



## Safety Instruments **BENNING IT 101, IT 110 and IT 120 B** testing of electrical systems in compliance with the standards

### **BENNING IT 101**

#### **Insulation and Resistance Measuring Device**

- measurement of insulating resistance and calculation of the resulting leakage current
- testing voltages of 50 V, 100 V, 250 V, 500 V and 1000 V
- selectable limiting values for ISO measurement, green LED for "PASS", red LED for testing voltage/external voltage
- resistance measurement with a testing current of 200 mA for testing protective conductor connections
- measurement of polarization index (PI) and dielectric absorption rate (DAR)
- switchable probe tip for triggering the measuring process
- internal memory for 100 measuring values per measuring function
- TRUE RMS voltage measurement with low-pass filter
- including case, switchable probe tip, silicone measuring leads, magnetic hook, alligator clips, rubber protective frame and batteries



CAT IV 600 V

TRUE RMS

IT 101



IT 110



BENNING TA 5

### **BENNING IT 101**

#### **Insulation and Resistance Measuring Device**

	<b>BENNING IT 101</b>
<b>indicating range</b>	4000 digits (illumination)
<b>low-impedance resistance</b>	0.01 $\Omega$ – 40 $\Omega$
<b>insulation resistance</b>	1 k $\Omega$ – 20 G $\Omega$
<b>resistance</b>	0.01 $\Omega$ – 40 k $\Omega$
<b>voltage</b>	0.1 V – 600 V AC/DC TRUE RMS
<b>supplementary function</b>	leakage current, polarization index (PI), dielectric absorption rate (DAR), automatic discharge function, null balance of the measuring leads
<b>measured value memory</b>	500 measuring results
<b>measuring category</b>	CAT IV 600 V
<b>item no.</b>	044033

### **BENNING IT 110, BENNING IT 120 B**

#### **Installation Testers**

#### **For safety tests on electrical systems according to DIN VDE 0100 and IEC 60364**

Multifunctional installation testers for complete testing and efficient troubleshooting of electrical systems

- measurement of the protective conductor line and of the equipotential bonding line with a testing current of 200 mA
- measurement of the insulation resistance with testing voltages of 100 V, 250 V, 500 V and 1000 V
- line impedance and loop impedance measurement (optional without tripping of the RCD) with calculation of the short-circuit current (PFC/PSC)
- complete testing of RCDs with nominal fault currents of 10/30/100/300/500/1000 mA
- measurement of contact voltage (without tripping), tripping time and tripping current (ramp test) of residual current operated device (RCD)
- phase-sequence testing in three-phase mains
- voltage measurement up to 500 V and online voltage monitoring

### **BENNING IT 110**

#### **Installation Tester**

	<b>BENNING IT 110</b>
<b>display</b>	graphic display (illuminated)
<b>low-impedance resistance</b>	0.01 $\Omega$ – 2000 $\Omega$
<b>insulation resistance</b>	1 k $\Omega$ – 1000 M $\Omega$
<b>line impedance (L-N/L)</b>	0.01 $\Omega$ – 2000 $\Omega$
<b>loop impedance (L-PE)</b>	0.01 $\Omega$ – 2000 $\Omega$
<b>short-circuit current</b>	0.01 A – 24.4 kA
<b>RCD testing</b>	tripping time, tripping current, contact voltage
<b>type AC, A</b>	yes
<b>phase sequence</b>	yes
<b>voltage, frequency</b>	1 V – 500 V, 45 Hz – 65 Hz
<b>item no.</b>	044100

#### **Optional accessories for**

#### **BENNING IT 101/IT 110/IT 120 B**

40 m measurement cable **BENNING TA 5** with practical winder, strap, for the measurement of protective and bonding conductors, connection:  $\varnothing$  4 mm safety test

item no. 044039



Scope of delivery BENNING IT 101

# BENNING IT 110, IT 120 B Installation Testers the perfect solution for efficient testing

## Features

### BENNING IT 110, BENNING IT 120 B

- all measuring functions can be selected directly by means of a rotary switch
- switchable probe tip for releasing the measuring process
- graphic display and help function with connecting diagram
- complete measuring result with measuring parameters, limiting value and symbols for PASS/FAIL
- current supply by means of 6 NiMH storage batteries (AA) with charger

## Additional functions

### BENNING IT 120 B

in addition to the BENNING IT 110:

- testing of universal current-sensitive RCDs of type B
- current measurement (TRUE RMS) by means of current clamp adapter (optional)
- illumination measurement by means of lux sensor (optional)
- earthing measurement by means of three-wire measuring method (optionally with earthing set)
- integrated measured value memory for 500 measurements
- USB and RS 232 interface
- BENNING PC-Win IT 120 B software included in delivery

## Logging software with Test Log according to ZVEH

### BENNING PC-Win IT 120 B

- PC software for reading the stored test data
- creation of test logs with handover and status report according to ZVEH
- structuring and export function of the test data



Test log according to ZVEH



Scope of delivery of the BENNING IT 120 B

AddIn for Mebedo test software ELEKTROmanager and fundamed



IT 120 B

Testing of universal current-sensitive RCDs of type B

## INFORMATION:

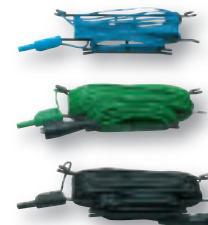
RCDs of type B are increasingly used for multi-phase equipment of power electronics. In case of a fault, these devices also detect smooth DC fault currents and high-frequency AC fault currents.



BENNING CC 2



BENNING luxmeter type B



Earthing set

### BENNING IT 120 B Installation Testers

	BENNING IT 120 B
display	graphic display (illuminated)
low-impedance resistance	0.01 Ω – 2000 Ω
insulation resistance	1 kΩ – 1000 MΩ
line impedance (L-N/L)	0.01 Ω – 2000 Ω
loop impedance (L-PE)	0.01 Ω – 2000 Ω
short-circuit current	0.01 A – 24.4 kA
RCD testing type AC, A, B	tripping time, tripping current, contact voltage
phase sequence	yes
voltage, frequency	1 V – 500 V, 45 Hz – 65 Hz
earth resistance	0.01 Ω – 2000 Ω
current (TRUE RMS)	0.1 mA – 20 A (by means of the clamp)
luminous intensity	0.01 lux – 20 klux (by means of sensor)
measured value memory	500 measuring results
interfaces	USB, RS 232
incl. software	BENNING PC-Win IT 120 B
item no.	044102

### Scope of delivery of the installation testers

	BENNING IT 110	BENNING IT 120 B
tester incl. carrying case / carrying strap	X	X
switchable probe tip	X	X
test cable with shock-proof plug	X	X
universal test cable, 3 x L = 1.5 m	X	X
3 x test probe, 3 x crocodile clips	X	X
charger with 6 NiMH storage batteries (AA)	X	X
PC software BENNING PC-Win IT 120 B		X
USB and RS 232 cable		X

### Optional accessories for BENNING IT 120 B

current clamp adapter BENNING CC 2	0.5 A – 20 A AC (200 A AC)	item no. 044110
illumination sensor BENNING luxmeter type B	Accuracy: 5 %	item no. 044111
earthing set consisting of 2 earth rods and 3 test cables	(2 x L = 20 m, 1 x L = 4.5 m)	item no. 044113