

MR 2212 W

for accumulators, fuel cells, batteries, separators ...

High precision
resistance meters

AC - milli-ohmmeters

The MR 2212 W measures the interior resistance of objects with a natural voltage, including batteries, fuel cells, accumulators, separators and power racks.

With its large range from some 10 $\mu\Omega$ to 2 Ω it is widely used in R+D, monitoring and trouble-shooting applications. The feed line resistances are compensated by the 4-pole measuring method according to Kelvin. In addition the temperature of the test object (PT 100) can be monitored continuously as well as its direct voltage. The MR 2212 W can be connected to the test object even while it is in operation. This makes continuous monitoring possible, and all measured values can be recorded at any time by a connected computer.

Limit values allow the release of alarm signals on site via a control system or a computer.

The sophisticated recognition of contact errors at the holding device itself is one of the most important features, as it enables you to distinguish between such errors and actual defects of the test object.

The corresponding error messages, as well as the actual defects of the test object are not only transferred to the control system, but also displayed clearly on the MR 2212 W front panel.

An automatic measuring system is provided which is activated in case the value measured is below / above the measuring range.



It is only necessary to program the instrument once via the RS232C interface, in order to operate the instrument with these parameters at manual measuring setups or with an industrial PLC system. The instrument can be controlled completely via RS232C using a computer terminal, by single contact opmode (footswitch) or using the frontpanel keys.

The MR 2212 W preserves all set parameters. For this reason it is only necessary to program the instrument once via the RS232C interface

Features

- Range from 2 , 20 , 200 m Ω , 2 Ω , decadic
- max. resolution of 1 $\mu\Omega$
- measurement error $\pm 0.5\%$ of MV ± 3 Digit
- Including voltage measurement
- Including temperature measurement
- Limit parameters as well as visual enhancements (ok, too low, too high), including switchable acoustic signal
- RS232C port to get full external control over the instrument
- Centronics printer port

Questions?

phone: +49 (0)3328 / 3179 - 0

fax: +49 (0)3328 / 3179 - 10

email: sales@schuetz-messtechnik.com

Here you will get technical assistance as well as complete information regarding features, prices, shipment and reselling.

www.ohmmeter.de



Management
System
ISO 9001:2015

www.tuv.com
ID 9108630138

Made in Germany

MR 2212 W

Technical Data

Resistance measurement

Ranges	2.000 m Ω – 2000 Ω , decadic
Min. values below 3% error	≥ 0.1 m Ω (e.g. 107 $\mu\Omega$) up to 2000 m Ω
Max. measurement error	$\pm 0.5\%$ of MV ± 3 digits
Current	100 mA at 2 m Ω and 20 m Ω , 10 mA at 200 m Ω , 1 mA at 2 Ω
Range select	Frequency selectable 1 kHz or 10 kHz automatically, keypads, via RS232 or via IEEE-488 (optional)
Speed	approx. 2 s

Voltage measurement

Range	2 V, 20 V, 200 V
Max. measurement error	$\pm 0.2\%$ of MV ± 2 digits
Input resistance	1 M Ω
Speed	approx. 400 ms

Temperature measurement

Range	- 20 $^{\circ}\text{C}$ to + 100 $^{\circ}\text{C}$, linearized for PT 100
Max. measurement error	0.2 $^{\circ}\text{K}$ (no probe error)
Sensor type	several PT 100 temperature probes
Speed	ca. 600 ms

Error detection

Current connection errors	prior to EVERY single measurement LCD: ‚CURRENT‘, RS232: ‚ECUR‘
Sense connection errors	LCD: ‚SENSE‘, RS232: ‚ESEN‘
Overrange >80%	LCD: ‚OVERLD.‘, RS232: ‚EOVL‘

Limit values

limit over- / underflow shown	using keypad, via RS232 on LCD, via RS232, via PLC
-------------------------------	---

Start of measurement

using keypad
via RS232 and IEEE-488 (optional)
via PLC (potential free contact)
via foot switch (optional enhancement)

Ports

RS232C (full external control)
SPS (<,=,>,OVL,CUR,SEN,EOC,GO,REM)
printer (parallel, ANSI standard)
single contact op. (potential free)
IEEE-488 (optional)

Size

260 x 80 x 240 mm (WxHxD)

High precision
resistance meters

AC - milli-ohmmeters

Available enhancements

- **PT 100 1/10 DIN – temperature probe:**
4-pol. MiniDIN connector
cable length 1.5 m
 $F = \pm(0.03^{\circ}\text{C} + 0.0005 \cdot |t|)$
- **IEEE – 488 enhancement:**
control the instrument via IEEE – 488
- **MP multiplexer enhancement:**
internal multiplexer, up to 48 channels
(higher channel count by request)
POSition for identifying the cell number
- **Foot switch:**
to start measurement externally
- **Software MR2212 XFER**
sends measurement values to any
spreadsheet program or text-editor.
For Windows[®] 10, 2000, XP.
- **DAkKS – calibration certificate** from the
,Deutscher Kalibrierdienst‘

Questions?

phone: +49 (0)3328 / 3179 - 0

fax: +49 (0)3328 / 3179 - 10

email: sales@schuetz-messtechnik.com

Here you will get technical assistance as well as complete information regarding features, prices, shipment and reselling.

www.ohmmeter.de

Made in Germany

