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IKE 4 Documentation

IKE 4 Setup Guide
A guide to getting started with your IKE field device

IKE 4 User Manual (this guide)
The most comprehensive A-Z guide to using your IKE device

IKE 4 Fieldcraft Guide
How to get the best results from your IKE, tips and tricks to improve performance, accuracy, and productivity

IKE 4 Tripod Setup Guide
How to get the most out of using your IKE tripod

Additional Software

• Web Browser - IKE Office supports Internet Explorer 11+, Firefox and Chrome browsers.

• Google Earth™ - View your data and measurements by clicking on their location on aerial photographs.
Thank you for purchasing the IKE 4. Your IKE 4 is a location-based measuring solution that will greatly increase your productivity when undertaking utility asset management surveys and related measurements. The IKE 4 device integrates a digital camera, compass, laser range finder, mobile computer, and precision GPS. This data can be uploaded into our cloud-based IKE Office software where additional measurements and annotations can be made.

With your IKE solution you can quickly:
- Collect geo-located pole photos
- Measure wire span heights, even across busy roads
- Determine wire clearances from vegetation or buildings
- Make accurate attachment height measurements on captured photos

This document will guide you through:
- Setting up your IKE system
- Creating in-field measurement tasks
- Transferring data from the IKE Field to IKE Office
- Measuring attachment heights from a photo
- Outputting data in industry standard file formats

The IKE 4 product includes:
- IKE Device
- Hard case
- Tripod set with carrying bag
- Accessories: carrying straps, AC wall charger, car charger, charging cable, USB cable, screw driver.
- Software: IKE Field, IKE Office, IKE Integration
Solution Overview

IKE 4 Device Features
IKE 4 Software Features
The IKE 4 Process
IKE 4 Device Features

The IKE 4 device incorporates the latest mobile technologies to produce a best-in-class high-performance, lower-power field data collection solution.

Key device features include:

- **Outdoor Screen Readability**
  4.8” capacitive, multi-touch Gorilla Glass screen:
  1280 x 720 resolution

- **13-Megapixel Digital Camera**
  Larger viewing angle, reducing distance of capture point

- **Android™ 5.1, Lollipop**
  Easy to use, smartphone user interface and experiences

- **Extended Battery Life**
  8 to 10 hours of continued usage

- **Wireless Connectivity**
  Wi-Fi, bluetooth and broadband data

- **Class 1M Laser**
  300m and 650m distance options

- **High-performance, low-power optimization**
  MediaTek 64-bit quad-core ARM® Cortex®

- **GPS Receiver**
  GPS L1 with RTK option
IKE 4 Software Features

IKE Field
IKE Field is an Android mobile app that is preloaded on the IKE Device. The app contains general measurements tools for field data collection and specialized utility pole measurements for pole heights, wire spans, attachment points, GPS location and more. Data collection is based on adjustable workflows with custom hierarchical forms that improve the productivity and efficiency in the field. Data collected with IKE Field is uploaded wirelessly to the IKE Office.

IKE Office
IKE Office is a cloud-based software service that has multiple functions. IKE Office is used to create and then deploy the IKE custom hierarchical forms. As data is collected in the field, it’s uploaded from the IKE Field app to IKE Office where it is used to perform functions such as measuring heights of attachment and quality assurance and quality control. IKE Office stores all of the photos, measurements and field data for long-term archiving and retrieval.

IKE Integration
IKE Integration provides a number of output options, enabling a user to create reports or directly integrate data into other applications or enterprise databases. Initially, report output formats include JSON, KMZ and PDF. Direct integration includes SPIDA Software’s SPIDACalc pole-loading analysis solution, GIS and other third-party software systems. Additional reporting file formats and system integrations will be released in subsequent software updates.

The IKE 4 Process

Pre-plan Data to Be Collected
Use IKE Office to Create Workflow Forms
Deploy Customized Workflow Forms to IKE Field
Use IKE Field to Capture Photos & Data in Field
Wirelessly Upload Field Data to IKE Office
Access Photos to Complete Measurements & Annotations
Create Reports or Export to Other Applications

Output Options
Create Reports
Direct Integration
CSV
JSON
PDF
KMZ
GIS
POLE MODELING
ASSET MANAGEMENT
OTHER SYSTEMS
Hardware Setup

- IKE 4 Device Setup
- IKE 4 Tripod Setup
- User Calibration
IKE 4 Device Setup

1. IKE device
2. USB car charger
3. Power cable
4. Micro USB cable
5. AC charger with plug adapter
6. Screwdriver
7. Shoulder strap for hard case
8. Hard case (not shown)

An SD card is not included.

IMPORTANT: The IKE 4 device is designed to be used with the IKE Tripod. It should not be used while being held by hand, or placed close to the user’s body.

1. LCD display
2. Power button
3. Power port
4. USB port
5. Volume buttons
6. Flash
7. Camera
8. Laser receive lens
9. Laser transmit lens
10. Stylus pen thread
11. Tripod screw thread

WARNING This device contains an eye safe class 1M laser product. Invisible laser radiation is emitted from (and received into) the front apertures. Avoid staring into the laser beam. This product complies with IEC60825-1 Ed 2.0 and 21CFR1040.10 except for deviations pursuant to Laser Notice No.50, dated July 26 2001.

CAUTION Use of controls or adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.
1 Assemble

Assemble the device by following the steps shown.

- Locate the battery compartment and remove the cover.
- Insert the battery into the compartment as shown.
- Secure the battery cover in place.

Ensure all parts are properly aligned and tightened as indicated in the diagram.
Turning your IKE 4 on for the first time. To use your IKE 4 unit, insert the battery, plug in the charger and adapter, and allow it to charge for a minimum of four (4) hours.

1. Connect the power cable to the power port on the device.
2. Attach the required plug adapter to the AC charger.
3. Connect the power cable to the AC charger.
4. Connect the AC charger to a power outlet. Charge for a minimum of four hours.

Press and hold for a few seconds

Turning your IKE 4 on for the first time. To use your IKE 4 unit, insert the battery, plug in the charger and adapter, and allow it to charge for a minimum of four (4) hours.
IKE 4 Tripod Setup

The IKE 4 Tripod has a low magnetic signature and is designed specifically for use with the IKE device to produce accurate measurements.

We do not recommend using your device with other tripods as the accuracy of your measurements may be affected.

Parts

1 Tripod plate
2 Adjustment ring
3 Leg angle adjustment clip
4 Leg lock
5 Rubber/spike feet
6 Shoulder strap eyelet
7 Main lever
8 Lever
9 Friction dial

Package Contents

- Tripod
- Carry strap (attaches to bag or tripod)
- Allen keys (2)
- Allen key holder (hooks on to tripod leg)
- Leg strap (with carry strap eyelet)
- Storage bag
- Setup Guide (this guide)
1 **Prepare**

Remove the tripod from its bag. Open up the legs of the tripod. Unclip the tripod leg locks and extend the legs to the required height. Clip back to secure the legs. Lower the main lever to a horizontal position.

Squeeze the small lever and turn it to release the tripod plate.

Attach the tripod plate to the base of the IKE device ensuring it is positioned correctly as shown below. Tighten the screw until it is secure.

2 **Mount**

Hold the lever outwards and clip the tripod plate on the back of the IKE device to the tripod.

Lower the IKE unit into position and then turn the lever fully to lock the unit into place.

Ensure that the IKE unit is securely attached.
3 Adjust

You can fine tune the height of the unit. Turn the adjustment ring counterclockwise to loosen it and lift the center pole. Turn the adjustment ring clockwise to tighten into place.

To adjust the position of the IKE device, with one hand hold the unit, and with your other hand squeeze the main lever and move to adjust. You can turn in all directions.

For span and pole height measuring, you can further tighten the movement of the lever so that the ball joint remains locked yet the pitch mechanism is still movable. To do this, while pressing the main lever with one hand, use your other hand to turn the friction dial and adjust the tension. Test the tension of the movement between adjustments.

The leg hinges may loosen over time. If this happens, use the Allen key provided to tighten the screws.

Leg Strap

The leg strap allows you to secure the legs closed when not in use, and also provides the eyelet for attaching the carry strap to it.

Attach the leg strap just under the padding on one of the legs. Wrap the strap around the leg and thread it through the buckle. Secure it in place with the velcro. You can then attach the carry strap to the eyelet on the leg strap and to the eyelet on the tripod.
**Left-Handed Use**

If you are left-handed, you can change the position of the lever to the opposite side.

With the tripod plate removed (see step 1), use the Allen key provided to unscrew the two screws on the tripod head. Then remove the top plate.

Rotate the lever towards you to the opposite side.

Replace the top plate as shown and secure tightly with the two screws.

**Carry Bag**

We recommend storing your tripod in the carry bag after use.

Remove the IKE unit from the tripod and make the tripod as compact as possible. Secure the legs with the leg strap. Then lift the main lever to a vertical position.

Place the tripod inside the carry bag and zip up the bag.

The strap provided can be used both on the tripod or on the carry bag.

**Specifications**

- **Materials:** Aluminum, carbon fiber
- **Maximum height:** Max 59.5 in. (1510 mm)
- **Weight:** 5.1 lb (2.31 kg)
  (with accessories)
- **Signature:** Low magnetic
**User Calibration**

We recommend performing the following user calibration:

a. Once a month
b. After taking the device on an airplane
c. After a long distance change in location

1. Hold the device pointing north and perform a single rotation along the north facing axis.

2. Angle the device 45 degrees up and repeat another rotation.

3. Repeat a single rotation on each of the 8 axis displayed.
Data Collection Plan - IKE Office

- Introduction to IKE Office
- The Form Builder Tool
- A Utility Pole Data Collection From Template
Introduction to IKE Office

IKE Office is a cloud-based file management system with which you can

- Create customizable forms
- Upload and download field data
- Measure heights of utility poles and their attachments

Logging In

When signing into IKE Office for the first time use the admin login and password provided by ikeGPS. Enter these details, then click LOGIN.

IKE Office Menu

On the left side of the IKE Office page are the various IKE Office Menu tabs:

- Summary
- Jobs
- Forms
- Accounts
- Settings
User Accounts

On the Home page of IKE Office, go to the Accounts tab. If you log in as an administrator, you will see a list of all users in the system.

Create new users

As an administrator, use the orange "Add" button to create a new user.
User Management

Under the Accounts page, click on the “More” button located on the far right of a user information. This will provide you more options.

<table>
<thead>
<tr>
<th>#</th>
<th>Username</th>
<th>Name</th>
<th>Role</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/9</td>
<td>dtech@ike...</td>
<td>DTech Dem...</td>
<td>Admin</td>
<td>24 Mar, 2016 3:23PM</td>
</tr>
<tr>
<td>2/9</td>
<td>dtech6@ike..</td>
<td>Jeremy Jon...</td>
<td>User</td>
<td>10 Mar, 2016 6:05PM</td>
</tr>
<tr>
<td>3/9</td>
<td>dtech7@ike..</td>
<td>Dtech Demo</td>
<td>User</td>
<td>04 Mar, 2016 11:23PM</td>
</tr>
<tr>
<td>4/9</td>
<td>dtech6@ike..</td>
<td>Dtech Demo</td>
<td>User</td>
<td>04 Mar, 2016 11:23PM</td>
</tr>
</tbody>
</table>

User Settings

Under the User Settings page, you can change:

- Date format
- Measure unit
The Form-Builder Tool

The Form-Builder tool is used to define a field data collection form. To access the Form-Builder tool, on the Home page of IKE Office, go to Forms tab.

To create a new data collection form, click on the orange “Add” button. Use Drag and Drop to add elements to the form.
Basic Fields

Date
Input Date into the form. Date format (MM/DD/YYYY) can be configured in the Settings page.

Number
Allows a numeric field to be populated in the field using the keypad.

Text
Allows alphanumeric collection in IKE Office. This can be populated using the keypad or using the microphone recording on the IKE device.

Yes / No
Offers the option to respond "yes" or "no" within a field.
List of Values

Select List

Select this icon to create a single level list in IKE Office to ensure only one radio button may be selected in the field. This allows output of coded values (output string) for integration mapping.

Select List Example:

Anchor Type
- 1" Triple Eye - Anchor Rod and Plate
- 10-Inch Double Helix 1 Pin - 3/8" or 1/2" Anchor Hub
- 10-Inch Double Helix 2 Pin - 3/8" or 1/2" Anchor Hub
- 10-Inch Double Helix 3 Pin - 3/8" or 1/2" Anchor Hub
- 3/4" Double Eye - Anchor Rod and Plate
- 4-Inch Double Helix 10 Pin - Granite Anchor
- 5/8" Single Eye - Anchor Rod and Plate
- 8-Inch Double Helix 3 Pin - 3/8" or 1/2" Anchor Hub
- etc...

Once a Select List is defined, below is an example of how the list will appear on the mobile screen within IKE Field.

IKE Field screen

Clicking on the down arrow brings up the list for user to select.

IKE Field screen depicting a select list

Anchor Type List
Nested List

Allows creation of nested list in IKE Office up to 3-levels deep. Nested list are created using the same process as the main list, however the selection made at each level dictates the selection options available at the next level.

Example defining use of nested lists for the select list called “Wire”:

<table>
<thead>
<tr>
<th>Usage Group</th>
<th>Size</th>
<th>Tension Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>5/8 ACSSR</td>
<td>Full</td>
</tr>
<tr>
<td>Primary</td>
<td>5/8 ACSSR 1/2 (High Strength)</td>
<td>Stack</td>
</tr>
<tr>
<td>Primary</td>
<td>5/8 ACSSR 1/2 (Low)</td>
<td>A55 PFR</td>
</tr>
<tr>
<td>Primary</td>
<td>Aerial Cable</td>
<td>Full</td>
</tr>
<tr>
<td>Primary</td>
<td>Copper</td>
<td>Stack</td>
</tr>
<tr>
<td>Primary</td>
<td>SAC</td>
<td>Stack</td>
</tr>
<tr>
<td>Primary</td>
<td>1000 SAC</td>
<td>Stack</td>
</tr>
</tbody>
</table>

Enter first level value. In this case, the first level is Usage Group, the value is Primary.

The second level value is Size. Enter all the size values applicable for Primary wire.

The third level is Tension Group. You can define different tension for each wire size.

Follow the above steps to add the second list. In this case, add Communication in the Usage group. Then go to the Size list, and add all the wires sizes applicable to Communication, etc.
Once a nested list is fully defined, below is an example of how they would appear within IKE Field.

Follow the screens to select the list values

The selected values are displayed
IKE Capture Tools

Location
Used to create a GPS location of the target, in WGS84, Longitude and Latitude. There are two options; GPS location only which is 30 seconds of GPS fixes at the target, or GPS position, image and laser measurement at an offset position.

When viewed on IKE Field, you will be presented with two options to capture the location of an object:

a. Remote Location
b. Local Location

Image
This is a “photo only” tool and is exclusively for capturing images of objects in the field.

Photo Measure
Used to aim and capture an image of an object in the field. The image would capture records such as; azimuth, bearing and vertical angle between the IKE device and laser target.

This information will be utilized to calibrate the image and ultimately for height measurements when uploaded into IKE Office.
**Subform**

Subform can be used for two purposes:

a. Used to group common fields for an object, such as equipment.

b. Used to create parent-child relationships between two objects. For example, the Span would be the “parent” subform and the Circuit would be the “child” sub-subform.

**Height**

Tool used to capture height above ground, such as a wire mid-span height.

**Vector**

Tool used for measuring azimuth and distance between two points, such as a span length and the angle between two utility poles.
Repeatable Collection Tools

Repeatable collection is an important feature of IKE 4 data collection software. Various collection tools can be defined once on the form and used repeatedly in the field to collect multiple instances of an object.

A repeatable tool has a “+” sign to the right of the field, indicating you can use the tool multiple times to collect objects in the field. For example, if there are 10 service drops on a utility pole, you can use the Service Drop subform to collect all 10 service drops, one at a time.

The following tools can be used for repeatable collections in the field:

- Image
- Photo Measure
- Height
- Vector
- Subform

Example of a repeatable collection. In this example, a user has collected; 2 TrueSize photos, 1 Equipment, 2 Anchors, 2 Spans and 2 Service Drops.
Label Field

In the Form-Builder tool, Label Field is a toggle for the field. When turned on, the value of the field will be used to label photo measurements.

Example of Label Field usage:

- Pole ID is used to label pole height measurement
- Wire type/size/tension is used to label wire attachment height measurement
A Utility Pole Data Collection Form Template

IKE 4 includes a Data Collection form template designed specifically to accommodate utility pole data collections. This template is designed to create a workflow that allows for the collection of utility pole information as well as equipment and wires attached to the pole from three different collection positions:

- At Pole
- At Pole Proximity
- At Distance

At Pole - Collect pole specific information

This section of the form is for collecting information while at the pole.

At Pole Proximity

This section is for information that are best collected while you are still close to the pole.
At Distance

This section is for information that are best collected while at a distance from a pole. The Span subform is structured to capture relationship among wires attached to a pole:

- **Span** (a subform)
  - **Circuit** (a sub-subform under Span)
  - **Wire** (a sub-sub-subform under Circuit)

Span

A Span represents one direction which all the wires are running. Since all the wires within one span have the same length and running angle, we only need to collect Forward Span and Backward Span once.

Within one Span, there can be multiple Circuits and multiple Span Guys. Hence the Span subform includes a Circuit sub-subform and Guy sub-subform.
## Circuit

A Circuit within a Span represents a group of wires of the same usage, such as Primary, Secondary, Neutral, Communication, etc.

The common features of wires within the same Circuit includes Construction (On Pole, Cross Arm, Double Cross Arm, etc., and Configuration (Fore, Back, Both) where Fore and Back represents dead end and Both represents tangent.

```
<table>
<thead>
<tr>
<th>Display Name</th>
<th>Subform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circuit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display Name</th>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fore Mid Span Height</td>
<td></td>
</tr>
<tr>
<td>Back Mid Span Height</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display Name</th>
<th>Select List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td>Configuration</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Display Name</th>
<th>Subform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire</td>
<td></td>
</tr>
</tbody>
</table>
```
Wire

Within the same Circuit, wire can have different sizes and attachment heights on the pole. This subform allows flexibility of collecting wires in different configurations.

Below is an example of wires of different sizes on the same cross arm. In this case, this subform allows you collect two Wires, each with it’s own size and quantity.

The example to the right is a case where wires of the same size are attached at different heights on the pole. In this case, the Wire sub form allows you collect 3 Wires. When the data is uploaded into IKE Office, you can use photo measure to measure the attachment heights for each Wire.
Similarly, Guys and Service Drop are two other subforms that offer the flexibility to collect multiple instances of these objects in the field.
Data Capture & Upload - IKE Field

- Introduction to IKE Field
- Field Data Collection Step-by-Step

Android, Google, Google Earth are trademarks of Google Inc.
Introduction to IKE Field
IKE Field is an Android app that runs the IKE device.

Settings
Go to Setting on the Device:
- Set screen orientation to Portrait.
- Turn on Location service.
- Set brightness to about 50%.

Go to Setting on the Device:
The Location mode should be set to Device Only to ensure use of the built-in sub-meter GPS for location measurements.
Field Data Collection Step-by-Step

Signing In

Sign into the application with the same email and password as used for IKE Office.

This user information will be saved, so the next time the application is opened it will already be logged into the most recent account.

The first time you sign in to IKE Office, you may see the blank job screen.

The More button (ملك) allows you to:

- Check version of the IKE Field app
- Log in as different user
- Change settings on date format, and measurement unit (Meter vs. Feet/Inches).
Create a New Job

On the My Jobs screen, use the orange “Add” button to create a new job.

Enter the name of the Job.

Touch “ATTACH A FORM”.

When connected to the Internet, the page will automatically check for any available new or updated forms.

Tap DOWNLOAD to download the latest forms.

When forms are downloaded, users can access them even without Internet connectivity.
When the job has a name and a form attached to it, tap the **CREATE** button in the top right.

To ensure you have the resources for data collection, we recommend creating a job and applying the form before going on site. If your IKE device has Wi-Fi connectivity in the field, you will be able to receive form updates.

Select the form you want to use.
The My Jobs screen shows all of the jobs on the device. Select the Job you wish to work on to proceed.

Now you are ready to start collecting data. Tap the “Add” button to create your first collection.
You can enter data directly into the on-screen form and use tools to make measurements. Anything with a plus sign (+) can be repeated multiple times.

When you have collected all of the information on a subform screen, click the done button at the top right (✔️).
On a form screen at any given time, you can tap the Save button to save the collected information.

Use the Back Arrow to go back to the Job screen.

The Job screen shows all of the collections you have made for this job in both a list and on a map.

In the List tab, tapping the down arrow next to a collection shows a summary.
Local GPS Position

#1
To capture a location, select the field and choose from:

- Target Position (GPS + laser offset)
- Local Position (GPS Only)

#2
For the Local GPS position tool, the current accuracy shows the expected accuracy of the position. Pressing START begins averaging GPS data for a 30-second period to get the best accuracy. Try not to move or cover the device during this process.
#3
Location captured. The green pin on the map shows the location captured. The blue dot shows your current location.

#4
Location captured. The green pin on the map shows the location captured. The blue dot shows your current location.
Target GPS Position

#1
Aim at the target with the crosshair to ensure the laser is hitting the object you want to locate.

#2
Ensure the crosshair turns green, which indicates that all of the instruments (GPS, Compass and Laser) are providing information.

#3
Tap the blue Capture button at the bottom of the screen to take a picture and capture the location.

*Note:* You can zoom in using the slider on the right to help with aiming.

*Note:* Tapping on different areas of the camera will change the brightness/focus, like a standard Android camera.
**Point-to-Point**

**#1**
Aim at the first target and capture when the crosshair turns green.

**#2**
Aim at the second target and capture when the crosshair turns green.

**#3**
The distance and bearing from Point A to Point B are calculated.

**#4**
Click "RETAKE" if you’re not satisfied with your results.
Span Height

#1
Aim at the wire, and capture when the crosshair turns green.

#2
Use the orange guide arrows to locate the position directly below the wire.
#3
When the arrows disappear and both the crosshair and the height measurement area turn green, tap the Capture button.

#4
The results screen shows the height of the wire and a photo with the crosshair.
The Summary gives you an overview of a collection by showing which subforms have been collected.

Tapping the Map tab displays the collections for this Job, on a map.

Tapping the “Add” button will take you to the Form screen to add another collection.

Tapping on the location balloon will take you to that collection.
Upload Data

After you’ve collected the data, you will want to upload the data to the IKE Office.

**#1**
Re-establish a Wi-Fi connection, if necessary.

**#2**
Return to the Jobs list on the My Jobs screen.

**#3**
Touch the circle outline, located to the left of the Job name.

A dialog box indicates the status of the upload and indicates when successful.

**#4**
Once activated, the circle should become gray and show the number of selected files at the top of the screen.

**#5**
Touch the upload arrow to upload your job.

After uploading, the job is paired with an orange, uploaded circle.

Now you can view the job in IKE Office.

After uploading your files, we recommend exiting the IKE Field app prior to powering down the IKE device.
Data Management - IKE Office

- Job Summary
- Job List
- Collection Details
Job Summary

The Summary screen can be accessed by choosing “Summary” on the left menu and shows collections from the jobs most recently uploaded. Within the Summary list, navigate to an individual Job or collection.

The Jobs list can be accessed by choosing “Jobs” on the left menu. It provides a list of all the various jobs uploaded from the IKE 4 Device to the specific account. Jobs are displayed chronologically, based on the date they were collected.
By selecting a Job name, the job’s summary appears, which lists the collections within the job.

Use the Search box to find a specific collection.

Collection Details

Click on the orange “arrow” icon to the right of a collection to display the data collected from the field.

Mouse over the photo of the pole, and click on “View”. The location map of the pole will be displayed.
Photo Measure - IKE Office

- Photo Measure Basic
- Linking Photo Measure to Field Data
Photo Measure Basic

Mouse over the photo of the pole, and click on Measure. The Photo Measure screen is displayed.

Navigation Panel

The navigation panel on the Photo Measure screen is used to quickly navigate from one pole to another.

Under each pole collection, all the Photo Measure photos are listed. Select any of the photos within the list for measurement. Measurements can be made on as many photos as needed.
Set Base

Before making any measurements on the photo, the base needs to be set.

Click on “Set the base of a pole” on the right hand panel, then click on the bottom of the pole on the photo.

Use the Zoom window on the top right corner to accurately adjust the height.

Set Base Offset

Base offset is commonly used when the base of the pole is covered with vegetation or snow.

You can set the base offset by:

a. Moving the base to a known height on the pole
b. Double clicking on the base label
c. Entering the offset value (such as when a measurement stick is used)
Measure Height

Select the Height Marker and click anywhere on the pole to measure the height.

A label is displayed with the measurement.

Drag the label anywhere on the photo to position in the best location.

Editing the Label

To modify the label, simply double-click on the label and enter the desired text or name.

When done with the label modifications, choose “OK” to complete and the label will be displayed on the image.
#1
Once the base is set on the photo, measurable fields will be highlighted with an orange “Link” button.

#2
Click on the orange link button, the button will change into “Measure Height”.

#3
Click on any attachment to get the height information. Note that the height is populated to the field. Use the “Delete” button to remove the link.
Data Export - IKE Office

- KML
- JSON
- Print
- SPIDACalc
Select the “Download” arrow to view the Export Menu. Choose the KML format.
Select the "Download" arrow to view the Export Menu. Choose the JSON format.

```
{
  "data": {
    "id": "ca5deec4-42ce-46e7-8782-77368230291",
    "ogis": {
      "drawable": "83f7f46d-570b-4114-a706-40a220641878",
      "measurement": "e039891b-ca0e-41c7-a20f-3487c2e3f4",
      "provider": "photomeasure",
      "value": 14.47474714384382
    },
    "anchor": [],
    "circumference": "45.5",
    "equipment": [
      {
        "_id": "844f9e84-d0e1-465e-aad8-7866a1e96d",
        "equipmentAttachmentHeight": {
          "drawable": "cc29d06a-205a-49f3-a914-53b13433156",
          "measurement": "99ecf8e6-9be5-4f23-a421-cdd06f5e556",
          "provider": "photomeasure",
          "value": 8.23645871527894
        },
        "equipmentNote": "",
        "equipmentOrientation": "145",
        "equipmentOwner": {
          "utility": "UTILITY",
          "wes": [],
        },
        "equipmentQuantity": "1",
        "equipmentType": [
          "STREET_LIGHT",
          "Roadway - 12 ft"
        ],
        "geographicCoordinate": {
          "latitude": 33.34982
```
Select the “Download” arrow to view the Export Menu. Choose the Print option.
This creates a SPIDACalc project JSON file, which can be open in SPIDACalc for pole loading analysis.
This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65 and RSS-102 of the IC radio frequency (RF) Exposure rules. This equipment has very low levels of RF energy that are deemed to comply without testing of specific absorption ratio (SAR).

**Class 1M Laser Product**

Caution: This instrument emits a non-visible laser beam. The laser beam emitted is Laser Class 1 per IEC 60825-1 and complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice 50, date June 24, 2007

Caution: Hazardous Radiation. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Caution: While the laser tool is in operation, be careful not to expose your eyes to the emitting laser lens. Exposure to a laser beam for an extended time may be hazardous to your eyes.

Warning: the following label samples are placed on your laser tool to inform of the laser class for your convenience and safety. Please reference the Product Manual for the specifics on a particular product model.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
Support

Need Assistance or have a question? Please contact our support team:

www.ikesupport.ikegps.com

Customer Support
Phone: +1 720 381 1634
Toll-free: +1 844 445 3477 ext 3
Email: support@ikegps.com

6:00 am to 6:00 pm (UTC -07:00)
Monday - Friday (Closed on major US holidays)

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