

ARGUS[®] COPPER BOX

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- U=
- U~
- I=
- R
- Iso
- C
- Sym
- USB
- opt.
- LED

Preliminary data sheet: Technical data subject to change without notice

Connection example 1:



Connection example 2:



ARGUS Copper Box

intec is now offering an optional expansion for the xDSL combi testers ARGUS 152, ARGUS 155, and ARGUS 165: the ARGUS Copper Box. The USB Box lets you identify dangerous voltages and currents before it is too late and safely assess the physical status of the line – especially when no DSL synchronization is possible or the data rate is low, both of which may be due to asymmetry, irregularities or other physical problems on the line.

Simply connect this handy box to an ARGUS tester using the USB host interface. Then you can use the tester's graphical user interface to select the box and carry out all the measurements quickly and easily.

The standard ARGUS Copper Box has three banana jacks and an additional connection for customer-specific requirements. The jacks are designed for four millimeter, all-insulated banana test leads for measurements in the laboratory and in the field.

Further technical features of the ARGUS Copper Box:

- The **DC voltage measurement** lets you identify activated connections (such as ISDN, POTS), supply (as in SHDSL) and external voltages.
- Dangerous external voltages can be identified by the **AC voltage measurement**.
- Emergency, external or normal supplies can be identified just as easily as overlengths or interruptions to the line with the **DC measurement**.
- The **loop resistance measurement** helps you locate short-circuits and estimate the length of lines.
- The **isolation resistance measurement** provides information on damage to the cable isolation, moisture penetration or oxidized contacts.
- The **capacitance measurement** indicates opens, as well as the typical input capacitance of connected devices, and points out possible asymmetries on the local loop.
- **Symmetry measurement:** an attenuation measurement with a frequency of 1 MHz provides information on an asymmetry on the local loop.

All of the measurements can be carried out with the greatest possible accuracy as automated TRG measurements (Tip (a), Ring (b), Ground).

Because it weighs a mere 200 grams and has a high-quality plastic housing, the ARGUS Copper Box is not only very handy but also highly resistant to impacts, falls or other mechanical stresses. Despite its high output and high measuring voltages, the box is convincing owing to its very long run time. This is because it uses the powerful Li-ion battery pack of the ARGUS tester.

Thanks to its compatibility, the box can be used with several testers. This means that an installation team can expand several ARGUS testers separately as required and use any additional functions of the box they may need. So it is no longer necessary to send in the devices to add these functions. When the USB-Copper Box is not needed it can be stowed away together with the tester in the protective case.

You can also use your PC to get free updates for the Copper Box quickly and easily.

Users can reach even the most remote corner with the box using the fixed USB cable. The Copper Box has a very strong strain relief on its cable, so it can also be used comfortably when suspended or under load. It comes with three high-quality test leads and a comprehensive manual.

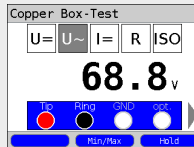
ARGUS Copper Box to assess the physical quality of the local loop

All measurements can be performed as an automated TRG measurement (tip (a), ring (b) and ground) at its best accuracy.

Copper Box test functions

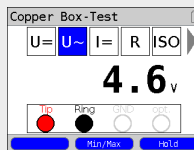
• DC voltage; U_{DC} (U =):

- Measuring Range 1 : 0.3 V to 220 V
- Resolution: Range 1: 0.3 V to 10 V; 0.001 V
Range 2: 10 V to 100 V; 0.01 V
Range 3: 100 V to 220 V; 0.1 V
- Accuracy: Range 1 - 3: $\pm 1\%$



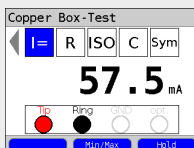
• AC voltage; U_{AC} (U ~):

- Measuring Range: 0.3 V to 210 V (RMS, for Sinus, 50 Hz)
- Resolution: Range 1: 0.3 V to 10 V; 0.001 V
Range 2: 10 V to 100 V; 0.01 V
Range 3: 100 V to 210 V; 0.1 V
- Accuracy: Range 1: $\pm 2\%$
Range 2 - 3: $\pm 1\%$



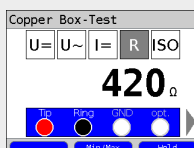
• DC current; I_{DC} (I =):

- Measuring Range: 0 mA to 100 mA
- Resolution: Range 1: 0 mA to 10 mA; 0.01 mA
Range 2: 10 mA to 100 mA; 0.1 mA
- Accuracy: Range 1 - 2: $\pm 2\%$



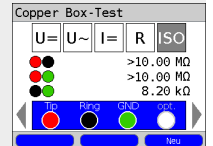
• Loop resistance; R:

- Measuring Range: 0 Ω to 20 M Ω , (8 V, max. 30 mA)
- Resolution: Range 1: 0 Ω to 100 Ω ; 0.1 Ω
Range 2: 100 Ω to 300 Ω ; 1 Ω
Range 3: 300 Ω to 1000 Ω ; 1 Ω
Range 4: 1 k Ω to 3 k Ω ; 0.01 k Ω
Range 5: 3 k Ω to 10 k Ω ; 0.01 k Ω
Range 6: 10 k Ω to 100 k Ω ; 0.1 k Ω
Range 7: 100 k Ω to 1000 k Ω ; 1 k Ω
Range 8: 1 M Ω to 10 M Ω ; 0.01 M Ω
Range 9: 10 M Ω to 20 M Ω ; 0.1 M Ω
- Accuracy: Range 1 - 2: $\pm 2.5\%$
Range 3 - 4: $\pm 1.5\%$
Range 5 - 9: $\pm 1\%$



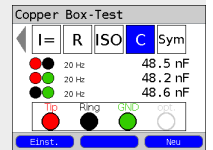
• Isolation resistance; Iso:

- Measuring Range: 0 Ω to 1 G Ω (with 100 V, max. 2 mA)
- Resolution: Range 1: 0 Ω to 1000 Ω ; 10 Ω
Range 2: 1 k Ω to 10 k Ω ; 0.01 k Ω
Range 3: 10 k Ω to 100 k Ω ; 0.1 k Ω
Range 4: 100 k Ω to 1000 k Ω ; 1 k Ω
Range 5: 1 M Ω to 10 M Ω ; 0.01 M Ω
Range 6: 10 M Ω to 100 M Ω ; 0.1 M Ω
Range 7: 100 M Ω to 1000 M Ω ; 1 M Ω
- Accuracy: Range 1 - 6: $\pm 4\%$
Range 7: $\pm 10\%$

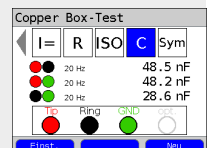


• Capacitance; C

- Measuring Range for 20 Hz: 1 pF to 5 μ F
- Resolution: Range 1: 1 pF to 1000 pF; 1 pF
Range 2: 1 nF to 10 nF; 0.01 nF
Range 3: 10 nF to 100 nF; 0.1 nF
Range 4: 100 nF bis 1000 nF; 1 nF
Range 5: 1 μ F bis 5 μ F; 0.01 μ F
- Accuracy: Range 1 - 5: $\pm 3\%$



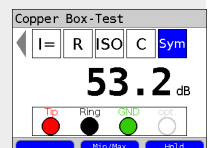
- Measuring Range for 120 Hz: 1 pF to 5 μ F
- Resolution: Range 1: 1 pF to 1000 pF; 1 pF
Range 2: 1 nF to 10 nF; 0.01 nF
Range 3: 10 nF to 100 nF; 0.1 nF
Range 4: 100 nF bis 1000 nF; 1 nF
Range 5: 1 μ F bis 5 μ F; 0.01 μ F
- Accuracy: Range 1 - 5: $\pm 3\%$



• Line symmetry; Sym. (for 1 MHz)

- Measuring Range: 0 dB to 65 dB
- Resolution: Range 1: 0 dB to 55 dB; 0.1 dB
Range 2: 55 dB to 65 dB; 0.1 dB
- Accuracy*: Range 1: ± 1 dB
Range 2: ± 3 dB

*The length of the test leads can influence the accuracy of the measurement. Therefore, this information applies to a measurement without test leads (short measurement adapter).



Technical Features:

- **Power supply** via USB-Host of the ARGUS
- **Keypad** via 4 cursor keys and 3 softkeys of the ARGUS
- **2 LEDs** indicating status
- **CE marking:** complies with CE directives
- **User safety:** fullfils EN 60950-1:2006-11
- **RoHS** conformance accoring to WEEE directive

Interfaces:

- **4 x 4 mm banana jacks** (for all-included test leads)
- **USB-Host** interface (Type A)

Environmental conditions:

- **Operating temperature:** 0 °C to +50 °C
- **Storing temperature:** -20 °C to +50 °C
- **Relative humidity:** up to 95 %, non-condensing

Dimensions:

- **Size:** H 125 mm, W 74 mm, D 22 mm (4.92 x 2.91 x 0.87 in)
- **Weight:** ca. 190 g (0.42 lbs)

Standard package:

ARGUS Copper Box incl. three all-insulated banana jacks (red, black, green) and english Manual

ARGUS Copper Box (incl. protective cover)

Order number: 015095

**ARGUS Copper Box is available with the following basic packages:****ARGUS 152 ADSL Annex B + J**

Order number: 115232

ARGUS 152 ADSL Annex A + L + M

Order number: 115202

ARGUS 152 ADSL Annex A + B + J + L + M

Order number: 115252

ARGUS 152 VDSL2

Order number: 115272

ARGUS 155 ADSL Annex B + J

Order number: 115532

ARGUS 155 ADSL Annex A + L + M

Order number: 115502

ARGUS 155 ADSL Annex A + B + J + L + M

Order number: 115552

ARGUS 155 VDSL2

Order number: 115602

ARGUS 155 SHDSL-2-w

Order number: 115632

ARGUS 155 ISDN PRI/E1

Order number: 115662

ARGUS 165 GigE + ADSL Annex B + J

Order number: 116530

ARGUS 165 GigE + ADSL Annex A + L + M

Order number: 116500

ARGUS 165 GigE + ADSL Annex A + B + J + L + M

Order number: 116550

ARGUS 165 GigE + SHDSL 2-w

Order number: 116580

ARGUS 165 GigE + VDSL2

Order number: 116570

* We would be glad to provide further details and information about additional accessories on request.



intec

GESELLSCHAFT FÜR
INFORMATIONSTECHNIK mbH
Rahmedstraße 90
D-58507 Lüdenscheid

Tel: +49 2351 9070-0

Fax: +49 2351 9070-70

E-Mail: sales@argus.info

Internet: www.argus.info