



**Testing system for testing electrical safety in accordance with
IEC 60601 / IEC 62353 / IEC 61010 / EN 50678 / EN 50699
MPBetreibV / BetrSichV / DGUV Vorschrift 3**



- ☒ PC operation
- ☒ automatic or multimeter measurement
- ☒ robust light metal case
- ☒ 25 A PE measure according to IEC 60601
- ☒ perfect for mobile working with laptop

Technical Data

Line voltage:	230 V / 115 V ac, $\pm 10\%$, 50/60 Hz	Leakage current:	0 – 99 μA 100 – 20000 μA	$\pm 2\ \mu\text{A}$ or $\pm 1\%$ of measurement value
Output power:	maximum 3,5 kW	Differential current:	10 – 20000 μA	$\pm 2\ \mu\text{A}$ or $\pm 1\%$ of measurement value
Protection class:	I	Output power:	1 – 3,5 kW	$\pm 2\ \text{W}$ or $\pm 5\%$ of measurement value
Overvoltage category:	II	Current:	0 – 16 A	$\pm 50\ \text{mA}$ or $\pm 2,5\%$ of measurement value
Environmental temperature:	+ 5 - + 40 °C	The specified intrinsic uncertainties relate to the respective measuring circuit. The operating uncertainty at the test object connections is $\pm 5\%$. The displayed value is normalized according to the documentation / standard requirement, if required.		
Storage temperature:	- 10 - + 50 °C			
Measurement range		Interface:	1 x USB for PC connection 1 x RS-232 for PC-connection 1 x RS-232 for further test appliances	
Voltagess measurement:	0 - 300 V ac (input resistance: 10 MOhm)	Test object connection:	1 x protected ground VDE test socket 12 x safety sockets (4mm) for applied part, groupable into 3 groups 1 x safety socket 4mm for test probe 1 x safety socket 4mm for TP3 1 x safety socket 4mm for PE 1 x safety socket 4mm for FE	
Discrimination:	0,3 V	Accessories:	1 x measurement line with test probe, 1 m length 1 x test adapter PA-X for self-diagnosis test 1 x USB cable 1 x power cord 16 A	
Earth conductor resistance:	0,00 - 40 Ohm (test voltage 6 V ac, max. 25 A / max. 5 A)	Mechanical data:	light weight metal case IP20, 343 x 88 x 280 mm (W x H x D), approx. 6 kg	
Discrimination:	10 MOhm			
Insulation resistance:	0,2 - 100 MOhm (test voltage 500 V dc, max. 3,5 mA)			
Discrimination:	0,1 – 2 MOhm			
Leakage current:	0 - 10 mA or 0 – 20 mA			
Resistance:	1000 Ohm $\pm 1\%$ or 2000 Ohm $\pm 1\%$			
Discrimination:	1 μA or 0,2 μA			
Differential current:	10 μA - 20000 μA			
Discrimination:	1 μA or 0,2 μA			
Output power:	1 – 3,5 kW			
Discrimination:	1 W			
Current:	0 – 16 A			
Discrimination:	10 mA			
Intrinsic uncertainty				
Measurement				
Voltage:	Range 0 - 300 V ac	Error $\pm 0,3\ \text{V}$ or $\pm 1\%$ of measurement value		
Earth conductor resistance:	0,00 – 4,9 Ohm 5 – 40 Ohm	$\pm 0,03\ \text{Ohm}$ or $\pm 5\%$ of measurement value		
Insulation resistance:	0,2 – 4,9 MOhm 5 – 100 MOhm	$\pm 0,2\ \text{MOhm}$ or $\pm 5\%$ of measurement value		

GM-410 is a measurement and test device for testing the electrical safety of medical technical and other technical appliances. The measurements and tests correspond to the conditions of IEC 60601, IEC 62353, IEC 61010, EN 50678 and EN 50699.

To control the GM-410 a 100% compatible IBM computer with industrial standards is needed. The communication between PC and GM-410 follows through the RS-232 serial interface and/or an USB interface. The control will be available among other things for the software such as

ACTIMED, WAVE, NOVA.

With GM-410 the following tests are realized:

- line voltage measurement
- output current measurement
- output power measurement
- leakage current measurement
- equivalent leakage current measurement
- earth conductor resistance measurement
- isolation resistance measurement
- differential current measurement

(Technical modifications and errors reserved. 12/2020)