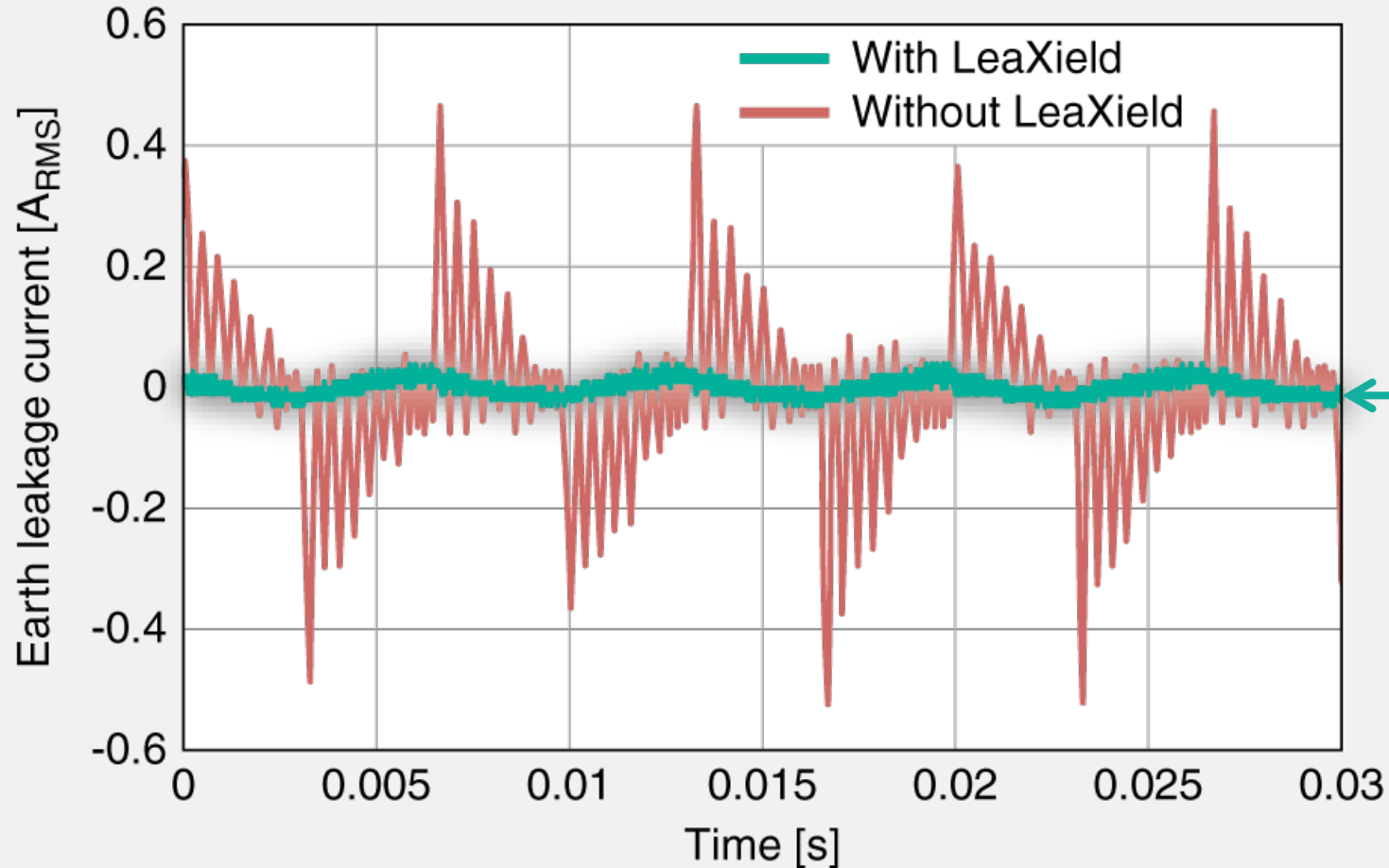
# Drastic reduction of earth leakage currents

Without LeaXield



Aggregate earth leakage currents can reach significant levels

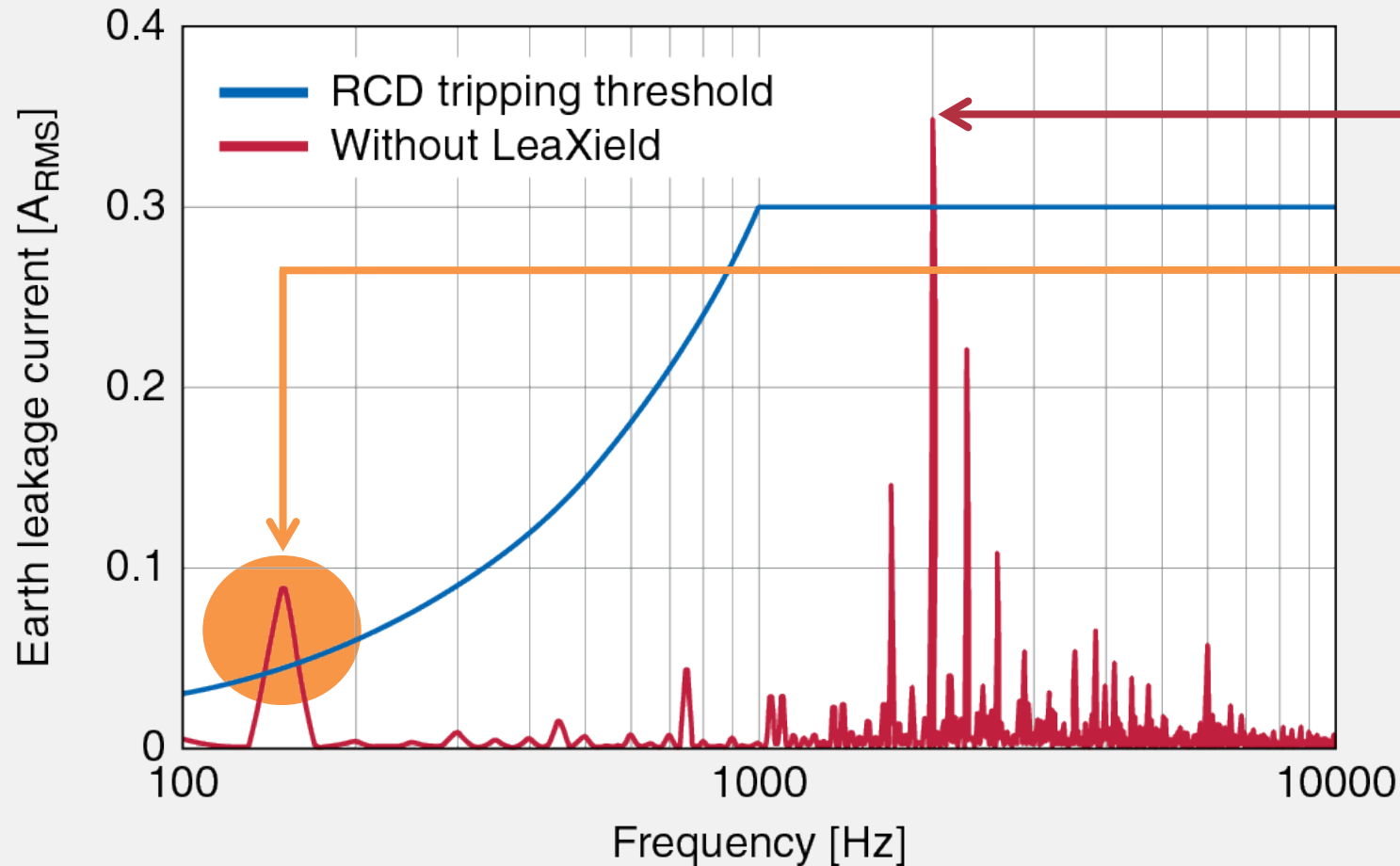
# Drastic reduction of earth leakage currents



Aggregate earth leakage currents can reach significant levels

LeaXield™ effectively compensates earth leakage currents of up to 1 A

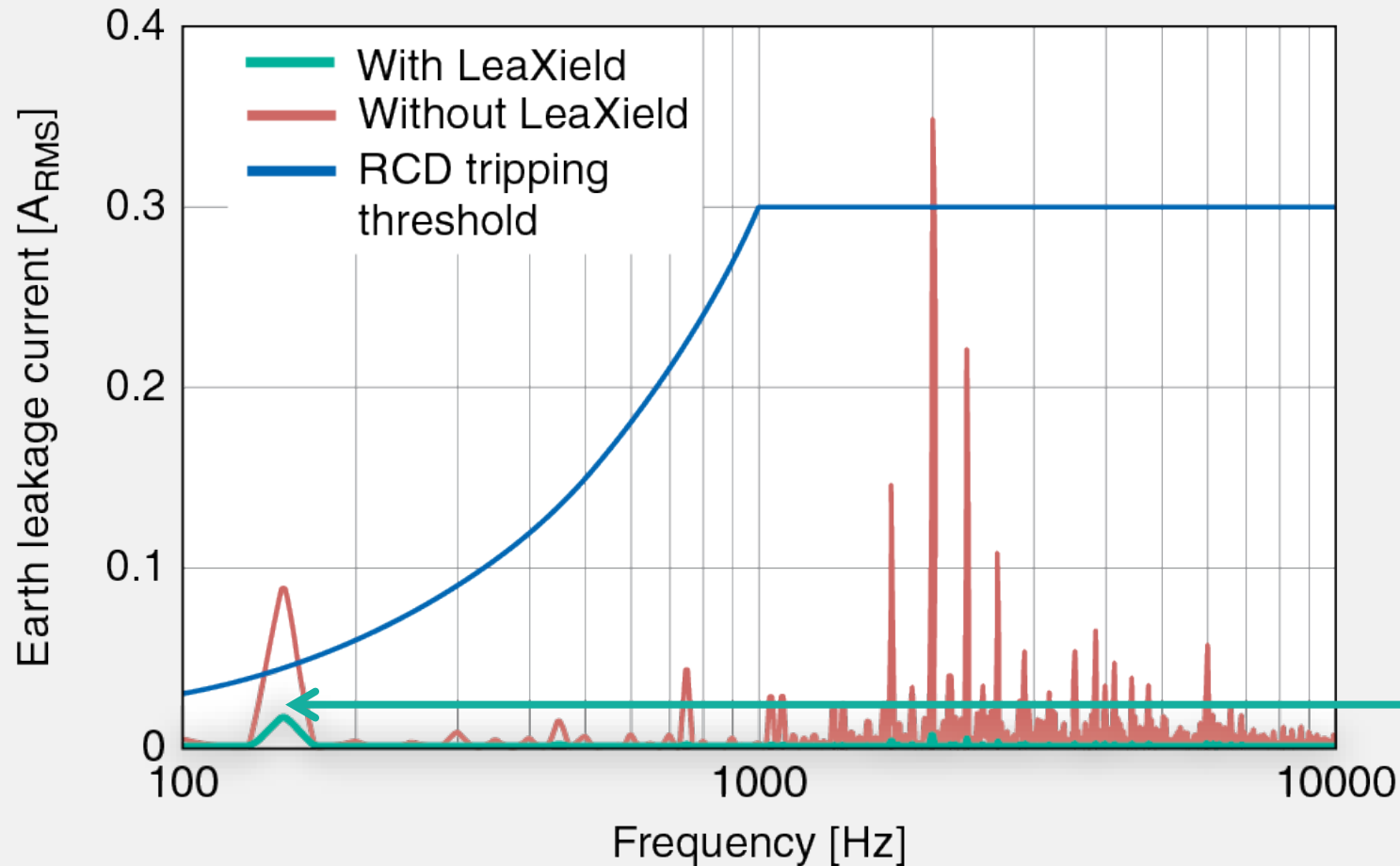
# Effective leakage current compensation from 150 Hz up to 30 kHz



Variable leakage currents reach values of several hundred mA

Stationary leakage currents up to 1 kHz are critical for many variable-speed drives

# Effective leakage current compensation from 150 Hz up to 30 kHz



Variable leakage currents reach values of several hundred mA

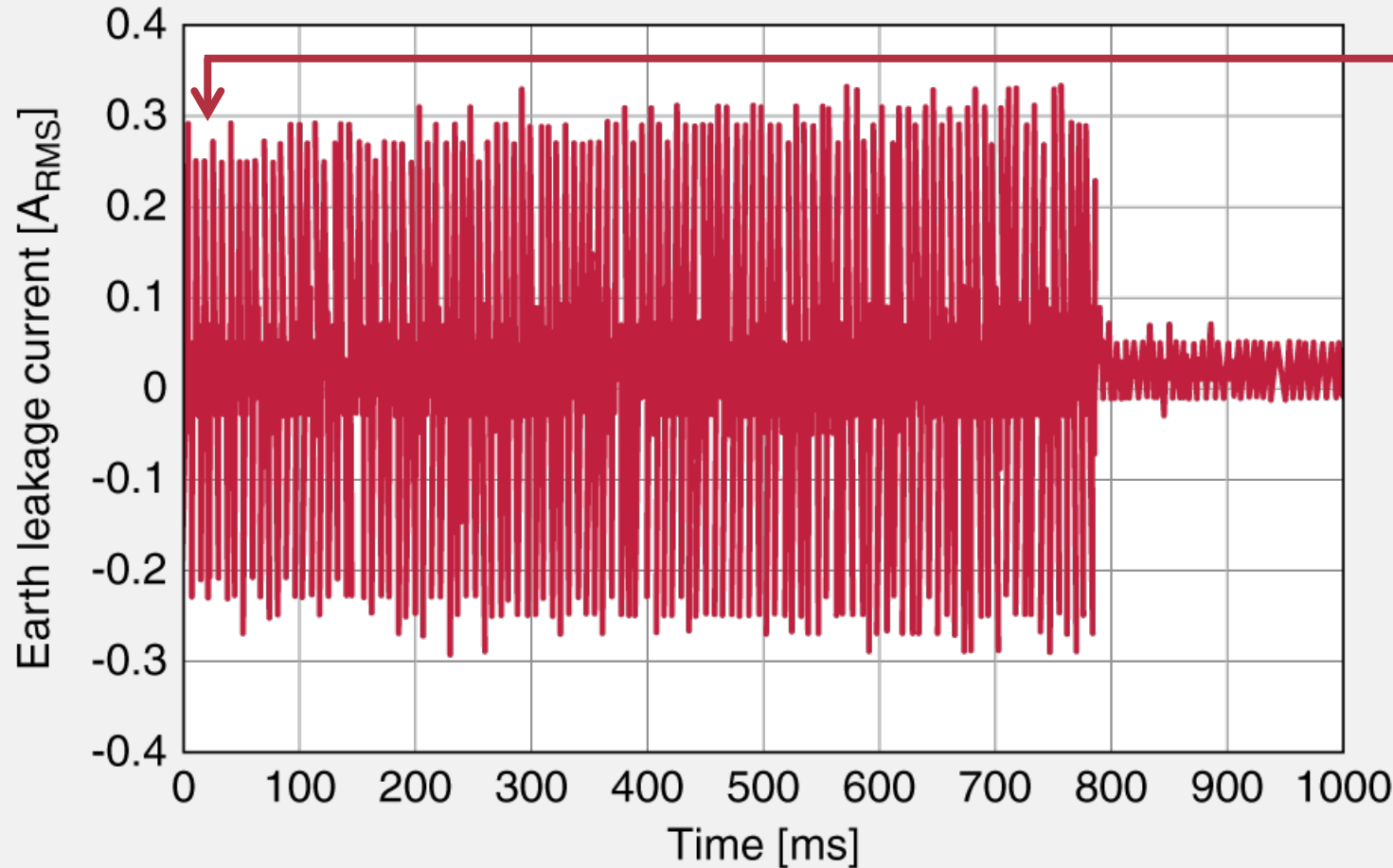
Stationary leakage currents up to 1 kHz are critical for many variable-speed drives

LeaXield prevents unwanted tripping of the RCD by keeping earth leakage currents well below the threshold!



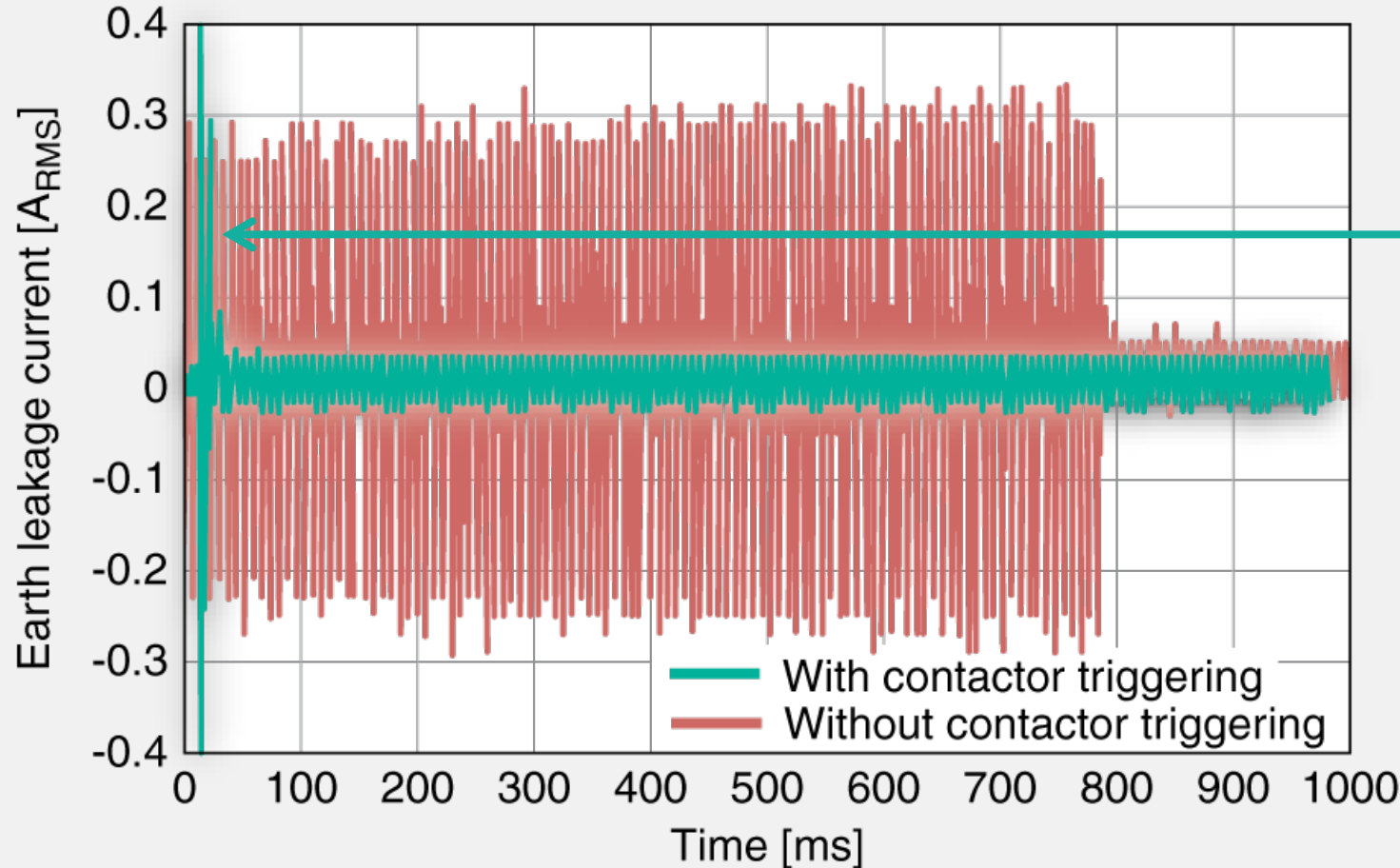
# Immediate earth leakage current compensation

Without contactor triggering



High leakage current peaks occur already during the switching-on phase

# Immediate earth leakage current compensation



High leakage current peaks occur already during the switching-on phase

The optional contactor triggering function puts LeaXield™ into a steady state before leakage currents flow

→ LeaXield™ prevents the RCD from tripping when mains voltage is switched on

# LeaXield™ is now available!

- High earth leakage current compensation up to 1 A
- Optimized RCD compatibility
- Improves plant availability
- Convenient installation – no external power supply needed
- Compact solution

## Key data

|  |                      |
|--|----------------------|
| Maximum leakage current $I_{LK,load}$ (peak) | 1 A                  |
| Frequency range                              | 150 Hz to 30 kHz     |
| Rated voltage $V_R$                          | 305/530 V AC (50 Hz) |
| Rated current $I_R$                          | 50 A*                |
| Dimensions                                   | 270 x 60 x 119 mm    |
| Ordering code                                | B84233A1500R000      |
| Conformity                                   | CE                   |

\* Other rated currents on request





[www.tdk-electronics.tdk.com](http://www.tdk-electronics.tdk.com)