



RMO250 PRODUCT ADVANTAGES

APPLICATION

The RMO250 instrument is designed for application in the electric power utility and service industry. The lower output current of 250A is ideal for testing breakers and busbars in transmission and distribution substations. It should be used by manufacturers for breaker quality testing, also for busbar verification, and any contact resistance measurement. For industrial applications where breakers carry higher currents and special measurements we have developed two bigger "brother" units RMO600 and RMO400 .



International standards, when measuring circuit breaker contacts call for currents in the order of 50A (IEC 56, now IEC62271-100) or minimum 100A (ANSI C37.09) up to the breaker's nominal current (which would be a manufacturer's preference).

Most circuit breaker manufacturers, in order to minimize energy dissipation and thermal losses, design contacts with resistance values below $500\mu\text{Ohms}$, and it should be maintained at this value when in clean and good condition. For that reason, the accuracy and resolution of the measuring instrument in order to detect incipient problem has to be as low as possible. We have developed RMO250 with this in mind with accuracy of 0.25% and resolution of $0.1\mu\text{Ohm}$.

ADVANTAGES

In order to compete in the very tight market of micro-ohmmeter producers, we have developed a unit with unique advantages that would put it on the top of the list of any bid or tender reviewer.

- The weight and its portability make it very popular, since the 17lbs (7.5kg) is only a half of the weight of similar competitive units.

- More powerful than other instruments. Power may not mean a lot for measurement of contact resistance, but it allows use of lighter cables for the

same application. This minimizes the required weight to carry around, makes it so much easier to operate in the field with thinner cables, and not to mention the price difference of smaller cross-section cables.

At 200Amps, with supply voltage of 100V or higher, RMO250 can measure up to 30mOhms, far higher resistance from the competition. Another point worth mentioning - the current capability is 250A. This power allows user to make tests using thinner cables - our standard cable is 25mm² cross section.

Example: Megger DLRO200: for measurement at 200A using cable length of 15 meters, cables have to be 35 mm² thick - weighing 13,2 kg. Total weight is then: DLRO200 14,5 kg + cables 13,2 = 27,7 kg.

GE-MOM200: for the same situation it requires 50 mm² cables, 18,6 kg heavy.

Total weight: MOM200 14,6 kg + 18,6 kg = 33,2 kg

RMO250: can use 25 mm² cables of only 10,7 kg so the total weight is

RMO250 7,5 kg + 10,4 kg = 17,9 kg.

- The RMO250 instrument is fully automatic for operation and very simple to use. Megger instrument has very complex operating procedure while GE has no automation.

- With two operational menus - "SING" single test and "CONT" continual measurement (also available at Megger instrument only) user can perform several measurements on a section of bus without re-starting the measurement procedure.

-Remote control allows this instrument to be operated from a distance, which is very practical for hard to reach applications where operational hazard rules require operators to be on the ground for the duration of testing. None of competitors provide this feature. Additional Kelvin probes allow specialized measurement obtained with ease.

- Filtered dc current output is a must for measurements where CTs are connected in the circuit during the measurement to avoid protection malfunction. The RMO250 provides filtered, true dc current.

- The wide current range 10-250 Amps allow RMO250 to cover many applications.

- RMOWin program provides a simple and reliable method of data transfer between the instrument and a computer or industrial lap-top in the field.

- External printer can be connected through the RS232 port to provide a printout of test data on site.

Above all this, the RMO250 is lowest price on the market and the manufacturer provides two years of warranty. We can offer this long warranty because our instrument is field tested in roughest environments and can withstand temperature, shocks/vibrations and extreme climatic conditions. It can operate in freezing cold environment at -10C.

MARKETING STRATEGY

The RMO250 has three biggest advantages over competitors with similar characteristics: the lower price, filtered dc current, and much lower weight. Marketing strategy should be based on these advantages, plus all other features that may be advantageous to final customer. Our short presence on the market should be admitted but the reference list of satisfied users is large enough. The modern switching mode technology is new concept and most our competitors, although for many years in the market, have only recent developments with this new technology.

Other features include large - 100 result memory storage, choice of operating modes as Cont and Measure, plus the ease of use with a simple on the instruments panel - screen and commands. For many applications the ability of the RMO250 to automatically select lower currents into higher resistance loads ensures the measurement flexibility is maintained.

The main competition is the new Megger instrument. However their DLRO200 output gives unfiltered dc current, the unit is much heavier and cannot compete on price, remote control and load cycle. The only advantage it has is the resistance range - while we measure up to 500mOhms it can go to 999 mOhms.

The output from 10A to 250A will allow RMO250 to be used in smaller current applications using only keyboard inputs. The RMO250 can supply current in the Cont mode continuously at 100A and while at 200A with 5 minutes load interval. Users will be able to have a universal unit for all their applications. With our RMO100 at lower currents, RMO600 for 600 amp applications and RMO400 for 400 amp applications DV-Power completes the offering for the whole spectrum.

DELIVERY

We can deliver the RMO250 immediately, regular delivery period for non-rush based orders is 2-4 weeks.



COMPETITOR ANALYSIS

	GE Programma MOM200	T&R Test Equipment DSM200	Megger DLRO200	DV Power RMO250
Max Current	200A unsmoothed DC current	200A unsmoothed DC current, 10A true DC current	200A unsmoothed DC current	250A true DC current
Output voltage at 200A	3,0 V	3,4 V DC	4,6 V	6,0 V
Load interval 100A	15 min	15 min	continuously	continuously
Load interval 200A	30 sec	5 min	10 min	5 min
Max load resistance at 200A (cable 2x 5m 25 mm ²)	6 mOhm	9 mOhm	15 mOhm	22mOhm
Max load resistance at 200A (cable 2x 10m 25 mm ²)	0 mOhm	1 mOhm	4 mOhm	14 mOhm
Max load resistance at 200A (cable 2x 15m 25 mm ²)	0 mOhm	0 mOhm	0 mOhm	6 mOhm
Range	19,99 mOhm	400 mOhm	999 mOhm	500 mOhm
Resolution	1 uOhm	0,1 uOhm	0,1 uOhm	0,1 uOhm
Accuracy	±1%+1LSD	±0,6%+1LSD	0,7% + 1uOhm	±0,25%+1LSD
Memory	No	?	Last 300 measurements	Last 100 measurements
PC software	No	Yes	Yes	Yes
Weight	14,6 kg	21,4 kg	14,5 kg	7,5 kg
Operating temperature	0°C - +50°C	0°C - +45°C	-10°C - +50°C	-10°C - +50°C
Price	4 000 EUR	4 500 EUR	4 500 EUR	3 800 EUR
	www.programma.se	www.trtest.com	www.megger.com	www.dv-power.com