

Modular Residual Current Device (MRCD)

according to IEC 60947-2 Annex M

What is an MRCD?

An MRCD is a device or a combination of devices intended for the detection and evaluation of residual currents. It can be used for protective purposes. By connecting it to a switching element with isolating properties, the MRCD can trip the switching element within a very short time in the event of a fault.

How is an MRCD designed and connected?

The MRCD is available in two different variants:

- as device (detection and evaluation of the residual current combined, e.g. Bender MRCD300 series)
- or as a combination of devices (evaluation unit and current detection unit separately, e.g. Bender MRCD423 with CTUB100 series)

The MRCD is connected to the release of a switching element with isolating properties (e.g. circuit breaker). For personal and fire protection, an undervoltage release should be used; for plant protection, a shunt trip can be used.

How does an MRCD operate?

When the adjustable prewarning threshold is exceeded, a potential-free contact switches.

If the set response value is exceeded, the alarm relay of the MRCD switches and activates the undervoltage release or the shunt trip of the circuit breaker.

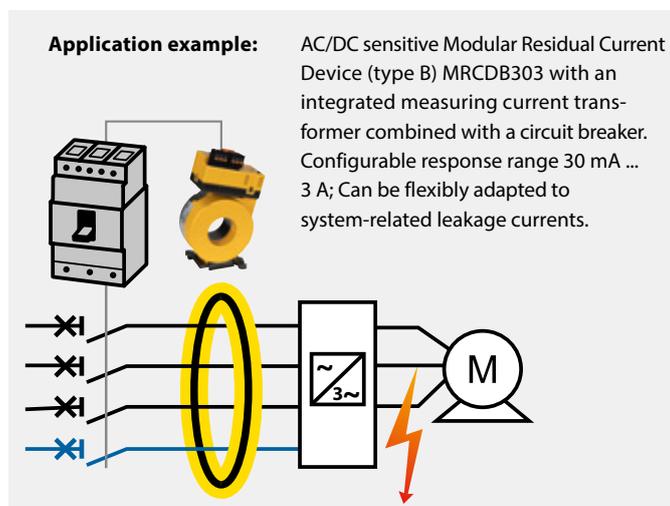
When may an MRCD be used?

An MRCD solution can be used for protection against electric shock by automatically switching off the power supply in the event of a fault or for additional protection (IEC 60364-4-41).

Furthermore, it can be used as a preventive fire protection measure in accordance with IEC 60364-5-53.

Your benefits:

- Flexibly adaptable to the installation
- Nuisance tripping is reduced
- Residual current detection by means of a measuring current transformer
 - Independent of mains voltage and frequency
 - Can be used with high load currents
- Response values according to IEC 60364-4-41
- Adjustable time delay according to IEC 60364-4-41
- Prewarning – offers the following advantages to the system operator:
 - Early information on insulation level before shutdown
 - Prevents unplanned and cost-intensive downtimes
 - Higher operational and system safety



What does MRCD stand for?

RCD (Residual Current Device) is the generic term for all types of residual current protective devices. In addition to the well-known RCCB, RCBO and CBR (circuit breaker with residual current protection), this product group also includes the MRCD (Modular Residual Current Device).

All the devices mentioned are capable of detecting a residual current and disconnecting the monitored circuit in the event of a fault. A disconnection as required by IEC 60364-4-41 takes place.

Residual current devices are required or recommended in many areas (IEC 60364-5-53).

