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v1.0721-SG

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NETXPERT XG2 | NETXPERT XG2 plus

CU FO

LAN NETWORK QUALIFIER

100Mb/s to 10Gb/s Ethernet

IT Networks

itnetworks.softing.com/XG2

NETXPERT XG2

NETXPERT XG2plus

PROFILE

Device class Q QUALIFIER

Model	NETXPERT XG2			NETXPERT XG2plus
	1G	2.5/5G	10G	PLUS
Typical application	✔ Documentation ✔ Commissioning ✔ Troubleshooting Standard office cabling	✔ Documentation ✔ Commissioning ✔ Troubleshooting Bandwidth tests for the integration of fast Wi-Fi access points in existing cabling systems	✔ Documentation ✔ Commissioning ✔ Troubleshooting Standard office and backbone cabling	✔ Documentation ✔ Commissioning ✔ Troubleshooting Standard office and backbone cabling, copper and fiber
Media supported	CU FO			
Speed per medium	1 2.5 5 10 (Gb/s) CU FO	1 2.5 5 10 (Gb/s) CU FO	1 2.5 5 10 (Gb/s) CU FO	1 2.5 5 10 (Gb/s) CU FO
Performance test	CU	CU	CU	CU FO
Highlights	Delay skew + BERT SNR Wiremap Performance test Documentation PDF/CSV PoE ++ Power over Ethernet Network detection Microscope (optional)			+ Live Light Real-time trend display of fiber optic attenuation

For more information on the NetXpert XG2-PLUS, visit

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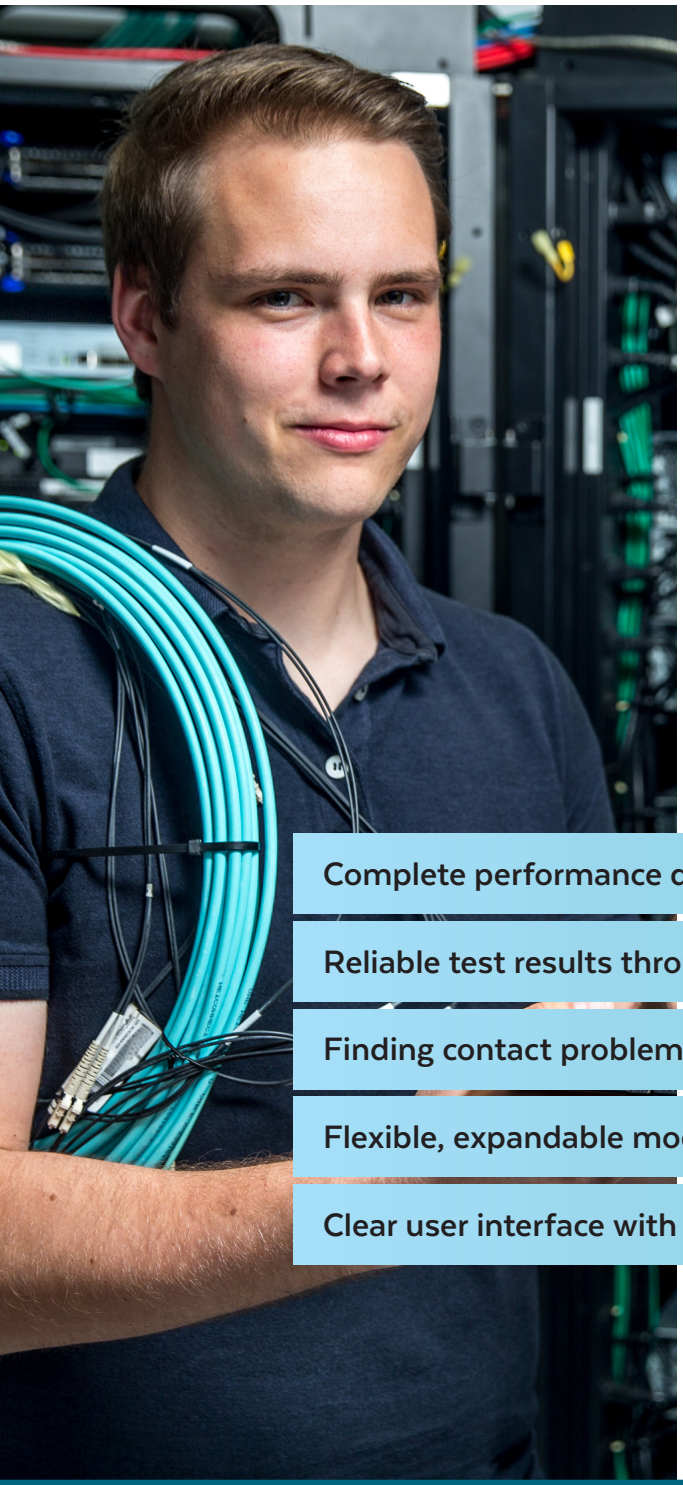
Performance tester up to 10Gb/s for all Ethernet applications

QUALIFICATION, COMMISSIONING AND TROUBLESHOOTING – INTUITIVE, FLEXIBLE, FAST



High data transmission rates of up to 10Gb/s Ethernet and new Power-over-Ethernet applications up to 90W lead to completely new challenges in structured cabling.

NetXpert XG2 provides comprehensive active and passive network testing up to 10Gb/s for qualification, commissioning and troubleshooting on copper and fiber cabling.

With the largest touch display in its class, NetXpert XG2 guarantees easy operation and clear presentation of results.

At the same time, NetXpert XG2 offers the highest reliability of results thanks to the unique combination of up to four different test methods for the evaluation of a data link.

- Complete performance qualification at the touch of a button
- Reliable test results through a combination of up to four measurement methods
- Finding contact problems via LiveLight™ trend display of optical transmission loss
- Flexible, expandable model range – upgradeable from 1 to 10Gb/s
- Clear user interface with large 7 inch touch display

NETXPERT XG2

YOUR ADVANTAGE ACROSS ALL APPLICATIONS

Whether troubleshooting, maintenance or servicing, the NetXpert XG2 performance tester is the optimal device for all network testing applications used by installers, system integrators and industry partners.

Detailed documentation of work results in PDF or CSV format with individual logo

Function and load test of PoE supplies up to 90W (PoE++)

Measurement and documentation of the maximum bandwidth of copper and fiber optic cabling up to 10Gb/s

Troubleshooting tool for active networks (copper, fiber optics, Wi-Fi)

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NETXPERT XG2 FOR INSTALLERS

- » **Flexibility through upgrade options from 1Gb/s to 2.5/5Gb/s or directly to 10Gb/s, as well as to fiber qualification**
- » **Detailed documentation of the test results**

Application example:

MEASUREMENT OF MAXIMUM BANDWIDTH

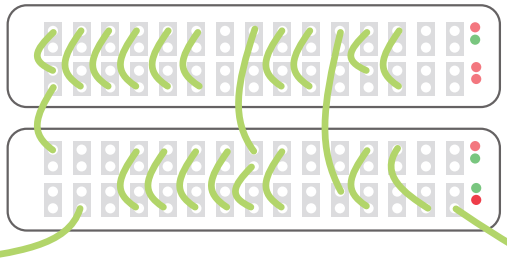
To determine whether cabling is capable of higher data rates, you need more than just a wiremap. This information is only provided by NetXpert XG2, for example when used in SoHo installations, if proof (but no acceptance measurement according to cabling standards) is required that higher data rates are supported in order to integrate modern Wi-Fi access points.

Application example:

MAINTENANCE AND SERVICE

For routine testing of an existing network, installers do not need a cost-intensive certifier. One qualifier is sufficient for a simple check of function and performance.

NETXPERT XG2



NETXPERT XG2 FOR SYSTEM INTEGRATORS

- Combination device for testing passive cabling and active networks
- Troubleshooting tool for active networks including PoE++
- Function and load tests with BERT
- Detailed documentation of the test results

Application example:
TROUBLESHOOTING

IT administrators and technicians in offices and public facilities need a tool to determine why a PC and network connection is not working. This requires both passive and active network test functions to determine connectivity problems. The NetXpert XG2 combines all this in one handy test device.

Application example:
MAINTENANCE AND NETWORK TESTING

System integrators must ensure that the existing cabling supports higher speeds (N-BaseT, 10GBase), e.g. when upgrading to modern Wi-Fi access points.

NETXPERT XG2plus

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NETXPERT XG2 FOR THE INDUSTRY

- Adapters available for various industrial connectors such as M12
- Troubleshooting tool for passive cabling and active networks including PoE++ function and load tests
- Detailed documentation of the test results

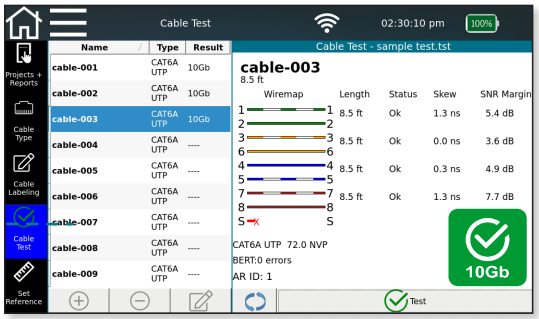
Application example:
TROUBLESHOOTING

On an industrial production line, high switching voltage spikes cause electro-magnetic interference, resulting in random network problems. The NetXpert XG2 helps to find the problem with long-term BERT (up to 10 Gb/s) and determination of the signal-to-noise ratio (SNR).

NETXPERT XG2

FUNCTIONS

High Ethernet speeds of up to 10Gb/s in modern networks require leading edge test solutions for commissioning and fault finding, both in the passive infrastructure and in the active network.
The NetXpert XG2 offers full flexibility, whether you are testing fiber or copper cabling. With passive testing, throughput testing of the fiber cabling is also possible (with NetXpert XG2-PLUS or upgrade with expansion set).



Combination of four measuring methods achieves highest reliability

To ensure that Ethernet transmission works properly, the NetXpert XG2 qualifies fiber with BERT, signal attenuation, and length, and qualifies copper cabling with a unique combination of up to 4 test parameters:

- Bit error rate test (BERT)
- Signal to noise ratio (SNR)
- Route length
- Delay skew

BERT

SNR

delay skew

PASSIVE QUALIFICATION

For copper networks

» Prove error-free transmission up to 10Gb/s using a bi-directional bit error rate test (BERT) based on the IEEE 802

» Check reliability of the data transmission via signal-to-noise ratio (SNR) and the delay skew

» Combined cable length measurement from TDR and capacitive measurement for accurate information and easy trouble-shooting, also for short circuits

» Colored wiring diagram shows inter-ruptions, interchanges, short circuits and split pairs so that they can be clearly identified

For fiber optic networks

» Prove error-free transmission up to 10Gb/s using a bit error rate test (BERT) based on IEEE 802

» LiveLight™ real-time fiber optic signal attenuation trend display

» Cable length measurement

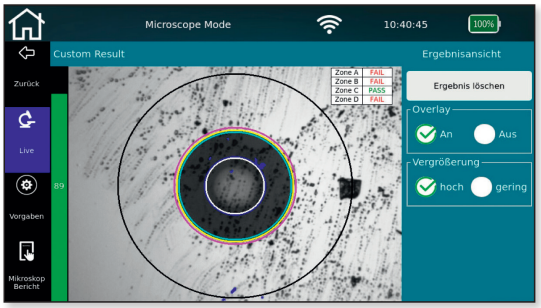
» Automated evaluation and documentation of connector end faces with optional fiber optic microscope against IEC 61300-3-35 standard

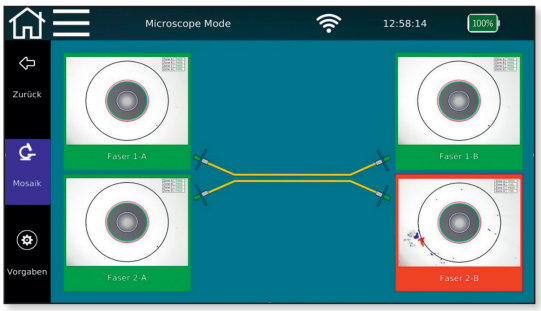
Test of fiber optic cabling:
Combination of BERT, signal attenuation and length measurement

LiveLight™ - Real-time trend display of fiber optic attenuation

The device has two SFP ports for testing fiber optic links. Both SFP ports support 1Gb/s and 10Gb/s modules. Other useful functions include connector microscopy and an attenuation test (depending on the SFP module used).

Signal attenuation can be displayed either as a single value or as a continuous testfunction (LiveLight™).





With the fiber optic microscope, the connector end faces can be quickly and easily checked and subjected to an automatic “Pass/Fail” evaluation in accordance with IEC 61300-3-35. This is automatically combined with the qualification results in a detailed test report.

ACTIVE NETWORK TESTS

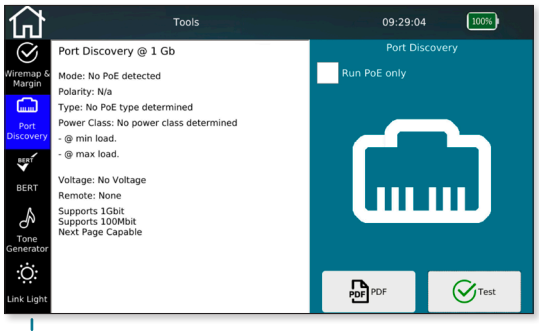
For copper, fiber, Wi-Fi networks

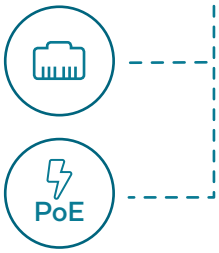
- PoE load test up to 90W (class 8)
- DHCP test with display of DHCP and DNS server addresses and assigned IP address
- Discovery of the existing nodes in the network (Network Discovery) with graphical and tabular display
- Definition and storage of lists with ping destinations
- Trace Route
- LLDP/CDP detection and display
- Wi-Fi scan of available access points with indication of field strength and encryption modes
- Detection and integration of VLANs
- Identifying duplicate IP addresses
- IPv4 and IPv6 support

PoE load test made easy

The NetXpert XG2 has a comprehensive toolset for trouble-shooting active networks. Particularly important for PoE testing is both the correct detection of the available PoE classes and voltages, and also testing the power source devices and whether they can really deliver the requested power.

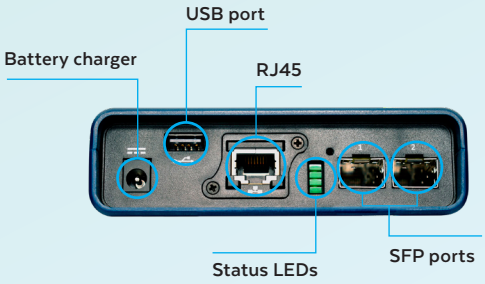
The NetXpert XG2 is able to simulate PoE devices up to PoE++ (class 8) to perform a load test on the PoE switch.



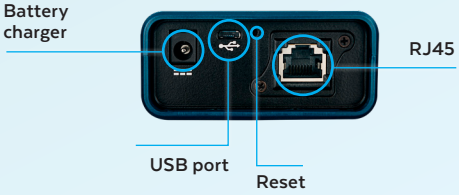


Detailed analysis of the switch port for its PoE performance and the supported Ethernet speeds

MAIN UNIT PORTS



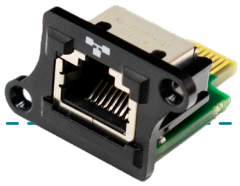
ACTIVE REMOTE PORTS



Replaceable RJ45 port

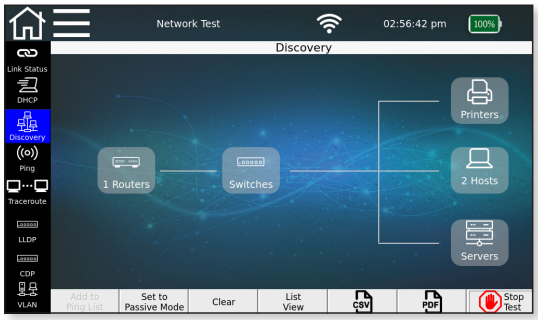
RJ45 sockets are subject to wear from repeated plugging and unplugging. This lessens their transmission capacity, so that they must be replaced regularly.

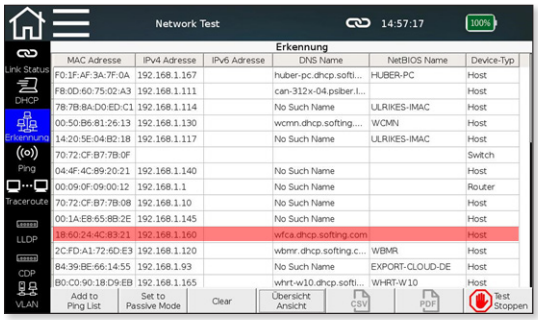
The NetXpert XG2 is the only tester in the world in its class that allows you to change sockets without having to open the device or send it in. You can replace the port directly and thus avoid downtimes on the construction site due to worn measuring sockets.



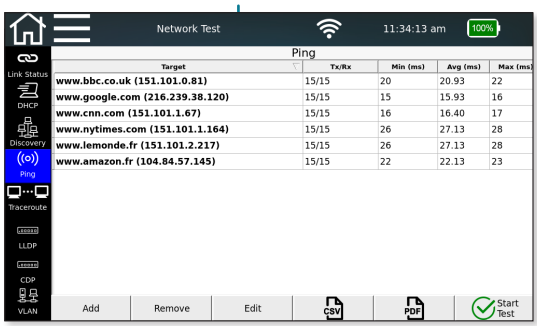
Extensive troubleshooting

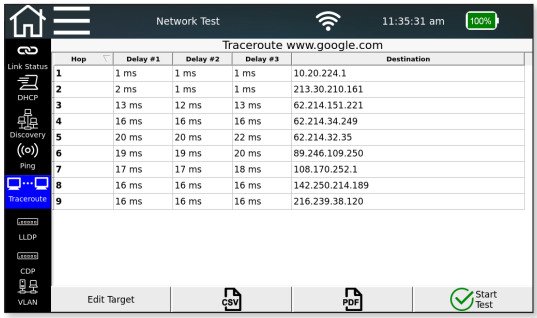
Various test options for copper, fiber and Wi-Fi such as ping test, traceroute, CDP, LLDP and network discovery with detailed listing of all network nodes help with Ethernet and PoE troubleshooting.





Marking duplicate IP addresses that endanger network operation





The ping function allows you to check the accessibility of network devices such as servers and printers as well as Internet connectivity.

The traceroute function shows you all intermediate steps on the way to the ping destination. This allows you to quickly and reliably locate the point of failure (internal IT or external provider) in the event of connectivity problems.

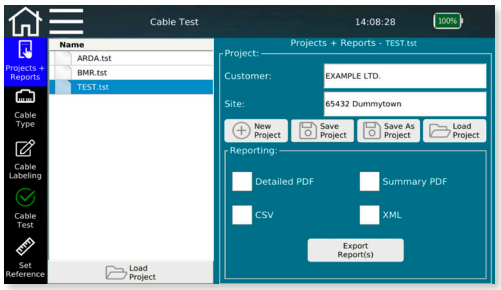
Display of switch port data via evaluation of the Link Layer Discovery Protocol (LLDP) or Cisco Discovery Protocol (CDP)

NETXPERT XG2

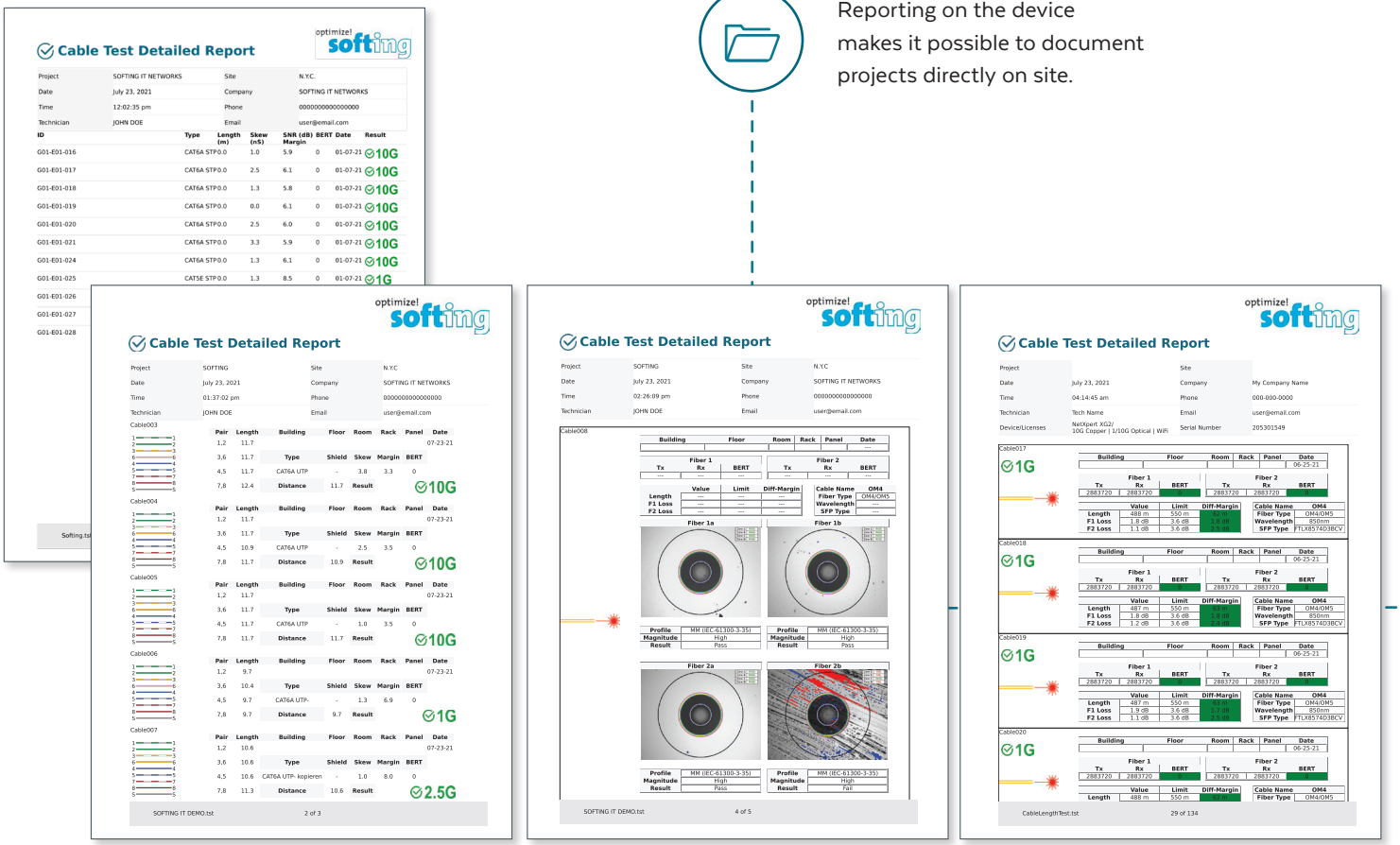
PERFECT PERFORMANCE - PERFECTLY DOCUMENTED

With enough internal memory to document even large projects, the NetXpert XG2 generates finished acceptance reports with all necessary information. Reports are generated in the device, which can be passed on via USB stick.

The file manager can be accessed directly from the home screen. There you can find detailed result reports directly as PDF or CSV documents.



Reporting on the device makes it possible to document projects directly on site.



For more information on the NetXpert XG2-PLUS, visit **itnetworks.softing.com/XG2-PLUS**

THE MODELS

The NetXpert XG2 series consists of four device models. The difference is in the Ethernet speeds (1Gb/s to 10Gb/s) and the testable media (copper and/or fiber). All models are upgradeable, both in terms of speed and supported media.

For installers and operators of copper and fiber optic networks up to 10G

NetXpert XG2-PLUS
The complete solution for passive qualification and active network tests for copper and fiber environments up to 10Gb/s

For installers and operators of copper networks up to 10G

NetXpert XG2 – 10G
For passive network tests of copper cabling up to 10Gb/s and active network tests of copper and fiber networks up to 10Gb/s

For upgrades from old stockcabling to NBase-T (2.5/5Gb/s)

NetXpert XG2 – 2.5/5G
For passive and active network tests of copper cabling with 2.5 and 5Gb/s, as well as active network tests of fiber optic networks up to 1Gb/s

For installers of small networks

NetXpert XG2 – 1G
The low-cost entry-level model for passive network tests of copper cabling and active network tests on copper and fiber optic cabling up to 1Gb/s

NETXPERT XG2

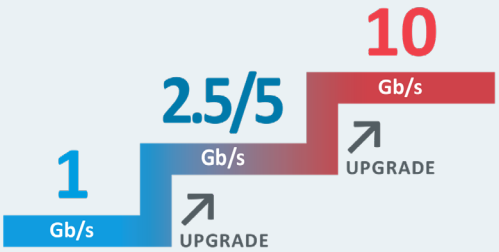
WHICH MODEL IS RIGHT FOR YOU?

Modell	Active network tests				Passive qualification		
	1 Gb/s	2.5/5 Gb/s	10 Gb/s	Wi-Fi	1 Gb/s	2.5/5 Gb/s	10 Gb/s
XG2 - 1G Article number 226737	CU, FO			Wi-Fi	CU		
XG2 - 2.5/5G Article number 226739	CU, FO	CU		Wi-Fi	CU	CU	
XG2 - 10G Article number 226736	CU, FO	CU	CU, FO	Wi-Fi	CU	CU	CU
XG2-PLUS Article number 226735	CU, FO	CU	CU, FO	Wi-Fi	CU, FO	CU	CU, FO

CU Copper FO Fiber Optic (1 Gb/s and 10Gb/s via SPF ports) Wi-Fi

	NetXpert XG2 1G	NetXpert XG2 2.5/5G	NetXpert XG2 10G	NetXpert XG2 PLUS
Main device	1	1	1	2
Remote unit	1	1	1	1
Compatible with	Fiber optic microscope, CableProbe (CP15), remote or link/cable identifier			
Compliant with	• IEE 802.3an standards to support up to 10Gb/s • 802.3af/at/bt to support PoE/+/++ tests • Wi-Fi 802.11a/b/g/n/ac for Wi-Fi support			
Reporting	• Internal project management • Creation of test reports (csv, pdf, xml)			
Upgrades	5G, 10G, and Fiber	10G and Fiber	Fiber	(complete solution)

The license system allows later upgrades for additional functions at the next higher performance level.
A distinction is made between three performance levels (1 or 2.5/5 or 10Gb/s Ethernet). The 'Step-Up' license always extends the functional range of the device by one performance level upwards.



For more information on the NetXpert XG2-PLUS, visit **itnetworks.softing.com/XG2-PLUS**

Standard scope of delivery

- 1 NetXpert XG2 main unit
- 1 Active Remote
- 2 Power supplies
- 2 RJ45 Cat 6_A test cables, shielded
- 1 Hard-shell case
- 1 Quick start guide

XG2-PLUS scope of delivery

- 2 NetXpert XG2 main devices
- 1 Active Remote
- 3 Power supplies
- 2 RJ45 Cat 6_A test cables, shielded
- 2 OM4 LC-Duplex multimode test cables
- 2 OS2 LC-Duplex singlemode test cables
- 1 Copper and 2 fiber optic couplings
- 1 Hard-shell case
- 1 Quick start guide
- 2 Upgrade licenses per main device

(Please order SFP modules separately)

OPTIONAL ACCESSORIES

Upgrades	
NX_XG_LIC_1STEP	Upgrade license for NetXpert XG2 for one level at a time
Extension kits	
NX_XG2_10G_Fiber_Ext	NetXpert XG2 – Fiber Extension Kit – turns an XG2 – 10G into an XG2-PLUS
NX_XG2_Remote	Remote Kit – single NetXpert XG2 Active Remote for copper qualification
Warranty extension	
NX_WARRANTY_EX_2A	NetXpert XG2 series warranty extension from 12 months to 36 months
Fiber optic accessories	
NX_AC_SFP_10G_SM	SFP+ Module, Singlemode, 10GBASE-LR/LW
NX_AC_SFP_10G_MM	SFP+ Module, Multimode, 10GBASE-SR/SW
NX_AC_SFP_1G_SM	SFP Module, Singlemode, 1000BASE-LX
NX_AC_SFP_1G_MM	SFP Module, Multimode, 1000BASE-SX
General accessories	
PD_RK224	RJ45 Remote Identifier Set (24 pcs, #1 - #24)
NX2_AC_RJ45	2 x RJ45 exchange socket for main and remote device
PD_TT108	Link/Cable Identifier Set (8 pcs, #1 - #8)
WX_FX_INSP_KIT	Fiber optic microscope for inspection of connector end faces
Industrial accessories	
WX_AC_PRE_TERA_PCORD1_HD	E2E measuring cable RJ45 to Harting preLink® system (1 pc)
WX_AC_TPRE_RJ45F	RJ45 interchangeable plug for Harting preLink® system, IP20 CAT 6_A (1 pc)
WX_AC_TPRE_M12DM	M12 D-coded plug for Harting preLink® system CAT 5 (1 pc)
WX_AC_TPRE_M12XM	M12 X-coded plug for Harting preLink® system CAT 6_A (1 pc)
WX_AC_TPRE_M12DF	M12 D-coded socket for Harting preLink® system CAT 5 (1 pc)
WX_AC_TPRE_M12XF	M12 X-coded socket for Harting preLink® system CAT 6_A (1 pc)
WX_AC_TPRE_RJ45MV14	Interchangeable V14 push-pull RJ45 plug for Harting preLink® system (1 pc)
WX_AC_TPRE_RJ45MH3A	Interchangeable Han® 3 A RJ45 plug for Harting preLink® system (1 pc)
WX_AC_TPRE_IX	IX socket for Harting preLink® system CAT 6_A (1 pc), incl. housing
WX_AC_TPRE_RELEASE	Opener for Harting preLink® system (5 pcs)
WX_AC_TPRE_RJ45HIFF	RJ45 CAT 6 pre link jack HIFF format for Harting preLink® system, (1 pc)
NX_AC_IND_PRO	NetXpert Industrial Adapter PRO-Kit – contains the complete industrial accessories for RJ45, M12D and M12X