Getting started

The main steps to get started with K-NET are the following:

1. Connect your laptop or PC to K-NET using an ethernet cable and complete the activation procedure. Update the K-NET software if an update is available (strongly recommended).
2. Deploy K-NET to the same LAN network as your torque controllers (or create a dedicated one)
3. Create "stations" and "devices" in K-NET to start collecting data from your torque controllers

The "K-Net Setup and Activation" video also illustrates these steps.

Please note: connecting a screen to the K-NET device does not let you access the K-NET application. The K-NET device acts as a server and has no graphical user interface. To access K-NET you must use a separate PC.

Table of Contents

STEP 1: ACTIVATION 2

Option 1: connect K-NET directly to the PC 2

Steps to change IP address on windows (copied from official Microsoft Windows documentation) 3

Activate 3

Update software 3

STEP 2: DEPLOY TO NETWORK 4

Option 1: create a dedicated network 4

Option 2: connect to an existing network 5

STEP 3: CREATE STATIONS AND DEVICES IN K-NET 5

Step 1: create one or more stations 5

Step 2: add a torque controller (repeat for each torque controller you have) 6

Step 3: add a screwdriver (repeat for each torque controller you have) 6

STEP 1: ACTIVATION

To activate K-NET, the device needs to be connected to the same LAN network as your computer.

The computer must also be connected to the internet during the activation process.

There are two ways of accomplishing this, you only need to follow one of them:

1. Connect the K-NET device directly to your computer using an ethernet cable. If your computer does not have an ethernet port, you can use a USB-to-Ethernet adapter. This is the easiest path to follow for users not familiar with networking infrastructure.
2. Connect the K-NET device to an existing LAN network. See "STEP 2: DEPLOY ON NETWORK"

Option 1: connect K-NET directly to the PC

If your PC has an available ethernet port, connect K-NET directly to it using an ethernet cable.

Important: your PC must remain connected to the internet during the activation process. If your PC does not have Wi-Fi and accesses the internet using this ethernet port, you must connect to K-NET using a USB-to-Ethernet adapter (to not lose internet connectivity) or you must temporarily get internet connectivity via wi-fi while you borrow the ethernet port to connect to K-NET.

Once the cable is plugged in, you need to set your PC's IP address to the following static IP address:

192.168.5.10 (with subnet mask 255.255.255.0)

Your PC has an IP address for every network connection. Make sure to only change the IP address for the ethernet connection to K-NET, and not for your wifi or other connections.

The steps to change the IP address on Windows are described here:
https://support.microsoft.com/en-us/windows/essential-network-settings-and-tasks-in-windows-f21a9bbc-c582-55cd-35e0-73431160a1b9

Also reported below.

Note: if you are unsure which network connection corresponds to your K-NET connection, unplug the adapter while in the settings screen that shows your networks. When you unplug the adapter, the network will disappear. Plug in the adapter again to identify which network it is.

Steps to change IP address on windows (copied from official Microsoft Windows documentation)

Change TCP/IP Settings

TCP/IP defines how your PC communicates with other PCs.

If you need to update your device's IP assignment, follow these steps:

1. Go to **Network & internet** settings, then do one of the following:
    - For a Wi-Fi network, select **Wi-Fi** > **Manage known networks**. Choose the network for which you want to change the settings.
    - For an Ethernet network, select **Ethernet**, then select the Ethernet network you're connected to.
2. Next to **IP assignment**, select **Edit**.
3. Under **Edit IP settings**, select **Automatic (DHCP)** or **Manual**.
    - When you select **Manual**, you can manually set your IP address settings

To specify IPv4 settings manually

1. Under **Edit IP settings**, choose **Manual**, then turn on **IPv4**.
2. To specify an IP address, in the **IP address, Subnet mask**, and **Gateway** boxes, type the IP address settings.

[Kolver note: use IP address **192.168.5.10** and subnet mask **255.255.255.0**, leave all other fields blank]

3. When you're done, select **Save**.

Activate

Now that you are on the same network as K-NET, open your internet browser and navigate to the IP address **of K-NET** which by default is **192.168.5.6** (if you followed the other method to connect K-NET and you or your IT team had to change the IP address of K-NET, enter the new IP address of K-NET here).

You'll land on the activation page. Follow the instructions.

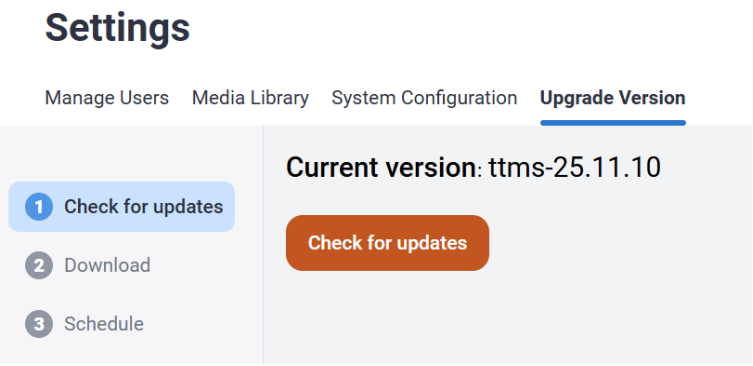
Update software

It is highly recommended to update the K-NET software right after activation. This will unlock the latest features.

Navigate to “Settings” (bottom-left corner of the K-NET side menu)

Then click on “Upgrade Version” on the top menu

Click “Check for updates” and proceed with downloading and scheduling the installation if an update is available. This will only take a few minutes.



STEP 2: DEPLOY TO NETWORK

Now that K-NET is activated, you need to connect it to the same network that all your torque controllers are connected to.

There are two ways of accomplishing this:

1. Create a dedicated network for all your torque controllers and K-NET, completely separated and isolated from any other network that may or may not exist in your facility (this is also referred to as an “air gapped deployment”).
2. Connect K-NET to an already existing network where your torque controllers are already connected to. You may need support from your IT team or whoever manages this network at your facility.

Option 1: create a dedicated network

Creating a dedicated network is as simple as purchasing a network switch and connecting all the devices (the devices are K-NET, your torque controllers, and a computer to access K-NET).

For a simple setup like this, all devices must have a static IP address. Simply assign the following IP addresses:

K-NET will have IP address 192.168.5.6 by default so we won’t be changing it

Torque controllers: assign IP address 192.168.5.**11** to the first controller, 192.168.5.**12** to the second controller, then 192.168.5.**13**, and so on, increasing the last group of digits of the IP address.

We chose .11 as the first address to allow the PC to keep the same IP address suggested during activation which was 192.158.6.10.

Remember that two devices on the same network cannot have the same IP address.

Option 2: connect to an existing network

To connect to an existing network, your IT team will need to change the IP address of the K-NET device.

The instructions to do this are provided in the "K-Net - Networking Configuration" document.

STEP 3: CREATE STATIONS AND DEVICES IN K-NET

Note: you can view video-tutorials for how to use K-NET from within K-NET itself, just click on the "Resources" link on the bottom left.



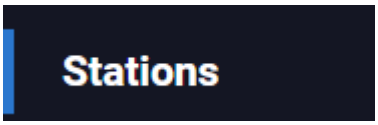
Important: after every configuration change in K-NET, you will need to commit and approve the changes. This creates an auditable (and revertible) history of all configuration changes.

Step 1: create one or more stations

A "station" in K-NET represents a physical workstation, or assembly line, or facility.

Each torque controller will be assigned to a "station". You can assign all your torque controllers to the same "station" if you wish, however creating different "stations" corresponding to different physical workbenches/lines/sites in your facility will help keep your data organized going forward.

To create a "station", simply navigate to "Stations" on the top left side menu:



then click the orange “Add station” button on the top right.

Important: after every configuration change in K-NET, you will need to commit and approve the changes. This creates an auditable (and revertible) history of all configuration changes.

Step 2: add a torque controller (repeat for each torque controller you have)

Once you have at least one station created, create a torque controller device.

First, make sure the K-DUCER communication protocol is set to “Open Protocol”, or any combined protocol containing “OP” (OP = Open Protocol), in the General Settings menu of the KDU controller, where you also assign the IP address.

Go to “Devices”



then click “Add a device” on the top right.

Find the KOLVER K-DUCER torque controller on the list, or the torque controller that you own if not a Kolver controller. Enter its IP address. Make sure “enable torque traces” is set to “true”, this enables capturing the torque-angle graph for each screw as opposed to only capturing the final results data.

Assign the torque controller to the station you created in step 1.

Important: after every configuration change in K-NET, you will need to commit and approve the changes. This creates an auditable (and revertible) history of all configuration changes.

Step 3: add a screwdriver (repeat for each torque controller you have)

Finally, create another device representing the tool/screwdriver. For a K-DUCER system, click “Add a device” then type “KDS” to filter out all other devices and show only Kolver’s tools, and select the corresponding screwdriver series. Note: it doesn’t really matter if you select the inline or pistol, but it helps keep your data organized. You can select the inline KDS for any Kolver K-DUCER screwdriver if you wish.

Assign the screwdriver to the torque controller you created previously.

You do not need to fill out the serial number field when creating the device representing the KDS screwdriver, as it is automatically retrieved from the screwdriving data.

If you have a station with a K-DUCER with two KDS screwdrivers connected to one controller via the DOCK-05, you only need to create one KDS screwdriver device assigned to that controller.

Important: after every configuration change in K-NET, you will need to commit and approve the changes. This creates an auditable (and revertible) history of all configuration changes.

Repeat steps 2 and 3 for each torque controller that you have and make sure to commit and approve all changes.

K-NET is now ready and operational and will automatically gather data from your torque controllers.

You can view the data by selecting “Devices” on the left side menu, then “Data” on the top.

Note: only results generated after K-NET has connected to the torque controllers will be shown. Past data from before K-NET was connected to a torque controller will not be shown or imported.