

technology that works for you

Moisture Measurement with Microwave Resonance Technology

New Generation!



MW 1100 / MW 1100S

The **MW 1100 / MW 1100S** are handheld microwave moisture measuring systems. They are operated by battery and therefore ideal for the use in a warehouse, in the field or in the production. The MW 1100 has a planar sensor and weight just 1500 g. By putting it on the product the measurement is done within 1 sec. MW 1100S is a special version of the MW 1100 for measuring of deeper material areas. A sensor at the end of the slim sword can be used to measure product moisture up to half a meter inside a bale, a bag or box. Like the MW 1100, it is used in the food product and animal feed industry, the tobacco industry and the chemical industry.

Special properties

- Short measuring time of 1 second
- Registers total moisture
- Battery operation for mobile use
- MW 1100 / MW 1100S requires no maintenance

Technical data

Measuring range:	0.0 % – 70.0 % in selectable subzones, dependent on material
Reproducibility:	typical standard deviation at 10 measurements \pm 0.5% (dependent on material)
Measuring time:	< 1 second
Product Memory:	20 Products
Data storage:	EEPROM for 250 measuring values
Equipment:	Moisture meter in a compact housing with integrated sensor

Display:	LCD 320 x 240 points with backlight, screen size 8,9 cm (3,5 inch)
Battery:	NiMH Accumulator
Standby time:	approx. 3 hours, Auto-Power-Off
Product temperature:	5°C – 60°C / 40°F – 140°F (autom. temperature-compensation, temperature measurement by using the integrated infraredsensor)
Ambient temperature:	0°C – 45°C / 32°F – 110°F
Protection class:	IP51
Possible types:	MW 1100: available with sensor type 110 or 120 depending on product MW 1100S: with sensor type 50

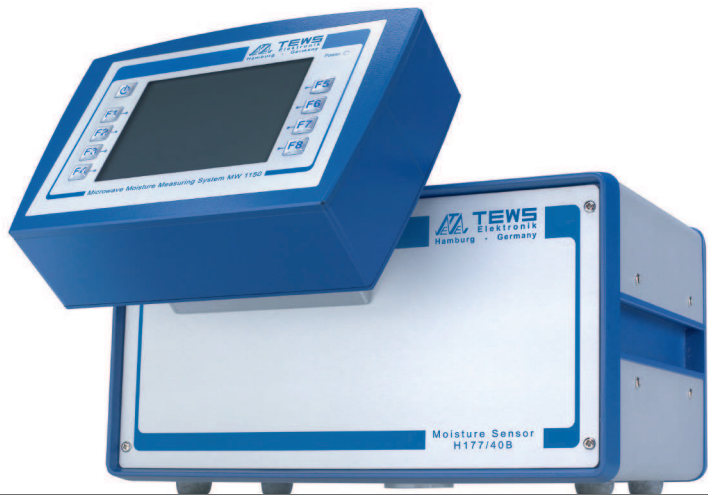
Interfaces

Data:	USB (for PC)
Battery chargers:	Universal charger 100 – 240 V~, 1,0 A, 50 – 60Hz with changeable clips for various countries, car adapter

Dimensions and Weights

MW1100 -110 / -120:	210 mm x 100 mm x 310 mm (W x H x D), Weight: 1.5 kg
MW1100 -S:	240 mm x 130 mm x 960 mm (W x H x D), Weight: 3.5 kg

The MW 1100 family is delivered in robust case which includes a PC-cable, a battery charger and the car adapter.



MW 1150

The Microwave Moisture Measuring System **MW 1150** is designed for the use in the production, for routine measurement in the laboratory or the at-line installation. The electronic is based on the MW 1100 / MW 1100S, but it has a large 5,7 inch display with background light and is not battery powered. It can be combined with nearly all laboratory sensors. This allows a wide-scale moisture measurement in various products of the food-, feed-, tobacco-, coffee-, and chemical / pharmaceutical industry.

Special properties

- Short measuring time of approx. 1 second
- Registers total moisture
- MW 1150 requires no maintenance

Technical Data

Measuring range:	0.0 % – 70.0 % in selectable subzones (dependent on material)
Reproducibility:	typical standard deviation at 10 measurements ± 0.5 % (dependent on material)
Measuring time:	< 1 second
Product Memory:	20 Products
Data storage:	EEPROM for 250 measuring values
Equipment:	Moisture meter in a compact housing with integrated sensor
Display:	LCD 320 x 240 points with backlight, screen size 14,5 cm (5,7 inch)
Power supply:	external wall power supply

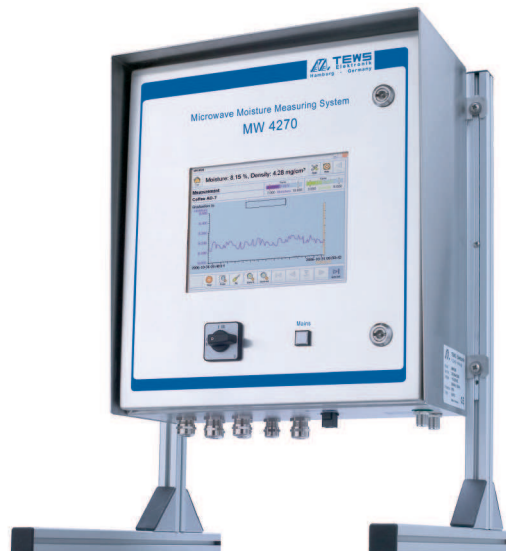
Product temperature:	5°C – 60°C / 40°F – 140°F (autom. temperature-compensation with optional temperature sensors)
Ambient temperature:	0°C – 45°C / 32°F – 110°F
Protection class:	IP21

Interfaces

Data:	USB (for PC)
External wall power supply:	Universal 100 – 240 V~, 1,0 A, 50 – 60 Hz with changeable clips for various countries
Analog output:	4 – 20 mA
Options:	External PT100 temperature sensor External infrared temperature sensor Printer output for printer (special type from TEWS Elektronik)

Dimensions and Weight (without sensor)

MW 1150:	240 mm x 70 mm x 170 mm (W x H x D), Weight: 1.5 kg
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MW 4260 / MW 4270

The **Process Microwave Moisture Measuring System MW 4260 / MW 4270** is ideal for many industrial applications and can be used for direct online measurement in production processes. The durable, robust sensor surface produce excellent measuring results. The patented measuring method achieves precise moisture measurement unaffected by density, surface structure and colour of the measured materials. The planar sensor is directly located in the production line line, e.g. at a transmission point of two conveyor belts.

Technical data

Measuring range:	(0.1 – 85) % in adjustable steps
Reproducibility:	typical standard deviation ± 0.08 % for 10-fold measurement
Measuring time:	up to 50 measurements/second
Product Memory	50 Products (extendable)
Data storage:	non volatile
Sample temperature:	(0 – 70) °C (automatic temperature compensation)
Ambient temperature:	(0 – 40) °C



Screw crown for simple implementation in the product conveying line.

Options (on request):

density measurement,
ex-protection,
MW 4260 with small display,
MW 4270 with 10.4" touch display

Interfaces

Data:	1 x RS 422 (for PC; PLC; process computer), 1 x RS 232 (Modem, Ethernet CAN-BUS, PROFI-BUS)
Analog output:	3 x (0/4 – 20) mA (active, potential-free)
Analog input:	1 x (0/4 – 20) mA
Control inputs:	8 x optocoupler inputs, 24V, e.g. for start, stop, article selection
Control outputs:	8 x potential-free (24 V, 0.25 A DC)
Mains connection:	(110 – 230) V AC / (50 – 60) Hz / 70 VA

Dimensions and Weight

System:	Housing (410 x 460 x 210) mm (w x h x d)
Weight:	19 kg
Protection:	IP 54



MW 4310 / MW 4300

The **Standard Laboratory Moisture Measuring Station MW 4310 / MW 4300** is designed for reliable determination of moisture in products, for quick and easy quality control.

The system MW 4310 / MW 4300 is ideal for products and raw materials in chemical, pharmaceutical, food and luxury commodity industries, together with natural products, sweets and confectionery, as well as building materials. The instrument is easy to operate for versatile use as a stand-alone system with its own statistic and analysing software.



Loose products can be filled in without any problems (like the green coffee in the picture).

Technical data

Measuring range:	(0.1 – 85) % in adjustable steps
Reproducibility:	typical standard deviation ± 0.05 % for 10-fold measurement
Measuring time:	less than 1 second
Product Memory	50 Products
Data storage:	non volatile
Features:	large colour display MW 4300 or VGA connection MW 4310
Sample temperature:	(0 – 70) °C (automatic temperature compensation)
Ambient temperature:	(0 – 40) °C

Interfaces

Data:	Ethernet, 3 x USB, RS 232, VGA PS2- Mouse / Keyboard
Analog output:	(0/4 – 20) mA (option)
Mains connection:	(90 – 260) V AC / (50 – 60) Hz / 60 VA

Dimensions and Weight

System:	desktop housing (351 x 220 x 434) mm (w x h x d)
Weight:	12 kg



Applications



Chemistry

- Dye powder
- Fertiliser
- Washing powder
- Plastics

Pharmacy

- Gelatine capsules
- Tablets
- Granules
- Vitamin powder

Sweets

- Sugar
- Fondant
- Marzipan



Building Materials

- Lime
- Dolomite
- Ceramic mixtures
- Mineral wool
- Wood
(fibres, MDF boards)

Food Products and Luxury Commodities

- Coffee
(green and roasted
beans, powder)
- Tobacco
(leaves, cut,
cigarettes, cigars)
- Milk powder, casein
- Tea

Natural Products

- Soy
(beans, flour)
- Rapeseed
- Sunflower seeds
- Hops
- Nuts / almonds

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