MPI-525

Index: WMGBMPI525

Multifunction Electrical Installations Meter

Description

Possible measurements

Short-circuit loop measurement:

- impedance measurement with 23 A current (44 A phase-to-phase) - short-circuit resistor R=10,
- measurement range: 95...440 V, frequency 45...65 Hz,

Short-circuit loop measurement with resolution 0,01, in distribution network without tiggering RCD (In30 mA):

- automatic calculation of short-circuit, detection of phase voltage and phase-to-phase voltage,
- additional UNI-Schuko plug for automatic measurement, AGT adapter for 3 phase network measurement.

Testing of general and selective RCD with the rated differential current of 10,30,100,300,500 and 1000 mA. (Type AC, A and B).

Measurement of insulation resistance:

- with test voltage 250 V, 500 V, 1000 V, 2500 V,
- measurement range up to 10G,
- automatic discharging after measurement,
- automatic measurement of all resistences in 3,4,5-wire cables using optional adapter AUTO-ISO,
- acoustic signals in 5 sec intervals for insulation resistance characteristic,
- elapsing T_1, T_2, T_3 times (0...600 s) form measurement of absorption coefficients **(DAR, PI or Ab_1, Ab_2)**
- safety measurement - protection against overvoltage.

Measurement of earthing resistance.

Bi-directional testing of PE wire continuity using 200 mA current.

- Autocalibration of test leads.

Phase sequence testing.

Memory is divided into 10 memory banks each of them containing 99 memory cells.

Battery charge indicator.

AUTO-OFF function.

USB interface.

MPI-525 is equipment to perform complete test and verify on electrical installations according to the most common safety standards (IEC 61557, VDE 0100, BS7671).

Press article: AutoISO - faster measurements saves your money

Specifications

Possible measurements

- **Short-circuit loop measurement:**
  -impedance measurement with 23 A current (44 A phase-to-phase) - short-circuit resistor R=10 Ω,
  - measurement range: 95...440 V, frequency 45...65 Hz,
- **Short-circuit loop measurement with resolution 0,01 Ω, in distribution network without tiggering RCD (I Δ n≥30 mA):**
  - automatic calculation of short-circuit, detection of phase voltage and phase-to-phase voltage,
  - additional UNI-Schuko plug for automatic measurement, AGT adapter for 3 phase network measurement.
- **Testing of general and selective RCD with the rated differential current of 10,30,100,300,500 and 1000 mA. (Type AC, A and B).**
- **Measurement of insulation resistance:**
  - with test voltage 250 V, 500 V, 1000 V, 2500 V,
  - measurement range up to 10 GΩ,
  - automatic discharging after measurement,
  - automatic measurement of all resistences in 3,4,5-wire cables using optional adapter AUTO-ISO,
  - acoustic signals in 5 sec intervals for insulation resistance characteristic,
  - elapsing T_1, T_2, T_3 times (0...600 s) form measurement of absorption coefficients **(DAR, PI or Ab_1, Ab_2)**
  - safety measurement - protection against overvoltage.
- **Measurement of earthing resistance.**
- **Bi-directional testing of PE wire continuity using 200 mA current.**
  - Autocalibration of test leads.
- **Phase sequence testing.**
- **Memory is divided into 10 memory banks each of them containing 99 memory cells.**
- **Battery charge indicator.**
- **AUTO-OFF function.**
- **USB interface.**

Rated operational conditions:
- operation temperature 0...+50 ° C

Electric security:
- type of insulation: double, according to PN-EN 61010 - 1and IEC 61557, EMC
- measurement category: IV 300 V acc. to PN-EN 61010 - 1

- protection class acc. to PN-EN 60529: IP54

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

Measurement using 23/40 A current measurement range in accordance with IEC 61557: **0,13...1999,9 Ω**
(for 1,2 m lead):

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

rated voltage: 95...270 V (forZ_{L-PE} i Z_{L-N}) and 95...440 V (for Z_{L-L})
frequency: 45...65 Hz

Short-circuit loop impedance measurement Z_{L-PE} RCD

Measurement using 15 mA current measurement range in accordance with IEC 61557: **0,50...1999,9 Ω**

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

rated voltage: 95...270 V
frequency: 45...65 Hz

Measurement of earthing R_E

Rated voltage in accordance with IEC 61557 - 5: 0,5...1999 Ω

Range	Resolution	Accuracy
0,00...9,99 Ω	0,01 Ω	±(2% m.v. + 4 dgt)
10,0...99,9 Ω	0,1 Ω	±(2% m.v. + 3 dgt)
100...999 Ω	1 Ω	
1,00...1,99 kΩ	0,01 kΩ	

Insulation resistance measurement

Measurement range in accordance with IEC 61557 - 2:
- for U_N = 50 V: 50 kΩ...250 MΩ
- for U_N = 100 V: 100 kΩ...500 MΩ
- for U_N = 250 V: 250 kΩ...1 GΩ
- for U_N = 500 V: 500 kΩ...2 GΩ
- for U_N = 1000 V: 1 MΩ...3 GΩ
- for U_N = 2500 V: 2,5 MΩ...9,99 GΩ

Range*)	Resolution	Accuracy
0...1999 kΩ	1 kΩ	±(3% m.v. + 8 dgt)

2,00...19,99 MΩ	0,01 MΩ	
20,0...199,9 MΩ	0,1 MΩ	
200...999 MΩ	1 MΩ	
1,00...3,00 GΩ	0,01 GΩ	±(4% m.v. + 6 dgt)
1,00...9,99 GΩ	0,1 GΩ	

*) limited to measurement range.
- with UNI-Schuko additional error ±2%.

Phase sequence
- phase sequence indicator: forward, reverse
- mains voltage range U_{L-L}: 100...440 V (45⋯65 Hz) U_{L-L}: 100...440 V (45...65 Hz)
- display of phase-to-phase voltages

Low voltage test of the circuit and insulation continuity
Test of PE wire continuity using a ±200 mA current

Range	Resolution	Accuracy
0,00...19,99 Ω	0,01 Ω	±(2% m.v. + 3 dgt)
20,0...199,9 Ω	0,1 Ω	
200...400 Ω	1	

- Voltage on open terminals: 4⋯9 V
- Test current at R<2 Ω: min. 200 mA at rated battery voltage
- Autocalibration of test leads
- Measurements for both polarizations of the current

RCD trigger and response time test t_A (for t_A mode)
Measurement ranges in accordance with IEC 61557: 0 ms ... up to the upper bound of the displayed value

Breaker Type	Test Current Multiplier	Measurement Range	Resolution	Accuracy
Standard	$0,5*I_{\Delta n}$	0...300 ms	1 ms	± (2% m.v + 2 dgt)
	$1*I_{\Delta n}$			
	$2*I_{\Delta n}$	0...150 ms		
	$5*I_{\Delta n}$	0...40 ms		
Selective	$0,5*I_{\Delta n}$	0...500 ms		
	$1*I_{\Delta n}$			
	$2*I_{\Delta n}$	0...200 ms		
	$5*I_{\Delta n}$	0...150 ms		

Precision of the differential current: for 0,5*$I_{\Delta n}$:-8...0% dla 1*$I_{\Delta n}$, 2*$I_{\Delta n}$, 5*$I_{\Delta n}$: 0...8%

Measurement of the RCD triggering current (I_A) for sine waveform testing current

Selected Current	Range	Resolution	Test Current	Accuracy
10 mA	3,3...10,0 mA	0,1 mA	0,3xI_Δ..1,0xI_Δ	± 5% $I_{\Delta n}$
30 mA	9,0...30,0 mA			
100 mA	33...100 mA	1 mA		
300 mA	90...300 mA			
500 mA	150...500 mA			
1000 mA	330...1000 mA	1 mA		

It is possible to start the measurement from the positive or negative half of the forced leaking current

Measurement of the RDC triggering current (I_A) for a unidirectional half period sine waveform test current with a 6 mA direct current offset

Selected Current	Range	Resolution	Test Current	Accuracy
10 mA	4...20,0 mA	0,1 mA	0,4x$I_{\Delta n}$..2,0x$I_{\Delta n}$	±10% $I_{\Delta n}$
30 mA	12,0...42,0 mA		0,4x$I_{\Delta n}$..1,4x$I_{\Delta n}$	
100 mA	40,0...140 mA	1 mA		
300 mA	120...420 mA			
500 mA	200...700 mA			

a measurement is possible for a positive or negative forced leakage current

Measurement of the RCD triggering current (IA) for direct testing current

Selected Current	Range	Resolution	Test Current	Accuracy
10 mA	4,0...20,0 mA	0,1 mA	0,4x$I_{\Delta n}$..2,0x$I_{\Delta n}$	±10% $I_{\Delta n}$
30 mA	12,0...60,0 mA	1 mA		
100 mA	40...200 mA			
300 mA	120...600 mA			
500 mA	200...1000 mA			

a measurement is possible for a positive or negative forced leakage current

„m.v. ” measured value.