AMZC

Short-circuit loop impedance meter

MODELS
310S, 20-E, 304, 306, 320S, 330S

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amperis

AMZC-310S

Short-circuit loop impedance meter

- It allows to measure the short-circuit loop impedance of very small values (less than 0,01Ω) in accordance with PN-EN61557.

Features

- Very small short-circuit loop impedance measurements (with 0.1mΩ resolution) using 150A current under 230V, max. 280A under 440V, or measurements using 23A current under 230V, max. 42A under 440V.
- Measurements on nominal voltage networks: 220/380V and 230/400V of 45...65Hz frequencies.
- Allows short-circuit measurement: phase-to-phase, phase-to-protection, phase-to-neutral.
- Distinction of phase-to-phase and phase-to-phase voltage when calculating short-circuit current.
- Allows the length of the measuring leads to be altered (measurement 23/42A).
- Four-conductor method, no need to calibrate conductors (150/280A measurement).
- Measurement of the expected contact voltage or the contact surge voltage (with 1kΩ resistor).
- Measurement of alternating voltages 0...440V.
- Memory of 990 results and option to send them to a PC.
- Device complies with the requirements of PN-EN 61557.

Do you know that...

AMZC-310S meter allows measuring the impedance of short-circuit loops of very small values (less than 0.01Ω) in accordance with PN-EN61557.

The **AMZC-310S meter** is the only meter available on the market that can also measure touch voltage or surge voltage, which can be used to assess the safety of the installation under test.

Technical specifications

Voltage measurement (True RMS)

Display range	Resolution	Accuracy
0...440V	1V	±(2% v.m. + 2 digits)

- Frequency range: DC, 45...65Hz
- Input impedance for voltmeter: > 200kΩ

Frequency measurement (for voltages in the range of 50...440V)

Display range	Resolution	Accuracy
45,0...65,0Hz	0,1Hz	±(0,1% v.m. + 1 digit)

Measurement of short-circuit loop parameters by high current (4p, Imax=280A)

High current measurement of the short-circuit loop impedance Z: measuring range according to IEC61557: 7,2mΩ...1999mΩ

Display range	Resolution	Accuracy
0...199,9mΩ	0,1Ω	±(2% v.m. + 2mΩ)
200...1999mΩ	1Ω	

Display ranges of effective resistance R and short-circuit loop reactance X

Display range	Resolution	Accuracy
0...199,9mΩ	0,1mΩ	±(5% m.v. + digits) *impedance indications for the given measurement*
200...1999mΩ	1mΩ	

Short-circuit current indications

Measuring range according to IEC 61557: for Un = 230V: 115.0A...32.0kA for Un = 400V: 200A...55.7kA

Display range	Resolution	Accuracy
115,0...199,9A	0,1A	*Calculated on the basis of the error for the short-circuit loop*
200...1999A	1A	
2,00...19,99kA	0,01kA	
20,0...199,9kA	0,1kA	
200kA...*	1kA	

* 230 kA for ULN / 400 kA para ULL

Measurement of U_{ST} touch voltage and U_T surge voltage

Display range	Resolution	Accuracy
0...100V	1V	±(10% v.m. + 2 digits)

Measurement of short-circuit loop parameters using standard current (2p, Imax=42A)

Measurement of the short-circuit loop impedance Z:

Measuring range in accordance with IEC61557: 0.13Ω...199.9Ω for 1.2m conductors

Display range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(2% v.m. + 3 digits) ±(3% v.m. + 3 digits)
20,0...199,9Ω	0,1Ω	

Measurement of the effective resistance R and the short-circuit loop reactance X

Display range	Resolution	Accuracy
0,00...19,99Ω	0,01Ω	±(2% v.m. + 3 digits) *impedance indications for the given measurement*
20,0...199,9Ω	0,1Ω	±(3% v.m. + 3 digits) *impedance indications for the given measurement*

Short-circuit current indications

Display range	Resolution	Accuracy
1,150...1,999A	0,001A	*Elle est calculée sur la base de l'erreur pour la boucle de court-circuit.*
2,00...19,99A	0,01A	
20,0...199,9A	0,1A	
200...1999A	1A	
2,00...19,99kA	0,01kA	
20,0...40,0kA	0,1kA	

The initials "v.m." stand for "measured value"

Electrical safety	
Insulation type in accordance with PN-EN 61010-1 and IEC 61557	double
Measuring category in accordance with PN-EN 61010-1	IV 300V
Degree of protection of the enclosure according to PN-EN 60529	IP20

Other technical data	
Power supply	alkaline batteries LR14 (size C) (5 pcs.)
Current limiting resistor	for 4p measurement 1,5Ω for 2p measurement: 10Ω
Number of short-circuit loop measurements (alkaline batteries):	at least 2000(4/min.)
Temperature coefficient	±0.1% of the measured value /°C

Nominal conditions of use	
Working temperature	0...+40°C

AMZC-20E

Short-circuit loop impedance meter

IP67

CAT III
300 V

Measured parameters

- Short-circuit loop impedance
- Short-circuit resistor R_S and reactance X_S
- Short-circuit current I_K
- Tensión

Features

The instrument is designed for installers and technicians performing measurements in residential buildings, offices, factories, and any facility with a low voltage electrical system. The instrument is also recommended for electrical maintenance personnel.

Technical specifications

Z_S loop short-circuit impedance measurement

Measurement using in accordance with IEC 61557-3: 0,24...200 Ω

Short-circuit current Ik: 0,115...1769 A (Un=230 V) AC voltage measurement: 0...400 V

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2,5% v.m. + 5 digits)
20,0...99,9 Ω	0,1 Ω	±(2,5% v.m. + 3 digits)
100...200 Ω	1 Ω	±(3% v.m. + 3 digits)

- Rated operating voltage UnL-N/UnL-L: 220/380 V, 230/400 V, 240/415V
- Operating voltage range: 180...270 V (for Z_{L-PE} and Z_{L-N}) and 180...440 V (for Z_{L-L})
- Nominal mains frequency fn: 50 Hz, 60 Hz
- Frequency operating range: 45...65 Hz
- Maximum current measurement: 15.3 A for 230 V (10 ms) and 26.7 A for 400 V (10 ms)

Short-circuit resistor R_S and reactance X_S

Gama	Resolution	Accuracy
0,00...9,99 Ω	0,01 Ω	±(5% v.m. + 5 digits)

- Calculated and displayed for ZS<10 Ω

Short circuit current I_k

Measuring range according to IEC 61557 can be calculated based on the measuring range Zs and the nominal voltage values.

Gama	Resolution	Accuracy
1,15...9,99 A	0,01 A	*Calculated on the basis of accuracy for loop precision short-circuit*
10,0...99,9 A	0,1 A	
100...999 A	1 A	
1,00...9,99 kA	0,01 kA	
10,0...40,0 kA	0,1 kA	

Voltage measurement

Gama	Resolution	Accuracy
0...440 V	1 V	±(2,5% v.m. + 2 digits)

Measurement of short-circuit loop impedance Z

Measuring cable	Measuring range Z_S
Plage de mesure Z_S	0,24...200 Ω
200...1999A	0,26...200 Ω
2,00...19,99kA	0,28...200 Ω
20,0...199,9kA	0,35...200 Ω

As iniciais “v.m.” significam “valor medido”.

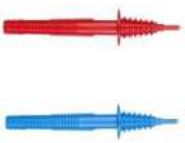
Electrical safety	
Type of insulation	double, according to EN 61010-1 and IEC 61557
Measurement category	III 300 V according to EN 61010-1
Protection according to EN 60529	IP67

Other technical data	
Power supply	LR6 alkaline batteries or rechargeable batteries Lithium Ion AA (4 units)
Dimensions	220 x 98 x 58 mm
Instrument weight with batteries	509 g
Storage temperature	-20...+70°C
Operating temperature	-10...+50°C
Humidity	20...80%
Reference temperature	+23 ± 2°C
Reference humidity	40...60%
Altitude	<2000 m
Auto-off time	Max. 900 seconds
Number of Z-measurements (for rechargeable batteries)	>5000 (2 medições/minuto)
Display	LCD segmentado
Quality standards	Developed, designed and manufactured to ISO 9001 standards
The instrument is compatible with the requirements of	IEC 61557
The instrument complies with	EN 61326-1 y EN 61326-2-2

Standard accessories

Red crocodile 1 kV 20 A

WAKRORE20K02



1 kV tip probe (socket type banana) red / blue

WASONREOGB1
WASONBUOGB1

Cable 1.2 m 1 kV (banana plugs) red / blue

WAPRZ1X2REBB
WAPRZ1X2BUBB

Meter harness (type M1)

WAPOZSZE4

Bracket - M1 hook for the meter

WAPOZUCH1

Case M10

WAFUTM10

Additional accessories

Adapter AGTfor three-phase plug 16A / 32A

AGT Adapter

AGT adapter for single-phase industrial socket 16A / 32A

AGT adapter for three-phase plugs

Cable 10 m red 1 kV (banana plugs)

AMZC-304

Short-circuit loop impedance meter

- Measuring loop impedance without tripping the differential circuit breaker

Features

If a light and handy short-circuit fault meter is needed, the AMZC-304 is the best choice. The equipment is very useful for various electrical works (even the simplest), in places with low voltage networks, which can be: electrical systems in homes and buildings, as well as in public facilities and in small workshops or factories.

Measured parameters

- Short-circuit loop impedance
- Loop impedance measurement without tripping the differential circuit breaker
- Short-circuit resistance rs and reactance Xs
- Short circuit current Ik
- Measurement of low voltage resistance of circuits protection and splicing
- Voltage and frequency
- Detection of the replacement of l and n at the plug and automatic changeover at the meter
- Quickly check the correct cable connection of Pe with the tactile electrode

CAT III 600 V

CAT IV 300 V

IP67

Technical specifications

Short-circuit loop impedance measurement Z_{L-PE}, Z_{L-N}, Z_{L-L}

Measurement using in accordance with IEC 61557-3:
0,13...1999 Ω

AC voltage measurement: 0...500 V

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(5% v.m. + 3 digits)
20,0...199,9 Ω	0,1 Ω	±(5% v.m. + 3 digits)
200...1999 Ω	1 Ω	±(5% v.m. + 3 digits)

- Rated operating voltage U_{nL-N}/U_{nL-L}: 220/380 V, 230/400 V, 240/415V
- Operating voltage range: 180...270 V (for ZL-PE and ZL-N) and 180...440 V (for Z_{L-L})
- Nominal mains frequency fn: 50 Hz, 60 Hz
- Frequency operating range: 45...65 Hz
- Maximum current measurement: 7.6 A for 230 V (3 x 10 ms) and 13.3 A for 400 V (3 x 10 ms)

Short-circuit resistor R_S and reactance X_S

Gama	Resolution	Accuracy
0,00...9,99 Ω	0,01 Ω	±(5% v.m. + 5 digits) of the value of Z_S
20,00...199,99 Ω	0,1 Ω	

- Calculated and displayed for ZS<200 Ω

Medição de resistência de baixa corrente

Gama	Resolution	Accuracy
0,00...199,9 Ω	0,1 Ω	±(3% v.m. + 3 digits)
200...1999 Ω	1 Ω	

- Voltage with open terminals 4...9 V DC
- Output current ISC < 8 mA
- Acoustic signal for measured resistances <30 Ω ± 50%,
- Test lead resistance compensation

Voltage measurement

Gama	Resolution	Accuracy
0...299,9 V	0,1 V	±(2% v.m. + 6 digits)
300...500V	1 V	±(2% v.m. + 2 digits)

- Frequency range 45...65Hz
- Test results update: twice a second

Short-circuit loop impedance measurement $Z_{L-PE[RCD]}$ (without tripping the differential circuit breaker)

Measurement using in accordance with IEC 61557-3:
0,5...1999 Ω

AC voltage measurement: 0...500 V

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(6% v.m. + 10 digits)
20,0...199,9 Ω	0,1 Ω	±(6% v.m. + 5 digits)
200...1999 Ω	1 Ω	±(6% v.m. + 5 digits)

- Rated operating voltage Un: 220 V, 230 V, 240 V
- Operating voltage range: 180...270 V
- Nominal mains frequency fn: 50 Hz, 60 Hz
- Frequency operating range: 45...65 Hz
- Verification of the correct connection of the PE terminal with the help of the touch electrode
- Calculation of the short-circuit current at rated voltage

Short-circuit resistance RS for $Z_{L-PE\ [RCD]}$ and reactance X_S

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(6% v.m. + 10 digits) dof the value of Z_S
20,00...199,99 Ω	0,1 Ω	±(5% v.m. + 5 digits) of the value of Z_S

- Calculated and displayed for Z_S<200 Ω

Continuity measurement of equipotential bonding and protective conductors with current ±200 mA

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% v.m. + 3 digits)
20,00...199,9 Ω	0,1 Ω	
200...1999 Ω	1 Ω	

- Voltage with open terminals 4...9 V DC
- Output current at R < 2 Ω: min 200mA (ISC: 200....250mA)
- Resistance compensation of test leads
- Measurement for both current polarisations

Frequency measurement

Gama	Resolution	Accuracy
45,0....65,0 Hz	0,1 Hz	±(0,1% v.m. + 1 digit)

- Voltage range: 50....500 V

Electrical safety	
Type of insulation	double, according to EN 61010-1 and IEC 61557
Measurement category	III 300 V according to EN 61010-1
Protection according to EN 60529	IP67

Other technical data	
FPower supply	LR6 alkaline batteries or rechargeable batteries Lithium Ion AA (4 units)
Dimensions	220 x 98 x 58 mm
Instrument weight with batteries	aprox . 0,6 kg
Storage temperature	-20...+70°C
Operating temperature	0...+50°C
Humidity	20...90%
Reference temperature	+23 ± 2°C
Reference humidity	40...60%
Altitude	<2000 m
Auto-off time	120 seconds
Number of Z-measurements (for rechargeable batteries)	>5000 (2 measurements/minute)
Display	LCD segmentado
Quality standards	Developed, designed and manufactured to ISO 9001 standards
The instrument is compatible with the requirements of	IEC 61557
The instrument complies with	EN 61326-1 y EN 61326-2-2

AMZC-306

Short-circuit loop impedance meter

- Short-circuit fault meter professional and lightweight

CAT IV 600 V

CAT III 1000 V

IP54

HASTA máx. 750 V!

Product features

Thanks to the wide range of operating voltages, the MZC-306 allows measurements in various types of networks. The equipment is very useful for various electrical works (even simple ones), in low-voltage locations, including homes, buildings, public facilities and small workshops or factories.

Measured parameters

- Loop impedance measurement with 0.01 Ω resolution.
- Loop impedance measurement without tripping the differential switch ≥30 mA with a resolution of 0.01 Ω (100...440 V)
- Measurements possible on 110/190 V, 115/200 V, 127/220 V, 220/380 V, 230/400 V, 240/415 V, 290/500 V, 400/690 V installations (range 100...750 V)
- Operating frequency 45...65 Hz
- Short circuit current I_k
- Automatic phase detection, or voltage between phases
- Measurements using Uni-Schuko adapter or 1, 2, 5, 10 and 20 m test leads
- Measurement with the conductors L and N interchanged
- Short-circuit resistor R_s and reactance X_s

Parâmetros adicionais

- Voltage measurement up to 750 V AC (up to 250 V with 0.1 V resolution)
- 990 memory points, USB PC connection
- Powered by rechargeable batteries (or not, 4 x LR14)
- Quickly check the correct PE cable connection with the touch electrode

Technical specifications

Short-circuit loop impedance measurement Z_{L-PE}, Z_{L-N}, Z_{L-L}

MMeasurement using according to IEC 61557-3: 0.13...1999 Ω for 1.2m test prods 0.25...1999 Ω for Uni-Schuko adaptor

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(5% v.m. + 3 digits)
20,0...199,9 Ω	0,1 Ω	±(4% v.m. + 3 digits)
200...1999 Ω	1 Ω	±(4% v.m. + 3 digits)

- Rated operating voltage UnL-N/UnL-L: 110/190 V, 115/200 V, 127/220 V, 220/380 V, 230/400 V, 240/415 V, 290/500 V, 400/690 V
- Operating voltage range: 100...440 V (for Z_{L-PE} and Z_{L-N}) and 100...750 V (for Z_{L-L})
- High current measurement (up to 30 A)
- Frequency operating range: 45...65 Hz
- Measurement is also possible when the L and N circuits are inter-changed.
- Measurement of resistances and reactances
- Short-circuit current calculation

Voltage measurement

Gama	Resolution	Accuracy
0,0...249,9 V	0,1 V	±(2% v.m. + 4 digits)
250...750V	1 V	±(2% v.m. + 2 digits)

- Measurement available for all loop configurations of short-circuit ($Z_{L-PE,\ ZL-PE\ [RCD]}$ e $Z_{L-N,\ ZL-L}$)
- Frequency range 45...65 Hz

Short-circuit loop impedance measurement $Z_{L-PE[RCD]}$ (without tripping the differential circuit breaker)

Measurement using in accordance with IEC 61557-3: 0.43...1999 Ω with Uni-Schuko adapter

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(6% v.m. + 10 digits)
20,0...199,9 Ω	0,1 Ω	±(6% v.m. + 5 digits)
200...1999 Ω	1 Ω	

- Nominal operating voltage Un: 110 V, 115 V, 127 V, 220 V, 230 V, 240 V, 390 V, 400 V
- Operating voltage range: 100...440 V
- Measurement is also possible when the L and N circuits are inter-changed.
- Measurement of resistances and reactances
- Short-circuit current calculation

Electrical safety	
Type of insulation according to PN-EN 61010-1 and IEC 61557	double
Measuring category in accordance with PN-EN 61010-1	IV 600 V / III 1000 V
Degree of protection of the enclosure according to PN-EN 60529	IP54

Other technical data	
Power supply	Alkaline or rechargeable batteries, LR14 (4 pcs.)
Dimensions	288 x 223 x 75 mm
Weight	aprox. 2 kg
Working temperature	0...+45°C
Storage temperature	-20...+60°C
Humidity	20...80%
Reference temperature	+23 ± 2°C
Reference humidity	40...60%
Working altitude	<2000 m
Auto-off time	300 seconds
Number of Z-measurements (for batteries)	>5000 (2 measurements/minute
Display	Segmented LCD
Quality standards	ISO 9001
The instrument is compatible with the requirements of	IEC 61557
The instrument complies with	EN 61326-1 et EN 61326-2-2

AMZC-320S

Short-circuit loop impedance meter

- Impedance measurementvery low short-circuit loops (with 0.1 mΩ resolution).

Features

- Measurement of very low short-circuit loop impedances (with resolution 0.1 mΩ) with a current of 130 A at 230 V; max. 300 A at 550 V or with a current 24 A at 230 V, max. 30 A at 550 V (with resolution 0.01 Ω)
- Measurements in installations with nominal voltages between: 110/190 V, 115/200 V, 127/220 V, 220/380 V, 230/400 V, 240/415 V and 290/500 V and frequencies 45...65 Hz.
- Ability to perform short-circuit system measurements: phase-to-phase, phase-to-protection, phase-to-neutral
- Differentiation between phase voltage and interphase voltage when calculating the short-circuit current
- Possibility to change the length of the test cable
- Four-pole method, test leads do not require calibration (measurement with 300 A current).
- Measurement of touch voltage and surge voltage with 1 kω resistor).
- Measurement of AC voltage in the range 0...550V.
- Memory for 999 measurement results with the ability to transfer the data to a PC.
- Ability to transmit date via USB.
- The meter meets the requirements of PN-EN 61557

Technical specifications

Voltage measurements (True RMS)

Gama	Resolution	Accuracy
0...550 V	1 V	±(2% v.m. + 2 digits)

- Frequency range: DC, 45...65 Hz
- Input impedance of the voltmeter: 200 kΩ

Frequency measurements (for voltages in the range 5...550 V)

Gama	Resolution	Accuracy
45,0...65,0 Hz	0,1 Hz	±(0,1% v.m. + 1 digit)

MEASUREMENT OF THE SHORT-CIRCUIT LOOP PARAMETERS USING A HIGH CURRENT (4P, I_{MAX}=300 A)

High short-circuit loop impedance measurement current Z

Measuring range acc. to IEC61557: 7.2 mΩ...1999 mΩ

Gama	Resolution	Accuracy
0,00...199,9 Ω	0,1 mΩ	±(2% m.v. + 2 mΩ)
200...1999 Ω	1 mΩ	

Display range of short-circuit resistance R and reactance X

Gama	Resolution	Accuracy
0,00...199,9 Ω	0,1 mΩ	±(2% m.v. + 2 mΩ) impedance reading for a given measurement
200...1999 Ω	1 mΩ	

- Frequency range 45...65Hz
- Test results update: twice a second

Short-circuit current indication

Measuring range according to IEC 61557 for:
Un = 230 V 115,0 A...32,0 kA
Un = 400 V 200 A...55,7 kA
Un = 500 V 250 A...69,4 kA

Gama	Resolution	Accuracy
115,0...199,9 A	0,1 A	The accuracy of the calculated indication, respectively, by the use of the resistance measurement
200...1999 A	1 A	
2,00...19,99 kA	0,01 kA	
20,0...199,9 kA	0,1 kA	
200 kA...*	1k A	

* 230 kA for U_{LN}
400 kA for U_{LL}

U_{ST} touch voltage and U_T surge voltage measurements

Gama	Resolution	Accuracy
0...100 V	1 V	±(10% v.m. + 2 digits)

MEASUREMENT OF SHORT-CIRCUIT LOOP PARAMETERS USING STANDARD CURRENT (2P, I_{MAX}=30 A)

High short-circuit loop impedance measurement current Z

Measuring range acc. to IEC61557: 0.13 Ω...199.9 Ω for 1.2 m long test leads

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% m.v. + 3 digits)
20...199,9 Ω	0,1 Ω	±(3% m.v. + 3 digits)

Display range of short-circuit resistance R and reactance X

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% m.v. + 3 digits) impedance reading for a given measurement
20...199,9 Ω	0,1 Ω	±(3% m.v. + 3 digits) impedance reading for a given measurement

Short circuit current readings

Gama	Resolution	Accuracy
1,150...1,999 A	0,001 A	The accuracy of the calculated indication, respectively, by the use of the resistance measurement
2,00...19,99 A	0,01 A	
20,0...199,9 A	0,1 A	
200...1999 A	1 A	
2,00...19,99 kA	0,01 kA	
20,0...40,0 kA	0,1 kA	

- "m.v. - measured value.

Electrical safety	
Type of insulation	double, according to EN 61010-1 and IEC 61557
Measurement category	IV 600 V according to EN 61010-1
Protection according to EN 60529	IP20 (IP67 with front cover closed)

Other technical data	
Power supply	Built in Li-Ion 7.2 V/8.8 Ah
Current-limiting resistor: **for 4-pole 4p method** **for the two-pole 2p method**	 1,8 Ω 9,4 Ω for U≤253 V 19 Ω for U>253 V
Number of short-circuit loop measurements	2000 (4/min)
Temperature coefficient	±0.1% measured value /°C
Dimensions	390 mm x 310 mm x 170 mm
Weight	6,6 kg
Rated operating conditions	0...+40 °C

AMZC-330S

Short-circuit loop impedance meter

- Impedance measurementvery low short-circuit loops (with 0.1 mΩ resolution).

Features

- M- Measurement of very low short-circuit loop impedances (with 0.1 mΩ resolution) with a current of 130 A at 230 V; max. 300 A at 750 V or with a current 24 A at 230 V, max. 30 A at 750 V (with 0.01 Ω resolution)
- Measurements in installations with nominal voltages between: 110/190 V, 115/200 V, 127/220 V, 220/380 V, 230/400 V, 240/415 V, 290/500 V and 400/690 V and frequencies 45...65 Hz,
- Ability to perform short-circuit system measurements: phase-to-phase, phase-to-protection, phase-to-neutral
- Differentiation between phase voltage and interphase voltage when calculating the short-circuit current
- Ability to change test cable length
- Four-pole method, test leads do not require calibration (measurement with 300 A current).
- Measurement of touch voltage and surge voltage with 1 kΩ resistor).
- Measurement of AC voltage in the range 0...750V.
- Memory of 999 measurement results with ability to transfer data to a PC
- Data transmission capability via USB and Bluetooth.
- The meter complies with the requirements of PN-EN 61557.

Technical specifications

Voltage measurements (True RMS)

Gama	Resolution	Accuracy
0...550 V	1 V	±(2% v.m. + 2 digits)

- Frequency range: DC, 45...65 Hz
- Input impedance of the voltmeter: 200 kΩ

Frequency measurements (for voltages in the range 5...550 V)

Gama	Resolution	Accuracy
45,0...65,0 Hz	0,1 Hz	±(0,1% v.m. + 1 digit)

MEASUREMENT OF SHORT-CIRCUIT LOOP PARAMETERS USING HIGH CURRENT (4P, I_{MAX}=300 A)

High short-circuit loop impedance measurement current Z

Measuring range acc. to IEC61557: 7.2 mΩ...1999 mΩ

Gama	Resolution	Accuracy
0,00...199,9 Ω	0,1 mΩ	±(2% m.v. + 2 mΩ)
200...1999 Ω	1 mΩ	

Display range of short-circuit resistance R and reactance X

Gama	Resolution	Accuracy
0,00...199,9 Ω	0,1 mΩ	±(2% m.v. + 2 mΩ) impedance reading for a given measurement
200...1999 Ω	1 mΩ	

- Frequency range 45...65Hz
- Test results update: twice a second

Short-circuit current indication

Measuring range according to IEC 61557 for:
Un = 230 V 115,0 A...32,0 kA,
Un = 400 V 200 A...55,7 kA
Un = 500 V 250 A...69,4 kA,
Un = 690 V 345 A...95,8 kA,

Gama	Resolution	Accuracy
115,0...199,9 A	0,1 A	The accuracy of the calculated indication, respectively, by the use of the resistance measurement
200...1999 A	1 A	
2,00...19,99 kA	0,01 kA	
20,0...199,9 kA	0,1 kA	
200 kA...*	1k A	

* 230 kA for U_{LN}
400 kA for U_{LL}

U_{ST} touch voltage and U_T surge voltage measurements

Gama	Resolution	Accuracy
0...100 V	1 V	±(10% v.m. + 2 digits)

MEASUREMENT OF SHORT-CIRCUIT LOOP PARAMETERS USING STANDARD CURRENT (2P, I_{MAX}=30 A)

High short-circuit loop impedance measurement current Z

Measuring range acc. to IEC61557: 0.13 Ω...199.9 Ω for 1.2 m long test leads

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% m.v. + 3 digits)
20...199,9 Ω	0,1 Ω	±(3% m.v. + 3 digits)

Display range of short-circuit resistance R and reactance X

Gama	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% m.v. + 3 digits) impedance reading for a given measurement
20...199,9 Ω	0,1 Ω	±(3% m.v. + 3 digits) impedance reading for a given measurement

Short circuit current readings

Gama	Resolution	Accuracy
1,150...1,999 A	0,001 A	The accuracy of the calculated indication, respectively, by the use of the resistance measurement
2,00...19,99 A	0,01 A	
20,0...199,9 A	0,1 A	
200...1999 A	1 A	
2,00...19,99 kA	0,01 kA	
20,0...40,0 kA	0,1 kA	

- "m.v. - measured value.

Electrical safety	
Type of insulation	double, according to EN 61010-1 and IEC 61557
Measurement category	IV 600 V according to EN 61010-1
Protection according to EN 60529	IP20 (IP67 with front cover closed)

Other technical data	
Power supply	Built in Li-Ion 7.2 V/8.8 Ah
Current-limiting resistor: **for 4-pole 4p method** **for the two-pole 2p method**	1,8 Ω 1,8 Ω pour U≤253 V, 2,5 Ω for U>253 V 9,4 Ω pour U≤253 V, 19 Ω for U>253 V
Number of short-circuit loop measurements	2000 (4/min)
Temperature coefficient	±0.1% measured value /°C
Dimensions	390 mm x 310 mm x 170 mm
Weight	6,6 kg
Rated operating conditions:	0...+40 °C

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PROYECTO COFINANCIADO POR EL IGAPE, XUNTA DE GALICIA Y FONDO EUROPEO DE DESARROLLO REGIONAL DEL PROGRAMA OPERATIVO 2014-2020

XUNTA DE GALICIA

UNIÓN EUROPEA
Fondo Europeo de Desenvolvemento Rexional
"Unha maneira de facer Europa"

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