

www.rittal.com

AC no. 0002011

Doc. no. 0-000-000003-00

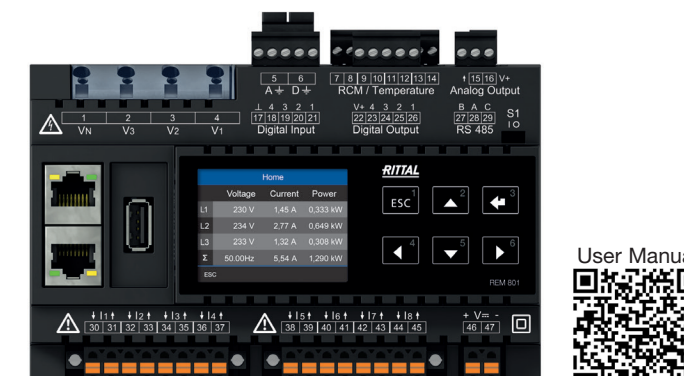
03/2024

Power Analyzer

REM 801

Installation manual

- Installation
- Device settings



User Manual:
0-000-000003-00

RITLAL GmbH & Co. KG

Am Stubbberg

30745 Herborn - Germany

Phone +49 (0)2772-505-0

E-Mail: info@rittal.de

www.rittal.com



1

General

Disclaimer

Compliance with the usage information for the device is a prerequisite for safe operation and attaining the stated performance characteristics and product features. RITLAL GmbH & Co. KG assumes no liability for bodily injury, material damage or financial losses which result from disregard of the usage information. Ensure that your informational products are readily accessible in a legible form.

Further usage information, such as the user manual, can be found on our website.

Copyright notice

© 2024 - RITLAL GmbH & Co. KG - Herborn. All rights reserved. Any reproduction, processing, distribution or other use, in whole or in part, is prohibited.

Subject to technical alterations.

- Make sure that your device matches the installation manual.
- First make sure you have read and understood the usage information accompanying the product.
- Keep the usage information associated with the product available for the entire service life.

life and pass it on to any possible subsequent users.

For technical queries, please contact:

- Phone: +49(0)2772 505-9052
- E-Mail: info@rittal.de

For complaints or support, please contact:

- Phone: +49(0)2772 505-1855
- E-Mail: service@rittal.de

Disposal

Please abide by national regulations! Dispose of individual parts, as applicable, depending on their composition and existing country-specific regulations, e.g. as:

- Electronic waste
- Batteries and rechargeable batteries
- Plastics

or engage a certified disposal company to handle scrapping.

Relevant laws, standards and directive used

Please see the declaration of conformity on our website for the laws, standards and directives applied for the device by RITLAL GmbH & Co. KG.

2

Safety

Safety information

The installation manual does not represent a complete set of all safety measures required for the operation of the device.

Special operating conditions can require additional measures. The installation manual contains information which must be observed to ensure your personal safety and avoid material damage.

Symbols used on the device:



The additional symbol on the device itself indicates an electrical danger that can result in serious injuries or death.



This general warning symbol draws attention to a possible risk of injury. Be careful to observe all of the information listed under this symbol in order to avoid possible injury or even death.

Warnings of an imminent danger which, if not avoided, could result in serious injury or death.

WARNING

Warnings of a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION

Warnings of an immediately hazardous situation which, if not avoided, could result in material or environmental damage.

ATTENTION

Warnings of an immediately hazardous situation which, if not avoided, could result in material or environmental damage.

INFORMATION

Indicates procedures in which there is no hazard of personal injury or material damage.

3

Brief description and installation

The device is a multifunctional network analyzer that:

- Measures and calculates electrical quantities such as voltage, current, frequency, power, work, harmonics current, etc. in building installations, at distribution boards, circuit breakers and busbar trunking systems.
- Displays and stores measurement results and transmits them via interfaces.

Material damage due to disregard of the installation instructions!

Disregard of the installation instructions can damage or destroy your device.

- Provide adequate air circulation in your installation environment and cooling, as needed, when the ambient temperatures are high.
- More information on device functions, data and installation as well as the battery used in the device can be found in the user manual.

INFORMATION

Before you start with the DIN rail mounting and cabling of your REM 801, make sure that the bus connector is mounted on the bottom of your REM 801. Then connect up to 10 modules via bus connectors.

Mount the measurement device in a switchboard cabinet or small distribution board according to DIN 43880 (any mounting orientation) on a 35 mm (1.38 in) DIN rail (for type, see Technical Data) as follows:

- Plug the measurement device with the bus connector sideways onto the DIN rail or press it frontally onto the DIN rail until the bottom bolt engages.

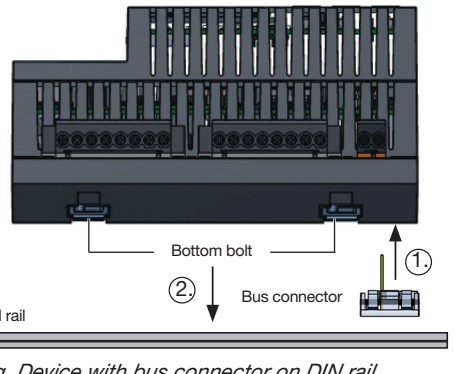


Fig. Device with bus connector on DIN rail

4

Applying the supply voltage

The supply voltage your device requires can be found on the rating plate. After connecting the supply voltage, the display becomes active. If no display appears, check whether the supply voltage is within the nominal voltage range.

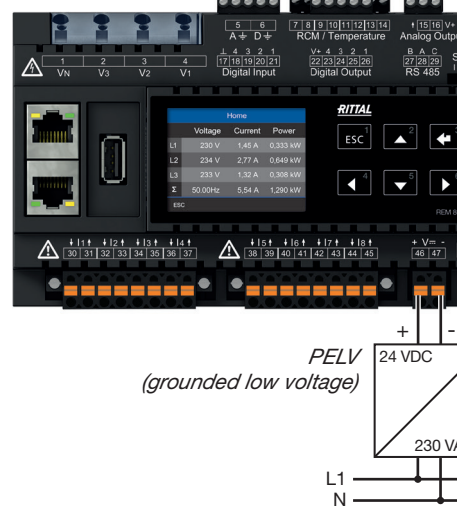


Fig. Connection example for "current measurement".

5

Grid systems

Suitable grid systems and maximum rated voltages (DIN EN 61010-1/A1):

Three-phase 4-conductor system with grounded neutral conductor (4P IT networks)

Three-phase 3-conductor systems energized

Three-phase 3-conductor systems with grounded PE

Application areas for the device:

- 3 and 4-conductor networks (TN, TT and IT networks).
- Residential and industrial areas.

INFORMATION

Functional earth

Connection D (REM 801) in TN, TT and IT networks must always be connected.

Connection A (REM 801) only connect in TN and TT networks (not in IT networks)

6

Voltage measurement

The device has a voltage measurement inputs and is suitable for various connection variants.

WARNING

Risk of injury or damage to the device due to electrical voltage and improper connection! Failure to comply with the connection conditions for the voltage measurement inputs can result in damage to the device or serious injury, including death. Therefore, please observe the following:

- Switch off your installation before connecting work! Secure it against being switched on! Check to be sure it is de-energized! Ground and short circuit! Cover or block off adjacent live parts!
- Do not apply a DC voltage
- Equip the voltage measurement inputs with a suitable, marked fuse and isolation device (switchable line circuit breaker) located nearby.
- The voltage measurement inputs are dangerous to touch.
- Connect voltages that exceed the permissible nominal network voltages via a voltage transformer.
- Measured voltages and currents must originate from the same network.

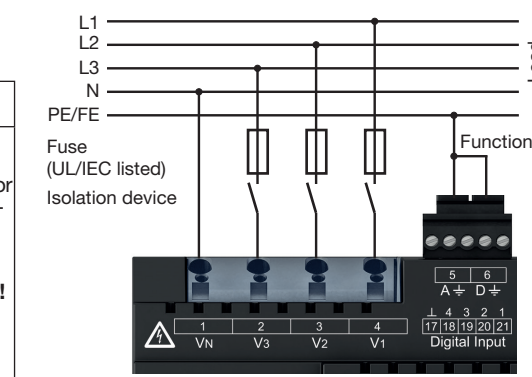


Fig. Connection example for "voltage measurement".

The voltage measurement inputs are designed for measurements in low-voltage networks in which nominal voltages occur as described in the "Technical data".

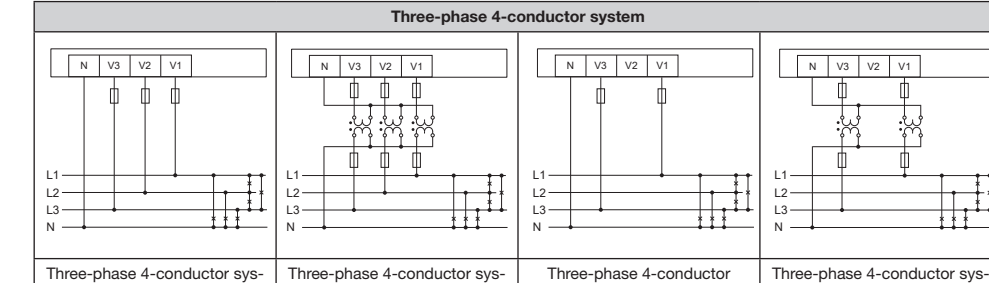
INFORMATION

The functional earthing is a functional part and essential for the regular operation of the electrical system.

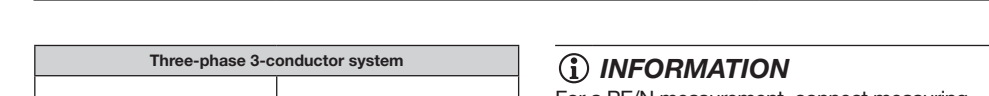
7

Connection variants for voltage measurement

Voltage measurement L1, L2, L3 (main measurement)



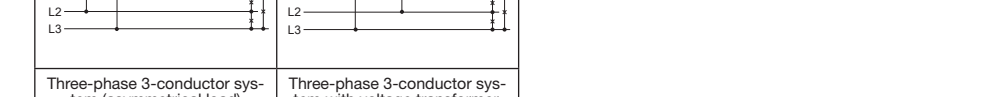
Three-phase 4-conductor system without voltage transfer for voltage transfer



Three-phase 4-conductor system (symmetrical load)



Three-phase 3-conductor system (asymmetrical load)



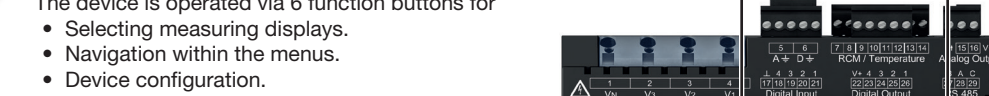
Three-phase 3-conductor system with voltage transformer



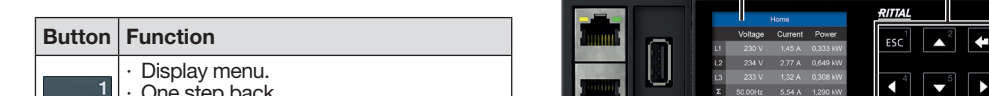
Three-phase 3-conductor system with voltage transformer



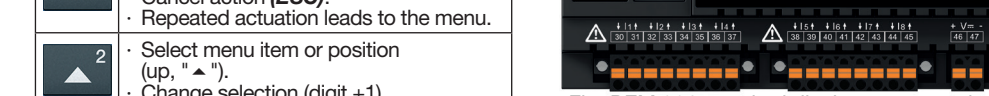
Three-phase 3-conductor system with voltage transformer



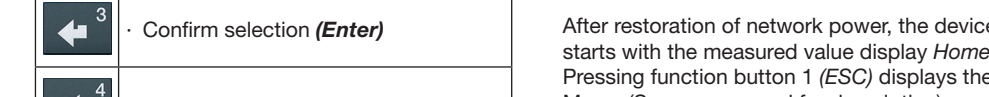
Three-phase 3-conductor system with voltage transformer



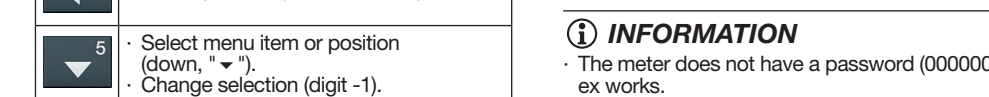
Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



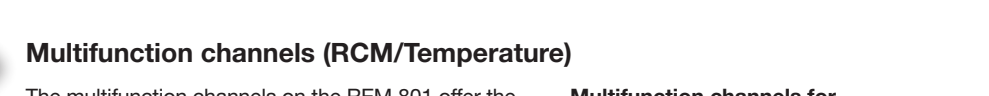
Three-phase 3-conductor system with voltage transformer



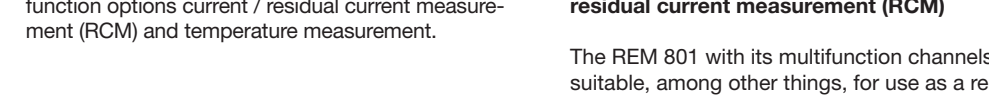
Three-phase 3-conductor system with voltage transformer



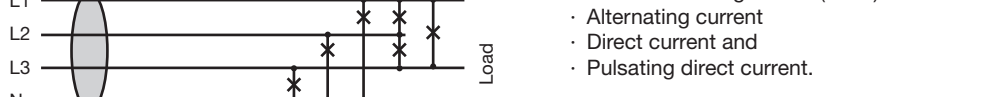
Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



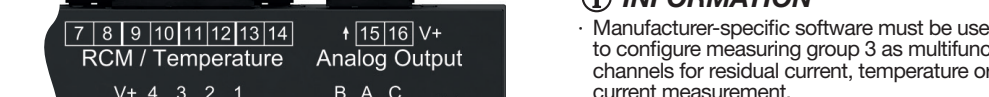
Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



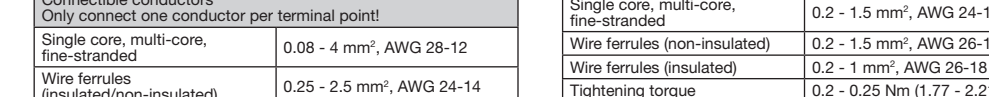
Three-phase 3-conductor system with voltage transformer



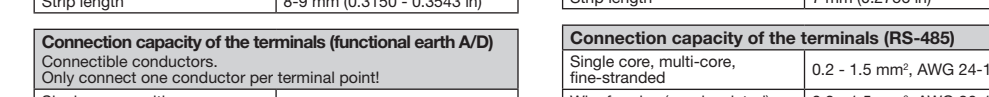
Three-phase 3-conductor system with voltage transformer



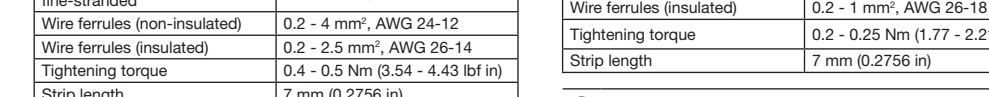
Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



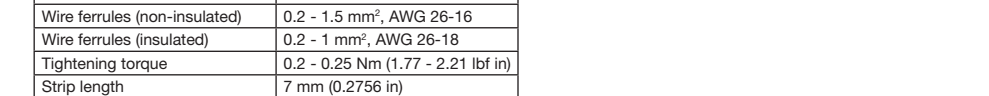
Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer



Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer

Three-phase 3-conductor system with voltage transformer