ARGUS®

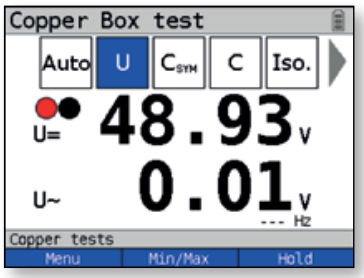
ARGUS **CABLE MULTIMETER EXPANSION** IN **PRACTICE**

ADSL
VDSL
GigE
SFP
GPON
ISDN
POTS
Cu
TDR
Copper Box
Data
IP TV
VoIP
MOS
PESQ
PC
USB
WLAN

intec
GESELLSCHAFT FÜR
INFORMATIONSTECHNIK mbH

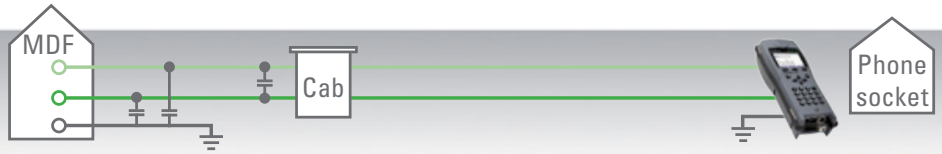
Where can I qualify the local loop with ARGUS?

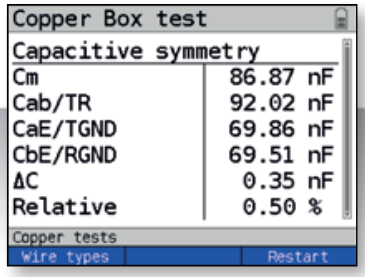
Voltage measurement (U)



With DC/AC voltage measurement, you can verify that no external voltages are present (e.g. < 1 V), or whether supply voltages are connected.

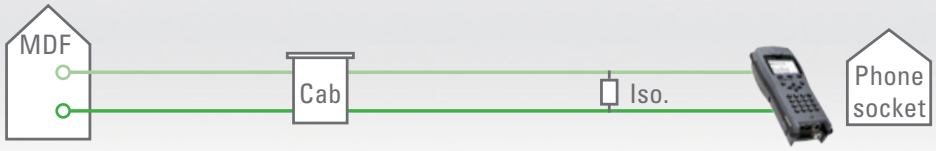
Capacitance measurement (C & C_{SYM})

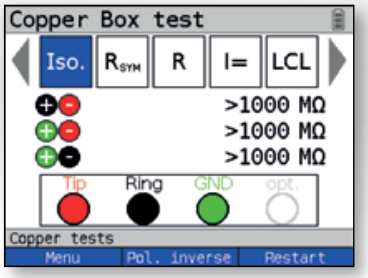




This function detects whether the line is open and determines the input capacitance of connected devices and the capacitance of the open line. With the aid of capacitive symmetry measurement (deviation < 1 %), it is possible to detect irregularities in the cable that can result in signal distortions or transmission errors.

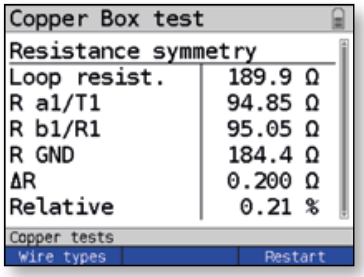
Isolation resistance (Iso.)





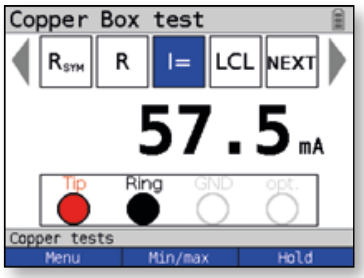
Isolation resistance measurement reveals damage to cable isolation, moisture penetration or oxidised contact points in the line. The subscriber line must show a resistance of 5 to 10 MΩ or more.

Resistance measurement (R & R_{SYM})



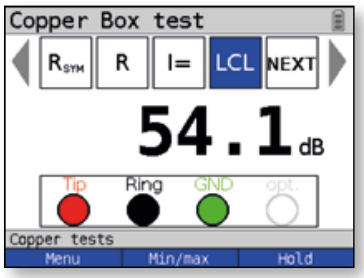
Loop resistance measurement enables you to detect short-circuits and estimate line lengths, among other things. Using resistive symmetry, you can also detect irregularities in the cable (e.g. too great difference in resistance) that can cause signal distortions and transmission errors.

DC current measurement (I=)



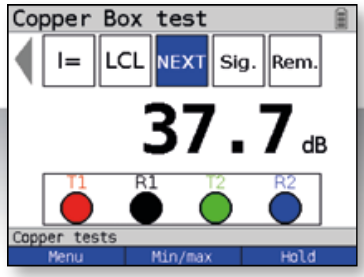
Use DC current measurement to verify that no leakage or external currents are flowing on the selected line (ideal: 0 mA).

Where and what do I qualify on the local loop **with ARGUS?**

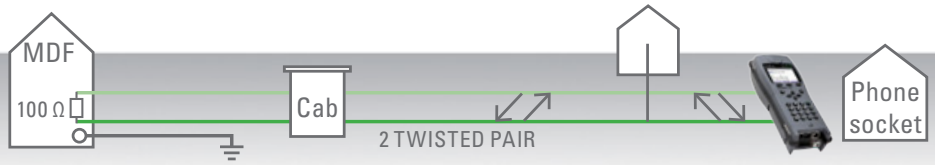


Symmetry measurement (LCL)

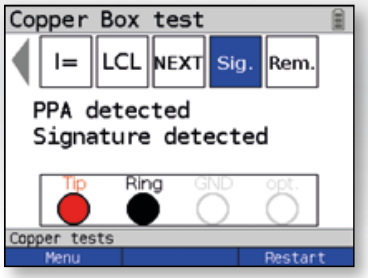
LCL measurement (asymmetry attenuation) looks at the balance between the a-wire with respect to ground compared to the b-wire with respect to ground. If a difference can be measured between the two wires, an asymmetry is present (values < 40 dB).



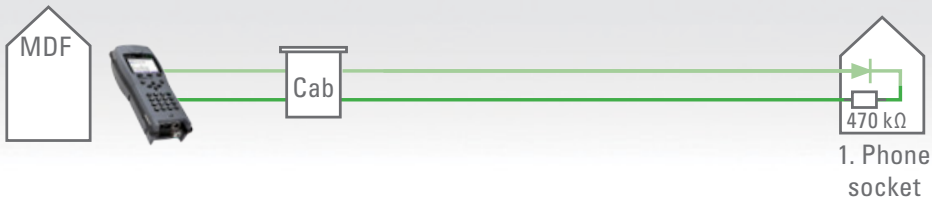
Near-end crosstalk (NEXT)



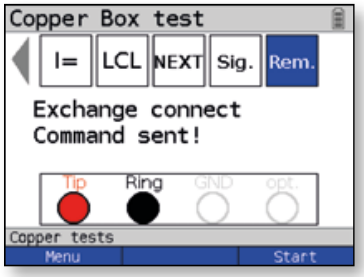
ARGUS emits a 1 MHz tone on one pair and measures the crosstalk on the adjacent pair, which can be the cause for DSL performance issues. Make sure that the active near-end crosstalk damping does not fall below 37 dB for tones with f = 1 MHz.



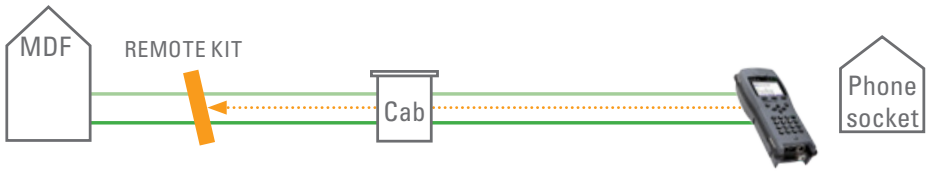
Signature detection (Sig.)



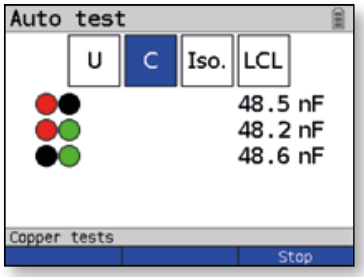
Terminator detection enables you to detect an RC signature as well as a passive test terminator (PPA) with a series resistance of 470 kΩ in one direction.



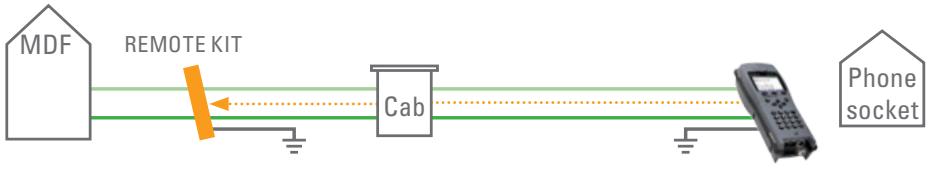
Remote kit control (Rem.)



The remote kit control can be used to control widely used instrument kits such as the TX915/916. Short, disconnect or connect the line end – in any direction – or terminate it.



Autotest and remote kit (Auto)



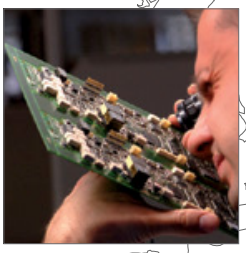
Five user-configurable autotest profiles enable you to conduct all of the above tests and line end connections with the instrument kit completely automatically in less than one minute (depending on the number of individual tests).

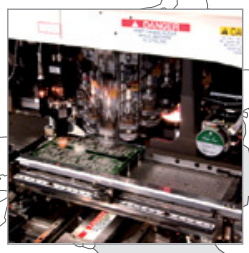
In use throughout Europe

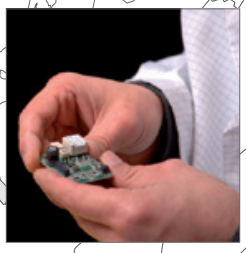
intec Gesellschaft für Informationstechnik mbH is developing products for the international telecommunications market for more than 25 years and is one of the leading suppliers for xDSL, ISDN and IP measurement technology in Europe today.

With the aid of ARGUS measurement equipment, users can conveniently and safely commission and troubleshoot xDSL and ISDN accesses as well as inspect services like VoIP and IPTV based hereon. ARGUS testers are designed to meet the day-to-day needs of the field staff; consequently intec engineers focus on ensuring high-quality measurements combined with simply and convenient operation. The portfolio of ARGUS testers, software and analyzers benefits from a continuous development and is kept up-to-date with support for the current standards for all the common access types and protocols as well as for the features of the Next Generation Networks (NGN) and Triple Play services.

Throughout the world, numerous telecommunication companies have come to appreciate and rely on the advantages offered by intec equipment; to name just a few Deutsche Telekom, Saudi Telecom, Telefonica, KPN, British Telecom and Telekom Austria.







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ARGUS Overview

	165	162	155	152	151	42 plus	42 basic	3u NT	3u plus	3u basic
VDSL2 (incl. Vectoring)	✓	✓	✓	✓	✓					
ADSL [1]	✓	✓	✓	✓	✓	●	●			
SHDSL	✓		✓							
ETH 10/100 BT	●	●	●	●	●	●				
ETH 1000 BT (Cu)	●	●	●	●	●					
SFP (FTTx)	○	○ [2]								
VDSL Bonding		○ [2]								
BRI U + BRI S/T TE/LL	○	○	○	○		○		●	●	●
BRI S/T NT/Mon.	○	○	○	○				●		
PRI/E1	○	○	○							
POTS	○	○	○	○		○		●	●	○
RFC2544	○									
RC	●	●	●	●	●	●		●	●	
Line Scope	●	●	●	●						
TDR	○	○	○	○	○					
Line qualification				○						
Advanced Copper Tests				○						
Copper Box	○	○	○	○	○					
Ethernet TDR	●	●	●	●	●					
Bridge / Router	●	●	●	●	●	○	● [2]			
IP Tests	●	●	●	●	●	○ [2]	●			
Down-/Upload	●	●	●	○	○	○ [2]				
IPTV	○	○	○	○	○	○ [2]				
VoIP+MOS	○	○	○	○	○	○ [2]				
WLAN	○	○	○	○	○					
	165	162	155	152	151	42 plus	42 basic	3u NT	3u plus	3u basic

● inclusive ○ optional ✓ minimum one DSL interface is part of the standard package

[1] Annex may vary depending on country
[2] On request