



INNOVATIVE PRODUCTS

The importance of e-mobility is increasing in the age of climate change and the scarcity of crude oil reserves.

UNIVERSAL AC/DC SENSITIVE RESIDUAL CURRENT MONITORING MODULE RCMB101

for integration in charging stations as per requirements in accordance with UL 2231-2*

As a consequence, the topic of e-mobility is currently experiencing a renaissance at all levels. Industry, politicians and consumers see this technology as a solution to soften the effect of individual mobility on the climate and resources.

In electric vehicles and charging stations it is necessary to place particularly high attention on the electrical safety. The monitoring of fault currents in the vehicle and the necessary charging station is a significant step towards electrical safety. With the newly developed universal AC/DC sensitive residual current monitoring module RCMB101 Bender is making an important contribution.

The RCMB101 module is used for monitoring residual currents in charging stations for electric vehicles. Residual currents can be caused in practice by insulation faults that occur, e.g. due to defective cable insulation. In the worst case, a dangerous electric shock could be suffered.

In combination with a power contactor, the RCMB101 satisfies the requirements in accordance with UL 2231-2 for CCID20 protective devices (CCID = **C**harging **C**ircuit **I**nterrupting **D**evice).

The RCMB101 is insensitive to external interferences and satisfies the highest requirements in relation to temperature stability.

The technology:

The residual current monitoring module RCMB101 measures AC and DC fault currents in the range 0...100 mA (0...500 Hz). The measurement is made via the internal measuring current transformer. The r.m.s. value is determined electronically. A DC voltage proportional to the residual current is available on the analogue module output (X1). If the measuring range of 100 mA is exceeded, a further signal is provided on a switched output (X12). In addition, the control input (X10) is polled. Depending on the sequence of levels applied, the RCMB101 can be reset with or without a self-test, calibration and activation of the test winding. ■

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SUMMARY

With the new Bender residual current monitoring module RCMB101 as per the requirements in accordance with UL 2231-2, fault currents in the charging station or defects in charging cables are detected and accidents due to electrical power prevented by powering down.

*Personnel Protection systems for Electric Vehicles (EV)
Supply Circuits: Particular Requirements for Protection Devices
for Use in Charging Systems