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CE

QUICK START GUIDE



Insight

- Installation of FX30 Data Acquisition Unit (DAU)
- Login to Insight
- Setup Insight with your equipment in the cloud
- Related system information

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1. Introduction

1.1 About DAU (Data Aquisition Unit)

1.1.1 Description

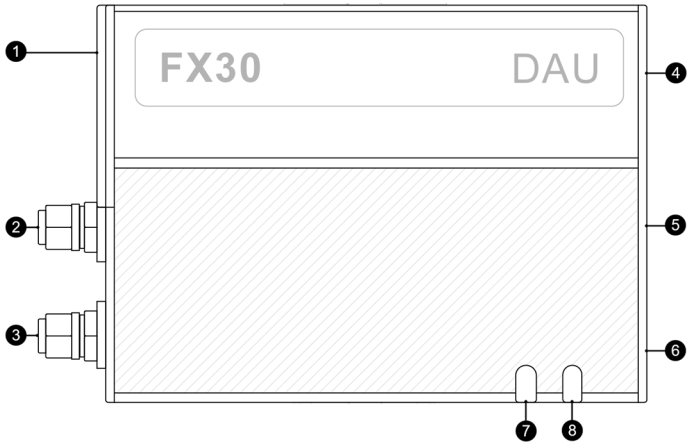
DAU (Data Aquistion Unit) is a small, energy efficient and rugged communication device for real-time monitoring of equipment in the field.
DAU provides connectivity through online and global data cloud, and requires neither IT expertise nor programming knowledge.

Main features:

- Fast and easy connection to your equipment.
- Event based logging.
- Updates OTA (Over The Air).
- Modbus TCP/IP communication.
- 3G/4G telecommunication
- USB 2.0 service and installation access.
- Mini SIM card slot.
- IoT (Internet of Things) expansion slot.
- GNSS (GPS/Galileo/GLONASS).

1.1.2 Overview

1. Slot for SIM card.
2. GNSS antenna connection.
3. Cellular antenna connection.
4. Power connection.
5. RJ-45 port for Ethernet connection.
6. Micro USB port for PC connection.
7. Communication LED.
8. Antenna LED.



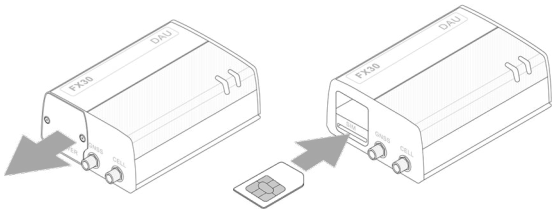
*Note: See **Troubleshooting** for an overview of the LED indications.*

2. Installation

2.1 Installing DAU

2.1.1 Insert SIM card

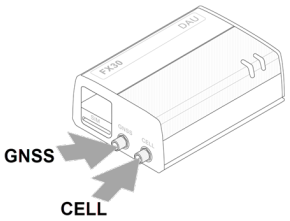
Use a screwdriver to remove the SIM cover.
Insert the SIM card with the gold contacts facing upwards. DAU supports SIM cards for both global and local network.
To remove the SIM card: Press to release the card, then pull it out.

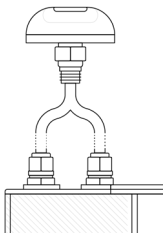


2.1.2 Connect the antennas

Connect the antennas to the SMA connectors:
- A cellular antenna to *CELL*.
- An optional GNSS antenna *to GNSS*.

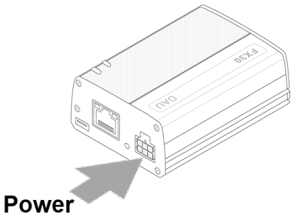
Mount the GNSS antenna where it has a good view of the sky.

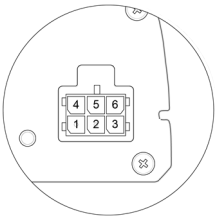




2.1.3 Connect the power

Connect the DAU to power using the supplied power cable.
The cable has a 3 A fuse installed, and no additional fusing is required.
The DAU supports an operating voltage from 4.75 to 32 V.





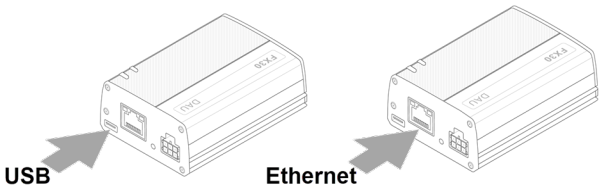
PIN	Function	Wire colour	Description
1	Power	Red	Main power supply for device. Fuse: Slow-blow 3 A 250 V (5 x 20).
2	Ground	Black	Main device ground.
3	On/Off	Yellow	Control line to turn the gateway on and off. Pin 3 must be connected to the input power source or to an on/off switch.

Note: PIN 4, 5 and 6 are not used.

2.1.4 Connect pc and internet

Make sure that your pc has the necessary drivers installed, before connecting it to the Micro USB port. Drivers can be downloaded from www.deif.com. Search for **FX30_driver_package**.

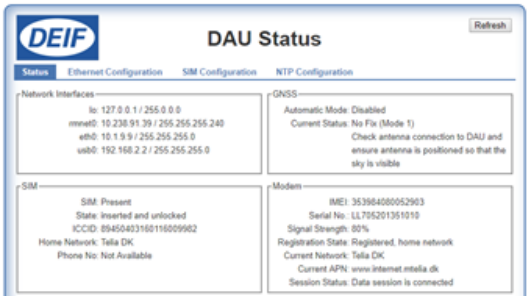
Use a Cat5 or greater Ethernet cable for Modbus TCP/IP connection.



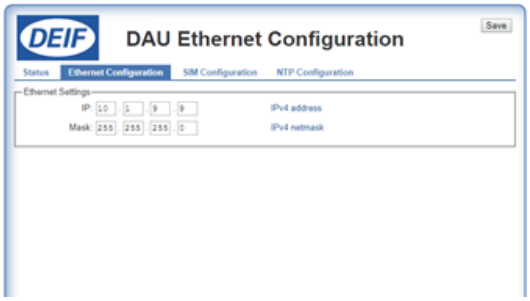
2.2 Configuring DAU

2.2.1 Configuring DAU to work with Insight

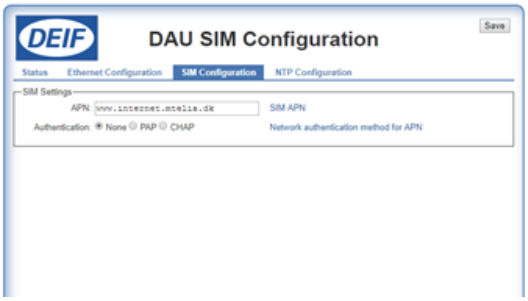
With the drivers installed and your PC connected to the DAU, go to the DAU Status webpage at http://192.168.2.2/ .



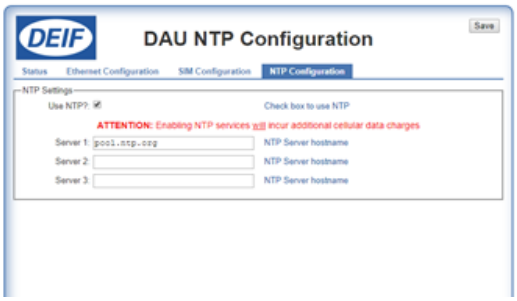
Give the DAU an IP address corresponding to the network of the controller it is connecting to.
Note: As the DAU's USB network is running on 192.168.2.x, this IP range cannot be used!



Enter the APN for the service provider of the installed SIM card.
If the SIM is locked, enter the correct authentication parameters.



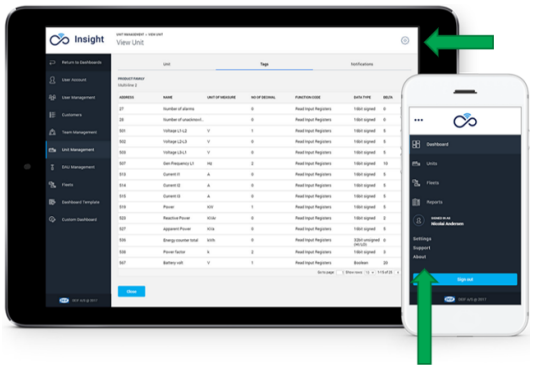
If needed, enter additional NTP servers and click on **Save** (in the top right corner).
Reboot the DAU. It is now ready to be used with Insight.
Open a browser and go to insight.deif.com.



2.3 Insight

2.3.1 Create your Insight login

To get access to Insight you must have been provided with an email invitation, either from DEIF or from your company's Insight administrator. Once you have accepted the invitation, you will be redirected to the Insight login page.



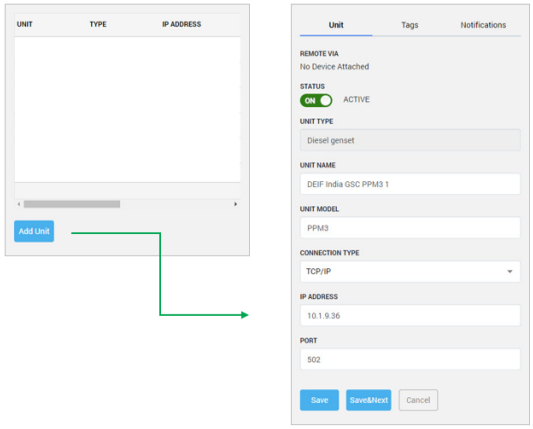
Create a password:

1. You receive an email with a link to Insight's change-password page. Click on **Join Insight**.
2. You are now redirected to a new page. Click on **Forgot your password?**
3. Enter a password of your own choice.
4. If necessary, correct your personal informations.
5. Click on **Save** and then on **Sign in**.
6. Insight is now ready to use.

2.3.2 Setting up a new unit

Go to **Settings - Unit management** to set up a new unit:

- From computer or tablet: Click the **Settings** icon in the top right corner.
- From smartphone: Click on the **Menu** icon in the top left corner and scroll down to the **Settings** menu.



Unit set up:

1. Go to **Unit management** - .
2. Click on **Add unit**.
3. Enter a **Unit name**.
4. Enter the **Unit model** for reference.
5. Select the **Connection type**.
6. Enter an **IP address**.
7. Choose the **Port**.

When all entries are correct, click on **Next**.

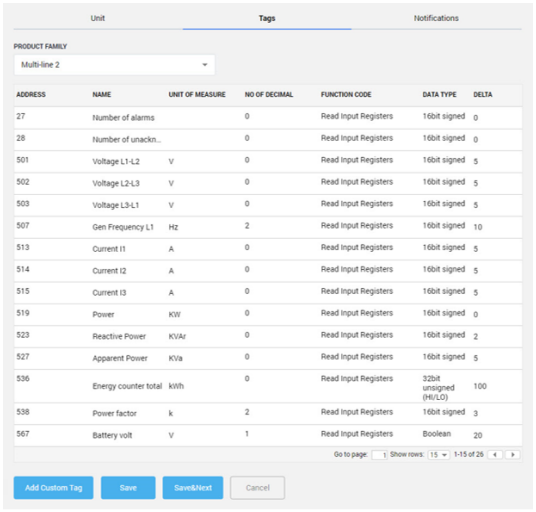
2.3.3 Managing unit tags

A set of preset tags are available for dashboard templates.
Three options for adding tags are available:

1. Select a known product family.
2. Select an unknown product family.
3. Add custom tags.

Ensure that all tag informations are correct. If the information is incorrect, click on the tag to edit it.

When finished, click on **Save**. The unit is now created and can be associated to a DAU.

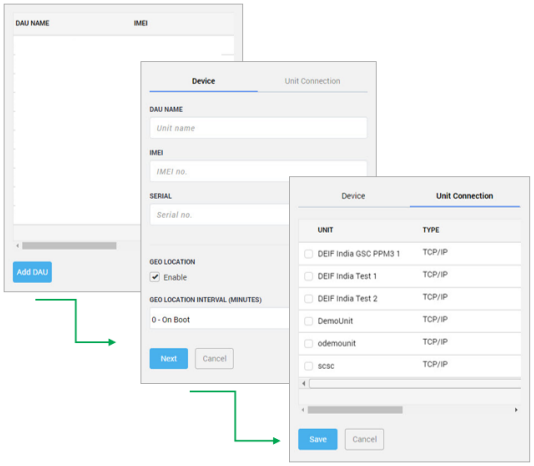


2.3.4 Setting up DAU

Go to **DAU management** to set up a DAU:

1. Click on **Add DAU**.
2. Enter a DAU name.
3. Enter the IMEI number*.
4. Enter the Serial number*.

** Note: IMEI and Serial numbers can be found on the back of the DAU or on the DAU status page (if connected to http:// 192.168.2.2/ .*



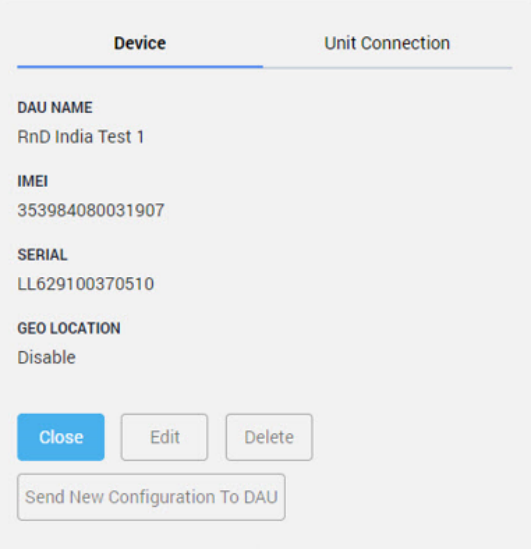
You now have the option to enable the Geolocation feature.

When all entries are correct, click on **Next**.

2.3.5 Associate DAU to unit

Select the unit in which the DAU has been installed. To connect, click on **Save**.

After connection the DAU must be configured by clicking on **Send New Configuration To DAU**.



*Note: Click on **Send New Configuration To DAU** if any changes are made to the tags for the associated unit.*

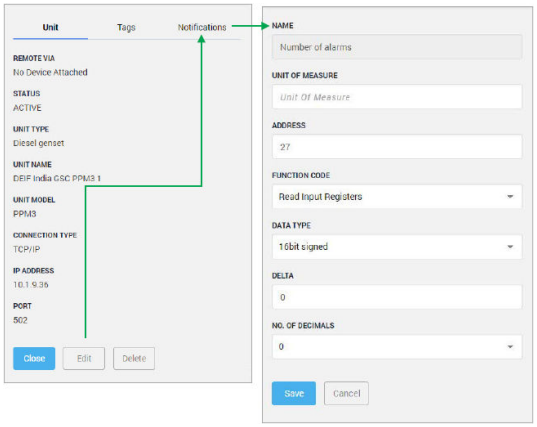
3. Unit management and data logging

3.1 Unit management

3.1.1 Edit a tag

Go to **Unit management** -  to edit a tag.

1. Select **Unit** and click on **Edit**.
2. Select the tab **Tags**.
3. Select the tag you wish to edit and click on **Edit**.
4. To finish editing, click on **Save** and then **Save unit**.

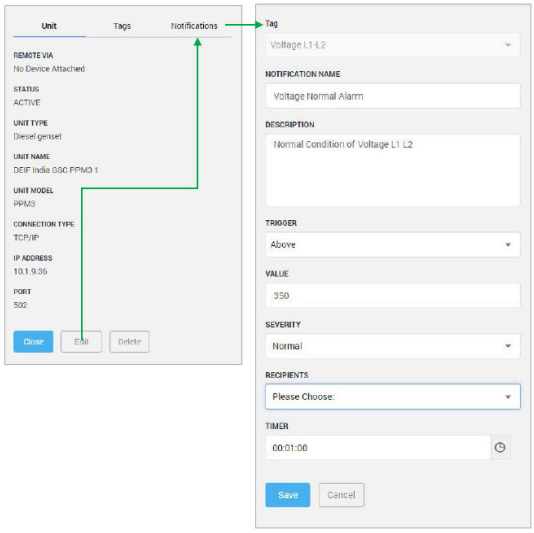


Note: If changes are made to the tags for the associated unit, make sure to send the new configuration to the DAU.

3.1.2 Add a notification

Go to **Unit management** -  to add a unit notification.

1. Select **Unit** and click on **Edit**.
2. Select the tab **Notifications**.
3. Click on **Add notification**.
4. Select the tag to which the notification should be associated.
5. Enter the **Notification name** and a **Description**. This is shown, when a notification is triggered.
6. Configure the notification by entering **Trigger**, **Value** and **Timer**.
7. To finish, click on **Save** and then **Save** unit.

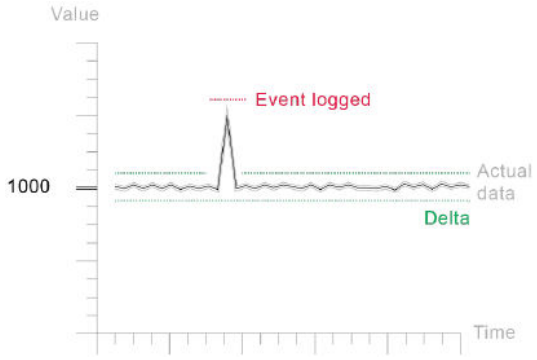


Note: If changes are made to the tags for the associated unit, make sure to send the new configuration to the DAU.

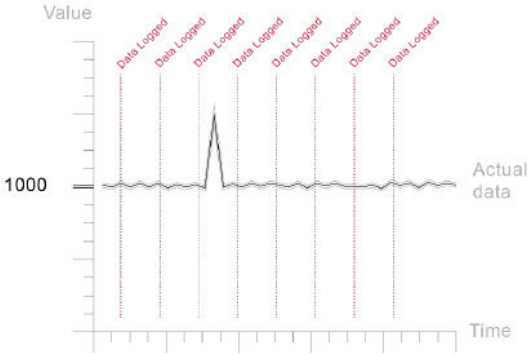
3.2 Data logging

3.2.1 Event based data logging

Insight is constantly monitoring the system. But data is only saved, when there are changes, so an event is always captured (Event Based Logging).

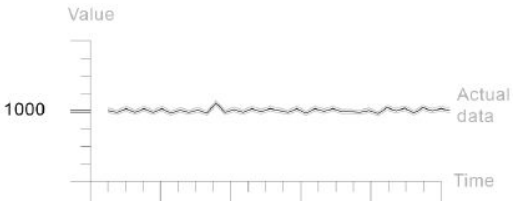


DEIF constant event based data logging



Competitor data logging

The delta represents how much the value of the tag must change for the system to log it as an event.
By setting a low delta, the accuracy increases, but so does the data consumption



Event based logging with Low delta

Event based logging with Calibrated delta

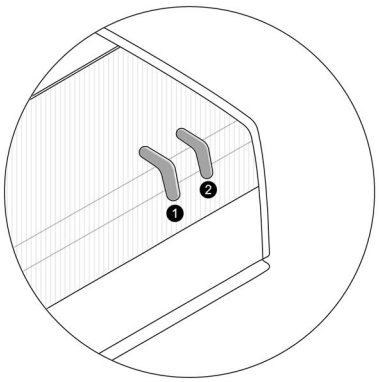
4. Troubleshooting

4.1 Troubleshooting

4.1.1 LED indications

1. Communication LED
- Off: No Modbus configuration present.
- Red: Error with Modbus configuration.
- Red flash: No communication with controller.
- Green flash: Modbus communication OK.

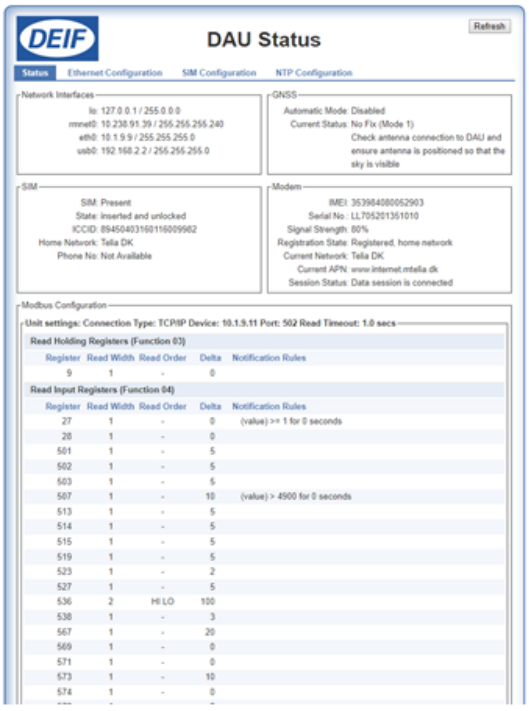
2. Antenna LED
- Red: No cellular data communication.
- Green: Cellular communication OK.
- Green flash: Upload to cloud.
- Yellow: Cellular communication OK, Live mode.
- Yellow flash: Upload to cloud, Live mode.



4.1.2 Debugging the configuration

Debugging the actual configuration is made on the DAU Status webpage.
- Connect a pc to the DAU USB port.
- Open a browser and go to the DAU Status web-page at http://192.168.2.2/ .

On the status page the current connection status is shown.
Make the desired changes and click on **Refresh**.



5. Legal information

5.1 Legal information

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