

PROMET

R300  
R600

PROMET R300 | R600

### High-accuracy micro-ohm meters up to 600 A for ohmic loads

PROMET R300 and R600 high-accuracy, high-precision ohm meters deliver an adjustable test current of up to 600 A which is independent of the supply voltage.

These measuring devices utilize the four-wire resistance measurement method, enabling them to meet the most stringent accuracy requirements. State-of-the-art power electronics coupled with a robust design guarantee excellent reliability for stationary and portable use in switching stations or industrial environments. PROMET ohm meters feature a modern operating concept, an interface to the test systems of the ACTAS product range and external control for use with test stands, making them both flexible and versatile.

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### Assessing the condition of contact systems

Regular measurements of the contact resistance allow an accurate assessment of the condition of contact systems. Using PROMET R300 / R600, excessively high transfer resistances resulting from poor connections can be identified by measuring the static contact resistance. This ensures that maintenance requirements can be identified at an early stage and down times kept to a minimum.

### Constant test currents up to 600 A

PROMET R300 / R600 ohm meters use state-of-the-art power electronics to generate a freely adjustable test current of up to 600 A which is fully independent of the supply voltage. The resistance is determined by measuring the voltage drop using four-wire measuring technology.

Voltage drop and test current are measured via high-precision measurement inputs so that resistances in the  $\mu\Omega$  range can be determined with maximum precision.

Because PROMET ohm meters can output currents for an unlimited period of time, they can also be used as current sources.



### Determination of resistance at three measurement points

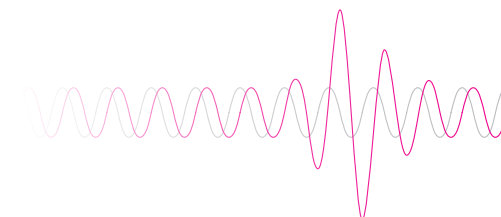
Because the device is equipped with three voltage measurement inputs, parallel measurements can be carried out at three measurement points in order to perform a static measurement of the resistance of three main contacts or assess the quality of connections, for example.

### Contact resistance determination with earthing on both sides

Thanks to parallel measurement of the earth current, the resistance can be determined precisely for the main contacts of switchgear devices even with earthing on both sides. The earth current is measured with a current clamp and automatically taken into account by the system during resistance determination. Not only would disconnecting the earth conductor make carrying out tests more complicated, it would also be detrimental to safety.

### Measurements with temperature compensation

PROMET R300 / R600 can determine resistances with temperature compensation. The temperature at the measurement point is measured using a sensor and the resistance value is calculated taking the reference temperature of 20°C into account. This means that values can be directly compared. A database with the parameters necessary for temperature compensation is saved in the device and can be extended as and when needed.



Assessing the quality of connections

Because there are three voltage measurement inputs, the quality of connections such as screw connections on busbars can be determined quickly and easily using the quality factor. The quality factor is defined by the ratio of the resistance of the connection over the overlap length to the resistance of the busbar over the same length.

Integration in circuit breaker testing with ACTAS

PROMET R300 / R600 devices are equipped with interfaces for connection to ACTAS test instruments. Using the ACTAS testing software, resistance measurement can easily be integrated in circuit breaker tests. This makes it simple to automate tests and carry out a comprehensive analysis of the test results. The measured values are used for the evaluation of tests and are included in the test report.

Dynamic resistance determination for main contacts

When used in combination with ACTAS, PROMET R300/R600 can carry out dynamic contact resistance measurements on three poles and on several main contact chambers per pole simultaneously. This means that the measurement can be carried out on all the contacts of a switchgear device in a single operation. This eliminates time-consuming connection and disconnection procedures and ensures that the measurement is carried out under identical conditions, allowing direct comparison of the contact resistances with one another.

External control for use in test stands

A simple programming interface is also available for special requirements, e.g. for use in test stands. This programming interface can be used in environments which support COM / ActiveX or in .NET environments.

Simple and intuitive operation

The resistive, 5" touch screen with function keys allows intuitive operation of the measuring device and provides a clear display of test parameters and measurement results. Acoustic signals are an additional source of information and also provide feedback during settings.

Results management and test report output via PC

PROMET R300 / R600 can be connected directly to a PC. Downloading and managing the data saved in the device is made easy by the user-friendly software. The measurement results, which are displayed in a clearly structured form, can also be exported to an Excel spreadsheet or presented in a test report.



Technical data

Current source	
Test current	R300: up to 300 A R600: up to 600 A
Outputs	1
Output voltage	5 VDC
Voltage measurement	
Range	20 mV, 200 mV, 2 V
Inputs	3
Resistance measuring range	up to 250 mΩ Accuracy ≤ 0.1% of range
Display	High-resolution, resistive 5" touch screen
Operation	Touch screen, 5 function keys
Connections	13 mm high-current sockets and 4 mm safety sockets
PC interfaces, control	RJ45 (Ethernet), USB-B
Further interfaces	Temperature sensor, current clamp, binary inputs/outputs
Supply voltage	85...265 VAC, 47...63 Hz, 120...265 VDC
Housing	19" housing for rack-mounting, 3 U (stationary) Optional: portable housing
Weight	R300: 7.6 kg / R600: 10.5 kg
Functions	Resistance measurement on ohmic resistances / Definition and execution of current ramps during measurement / Determination of the quality factor of connections / External control via PC / software / Resistance measurement with earthing on both sides / Resistance measurement with temperature compensation / Static and dynamic resistance measurement on switch-gear devices



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