2013/2014

Version 03/2013/**EN**

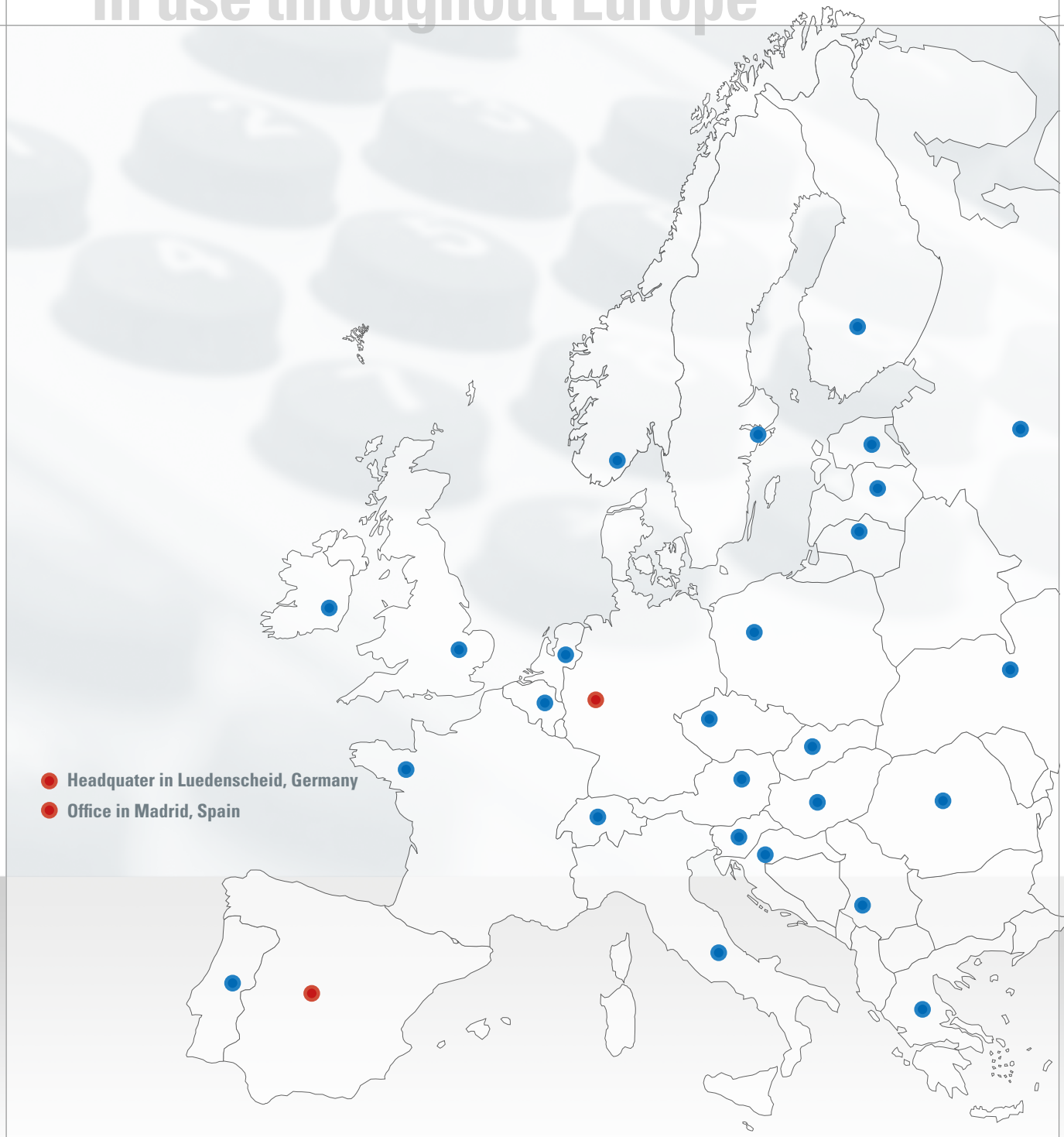
# ARGUS®

## **testing** the telecom **network**


intec

GESELLSCHAFT FÜR
INFORMATIONSTECHNIK mbH

# ARGUS:
## in use throughout Europe

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# ARGUS: intec inside

**In use throughout Europe: telecommunications measurement technology from intec**

intec Gesellschaft fuer Informations-technik mbH is developing high-quality products for the international telecommunications market for more than 25 years and is one of the leading suppliers of xDSL, ISDN and IP measurement technology in Europe today.

The successful ARGUS measurement equipment enables its users to conveniently and safely commission and troubleshoot xDSL and ISDN accesses as well as those services that are based on these interfaces such as VoIP and IPTV. ARGUS testers are designed to meet the day-to-day needs of staff in the field; consequently intec engineers focus on ensuring high-quality measurement in a compact device that is exceptionally uncomplicated to use.

The portfolio of ARGUS testers, software and analysers benefits from continual further development and is kept up-to-date with support for the latest standards for all the common access types and protocols as well as for the newest features of the Next Generation Networks (NGN) and Triple Play. 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.

In the past years, more than 70 000 test devices have been delivered throughout Europe and the rest of the world. Consequently, intec GmbH has continued to grow even at times when the rest of the branch was stagnating or in decline. We see this growth as an indication that we have followed the right strategy from the very beginning – in producing measurement equipment that is precisely tailored to suit the needs of the user. Following this strategy, our ARGUS testers are easy to operate and combine in a single device all of the functions required for onsite measurements. A concept that has been well appreciated by our customers for many years!

*In the past years, more than 70 000 test devices have been delivered throughout Europe and the rest of the world.*



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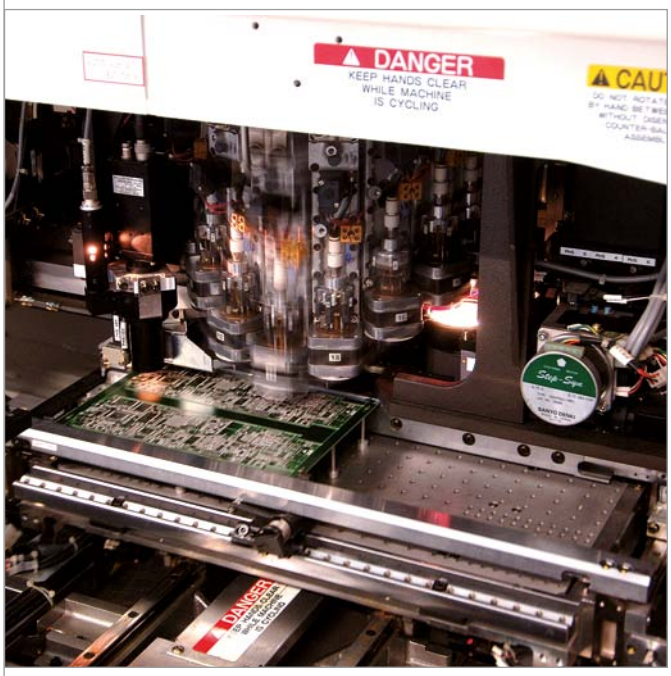
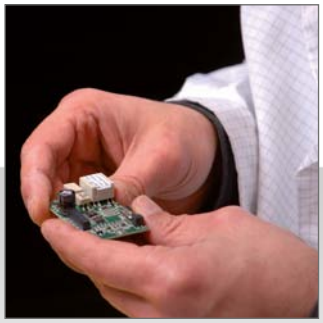
# Single-source quality




At intec, the entire core know-how is concentrated at one location – from software and hardware development to marketing, sales and service. As a result, we can react to our customers' wishes and suggestions in the shortest possible time and thus offer products that are exactly tailored to suit user requirements.

The equipment is also manufactured (under our control) in Germany. To maintain the high quality of all our ARGUS testers, we use the most modern processes and have implemented a DIN EN ISO 9001 certified quality management system. Furthermore, we test all of our equipment in our own in-house calibration laboratory. Moreover, each individual tester must pass an automatic optical inspection (AOI) as part of the production process.

**The result: first-class products "Made in Germany".**



## Success via innovation

Exceptional innovativeness is one of the key factors in our success. In the last years, we have expanded our product spectrum with the addition of numerous new products, which, besides ISDN, POTS, ADSL, SHDSL, VDSL2 and E1, now also include different Ethernet interfaces and a lot of copper test functions as well as an extensive range of protocols and routines for functional tests in professionally used LANs.

By high-ohmic switching to the subscriber line, new Cu tests now also permit spectrum analysis for physical line qualification.

Our new and unique combination of DSL and GigE combi tester ARGUS 165 also supports tests of advanced technologies such as fiber tests (FTTx), Gigabit Ethernet and Triple-Play tests. In addition, it also includes a range of features that provide even greater user-friendliness, flexibility and expansion options. These features include additional interfaces such as a USB client and host for faster data transfers, a large, high-quality color display as well as support for convenient operation from the mains or the high-power lithium-ion battery pack.

**Service has priority at intec**

Our customer service is not limited to the extensive personal advice given in selecting a product. Once the equipment is a use, the service continues as our staff provides assistance free of charge by telephone or e-mail. The customer is also well advised in countries abroad, where our international sales partners provide competent support for users.

From the very beginning, we have offered an update service free of charge for all of our products and we were the first manufacturer of telecommunication testers to do so. Incidentally, this service is free without any additional registration. Using our free update tool – or depending on the product – a web interface, customers can use a PC to perform updates themselves without needing to return the product. The current version of the firmware can be downloaded from www.argus.info/en/service/ and then simply transferred to the device. All of the manuals are available in PDF format at the same site.

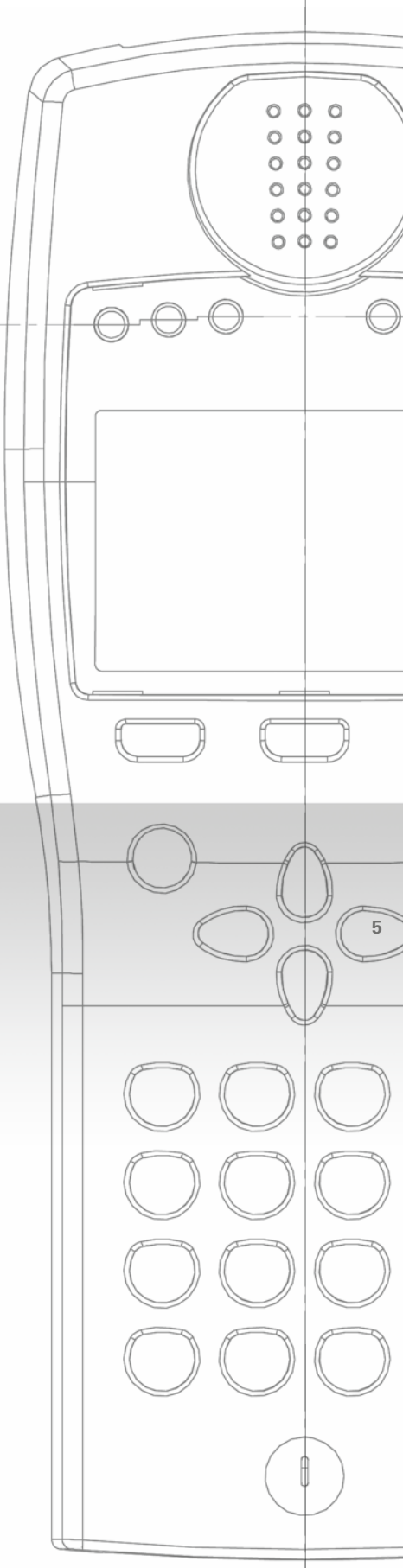
Additionally, we also hold seminars, in which we offer solid, up-to-date know-how covering the various types of accesses and the technologies which are based on them. We can also come to you upon request.

*From the very beginning, we have offered an update service free of charge for all of our products and we were the first manufacturer of telecommunication testers to do so.*

**RoHS compliance**

The European RoHS (EU Directive on the Restriction of Hazardous Substances) directive restricts the use of certain hazardous substances in electrical and electronic equipment. It applies in eight of ten categories (categories 1 to 7 and 10) of the WEEE (EU Directive on Waste Electrical and Electronic Equipment) directive.

All ARGUS products fall into category 9 and are thus not subject to the RoHS directive. Nonetheless, we have decided to satisfy all of the directive's requirements voluntarily. We are happy to announce that all ARGUS products available since 1 st January 2007 have been built in compliance with this directive.



# Flexible and future-proof
# The ARGUS products



ARGUS testers present complex relationships in a form that is clear and easily understood and, therefore, they are indispensable aids in the installation of new accesses, in locating and clearing faults in existing PBXs, as well as in determining and monitoring the quality of service. These testers provide certainty while troubleshooting by systematically interrogating and checking the various portions of the transmission circuit. Depending on which functions of an access or network should be checked, an ARGUS tester can replace – for test purposes – the PC, the telephone, the user's network path, the modem or even the terminal on the IP level. The source of the problem can thus be precisely located permitting the installer or service engineer to quickly and effectively clear the fault. This saves not only the installer and service technician, but also your customer a great deal of time and money.

*„ARGUS testers present complex relationships in a form that is clear and easily understood and, therefore, they are indispensable aids in the installation of new accesses, in locating and clearing faults in existing PBXs, as well as in determining and monitoring the quality of service."*

## Convenient use

We value and therefore have put in the effort to design an exceptionally uncomplicated, convenient user interface. This goal has been met by designing in features such as numerous automatic interrogations, intuitive menu structures, ergonomic design, a large and yet practical selection of functions as well as the low weight of the tester itself.

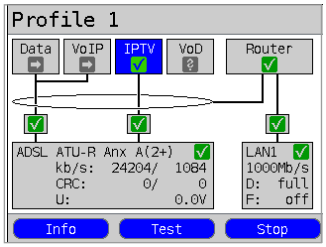
All of our testers can be directly connected to a PC or notebook to conveniently view and analyse the measurement results as well as to easily store larger quantities of data.

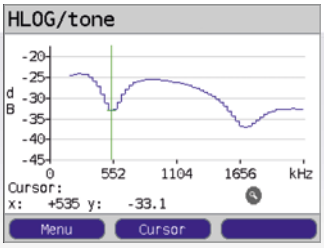
## Our product philosophy

From the very beginning, we have designed our testers to include everything that a service technician needs onsite in a single, compact and light weight device – from extensive test functions and interfaces to a convenient display all the way to an integrated handset.

To save the user time and effort involved in swapping modules, we have decided to design our testers to be complete without the use of exchangeable modules. All of the interfaces supported by an ARGUS tester are immediately ready for use onsite – no module swapping necessary. In the case of the ARGUS 152 xDSL/ISDN tester that means immediate access to test functions for VDSL2, ADSL, Ethernet, ISDN (BRI S/T and U interface) as well as POTS. A VoIP test, which is started by pressing a softkey, delivers results in seconds, evaluates these – e.g. in accordance with the MOS procedure – and presents this information on the display.

ARGUS 155 exhibits an organic extension of this philosophy: Its broad spectrum of features can be quickly and easily extended with additional functions by simply downloading a firmware update. Here again, all of the desired routines are directly available in one and the same device.





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

## ARGUS 165

The comprehensive all-in-one solution: the new ARGUS 165 xDSL+GigE combi tester combines all standard broadband interfaces (ADSL, VDSL, SHDSL) and fast Gigabit Ethernet interfaces with comprehensive Triple Play test functions in one measurement device. Without having to swap modules, the user can select or change the interface via the intuitive menu and perform tests at the press of a button.

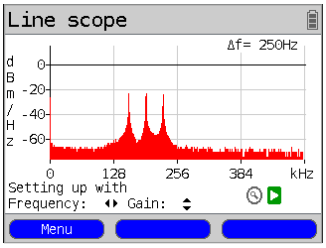
The ARGUS 165 supports this with, amongst other things, two SFP slots and a copper-based Gigabit Ethernet interface. Thanks to the various Gigabit Ethernet SFPs, the tester offers the greatest possible compatibility for connection to fiber-based interfaces. It is thus possible to carry out Triple Play or performance tests directly on GPON modems, GigE switches etc. via the Gigabit Ethernet interface (copper or fiber).

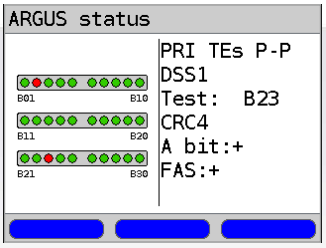
A further option offered by the ARGUS 165 is the possibility of using two Gigabit Ethernet interfaces simultaneously (Dual GigE) and the conventional telephone interfaces ISDN (BRI S/T/U, PRI/E1) as well as POTS. Using a loop function and a traffic generator, the user can analyze the capacity of Ethernet cabling or devices at different packet sizes and full performance (1 Gbit/s) across different layers. Throughput tests in accordance with RFC 2544 are thus also possible. For HTTP and FTP downloads the interfaces can even reach speeds of up to 200 Mbit/s.

If the Ethernet cabling is defective, the ARGUS 165 can immediately locate the source of the fault through its comprehensive cabling tests. In this way, as well as shorts, opens and mismatches, amongst other things, the delay or polarity of wire pairs can also be determined.

In addition, it is possible to check whether the receiver connects the voltage for different PoE categories. If required, Triple Play test functions can also be added to the ARGUS 165. In this way, IPTV suitability can also be checked by means of VoD testing, channel scanning or IPTV long-term analysis. Data services and VoIP (incl. MOS) can also be tested via xDSL and Gigabit Ethernet. Several of these IP tests can optionally also be carried out via the new more powerful IPv6 protocol.

The handheld tester also enables physical analysis of DSL copper wires (Cu tests) using a line scope; the time and frequency domains are displayed in real time. Using the optional Active Probe II, even high-ohmic measurements on an existing DSL connection are possible without interference. An RC test is also possible. If necessary, these tests can also be considerably extended in the field by simply connecting the new compact ARGUS Copper Box via USB, thus enabling all important electrical parameters such as voltage, current, isolation resistance, symmetry (at 1 MHz), and many more, to be automatically and quickly determined via tip, ring and ground.





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

## ARGUS 155

As a latest generation high-end combi tester, the ARGUS 155 contains an extremely powerful ADSL/VDSL chipset that meets today's demanding technical requirements. The ARGUS 155 is the only handheld tester and analyzer to integrate VDSL2 (all profiles), ADSL (Annex A, B, J, L, M) and SHDSL (2, 4 and 8 wire), Ethernet, ISDN PRI/E1, BRI/S/T/U and POTS interfaces in a single measurement device – without having to swap modules.

Thanks to its Gigabit Ethernet interface (GigE), the ARGUS 155 achieves a download speed of up to 200 Mbit/s with HTTP and FTP downloads, such as is already standard with fiber optic modems (ONT) on the LAN interface. If the Ethernet cabling is faulty, the ARGUS 155 can immediately locate the source of the fault by means of cabling tests via the GigE interface. This makes it possible, for instance, to detect shorts, opens or mismatches, but also the delay or polarity of the wire pairs, among other things.

Flexible expansion capabilities mean that the existing interfaces can be extended with additional functions, as required. For example, the SHDSL interface also operates in SHDSL.bis as well as optionally in ATM, TDM or EFM modes.

Copper tests (Cu tests) for physical line qualification without synchronization with the DSLAM are always included. If necessary, these tests can also be considerably extended in the field by simply connecting the new compact ARGUS Copper Box via USB, thus enabling all important electrical parameters such as voltage, current, isolation resistance, symmetry and many more, to be automatically and quickly determined via tip, ring and ground. The TDR (Time Domain Reflectometer) function makes it possible to measure line lengths and trace sources of faults. A high-impedance connection enables a Line Scope to display the time and frequency domains (FFT) in real time. The optional Active Probe II, which is required for this, can be connected to an existing DSL connection and switched between symmetrical and asymmetrical operation.

The ARGUS 155 tests the quality of VoIP, IPTV and data services over xDSL and Ethernet with optional Triple Play test functions. Thanks to its integrated handset, it can simulate not only terminal equipment such as a telephone, PC or STB, but can also determine all relevant quality parameters and evaluate voice quality according to the MOS method. It tests IPTV suitability by means of a stream analysis, a VoD test, a channel scan or an IPTV long-term analysis. Several of these IP tests can also be performed using the new, more powerful IPv6 protocol.



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## ARGUS 152

Compact, lightweight and robust: The ARGUS 152 multifunction tester checks interfaces and services quickly and reliably – and at a very reasonable price! VDSL2, ADSL, Ethernet, ISDN (BRI S/T/U) and POTS, as well as the physical condition of the local loop, can be easily tested without having to swap modules.

A new high-quality ADSL/VDSL chipset with improved efficiency ensures that the ARGUS 152 delivers high-performance testing and rapid analysis. In addition to resistance, capacitance and voltage measurement, the ARGUS 152 features, when using its Gigabit Ethernet interface, an optional HTTP download, which enables speeds at more than 200 Mbit/s on the protocol level. The ARGUS 152's optional Ethernet cabling tests make it possible to detect shorts, opens or mismatches, but also the delay or polarity of the wire pairs, among other things.

On request, the universal tester can also be extended on an individual basis, thus offering the user a high degree of flexibility. For instance, additional copper tests (Cu tests) can be used to assess line quality, even without synchronization with the DSLAM. If necessary, these tests can also be considerably extended in the field by simply connecting the new compact ARGUS Copper Box via USB, thus enabling all important electrical parameters such as voltage, current, isolation resistance, symmetry (at 1 MHz), and many more, to be automatically and quickly determined via tip, ring and ground. The optional Active Probe II can even be used to carry out high-impedance measurements on an existing DSL connection, without creating interference on it.

To quickly identify any asymmetries between the wires, if required, a symmetry test compares the balance over the whole DSL frequency spectrum (up to 30 MHz) between the tip wire and the ring wire with reference to ground. In the event of damage, the integrated TDR (Time Domain Reflectometer) function can be used to measure line lengths and trace sources of faults, such as bridged taps. Moreover, if required, an Advanced TDR function (Adv. TDR) can be integrated, with which line lengths and sources of faults can be detected even more accurately.

If lines without a DSL receiver (e.g. in the case of a rewiring) need to be tested for their DSL suitability, the ARGUS 152 can optionally check this without any problem, even if there is no DSLAM. Regardless of line condition and length, the user can use two devices and an activated Line Qualification (LQ) function to determine data rates, even when systems consisting of a modem (xTU-R) and DSLAM (xTU-C) fail.

Easy Triple Play testing: The handheld tester also offers an optional Triple Play analysis for testing VoIP, IPTV and data services over xDSL and Ethernet. Thanks to its handset, the ARGUS 152 can simulate not only terminal equipment such as a telephone, PC or STB, but can also determine all relevant quality parameters. In this way, for example, voice quality can be evaluated according to the MOS method. Several of these IP tests can also optionally be performed using the new, more powerful IPv6 protocol.


ADSL
ETH
ISDN
POTS
Data
IP TV
VoIP
MOS
PC



## ARGUS 42 plus

ADSL combination tester at a fair price: the ARGUS 42 plus tests ADSL, as well as optionally ISDN and POTS. In addition to the various access types and protocols, the tester also determines e.g. the attainable transmission speed or noise floor of the line.

Basic Triple Play tests are also supported: the ARGUS 42 plus can be upgraded to a fully featured voice tester if desired. The combination tester can then be used to set up voice calls to test and evaluate not only POTS and ISDN connections, but also calls placed via VoIP. The ARGUS 42 plus evaluates the voice quality, delivers a MOS value (using E model).

The testing set also checks the resistance and capacitance and performs voltage measurements on top. Optionally, HF signals can be detected or data services can be tested, e.g. by enabling the passive bridge or router modes. This allows determining the transmission quality of the line.

The handheld tester, which weighs just 450 g, is remarkably user-friendly thanks to its intuitive menu structure.

# ARGUS® 141
# ARGUS® 42 BASIC




## ARGUS 141

Fast testing guaranteed: the ARGUS 141 xDSL Tester focuses on the key functions for testing VDSL2 or ADSL and is ready to operate extremely quickly. The user-friendly handheld tester is able to integrate both interfaces in a single device. Powerful chip sets for ADSL and VDSL2 ensure optimum performance, thus providing a high level of interoperability and a long reach. The results are presented both in tabular or graphical form.

Well equipped for the future: as an option, the ARGUS 141 can be upgraded to test Voice over IP (VoIP) and data services such as ping, trace route or download via xDSL – this upgrade is even available after purchase.

During VoIP testing, the MOS value is also calculated automatically. As a lineman's handset, the ARGUS 141 simulates terminal equipment such as a phone or replaces a PC and determines the relevant quality parameters. If required, intec can also supply the tester with bridge or router functions to test customer modems.

The ARGUS 141 is extremely user-friendly thanks to its large 320 x 240 pixel color display and long-life Li-ion battery pack, which can be replaced in the field.


## ARGUS 42 basic

Easy entry into the world of ADSL measurement technology: the inexpensive ARGUS 42 basic ADSL Tester offers impressive features such as quick availability and user-friendly testing of "ADSL-over-POTS" and "ADSL-over-ISDN". The device is supplied with an IP ping function by default. The checker can optionally support a passive bridge mode.

Thanks to its easy handling, the ADSL Tester requires only few prior knowledge. All of the functions and tests can be quickly selected and started by pressing a softkey. The most important measurement results such as the up- and downstream data rates of the loop are displayed automatically. The handheld tester can also be configured easily via its alpha numeric keypad.

The ARGUS 42 basic is remarkably user-friendly thanks to its easy handling and quick availability. This handy tester weighs just 395 g and offers long operating times of several hours.


ISDN
POTS
ADSL
ETH
Data
VoIP
MOS
PESQ
PC
USB

## The PRI tester

The ARGUS 125 offers support for ISDN accesses (including BRI, PRI and E1) and POTS as well as comprehensive measurement functions for ADSL accesses (Annex A and/or Annex B).

The tester are also well equipped for checking Internet connections as they have IP ping and trace route functions as well as upload and download tests. Rounding out the package, the ARGUS 125 can operate in xDSL bridge and router mode and can also perform an ADSL online trace when they are used together with the WINanalyse software. Furthermore, the latest test routines are available to allow objective and subjective assessment of the voice quality of VoIP via ADSL and Ethernet as well as on ISDN and POTS accesses. The quality assessment is made using among others the well-known MOS and PESQ methods. Its excellent audio circuitry makes it quick and easy to assess the quality of the voice connection in either handset or headset operation.

## ARGUS 125

ISDN handheld tester with comprehensive options: the ARGUS 125 tests all ISDN interfaces including BRI, PRI and E1 without having to swap modules. It tests voice connections via ISDN and POTS. In addition, the handheld tester provides all functions necessary for installing and maintaining BRI S/T and U, as well as POTS accesses.

The ISDN tester supports D channel monitoring in TE, NT and leased line modes. In addition, a bit error rate test (BERT) can be performed in the D channel. An optional MegaBERT is also available expanding the BERT to cover the full 2 Mbit/s bandwidth.

If desired, the ARGUS 125 can also be equipped for testing in Next Generation Networks in order to check Voice over IP (VoIP) and data services directly at the ADSL and Ethernet interfaces.

The ARGUS 125 is extremely user-friendly thanks to its intuitive and clear menu structure.


ISDN
POTS
PC

### ARGUS 3u plus

The ARGUS 3u plus is an impressive and versatile connection tester for ISDN and POTS interfaces. It enables an accurate installation of POTS accesses as well as BRI S/T and U interfaces, and is therefore suitable for checking all functions before and after the NTBA.

This handy tester supports automatic testing of accesses, services and supplementary services and also offers voltage and signal level measurements as well as a bit error rate test (BERT). Another function is the HF detection, which can distinguish between active BRI U and ADSL signals.

In addition, the test set features RC measurements and loop length calculation as well as an integrated mini splitter, filtering interference from ADSL frequencies. Optionally, a cabling test of the BRI S/T bus can be performed.

### ARGUS 3u NT

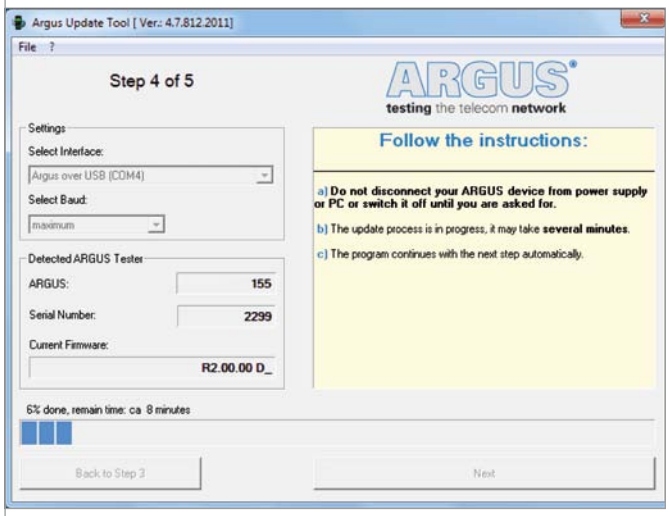
The ARGUS 3u NT provides all functions necessary for installing and maintaining BRI S/T and U, as well as POTS accesses. It tests BRI S/T interfaces in TE, NT and leased line modes, including D channel monitoring and verifies BRI U and POTS interfaces in TE mode. When monitoring, D channel data can be recorded and then decoded on a PC with user-friendly filters and search functions.

In addition to automatic testing of accesses, services and supplementary services, this handy tester also offers voltage and signal level measurements as well as a bit error rate test (BERT). Other functions provided by the handheld tester include a HF detection, which can distinguish between active BRI U and ADSL signals, and an integrated mini splitter, which prevents interference from ADSL frequencies. RC testing and a line length calculation complete the scope of functions offered by the test set. A cabling test of the BRI S/T bus can also be performed optionally.

### ARGUS 3u basic

The ARGUS 3u basic tests BRI S/T and U accesses in TE and leased line modes plus POTS interface optionally. The user-friendly test set provides automatic testing of accesses, services and supplementary services. It also supports voltage and signal level measurements, as well as a bit error rate test (BERT). With this full set of features, the ARGUS 3u basic offers a truly impressive and low-cost entry into the world of ISDN measurement technology.

The extremely lightweight handheld tester is particularly user-friendly thanks to its intuitive menu structure.




**Step 4 of 5 during an update with ARGUS Update-Tool**

## Update-Tool

A free tool is available to update ARGUS testers, which is also included in our WINplus and WINanalyse software packages. With this tool, the latest firmware versions can be downloaded to the tester from www.argus.info. The whole procedure is very simple and intuitive, thanks to the integrated step-by-step instructions.

## WINplus

WINplus PC software offers the ideal communication platform between the ARGUS handheld testers and a PC. The software can be used to view a clear tabular and graphic presentation of all of the test results on the screen and easily generate a printout of an access acceptance report – for example for xDSL, ISDN, VoIP or IPTV.

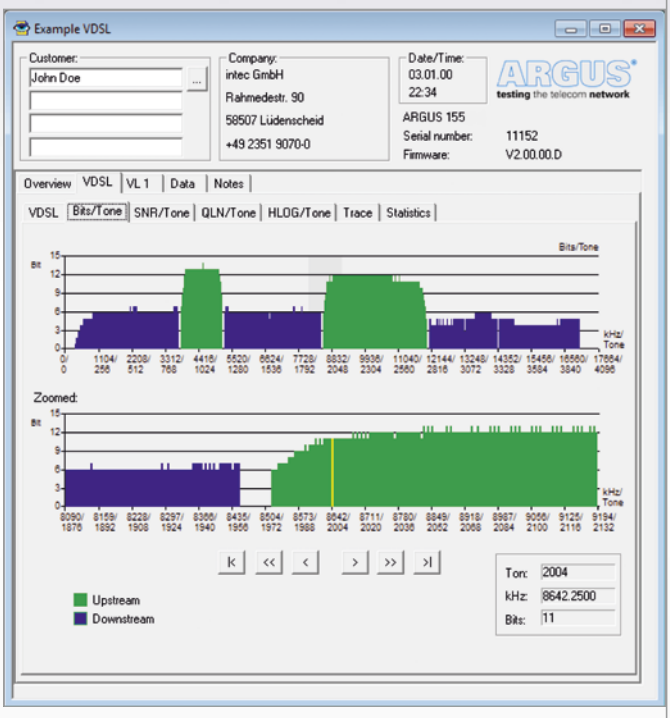
In addition, WINplus supports the configuration of ARGUS testers using a PC: configurations from the tester can be easily uploaded to the PC, edited there, compared and archived – or transferred back to the tester.

## WINanalyse

WINanalyse includes all features of the WINplus software for displaying results from an ARGUS tester on the PC as well as additional analysis functions for evaluating the tests. The software can capture errors that occur while setting up an xDSL connection or during the connection and then display these along with the various xDSL parameters in their proper chronological order. For these xDSL or IPTV online traces, the results can be presented in the form of clear diagrams for a long-term analysis. This makes it easier, for example, to analyze the bitrate, the signal-to-noise ratio or the error counter totals in connection with the loss of synchronization.

For ISDN applications, WINanalyse offers the option of extending ARGUS 155 and ARGUS 125 testers to include complete D channel report analysis. The software decodes the data recorded by one of these ARGUS testers with a real-time D channel monitor. WINanalyse displays this data in a table or presents the interpreted results in the form of clear text in a separate text window. The software decodes DSS1, X.25 in the D channel and other protocols and can simultaneously record the data from several D channels.

For tests on PRI interfaces, WINanalyse provides a graphic presentation of the bit error rate test results (MegaBERT) including analysis functions, offering a clear overview at all times.




**Graphical illustration of measurement results using WINplus**

# ARGUS Overview

| | 165 | 155 | 152 | 42 plus | 141 | 42 basic | 125 | 3u NT | 3u plus | 3u basic |
|---|---|---|---|---|---|---|---|---|---|---|
| VDSL2 | ✓ [3] | ✓ [3] | ✓ [3] | | ✓ | | | | | |
| ADSL [1] | ✓ [3] | ✓ [3] | ✓ [3] | ✓ | ✓ | ✓ | ✓ [3] | | | |
| SHDSL | ✓ [3] | ✓ [3] | | | | | | | | |
| ETH 10/100 BT | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| ETH 1000 BT (Cu) | ✓ | ✓ | ✓ | | | | | | | |
| SFP (FTTx) | ✓ | | | | | | | | | |
| BRI U | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| BRI S/T TE/LL | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| BRI S/T NT/mon. | ✓ | ✓ | | | | | ✓ | ✓ | | |
| PRI/E1 | ✓ | ✓ | | | | | ✓ | | | |
| POTS | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| RC | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | |
| Line Scope | ✓ | ✓ | ✓ | | | | | | | |
| TDR | ✓ | ✓ | ✓ | | | | | | | |
| Probe | ✓ | ✓ | ✓ | | | | | | | |
| Line qualification | | | ✓ | | | | | | | |
| Adv. Copper Tests | | | ✓ | | | | | | | |
| Copper Box | ✓ | ✓ | ✓ | | | | | | | |
| Bridge | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| Router | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| IP-Tests | ✓ | ✓ | ✓ | ✓ [2] | ✓ | ✓ | ✓ | | | |
| Down-/Upload | ✓ | ✓ | ✓ | ✓ [2] | ✓ | | ✓ | | | |
| IPTV | ✓ | ✓ | ✓ | | ✓ | | | | | |
| VoIP+MOS | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| | 165 | 155 | 152 | 42 plus | 141 | 42 basic | 125 | 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
[3] Online trace in combination with WINanalyse

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