



LANTEK IV-S

THE FUTURE OF CABLE
CERTIFICATION

QUICK REFERENCE GUIDE



TREND NETWORKS

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LanTEK IV-S
Quick Reference Guide

163819 rev1 2022

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English

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INTRODUCTION

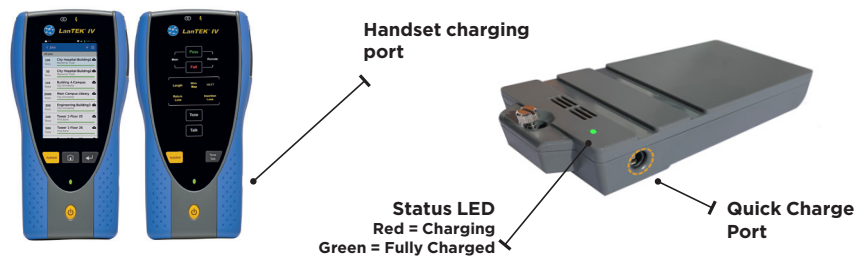
The LanTEK IV-S and TREND AnyWARE are a Cable Certification System. This guide will give you an overview of the key features of LanTEK IV-S and how to start using AnyWARE to manage your project and test results.

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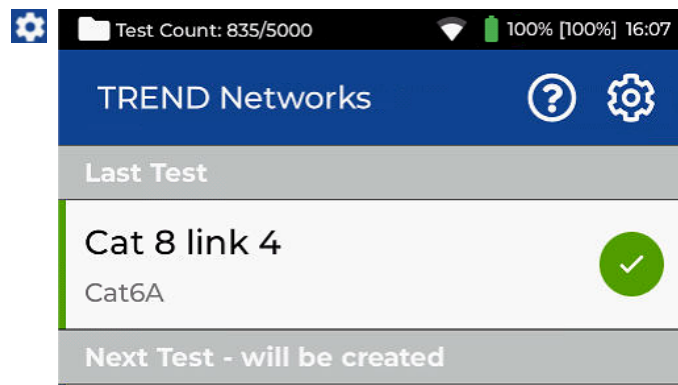
GETTING STARTED

Before you start using your LanTEK IV-S follow the steps below to ensure you can take advantage of all the features your LanTEK IV-S has to offer.

1. Fully charge the display and remote units using the power supply included in your case. This can be connected to the main charging port on the LanTEK IV-S or the quick charge port on the battery. The quick charge port reduces the charging time by 50%. To access the quick charge port the battery must first be removed by releasing the retaining screw.



2. Select the language by selecting the setup gear at the top left of the screen.



- Visit anyware.trend-networks.net to setup your free TREND AnyWARE account to Manage, Share, Edit and Pre-configure your projects. Select; sign up for cloud based software or download for the desktop version.

- Link your LanTEK IV-S to your TREND AnyWARE Account by logging into your TREND AnyWARE account.
 - Select Menu: Click Devices: Devices Add Device:
 - Enter your Device ID and select submit. The LanTEK IV-S device ID is found in the settings menu (below).

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HELP OPTIONS

LanTEK IV-S and AnyWARE cloud have a comprehensive on-board help which will guide you through how to use the features. This can be accessed as follows;

EN

Help on the LanTEK IV-S



Icon on the Menu Bar



Or click Settings - Usage

Guides: Usage Guides >

Help on the AnyWARE Cloud

AnyWARE Cloud assistance can be accessed by the Walk Me Through tab located on the bottom right-hand side.

Walk Me Through ^

Return to home screen

Create new job

Multiple job select

Sort jobs by date

Sort jobs by name

List of all jobs saved to your LanTEK IV-S

Long press job for short cut options

Total number of tests within each project

View tests
Clear sync status
Edit
Set as current
Delete

Tests	Project Name
15	Library
500	Hospital Bldg 2
75	Hospital Bldg 1
113	Tower 1-Floor 19
89	Tower 1-Floor 20
12	Store 328
19	Store 329

Selection	Tests	Project Name
☒	15	Library
☒	500	Hospital Bldg 2
☒	75	Hospital Bldg 1
☐	113	Tower 1-Floor 19
☒	89	Tower 1-Floor 20
☒	12	Store 328
☒	19	Store 329
Delete		

KEY FUNCTIONS

LanTEK IV-S



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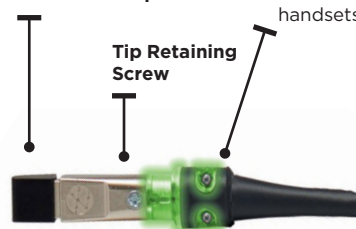
VisiLINQ™ incorporates a multi-color LED indicator and action button to initiate tests and report the status independent of the tester handsets.



Field Replaceable Tip

Protective Cap

Tip Retaining Screw



LED Indicator
Blue = Display and Remote connected
Green = Pass
Red = Fail
Amber = Marginal Pass/Fail
White = Torch mode

Action button;
Press to activate white torch when not linked.
Press to initiate Autotest when handsets are linked

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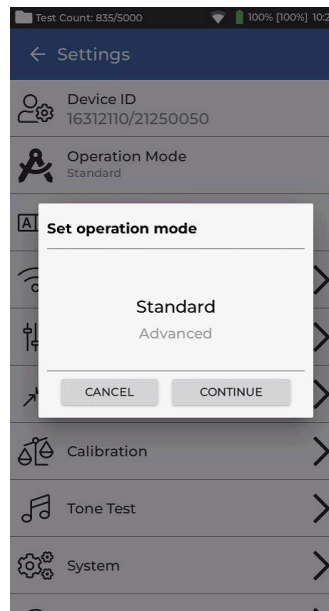
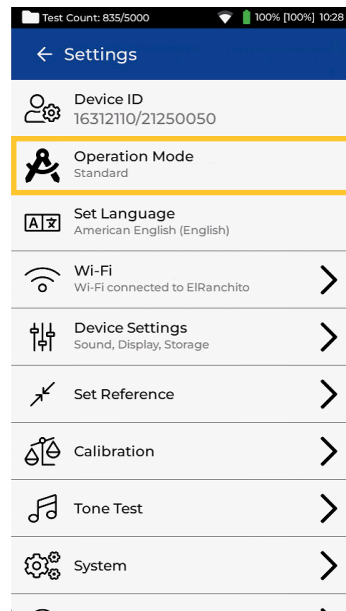
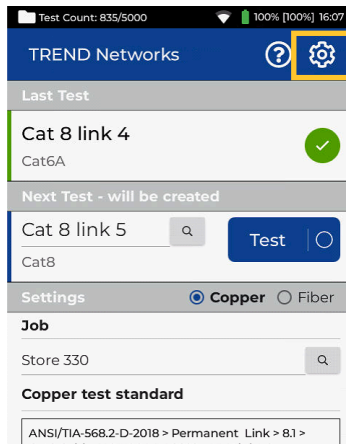
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HOME SCREEN

The LanTEK IV-S home screen has been designed to display the details of the current project in either Standard mode or Advanced mode. Press the Settings button to change the Operation mode between Standard or Advanced. Standard is the default mode.

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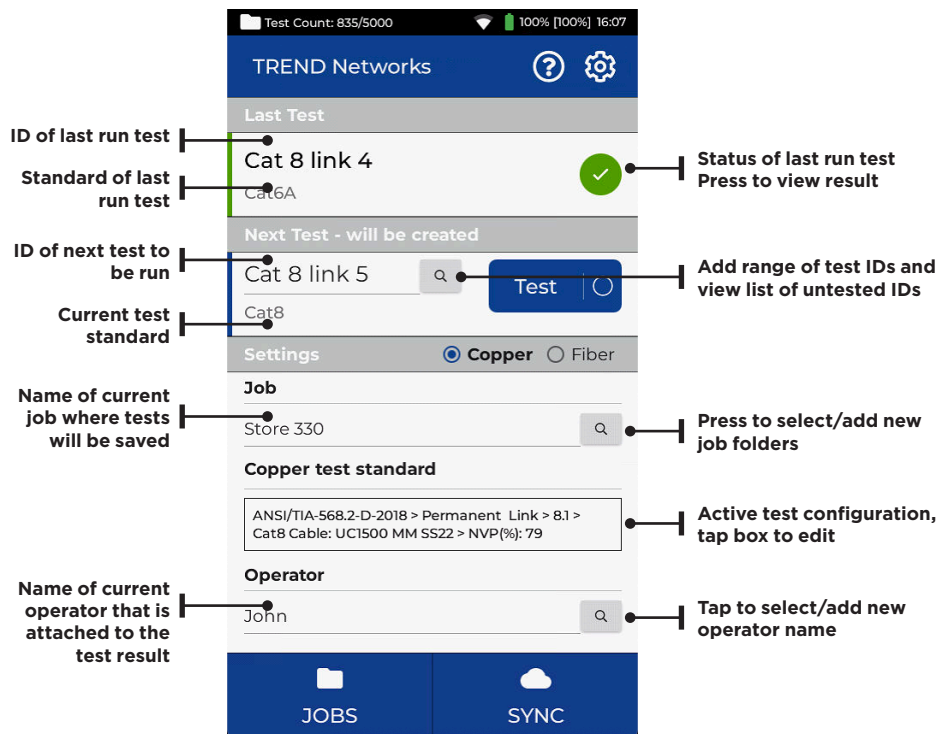
Setting the Operating Mode



HOME SCREEN (Standard)

The Standard mode displays all of the settings needed to perform a test on a single screen and is used when sequential test IDs are used, or each ID needs to be manually entered.

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HOME SCREEN (Advanced Mode)

The Advanced mode is used primarily when a pre-defined list of test ID's has been created in the LanTEK or downloaded from AnyWARE Cloud.

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Test Count is the number of tests saved/total memory capacity

Test Count: 80/2500

Settings and Help

Active job name, total number of tests and progress bar
 Red = Fail
 Green = Pass
 Grey = Untested

Last test completed

Last Test
 Port09
 Cat6A

Test list display options

List of tests in the current job:
 Green = Pass
 Red = Fail
 Amber = Marginal
 Tap to view test results

Start test

Long press to access test options:

JOBS menu displays all jobs stored on the tester

SYNC to upload/download tests to AnyWARE Cloud or export to USB drive

Tap to view test results

Test options menu:

- Live Wiremap
- ☐ Insertion Loss
- ☒ NEXT
- ☐ ACRF
- ☐ Return Loss

Test options menu (Long press):

- View test results
- Edit test
- Print label
- Delete test results
- Set as next test
- Selected standard: ISO IEC > PL > EA > Class EA PL3

	End	Margin dB	Freq MHz	
WIREFMAP	-	-	-	✓
NEXT	📶	5.5	500	✓
RL	📶	12.0	11.6	✓
IL	📶	2.9	1.0	✓
PSNEXT	📶	6.5	499	✓

SETTINGS

The settings can be accessed from the settings menu on the home screen.

Choose language

Connect to a hotspot/Wi-Fi

Set reference for Cat 8.2, patch cord adapters and fiber jumper calibration

View calibration details/export calibration certificate to USB as PDF file

Start tone generator

Software version, serial number and MAC address

How to use your LanTEK IV-S

Device ID, required to register your LanTEK IV-S with AnyWARE cloud

< Settings

 Set Language
US English

 Wi-Fi >

 Set Reference >

 Calibration >

 Tone Test >

 Device Settings
Sound, Display, Storage >

 System Settings >

 About >

 Usage Guides >

 Device ID >

EN

< Device Settings

 Regional Settings
Datetime, Formats and Unit settings >

 Operator Details >

 Autotest Default Settings >

 Sound / Volume >

 Display Brightness
Screen brightness at 100% >

 Remote Control Settings >

 UI Settings >

Set the date/time and measurement units

Set operator name

Autotest Default Settings

Sound on and off

Screen brightness

Activate remote control (Team Viewer)

Show cursor when using USB mouse

< Autotest settings ✓

Test Range: Port-01

Default job identifier type
Not Required

Test prefix
Port

Starting range
01

End range
16

Test standard
Selected standard
ISO IEC > PL > EA > Class EA PL3

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CREATING A JOB

To create a job, select JOBS from the menu bar and then select: 

EN

< Create Job

Please enter information

Enter job name

My Job

Select job identifier

Not Required

q w e r t y u i o p

< Create Job

Please enter information

Enter job name

Select test mode

Copper

Fiber

1

Enter job name and if required, select the job identifiers (optional). This will allow tests to be grouped specifically by building, floor, etc. Select ✓ when complete.

2

Select the newly created job from the jobs screen.

3

Select + to add tests to the job, then choose Copper or Fiber

4

In Create Tests, enter the prefix (optional) and the test range.

< Jobs

All Jobs

100 Tests My Job

50 Tests City Hospital-Building2 Memorial Trust

144 Tests Building 4-Campus City University

2000 Tests Main Campus-Library City University

300 Tests Engineering-Building3 City University

100 Tests Tower 1-Floor 25 First Bank

500 Tests Tower 1-Floor 26 First Bank

< Create Tests

Test Range: Port01:24

Test prefix

Port

Test range from:

01

Test range to:

24

Test standard

Selected standard

ISO IEC > PL > EA > Class EA PL3

Test Ranges

Enter an alpha-numeric value in Test Range from: that is the first test ID of a sequence. Then enter the last value of the sequence in Test range to: generate the list of test ID's. A red warning will be shown if the from and to ranges cannot create a continuous series.

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www.calcert.com

sales@calcert.com

CREATING A JOB

< Create Tests ✓

Test Range: Port01:24

Test prefix

Port

Test range from:

01

Test range to:

24

Test standard

Selected standard
ISO IEC > PL > EA > Class EA PL3

5 Select standard

< Cable Standard ✓

Select a group

TIA

ISO IEC

Cenelec

Custom

AS NZ 3080

China

Japan

Korea

6 Choose the appropriate standard

< Cable Standard ✓

< ISO IEC
Standard

< PL
Link model

< EA
Grade

< Class EA PL3
Cable type

Cable details

Cable
Cat6a-STP

Connector brand (Near)
Generic

Connector brand (Far)
Generic

EN

7 Choose type of link

Cable details

Cable
Cat6a-STP

Connector brand (Near)
Generic

Connector brand (Far)
Generic

NVP ☒ Cable shielded
0.75

8

Optional Step, During the set-up the Cable and Connector manufacture can be selected to add more detail to the finished report

< Pick a brand

Select Manufacturer

3M >

BKS >

Belden >

BlackBox >

Commscope >

Connectix >

DRAKA >

Datwyler >

Datwyler Uninet >

< Create Tests ✓

Test Range: Port01:24

Test prefix

Port

Test range from:

01

Test range to:

24

Test standard

Selected standard
ISO IEC > PL > EA > Class EA PL3

9 Select ✓ when completed

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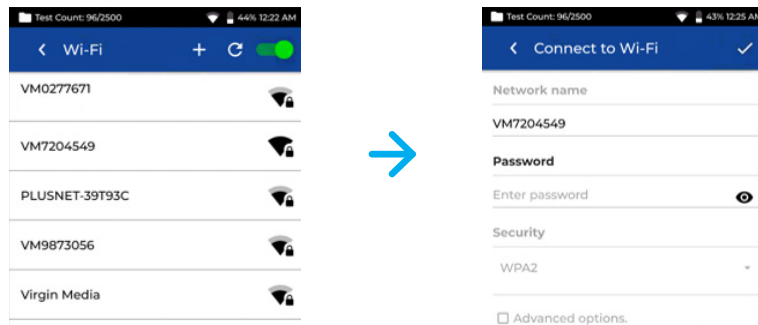
13

CONNECTING TO WI-FI

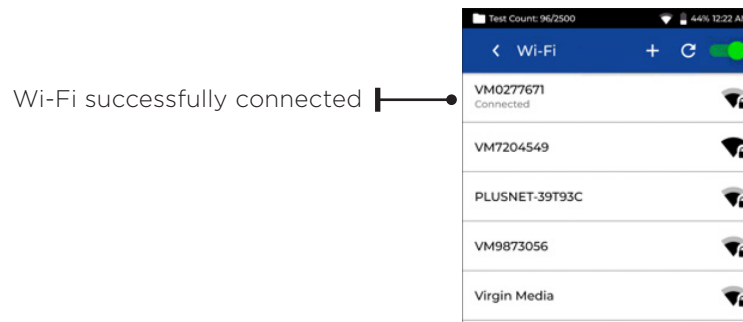
To connect LanTEK IV-S to Wi-Fi, firstly select the Settings menu 



Select Wi-Fi from the Settings menu and switch toggle to turn on Wi-Fi.



Select your chosen Network and enter password (if required).



SYNCHRONISING

Selecting SYNC will allow you to download pre-configured jobs or upload completed jobs to the cloud. If you are using the TREND AnyWARE desktop SYNC will also allow you to download results to USB. To SYNC your LanTEK IV-S:

EN



Test Count: 835/5000 100% [100%] 17:01		
← Sync		
Download		
All Jobs from AnyWARE cloud	>	Download all new jobs from the cloud
Selected Jobs from AnyWARE cloud	>	Display a list of jobs and select the job(s) to be downloaded from the cloud
All Jobs from USB	>	Download all new jobs from a USB drive
Selected Jobs from USB	>	Display a list of jobs and select the job(s) to be downloaded from a USB drive
Upload		
All Jobs to AnyWARE cloud	>	Upload all jobs to the cloud
Selected Jobs to AnyWARE cloud	>	Display a list of jobs and select the job(s) to be uploaded to the cloud
All Jobs to USB	>	Upload all new jobs to a USB drive
Selected Jobs to USB	>	Display a list of jobs and select the job(s) to be uploaded to a USB drive

LIVE WIREMAP

Live Wiremap allows an instant, constantly updating Wiremap view for connected links without the need to perform an Auto test. Live Wiremap can be used in two ways. In an active job or free mode which does not require a project to be set-up.

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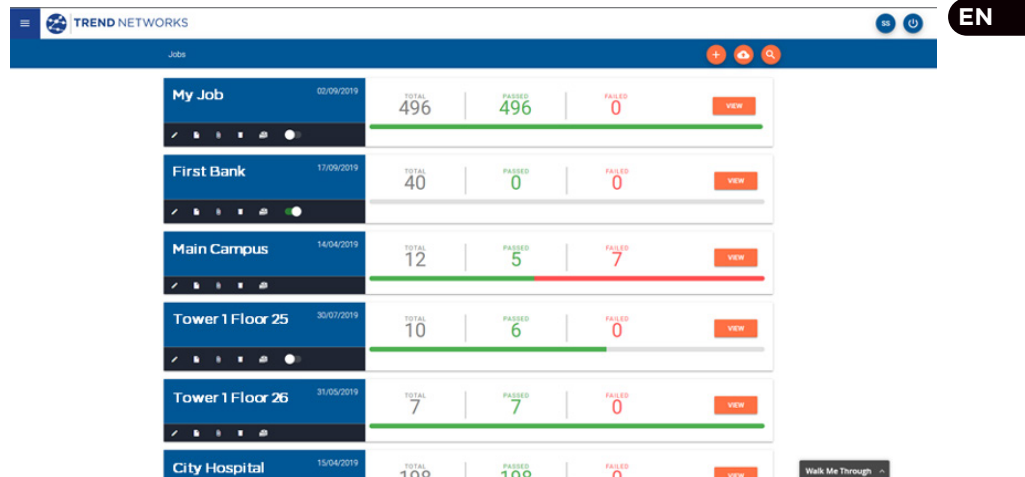
To activate Live Wiremap in free mode. Swipe down from the top of the screen.



Activate Live Wiremap in a job select the test list options menu.

CREATING A TEST REPORT

Jobs can be reviewed and edited using TREND AnyWARE Cloud or Desktop, Jobs synced via Wi-Fi will automatically be added to jobs menu of the cloud.



Key:

- Upload jobs from USB using the Cloud and Desktop Swipe down from the top of the screen
- View, download and email PDF reports
- Download report
- Generate a PDF test report
- Share the report via an email link where the recipient can view and save the report

Reports						
	Name	Type	Status	Customer Name	Total Tests	File Size
☐	My Job	Brief	Completed	Radio Controls LTD	25	8968KB
☐	Main Campus	Brief	Completed	Amazon	25	8971KB
☐	First Bank	Brief	Completed	Amazon	25	8971KB
Created At						
						15/10/2019, 09:22
						15/10/2019, 09:21
						15/10/2019, 09:20

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FiberTEK IV

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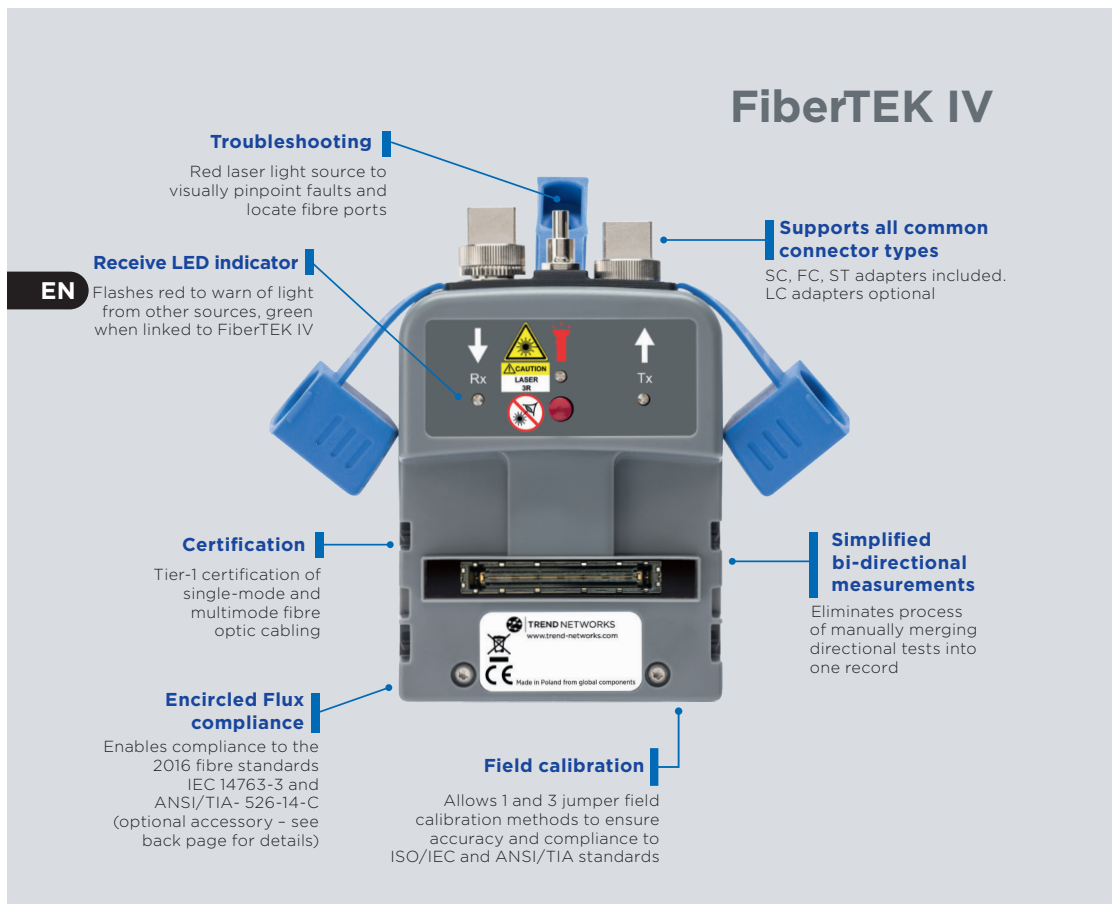
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INTRODUCTION

The LanTEK IV, FiberTEK IV and TREND AnyWARE Cloud features industry leading performance, reliability, durability and time saving functionality.

FiberTEK IV adapters are used with LanTEK IV for fast and simple certification of high bandwidth single-mode and multimode fibre optic cabling including support for encircled flux testing (optional).

To pinpoint fibre cabling faults every FiberTEK IV adapter includes a built-in visible light source to help you visually pinpoint faults and locate fibre ports.

FiberTEK IV provides optical loss (dB) measurements meeting Tier 1 certification requirements.

GETTING STARTED

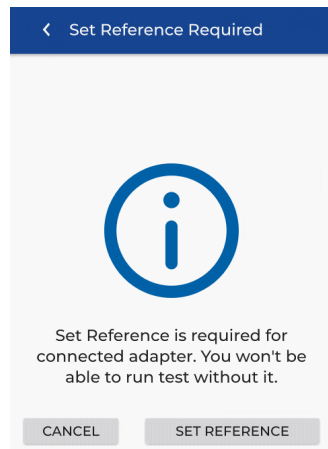
Ensure the software version installed on the LanTEK IV is 1.11 or higher. This can be verified by pressing the gear icon in the upper-right corner of the screen, then **About** and **Software Version**.

The remote software version is displayed when it is powered on and connected to the main handset with either a copper or fibre optic cabling link.

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SC/ST/FC adapters are included with the FiberTEK IV modules. An optional LC kit is available which includes LC adapters for the Rx ports of the modules and SC-LC test cords for use on the Tx ports.

Optional Encircled Flux (EF) launch cables are available for use when a EF launch is required/desired for multimode testing. EF cords are not necessary when testing single-mode fibre.



When a FiberTEK IV module is first connected to the main handset the Set Reference screen will appear. Set Reference is used to “calibrate” the launch cords used during testing. Press **CANCEL** to bypass and perform the Set Reference procedure later, or press **SET REFERENCE** to perform the procedure now.

Pressing **SET REFERENCE** will display the set reference screen with the default settings.

HELP OPTIONS

LanTEK IV and AnyWARE cloud have a comprehensive on-board help which will guide you through how to use the features. This can be accessed as follows:

Help on the LanTEK IV



Icon on the Menu Bar



Or click Settings - Usage Guides:

Help on the AnyWARE Cloud

AnyWARE Cloud assistance can be accessed by the Walk Me Through tab located on the bottom right-hand side.

Walk Me Through 

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GETTING STARTED

EN

Displays current setup that will be used when **Start** is pressed

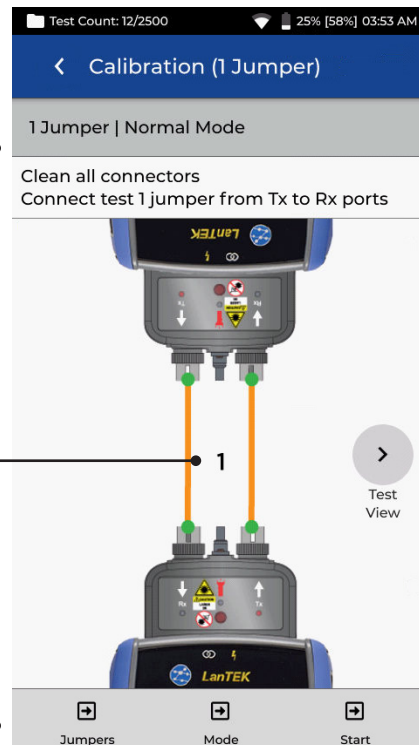
Test cord number

Jumpers:
Cycles through the number of jumpers to be used during testing

Test View: Cycles between the view of the calibration setup and the view when connected to the fibre under test

Start: Initiates set reference procedure

Mode: Cycles between Normal (2 FiberTEK module) and Loopback (1 FiberTEK module)



REFERENCE METHODS

Three options are available when setting the reference prior to testing. Each method determines which components of the installed link are measured during the certification test.

1-Jumper Reference

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The 1-Jumper method includes the cable plus the connections on each side of the cable:



2-Jumper Reference

The 2-Jumper method includes the cable plus the connection closest to the light source side of the link. The connection on the side of the cable on the power meter side of the link is not included in the measurement:



3-Jumper Reference

The 3-Jumper method measures only the cable and does not include the connection on either side of the cable:



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1 JUMPER | NORMAL MODE

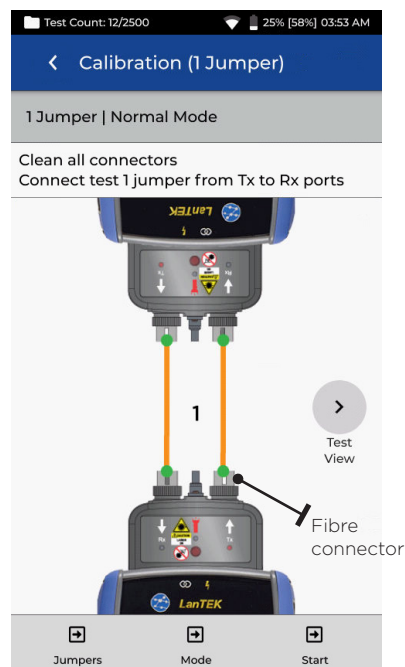
The 1 Jumper method is preferred by most cabling standards because it most accurately represents the signal loss experienced by the equipment during operation.

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When testing the loss of the 2nd test cord, the cable under test and the two connections of the cable under test are measured.

TEST CORD CONFIGURATION VIEW

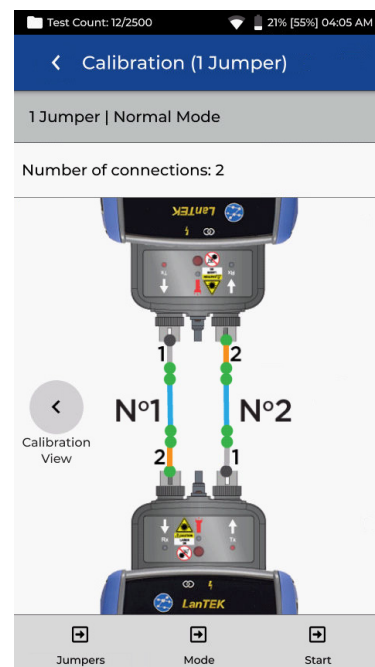
Connect test cords as shown for 1 Jumper Reference test:



Orange test cord connected during Set Reference

TEST CORD AND FIBRE UNDER TEST VIEW

Displays the components that are included in the Autotest measurement:



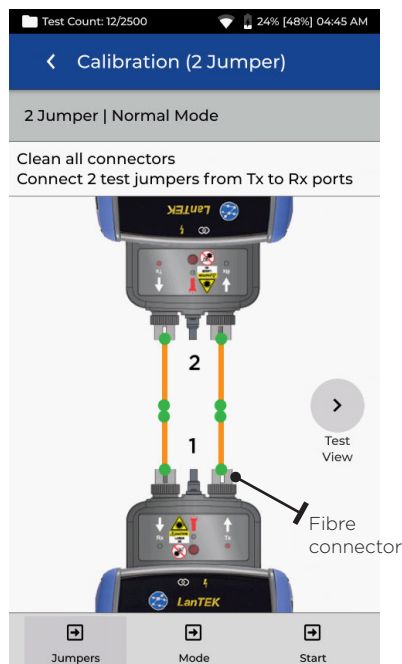
Orange line: Test cord that is included in the autotest measurement
 Blue line: Fibre under test
 Grey line: Test cord that is not included in the autotest measurement
 Grey dot: Connectors that are not included in the autotest measurement
 Green dot: Connectors that are included in the autotest measurement
 N1/N2: Fibre number when testing two fibres

2 JUMPER | NORMAL MODE

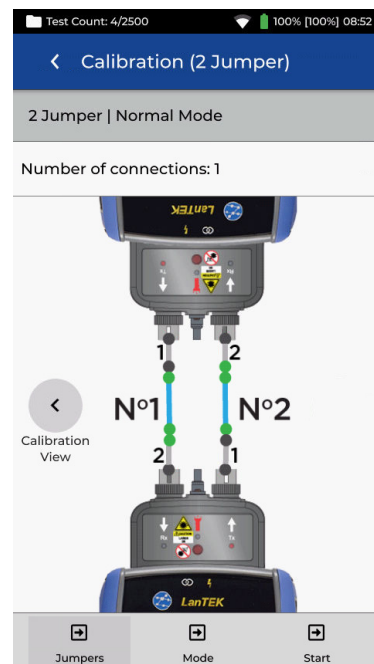
The 2 Jumper method excludes the loss of the 2nd test cord and one of the connections of the cable under test. The measured loss will be slightly under-reported compared to the 1 Jumper method.

This method can be used when the connector type of the cable under test are not available on the test equipment and hybrid test cords are required.

EN



Orange test cord connected during Set Reference



Blue line: Fibre under test
 Grey line: Test cord that is not included in the autotest measurement
 Grey dot: Connectors that are not included in the autotest measurement
 Green dot: Connectors that are included in the autotest measurement
 N1/N2: Fibre number when testing two fibres

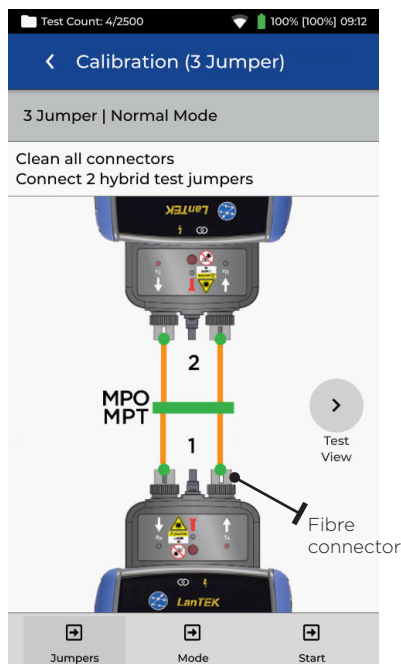
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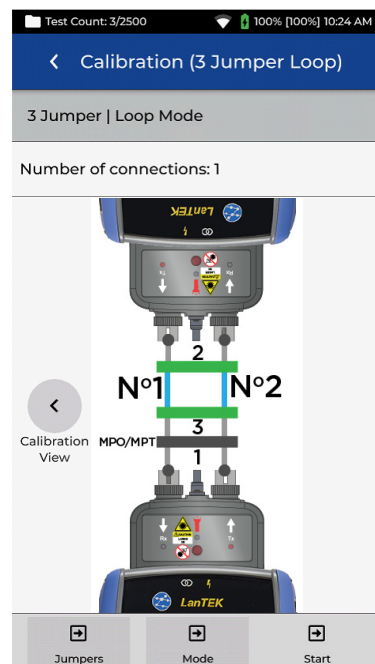
3 JUMPER | NORMAL MODE (MODIFIED 2 JUMPER)

The 3 Jumper method is preferred when hybrid test cords are required to interface with the cable under test. It is essentially the 2 Jumper method with a 3rd Jumper added after the reference is set to simulate the measurement loss of the 1 Jumper method.

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Orange test cord connected during Set Reference



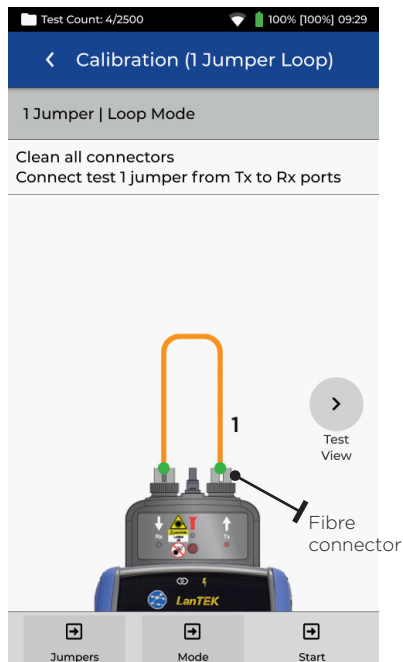
Blue line: Fibre under test
 Grey line: Test cord that is not included in the autotest measurement
 Grey dot: Connectors that are not included in the autotest measurement
 Green dot: Connectors that are included in the autotest measurement
 N1/N2: Fibre number when testing two fibres

1 JUMPER | LOOPBACK

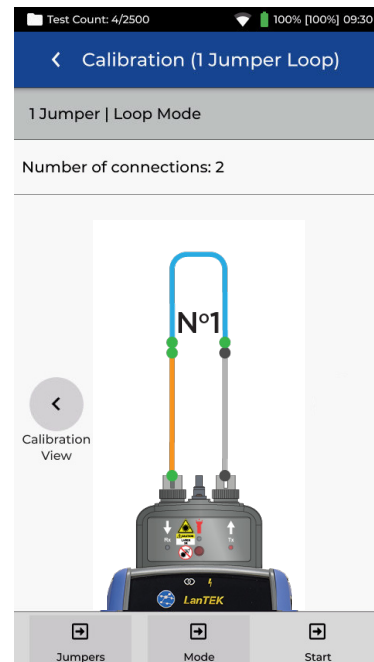
Loopback mode uses one FiberTEK module to test a single fibre when both ends are located at the handset.

1 Jumper reference measures the cable under test and the connections at both ends.

EN



Orange test cord connected during Set Reference



Orange line: Test cord that is included in the autotest measurement
Blue line: Fibre under test
Grey line: Test cord that is not included in the autotest measurement
Grey dot: Connectors that are not included in the autotest measurement
Green dot: Connectors that are included in the autotest measurement
N1/N2: Fibre number when testing two fibres

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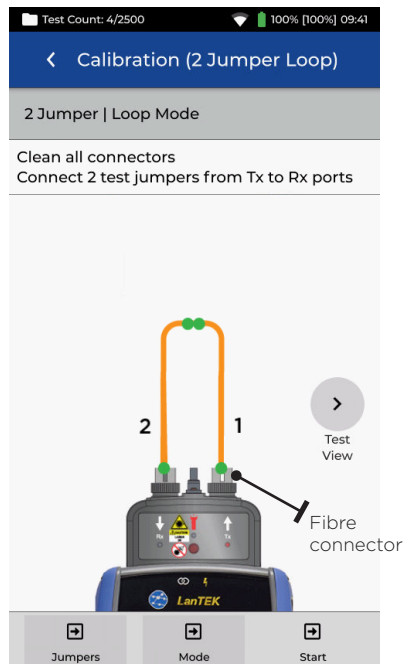
11

2 JUMPER | LOOPBACK

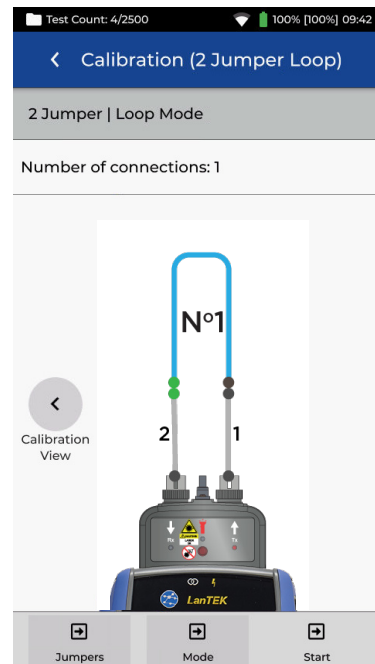
Loopback mode uses one FiberTEK module to test a single fibre when both ends are located at the handset.

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2 Jumper reference measures the cable under test and the loss from only one connection. The measured loss will be less than the 1 Jumper method.



Orange test cord connected during Set Reference



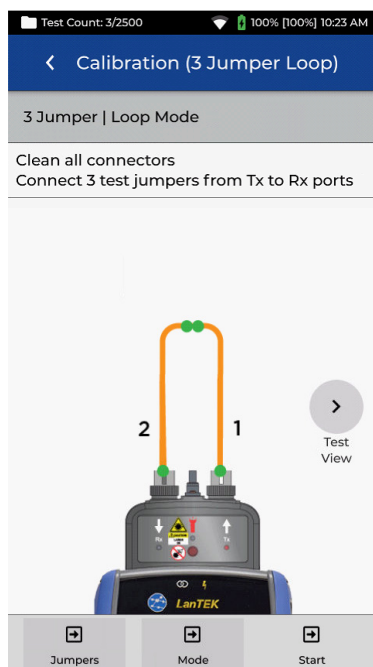
Blue line: Fibre under test
Grey line: Test cord that is not included in the autotest measurement
Grey dot: Connectors that are not included in the autotest measurement
Green dot: Connectors that are included in the autotest measurement
N1/N2: Fibre number when testing two fibres

3 JUMPER | LOOPBACK

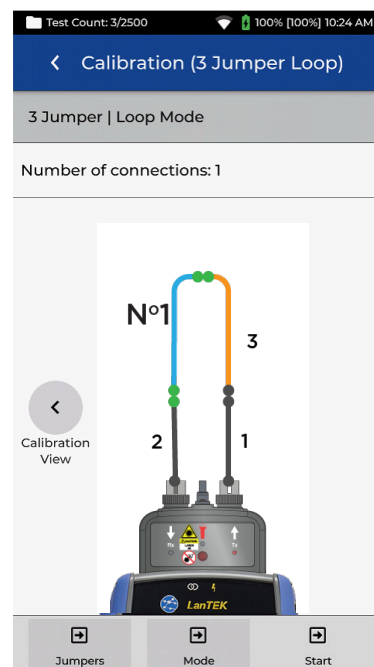
Loopback mode uses one FiberTEK module to test a single fibre when both ends are located at the handset.

The 3 Jumper method is preferred when hybrid test cords are required to interface with the cable under test. It is essentially the 2 Jumper method with a 3rd Jumper added after the reference is set to simulate the measurement loss of the 1 Jumper method.

EN



Orange test cord connected during Set Reference



Orange line: Test cord that is included in the autotest measurement
Blue line: Fibre under test
Grey line: Test cord that is not included in the autotest measurement
Grey dot: Connectors that are not included in the autotest measurement
Green dot: Connectors that are included in the autotest measurement
N1/N2: Fibre number when testing two fibres

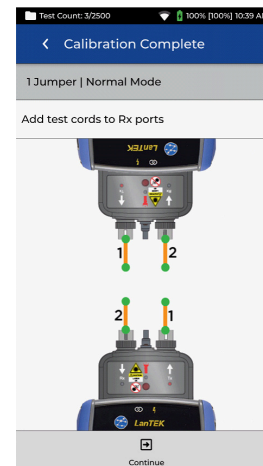
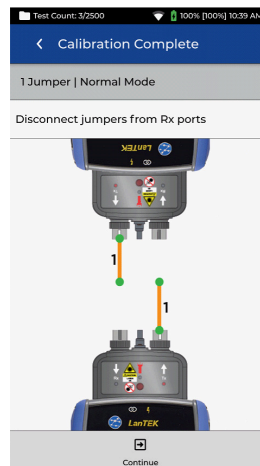
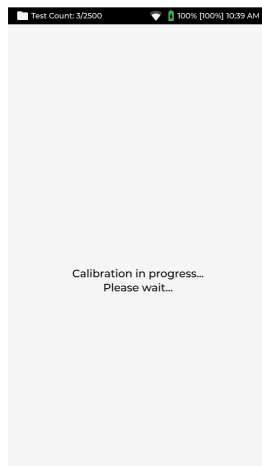
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SET REFERENCE | RESULTS

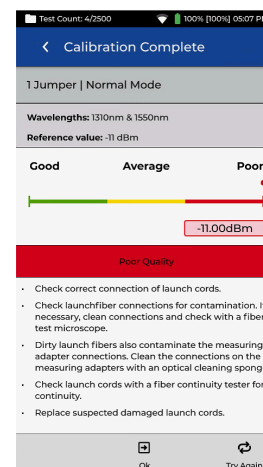
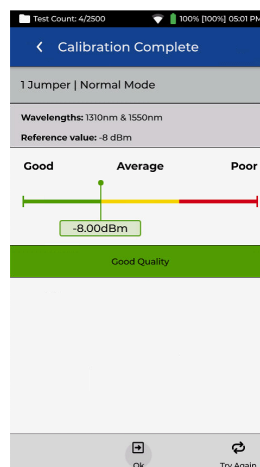
EN

After pressing Start with the desired reference type selected - example, 1-Jumper|Normal, the reference calibration process will begin. Once the reference is set the user interface will indicate which end of the jumper to disconnect from the module, and whether additional jumpers need to be attached before testing.



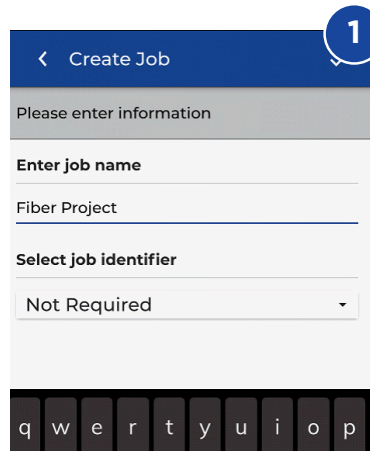
The Calibration Reference results will be displayed on a range from Good-to-Poor. Begin testing only when a Good quality reference is achieved. If Average or Poor is shown, follow the on-screen recommendations to improve performance. Clean the connectors of the reference cords and the FiberTEK IV modules, replace worn/damaged cords.

Always use fibre optic specific cleaning products and 99% isopropanol/IPA, never use rubbing alcohol. Use extreme care when cleaning module ports to prevent damage.



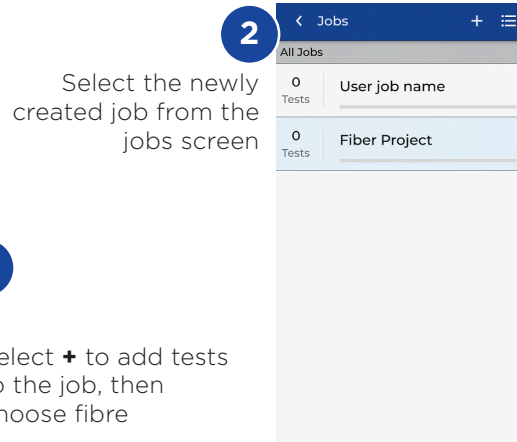
CREATING A JOB

To create a job, select JOBS from the menu bar and then select: 

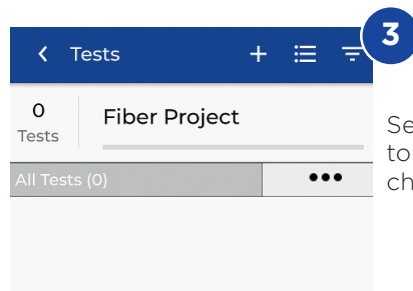


1 Enter job name and if required, select the job identifiers (optional). This will allow tests to be grouped specifically by building, floor, etc. Select ✓ when complete

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2 Select the newly created job from the jobs screen



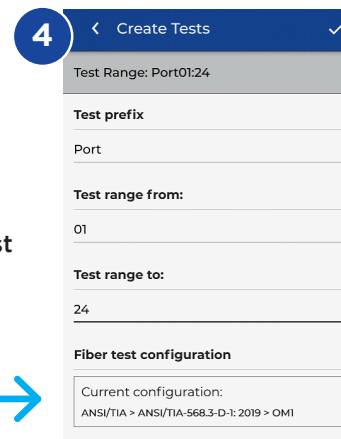
3 Select + to add tests to the job, then choose fibre

In Create Tests, enter the prefix (optional) and the test range.

Test Ranges

Enter an alpha-numeric value in **Test Range from:** that is the first test ID of a sequence. Then enter the last value of the sequence in **Test range to:** generate the list of test ID's. A red warning will be shown if the from and to ranges cannot create a continuous series.

Tap on the test standard box to change the default test standard selection.



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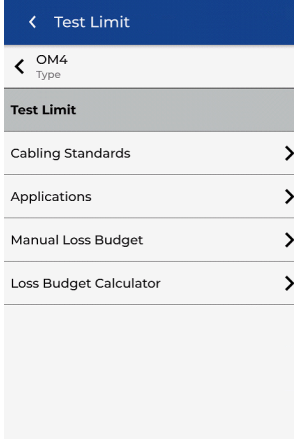
15

CREATING A JOB

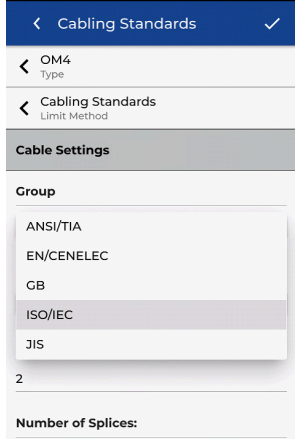
EN



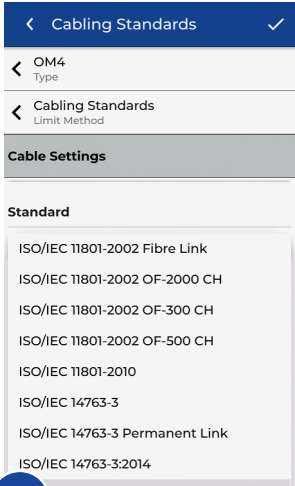
5 Select "Type" and choose appropriate fibre then tap "Limit Method"



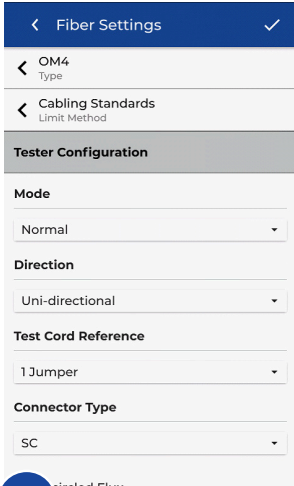
6 Select "Cabling Standards"



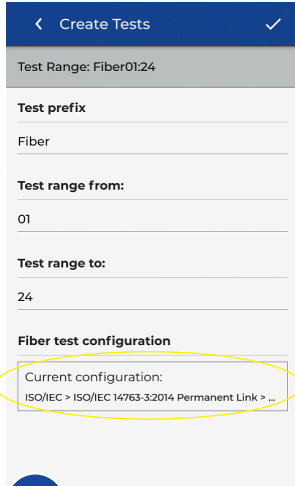
7 Select ISO/IEC from the "Group" menu



8 Select the desired test standard from the "Standard" menu



9 Verify the other test parameters are correct then select ✓



10 Confirm the prefix, test range and test standard, then ✓ to add the new tests to the job

FIBRE OPTIC TEST LIMITS

A test limit must be selected when adding fibre tests to a LanTEK IV Job. Four types of test limits are available; Cabling Standards, Applications, Manual Loss Budget and Calculated Loss Budget.

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CHOOSING A LIMIT TYPE

Cabling Standards are limits defined by the same standards organisations that create limits for copper cabling, namely ISO/IEC, ANSI/TIA, CENELEC/EN and others. These limits are typically for backbone and horizontal fibre cabling installed in commercial buildings. The limits are generic and are not designed to support a specific application or data rate, instead the limits are designed to support a wide range of high-performance applications. In nearly all cases there are limits for both wavelengths in multimode or single-mode systems.

APPLICATIONS

Applications limits are used to determine whether a specific application such as 40 Gb/s multimode Ethernet can be supported by the fibre under test. The pass/fail criterion are specific to the application and are always wavelength specific. For example the 10GBase-L application has a limit for 1310nm only, while the 10GBase-E application has a limit for 1550nm only. These applications are designed for specific types of hardware, each with its specified operational wavelength and maximum supported distance.

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LOSS BUDGET CALCULATOR

Manual budget

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Budgets can be manually set when the allowable loss of the cabling is known. A common use for manual loss budgets is when a network designer supplies the maximum allowed loss to the installer or when the active equipment to be operated on the cabling has a known loss budget.

Budget Calculator

Budget Calculator allows the loss budget to be calculated based on the components of the link under test.

Enter the attenuation coefficient of the fibre cable, the number of adapters and splices plus the attenuation of each and the system will calculate the loss limit based on the length of cable for each test.

For example, if the entered parameters are
Fibre attenuation coefficient = 3dB/km
3 connections at 0.75db each
2 splices at 0.3db each

For a 2km cable the loss limit is 8.85dB.
 $2\text{km of fibre} \times 3\text{dB} = 6\text{dB}$
 $3\text{ connections} \times 0.75\text{dB} = 2.25\text{dB}$
 $2\text{ splices} \times 0.3\text{dB} = 0.6\text{dB}$

The calculator settings allow single or dual wavelength measurements to meet testing requirements.

The screenshot shows the 'Loss Budget Calculator' app interface. At the top, there's a status bar with 'Test Count: 40/2500' and '100% 11:05 AM'. Below the title bar, there are navigation arrows and a checkmark. The main settings are organized into sections: 'OM1 Type' (set to OM1), 'Loss Budget Calculator Limit Method' (set to Loss Budget Calculator), 'Calculator Settings' (Wavelength: 850nm Only, Cable Attenuation (dB/km): 850nm, 3.0, Test Cord Type: Ref-Std(=0.5dB), Number of Adapters: 3), 'Adapter Loss Value (dB)' (0.75), 'Number of Splices' (0), 'Splice Loss Value (dB)' (0.30), and 'Length' (Measure Length and Length Limit (m) 1000).