TestPro CV100
Multifunction Cable Tester

Versatility for the Digital Age



2018 Cabling Installation & Maintenance Gold Innovators Awards

ETL LISTED Intertek

Overview

TestPro Multifunction Cable Tester is a versatile platform that was purpose-built to provide Copper, Fiber, PoE and Multi-Gigabit testing within a single solution designed to tackle assurance of infrastructure readiness across smart building technologies.



Enterprises are fast embracing the modern smart building in an effort to realize cost savings through better management of the holistic infrastructure that encompasses the IP network, heating and cooling, building security systems and more. What all of this means to you is that the need for network bandwidth and power has never been greater and it is rapidly increasing, with the adoption of technologies such as PoE and Multi-Gigabit Ethernet over copper cabling.

To meet this growing need, AEM designed the TestPro, an affordable, versatile and rugged testing solution for today's complex network environments. TestPro provides you with the ability to fully ensure infrastructure readiness to support the deployment of IoT connected devices be it lighting, multi-sensor cameras, building entry, wireless APs, monitors, computer workstations, or even long haul and single pair applications.

The best part, all of this comes at an affordable price that will allow organizations to outfit more technicians to optimize efficiency during both deployment as well as ongoing management and troubleshooting.

Key Highlights:

- ✓ All product kits come with two full function platforms, each with their own certificate of calibration.
- ✓ Two platforms mean complete test results are displayed on both Main and Remote and Autotest can be initiated from either end.
- ✓ In cases where you are performing tests into a switch such as PoE and Multi-Gigabit testing, each platform can be independently deployed giving you double the test equipment to get the job done.
- ✓ The modular platform allows you to add functionality as budget supports, your needs change or we introduce new testing capabilities.
- ✓ Extensive testing technology support: Cat5e-Cat8, PoE load (90W), link speed (1, 2.5, 5, 10Gig), SM and MM fiber optic, powered fiber voltage, single pair, long haul, traffic gen, BERT, and more….

"TestPro's ability to certify the cable with a fast autotest combined with PoE validation and link speed qualification testing helps our technicians to get more done with a single test system and at a fraction of the price of the test equipment we used to use. Additionally, the ability to validate PoE and qualify link speed has allowed us to expand our service offering."

Sean Ricketts,
President Trinity Cabling Company

Copper Certification

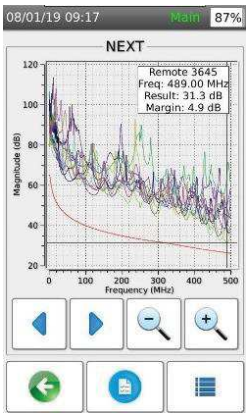
The TestPro platform features the most sophisticated RF measurement engine available and has independent ETL/Intertek verification of ANSI/TIA-1152-A (Levels IIIe and 2G), IEC 61935-1 Ed. 4 (Levels IIIe, IV and V) and IEC 61935-1 Ed. 5 Draft 46/595/CD (Levels VI Class I and II), and a 3GHz frequency range. What this means to you is that you can be assured of your certification results for CAT5e – CAT8 with an accuracy range that not only exceeds industry standards but even older well-known cable testers and that your testing needs will be met today and tomorrow. TestPro has also been approved by industry leading cable manufactures in support of their warranty programs.

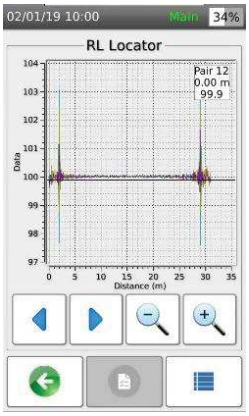
As part of the six second CAT6A standard Autotest, TestPro will perform these measurements for both Channel and Permanent Link.

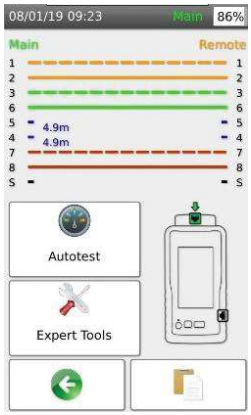


- Length including distance to fault
- Propagation Delay
- Delay Skew
- Loop Resistance
- DC Resistance Unbalance for both Pair to Pair and Wire to Wire
- Return Loss
- Impedance
- Insertion Loss
- NEXT
- PSNEXT
- ACRF
- PSACRF
- TCL
- ELTCTL

TestPro's LiveWiremap™ facilitates rapid cable continuity testing with automatic display of result the moment the cable is attached. TestPro offers fault location for Return Loss and NEXT aiding in problem identification. Support for MPTL, Patch Cord, Cat8, and Coax is available through hot swappable Adapters. At the completion of the Autotest, you will get a highly visible Pass or Fail indication, and test results can be automatically saved with a customizable labeling scheme.



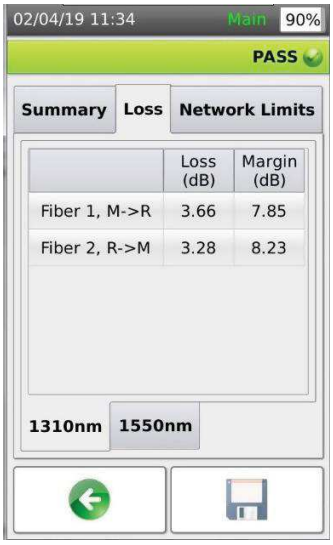


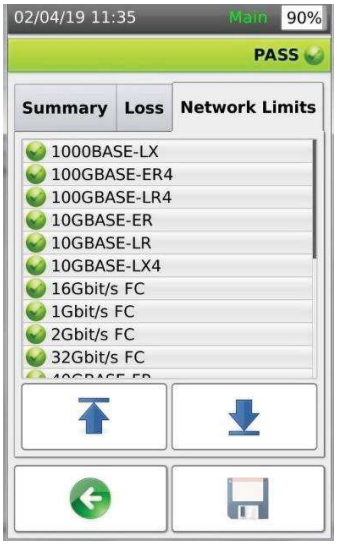


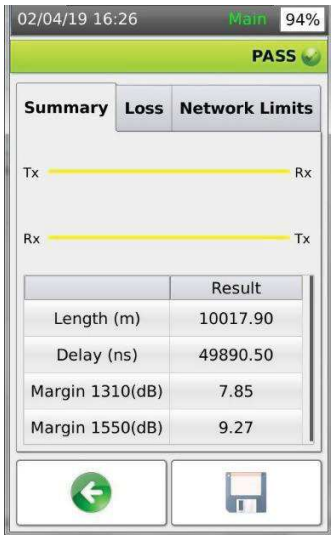
TestPro will store over 10,000 results in memory, but when it's time to prepare printed reports, the included TestDataPro PC based software provides a way to organize and manage results and provide printed reports. If you're testing PoE and Multi-Gigabit Ethernet in addition to cable certification, you can even produce printed reports that include all three measurements by combining the results of a certification Autotest and a Multi-Gigabit Autotest.

Both Channel and Permanent Link Adapters are included in the TestPro CV100-K50, K51, K60, K61 Kits. These Adapters are also sold separately models AD-CAT6A-CH, AD-CAT6A-PL.

For more information: www.aem-test.com | Enquiries: customercare@aem-test.com
North America: AEM International (US) 5560 West Chandler Blvd, Suite 3, Chandler, AZ 85226 | toll free 833-572-6916 | 480-534-1232
Asia: AEM Singapore Pte. Ltd. 52 Serangoon North Ave 4 Singapore 555853
Revision 4/5/2019 | V.1.0







Fiber Optic Certification

TestPro's fiber optic measurements provide Tier-1 certification in compliance with IEEE 802.3 series, TIA-568.3-D, IEC-14763-3, as well as customizable limits for both Multimode and Singlemode Fiber Optic premise cabling. Additionally, these adapters include an integrated Visual Fault Locator (VFL) to provide a quick indication of a break in the fiber, as well as an integrated connection port for measuring electrical voltage for hybrid powered fiber applications in support of smart building initiatives. Encircled Flux (EF) compliant source means no need for bulky external adapters. Fiber optic test kits include, reference launch cords, coupler, interchangeable FC on TX port and interchangeable LC on RX port, cleaning kit, and carrying case. SC and FC adapters and reference launch cords are available as accessory items and sold separately.

As part of the four second Autotest, TestPro will perform the following measurements for both Singlemode and Multimode.

- Dual ended loss
- Single ended loopback loss
- Length and propagation delay
- Optical power meter OM1-OM5
- Integrated Voltmeter
- LiveWiremap
- Printed report includes test data and Compliant Networks

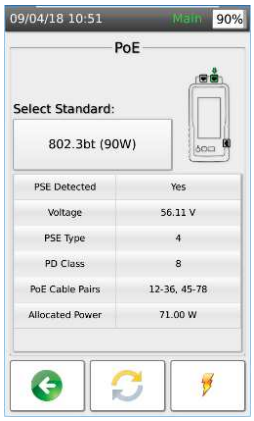
Multimode adapters support testing of OM5 fiber in addition to earlier generation fiber standards. For deployments where powered fiber is being used, TestPro's fiber adapter provides not only certification of the fiber optic cable but also provides you with the ability to validate electrical voltage on the adjacent copper wire in this hybrid cable type. This allows you to measure the electrical input voltage going into a PoE extender that is supplying PoE to end devices, and is a convenience for the technician to have everything needed for testing at their fingertips. Combine that with TestPro's ability to measure actual PoE load (requires AD-NET-CABLE adapter) and you have a powerful solution with a unique set of capabilities that will allow you to verify and troubleshoot across various points in the network typology.

In single fiber applications, TestPro fiber adapters can be configured as a light source and receiver in power meter mode.

Both SM and MM Adapters are included in the TestPro CV100-K11, K51, K61 Kits. These Adapters are also sold separately models AD-SM-01 and AD-MM-01.

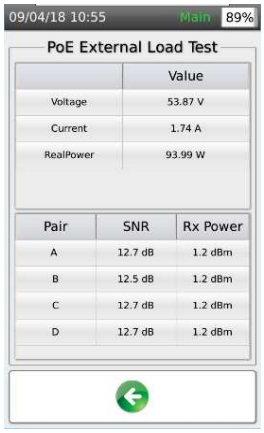
Power Over Ethernet (PoE) Validation

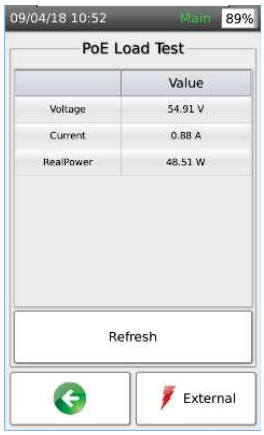
TestPro excels at validating PoE with the most comprehensive test functionality available and in compliance with TIA 1152A and IEEE 802.3 at/af/bt standards. What sets TestPro apart is the ability to validate the Power Source Equipment (PSE), a.k.a. the switch with actual power load, the only true way to validate if the level of power needed at the jack where a Powered Devices (PD) will deploy, such as a Camera, AP, Window Covering, etc. is to measure actual power at the jack with a report of available Voltage, Current, and Real Power expressed in Wattage.



As part of the validation test, TestPro allows you to select which standard you want to test against be it 802.3 af/at/bt. In doing so, TestPro will request the highest level of power load from the PSE for that standard and will perform the following tests:

- PSE Detection
- Voltage
- PSE Type
- PD Class
- PoE Cable Pairs
- Allocated Power
- Current
- Real Power
- Sustained Power Load Monitoring





For those pesky intermittent power issues, TestPro allows for sustained loading of the PSE over longer periods, through external loads. This allows you to monitor live for any power fluctuation that drops below the required level threshold. TestPro can also characterize the cabling links for DC resistance unbalance parameters either as part of a standard cable certification Autotest or as a one-off quick test.

PoE load testing is available in the TestPro CV100-K30, K60, K61 Kits. This Adapter is also sold separately model AD-NET-CABLE.

"If you manufacture, sell or install PoE products the CV100 TestPro will prove to be a MUST have tool in your lab or in your toolbox. The ability for us to easily ensure conditions at the other end of 100 meters of UTP cable with the precision and actual wattage at the remote jack was so helpful in our PoE motorized window treatment development. And with the ability to conduct sustained loading for long test cycles using the external load feature was another huge time saver for us."

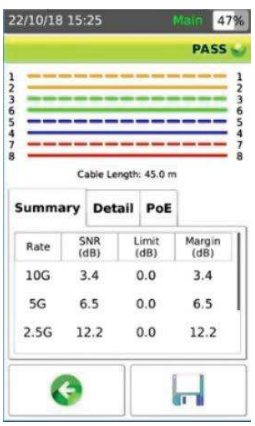
Michael Braithwaite
CTO Screen Innovations

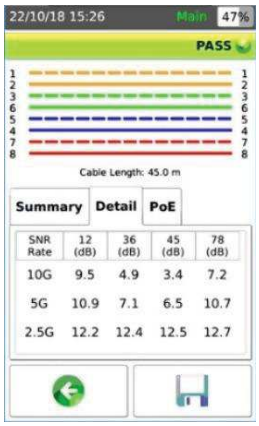
Multi-Gigabit Link Speed Qualification

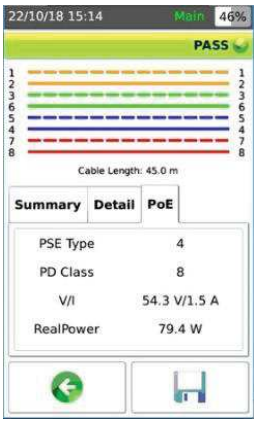
TestPro qualifies cabling links for 1 / 2.5 / 5 / 10Gigabit Ethernet in accordance with 802.3ab, IEEE 802.3bz, and IEEE 802.3an respectively. TestPro reports these values based on end-to-end Signal to Noise Ratio (SNR) operating margin, to provide an objective assessment of link performance under network load condition.

TestPro's Multi-Gigabit Autotest is a quick and easy one button operation to ensure that a cabling link will support the desired network rate.

- Validation test
  - 10/100 Mbps
  - 1 Gbps
- QoS
  - SNR 2.5 Gigabit
  - SNR 5 Gigabit
  - SNR 10 Gigabit
- PoE Load Test







Wireless access points (APs) are one of today's most broadly deployed type of devices and 802.11ac Wave 2 wireless APs require 2.5 and 5 GigE backbone speeds to run at maximum performance. TestPro's Signal to Noise (SNR) based measurements will provide you with a pass/fail indication of supported speed.

Improvements in 10Gigabit technology, price, and performance have extended its reach beyond enterprise data centers to midmarket networks. Increasing bandwidth requirements and the growth of enterprise applications are also driving broader deployments of 10 Gigabit Ethernet. TestPro's 10Gigabit testing provides a true indication through Pass/Fail indication as well as visibility into available headroom even down to per pair detail.

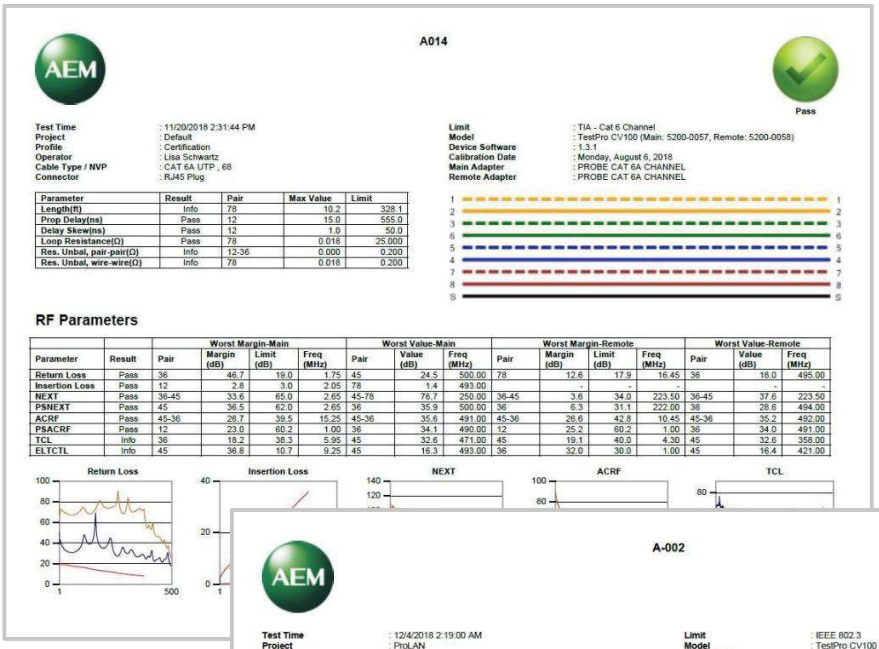


Multi-Gigabit qualification testing is available in the TestPro CV100 K30, K60, K61 Kits. This Adapter is also sold separately model AD-NET-CABLE.

TestDataPro Results Management Software

TestDataPro is a PC based results management software that comes standard with all models of TestPro. TestDataPro works in tandem with TestPro, which allows you to define projects and categorize test results into logical groupings once uploaded into the database. The database provides you with the ability to collaborate by viewing in-depth test details on-line as well as provide .pdf based printed reports. TestDataPro allows you to export results in .csv or .pdf format.

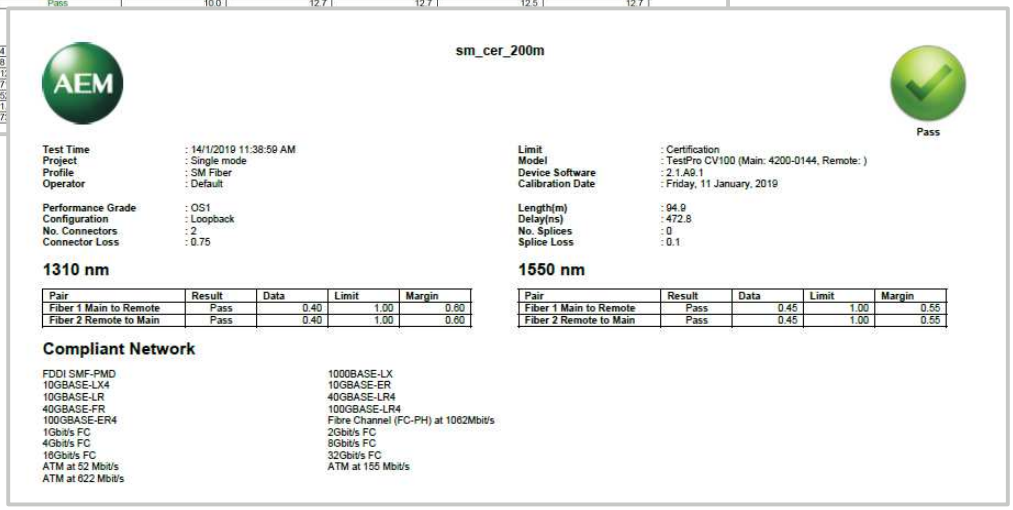
Options are available that allow you to combine an entire job worth of test results into a single .pdf document to pass along to a customer. Additionally, if you want to combine specific test results such as a Copper and Fiber certification tests, Multi-Gigabit and PoE test into a single Smart Building report, the flexibility in reporting allows you to customize the output to meet your specific needs.



CAT6A Channel Test Report



Multi-Gigabit and PoE Test Report



Singlemode Fiber Test Report

TestPro Product Kits

All kits come with:

- Two TestPro Platforms
- Certificate of Calibration for each TestPro
- USB Flash Drive with TestDataPro
- Carry Case/s
- Two Wiring Rack Hanging Straps
- Quick Start Guide
- USB cable
- Two Power Adapters with country specific Pins

Model Number	Description	Additional Kit Components
TESTPRO CV100-K05	1 GIGABIT BASIC TEST KIT	No additional adapters, basic testing performed through side RJ-45 jack
TESTPRO CV100-K11	FIBER CERTIFICATION KIT	*Set of AD-SM-01 Adapters for Singlemode testing with FC/LC changeable connectors *Set of AD-MM-01 Adapters for Multimode testing with FC/LC changeable connectors *Two Sticklers 1.25 CleanClicker for LC/MU connectors *Certificate of calibration for fiber adapters
TESTPRO CV100-K30	2.5G/5G/10G NETWORK VALIDATOR KIT	* AD-NET-CABLE Adapters for PoE/Multi-Gigabit
TESTPRO CV100-K50	COPPER CERTIFICATION KIT	*Set of AD-CAT6A-CH Adapters for testing of the Channel link *Set of AD-CAT6A-PL Adapters for testing of the Permanent Link *OP-CAT6A Software License
TESTPRO CV100-K51	COPPER/FIBER CERTIFICATION KIT	* Additional kit components listed in K50 and K11 kits
TESTPRO CV100-K60	SMART BUILDING TEST KIT COPPER	* Additional kit components listed in K30 and K50 kits
TESTPRO CV100-K61	SMART BUILDING TEST KIT COPPER/FIBER	* Additional kit components listed in K60 and K11 kits

TestPro CV100-61
Smart Building Test Kit
Copper/Fiber



For more information: www.aem-test.com | Enquiries: customercare@aem-test.com

North America: AEM International (US) 5560 West Chandler Blvd, Suite 3, Chandler, AZ 85226 | toll free 833-572-6916 | 480-534-1232
Asia: AEM Singapore Pte. Ltd. 52 Serangoon North Ave 4 Singapore 555853
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Adapter and Accessories Guide

TestPro is a highly versatile test platform that allows you to expand functionality as needed. There is one TestPro Platform and two are provided in each kit. The platform is compatible with all adapters, regardless of which kit you initially purchased.

SKU	Description	Includes
AD-SM-K01	SM FIBER TEST KIT FOR TESTPRO	Single mode fiber test kit for TestPro for tier 1 fiber certification testing. Contains a pair of single mode fiber adapters with dial wavelength light source 1310/1550nm, visual fault locator, volt meter, pair of interchangeable FC adapter for the transmit port, pair of FC-LC launch cords for connecting the transmit port to the fiber link under test, pair of interchangeable LC adapters for the receive port, pair of LC-LC reference cords for the receive
AD-MM-K01	MM FIBER TESTKIT FOR TESTPRO	Multimode fiber test kit for TestPro for tier1 fiber certification testing. Contains pair of Multimode fiber adapters with dial wavelength light source 850/1300nm, visual fault locator, volt meter, pair of interchangeable FC adapter for the transmit port, pair of FC-LC launch cords for connecting the transmit port to the fiber link under test, pair of interchangeable LC adapters for the receive port, pair of LC-LC reference cords for the receive
AD-NET-CABLE	MULTIGIG & POE ADAPTER PAIR	A pair of Multi-gig SNR testing and PoE testing adapter for TestPro
AD-CAT6A-CH	CAT6A CHANNEL ADAPTER PAIR	A pair of CAT6A channel test adapter for TestPro CV100
AD-CAT6A-PL	CAT6A PERMANENT LINK ADAPTER PAIR	A pair of CAT6A permanent link adapter for TestPro CV100
ACC-6A-PL-PLUG	REPLACEABLE PLUG FOR AD-CAT6A-PL	A pair of field replaceable centered plugs for AD-CAT6A-PL
AD-M12-X	M12 X-CODED ADAPTER PAIR	A pair of M12 X-coded adapters for TestPro CV100
AD-5e-PCORD	CAT-5E PATCH-CORD TEST ADAPTER PAIR	A pair of patch-cord test adapters for testing CAT5e patch-cords using
AD-6-PCORD	CAT-6 PATCH-CORD TEST ADAPTER PAIR	A pair of patch-cord test adapters for testing CAT6 patch-cords using
AD-6A-PCORD	CAT-6A PATCH-CORD TEST ADAPTER PAIR	A pair of patch-cord test adapters for testing CAT6A pitch-cords using
AD-8.2-TERACH	CAT 8.2 TERA CHANNEL ADAPTER PAIR	A pair of CAT 8.2 TERA channel adapter for TestPro CV100
AD-8.2-TERAPL	CAT 8.2 TERA PERM LINK ADAPTER PAIR	A pair of CAT 8.2 TERA permanent link adapters for TestPro CV100
AD-8.2-GG45CH	CAT GG45 TERA CHANNEL ADAPTER PAIR	A pair of CAT 8.2 GG45 channel adapter for TestPro CV100
AD-8.2-GG45PL	CAT GG45 TERA PERM LINK ADAPTER PAIR	A pair of CAT 8.2 GG45 permanent link adapters for TestPro CV100
OP-CA T6A	CAT6A LICENSE FOR TESTPRO CV100	CAT6A cable certification testing license for TestPro CV100
UP-K05-K50	UPGRADE FROM K05 TO K50	Upgrade kit from TestPro CV100-K05 to TestPro CV100-K50 Kit contains: OP-CA T6A software license code for enabling CAT6A certification testing, a pair of AD-CAT6A-CH channel adapters, a pair of
UP-K30-K60	UPGRADE FROM K30 TO K60	Upgrade kit from TestPro CV100-K30 to TestPro CV100-K60 Kit contains: OP-CA T6a software license code for enabling CAT6A certification testing, a pair of AD-CAT6A-PL permanent link adapters
ACC-HARD-CASE	HARD CARRY CASE FOR TESTPRO	
ACC-SOFT-CASE	SOFT CARRY CASE FOR TESTPRO	
ACC-POWER-AD	AC POWER ADAPTER FOR TESTPRO	

Technical Specifications

TESTPRO PLATFORM
Each platform in a kit comes with a certificate of Calibration traceable to NIST.

SIZE
200mm X 105mm X 50mm

DISPLAY
5" TFT color touch screen, resolution 800 x 480 pixels

BATTERY
- Li-Ion
- 3.7V / 13,200 mAh
- 9 hr. battery life typical

POWER ADAPTER
- 5V, 3A (supplied)
- 5-12V (supported)
- 2.1mm DC jack

PLATFORM OPERATING SYSTEM
Linux

CPU
1GHz ARM Cortex-A8

USB INTERFACES
- USB flash drive storage
- MicroUSB for connecting to PC

RJ-45 SIDE PORT
10/100/1G network connectivity test port

TEST ADAPTER TO PLATFORM INTERFACE
- High-frequency connector rated for 5000 insertion cycles
- Hot-swappable

MEASUREMENT ENGINE
- 9-channel dual-ended mixed-mode RF and DC measurement engine
- Industry's highest performance patent-pending measurement architecture for data cable testing

FREQUENCY RANGE
- 0.1 – 3,000 MHz

FREQUENCY RESOLUTION
- 0.125 MHz
- Supports all frequency ranges required by TIA 1152A, ISO/IEC 61935-1 and beyond

COPPER TESTING
MEASUREMENT TIME
- CAT6A auto-test (including TCL and resistance unbalance tests): 6 sec
- CAT 8 Class II auto-test: 30 sec

WIREMAP
- All possible wire connection situations identified, as long as two wires are connected end-to-end on any pins

DC RESISTANCE
- Range: 0 to 50 Ω
- Pair-to-pair and within pair resistance unbalance measurement meets TIA 1152A specs

TONE GENERATOR
730Hz and 1440 Hz

DUAL-ENDED RF MEASUREMENTS
- IL, RL, NEXT, ACR-F, TCL
- All mandatory and optional RF measurements as per TIA and ISO/IEC standards
- single-pair link testing license with supported length for dual ended testing greater than 1,000 m

LENGTH (PROPAGATION DELAY) MEASUREMENT
- Dual ended test: 0 – 600m with 0.1m resolution (0 – 6,000 nsec with 1 nsec resolution)
- Delay skew measurement with 1 nsec resolution

SUPPORTABLE CABLING
- 4-pair twisted pair cable
- 1-pair twisted pair cable
- Coax cable
- Optical cables (SM/MM pair)

TDR- RL
- 0-100 m (resolution: 1 m)
- Distance-to-fault

TDR- NEXT
- 0-100 m (resolution: 1 m)

IMPEDANCE
- 0-1000 Ω
- 0.1 Ω resolution in 90-110 Ω range

FIBER OPTIC
COMMON TO BOTH MM AND SM
Supplied Test Interface: interchangeable FC on TX port and interchangeable LC on RX port

VFL LIGHT SOURCE
Wavelength 650nm

VOLTMETER
Measurement range: 0-60V DC

OPTICAL POWER METER
measurement range: -3 dBm to -30 dBm

SPECIFICATONS APPLICABLE TO AD-MM-01 MULTIMODE ADAPTER

WAVELENGTHS
850nm, 1300 nm

LIGHT SOURCE
LED

TRANSMIT POWER
-20 dBm typical

ENCIRCLED FLUX
Compliant to IEC- 61280-4 and TIA-526-14-C-2015 as per supplier data sheet

LENGTH MEASUREMENT
- range: up to 2 km (subject to maximum 10dB link loss)
- Length measurement resolution: 0.1m

DUAL ENDED LOSS
Dual ended loss measurement: 0 to -10 dB

SPECIFICATIONS APPLICABEL TO AD-SM SINGLEMODE ADAPTER

WAVELENGTHS
1310nm, 1550nm

LIGHT SOURCE
Laser VCSEL

OPTICAL POWER
-2dBm typical

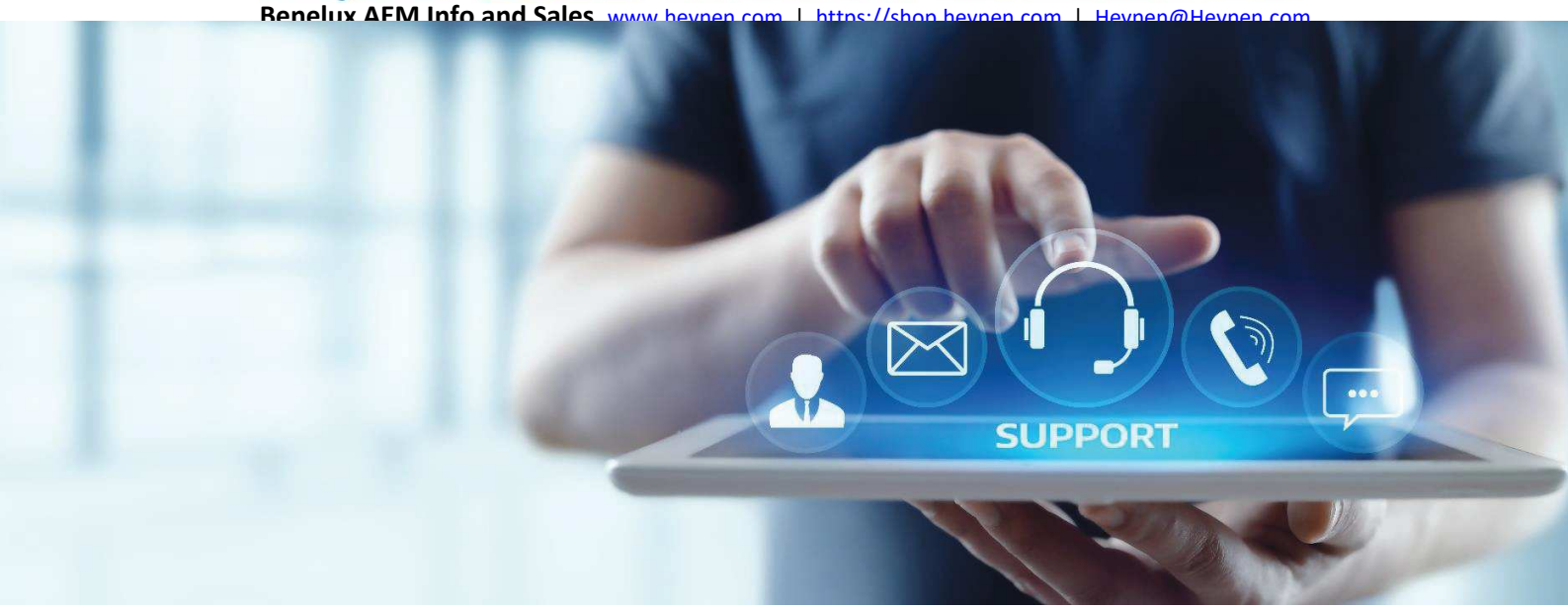
LENGTH MEASUREMENT
- Length measurement range: up to 20 km (subject to maximum 20dB link loss)
- Length measurement resolution: 0.1m

DUAL ENDED LOSS
Dual ended loss measurement: 0 to -20 dB

POWER OVER ETHERNET
- PoE source type detection
- Load test up to 90W
- Identification of PoE pairs
- Sustained load monitor

MULTI-GIGABIT ETHERNET AUTO-TEST PARAMETERS
- Signal to Noise Ratio at each speed across each pair
- Cable diagnostics
- PoE detection

Benelux AEM Info and Sales www.heynen.com | https://shop.heynen.com | Heynen@Heynen.com
heynen Netwerktesters voor wired en wireless netwerken



Warranty and Extended Care Coverage

Standard Warranty

TestPro CV100 platform offers a 2-year warranty against manufacturing defects.

Extended Care

Extended Care is optional coverage for TestPro Kit that protects your investment with complementary repair or replacement (at our discretion) for any type of damage done to the TestPro platform. Coverage for test Adapters includes free yearly replacement of damaged Adapters, which must be returned as part of the replacement program. Free adapter replacement excludes individually purchased AD-SM-01 and AD-MM-01. Coverage also includes Calibration service for both TestPro platforms. Complementary loaner testers are available upon request and availability.

For TestPro Kits that include fiber optic adapters, Extended Care covers those adapters for yearly calibration and repair service.

Extended Care programs are offered in 1 and 3 year options.

Calibration Service

If Extended Care is not purchased and testers are due for calibration, stand-alone calibration service is available for TestPro Platforms and AD-SM-01 and AD-MM-01 fiber optic Adapters.



For a more detailed look at product capabilities, product kits, and to see the latest cable manufacturer warranty approvals, please visit AEM-Test.com/Products

For more information: www.aem-test.com | Enquiries: customercare@aem-test.com
North America: AEM International (US) 5560 West Chandler Blvd, Suite 3, Chandler, AZ 85226 | toll free 833-572-6916 | 480-534-1232
Asia: AEM Singapore Pte. Ltd. 52 Serangoon North Ave 4 Singapore 555853
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