



VARIMETER IMD

DOLD 

Insulation monitor RN 5897/020 - Insulation monitoring for DC charging stations

The number of electric vehicles is constantly increasing and will grow even faster in the future. This will also drive forward the expansion of the charging station infrastructure, as DC charging stations are the first choice when electric vehicles need to be charged in the shortest possible time. Electrical safety must be guaranteed during the charging process. For this purpose, an unearthed DC power supply system (IT grid) with insulation monitoring is set up and monitored by means of an insulation monitoring device (IMD). The user must never be exposed to high voltages (up to 1000 V) at any time.

The **insulation monitor RN 5897/020** of the **VARIMETER IMD** family is used especially for DC charging stations according to the IEC/EN 61851-23:2014/AC:2016-06 standard and monitors the charging process from the charging station into the vehicle. The device is characterised by the short response delay of ≤ 1 s, a rated voltage up to DC 1000 V with coupling device and the detection of asymmetrical as well as symmetrical insulation faults. The integrated voltage measurement ensures reliable detection of the insulation resistance in the IT grid. The insulation monitor also features a self-test. This takes place automatically after power-on and after every full operating hour.

Advantages and customer benefits

- ▶ Response delay of ≤ 1 s
- ▶ Nominal voltage up to DC 1000 V
- ▶ Integrated voltage metering
- ▶ Self-test function after every full operating hour
- ▶ Detection of symmetrical and asymmetrical insulation faults
- ▶ Fast fault localization through selective earth fault detection according to L+ and L-
- ▶ Multicolour display for indication of insulation value
- ▶ Universally applicable in unearthed AC, DC and AC/DC grids
- ▶ Simple setting of parameters via rotary switch and menu navigation

Our experience. Your safety.

Insulation monitor RN 5897/020

Technical features

- ▶ Suitable for DC charging stations for electric vehicles according to IEC/EN 61851-23:2014/AC:2016-06
- ▶ Insulation monitoring according to IEC/EN 61557-8
- ▶ With connection facility for an external coupling device RP 5898 for voltages up to 1000 V
- ▶ 2 separate adjustable response thresholds (using e.g. for pre-alarm and alarm)
- ▶ Adjustment range 1st response value (pre-alarm): 20 kΩ ... 500 kΩ
- ▶ Adjustment range 2nd response value (alarm): 1 kΩ ... 100 kΩ
- ▶ 1 changeover contacts each for insulation failures-pre-alarm and -alarm
- ▶ Energized or de-energized on trip can be selected for indicator relay
- ▶ Multi-coloured display for indication of the current insulation resistance, the device status and for parameter setting
- ▶ Automatic and manual device self-test
- ▶ Alarm storage selectable
- ▶ Manipulation protection through sealable transparent cover
- ▶ External control input for combined test / reset button with additional stop of the measuring function
- ▶ 3 wide voltage ranges for the auxiliary voltage
- ▶ Width 52.5 mm

Order information

Standard type: RN 5897.12/020 DC 12 ... 24 V
Item number: 0068260

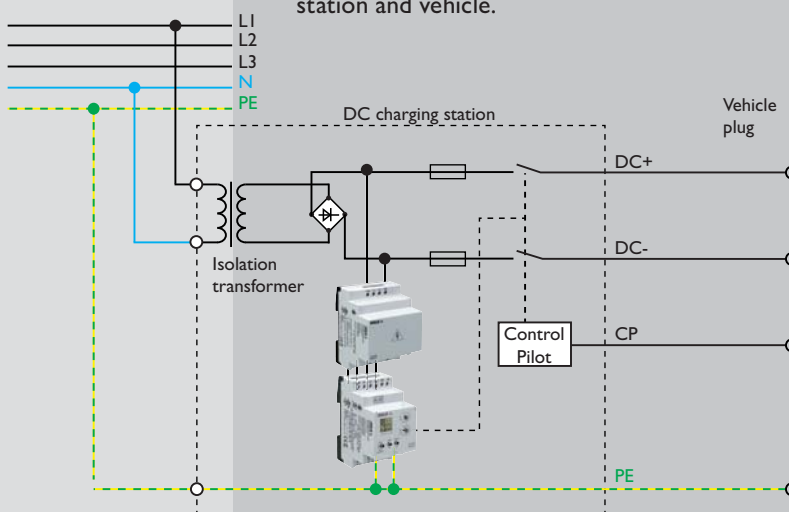
Standard type: RN 5897.12/020 AC/DC 24 ... 60 V
Item number: 0068258

Standard type: RN 5897.12/020 AC/DC 85 ... 230 V
Item number: 0068259

Standard type: RP 5898 / RL 5898/61
Item number: 0066944 / 0068315

Application example

The RN 5897/020 offers a standard-compliant solution for monitoring the insulation resistance of DC charging stations. The charging station is fed from an earthed TN-(C)-S system and passes via an isolating transformer into an unearthing IT system. This IT system can be advantageously monitored for insulation faults with the RN 5897/020. When a vehicle is connected to the charging station, the insulation monitor monitors the insulation of the entire system, including the charging station and vehicle.



Further information

RN 5897/020

Start

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Do you need a **communication interface** for the central **evaluation, control and visualisation** of your measurement data?

RN 5897/021



Insulation monitor
RN 5897/020



Accessories



Coupling device
RL 5898



Coupling device
RP 5898



Buzzer
RK 8832

Fields of application

- ▶ UPS systems
- ▶ Unearthed AC, DC, AC/DC mains
- ▶ Mains with frequency converters
- ▶ Battery networks
- ▶ Mobile generators



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