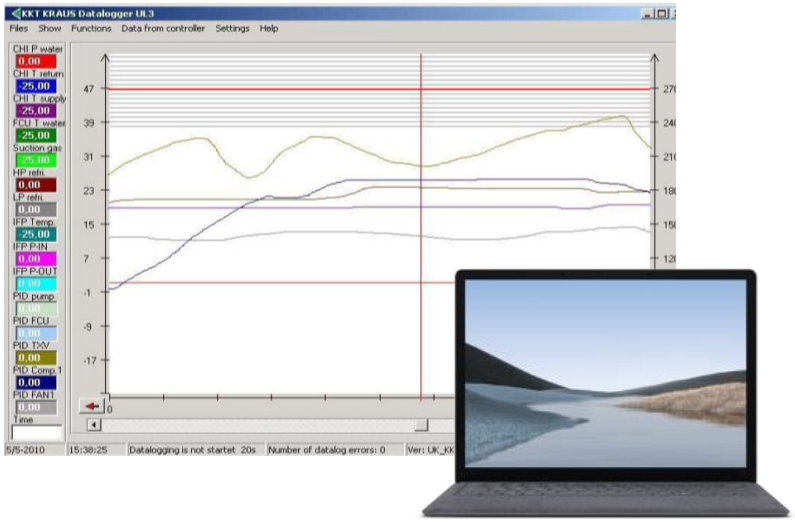
2020 Service Series:

The Eco Tool



Models:

Eco Series

General Information

The ECO Data Logger is designed to aid in the troubleshooting, servicing and initial start-up.

It is a tool designed to read historical and real-time data.

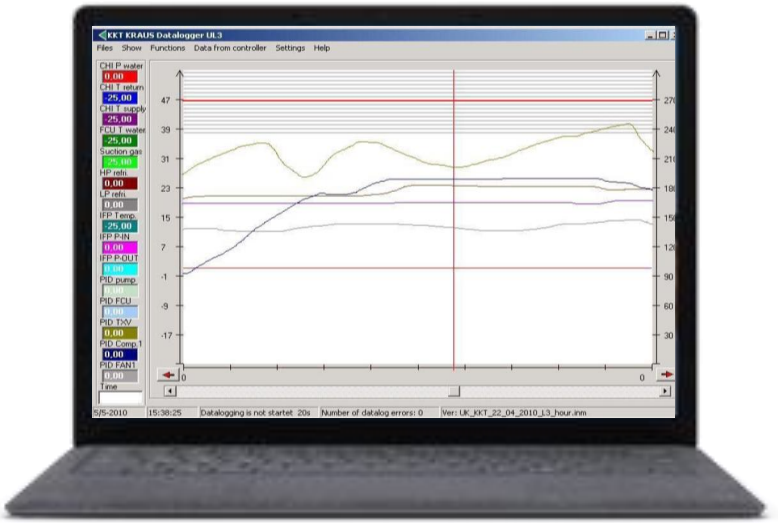
This Software/Hardware application allows you the following processes:

- 16 Digital in/output relays

- 15 Analog in/output graphs

- Possibility to historical data from the SD Card

- Change between "**Day & Night Mode**"



Note: If a laptop isn't available the SD Card can either be sent to KKT or the files from the SD card can be sent via email.

Email: Support@kkt-chillersusa.com

KKT Address: 765 Dillon Drive, Wood Dale, IL 60191

What is needed!

1. **Laptop with Windows**

System requirements are as follows:

- Windows XP or higher

- Minimum 512 mb main memory

- Minimum 50 mb free storage space

- 1 USB Port 1.0 or 2.0

- Software may not operate correctly with restricted user levels (Windows)

KKT will not support installation issues

2. **Eco Data Logger Modem**

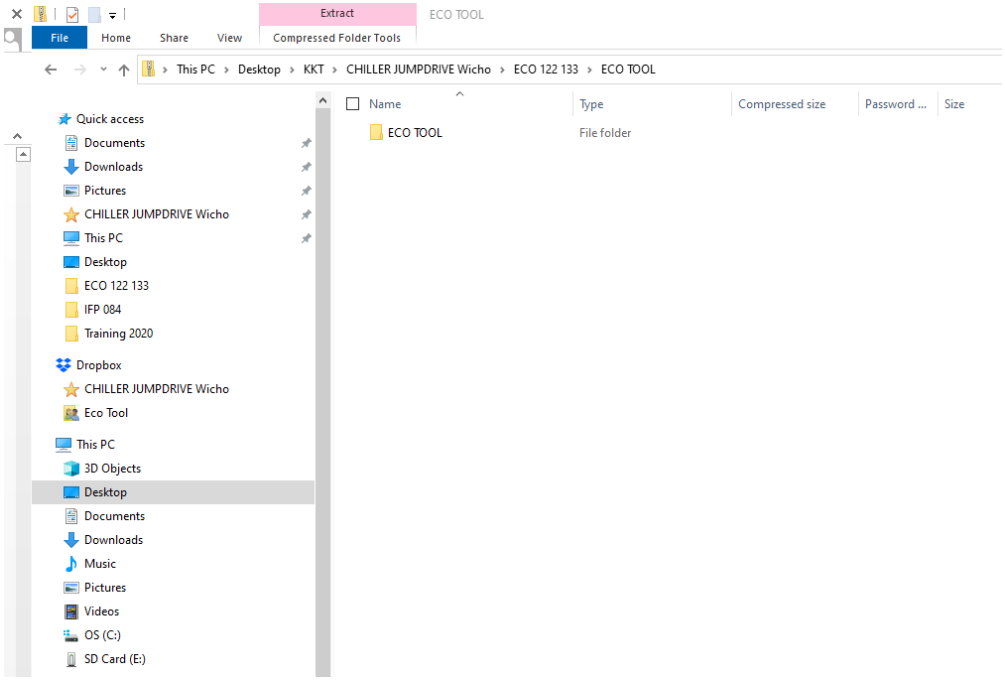
Software Installation

You will need two files to complete the data logger installation. These files can be obtained from the ECO Tool folder file on the USB.

1. The Eco Modem Driver
2. The Eco Tool Software

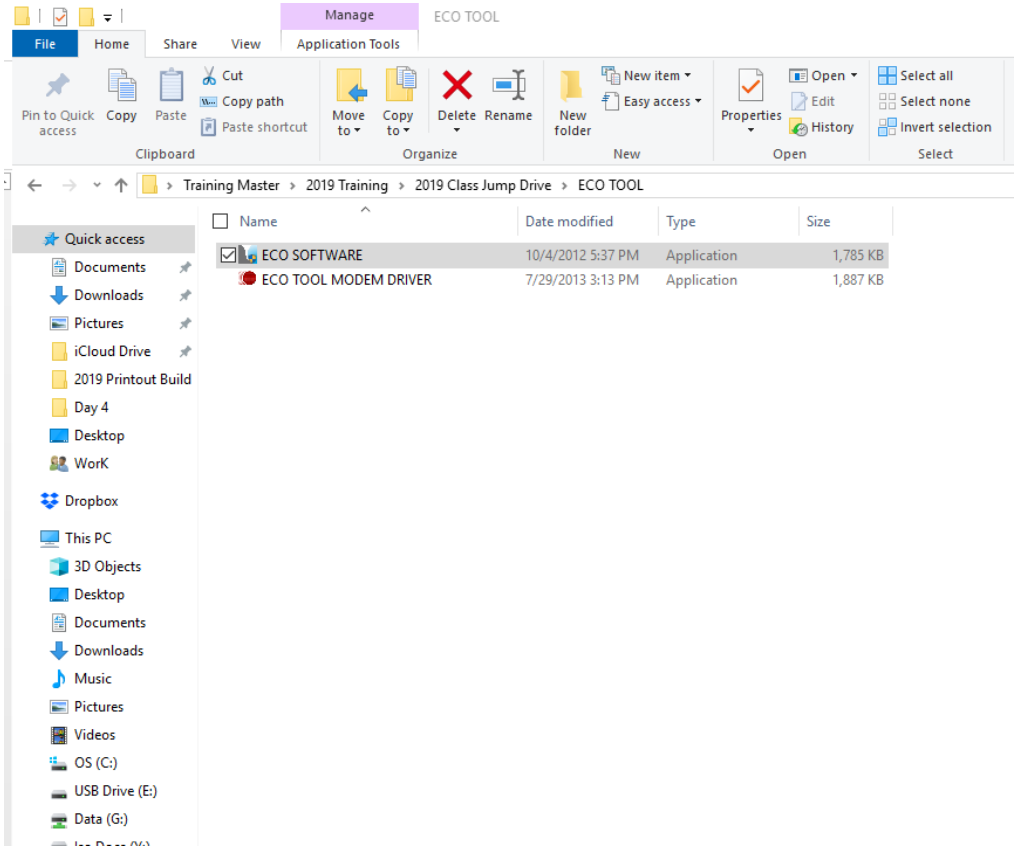
Eco Tool

Double click the ***ECO Tool*** folder.



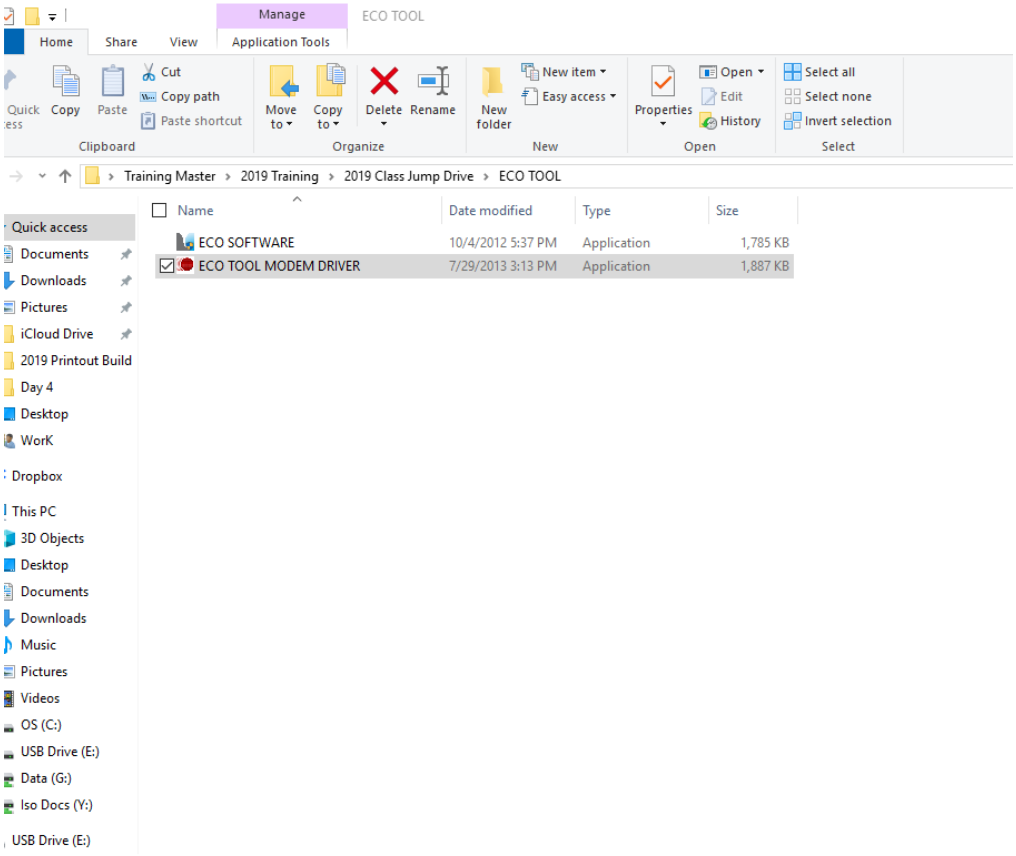
Eco Tool

Double click the **ECO Software** to install. Go through the installation.



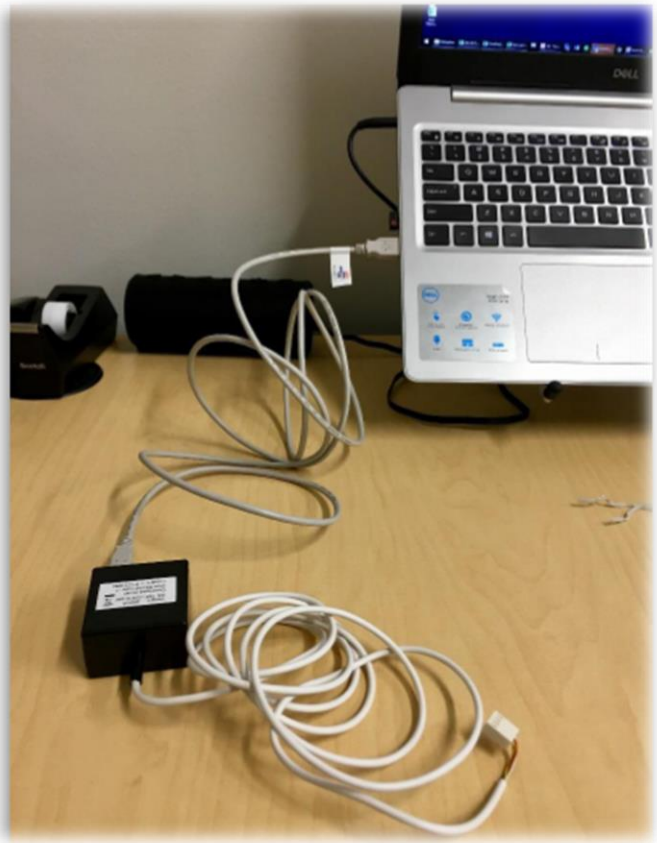
Eco Tool

Double click the **ECO Tool Modem Driver** to install. Go through the installation.



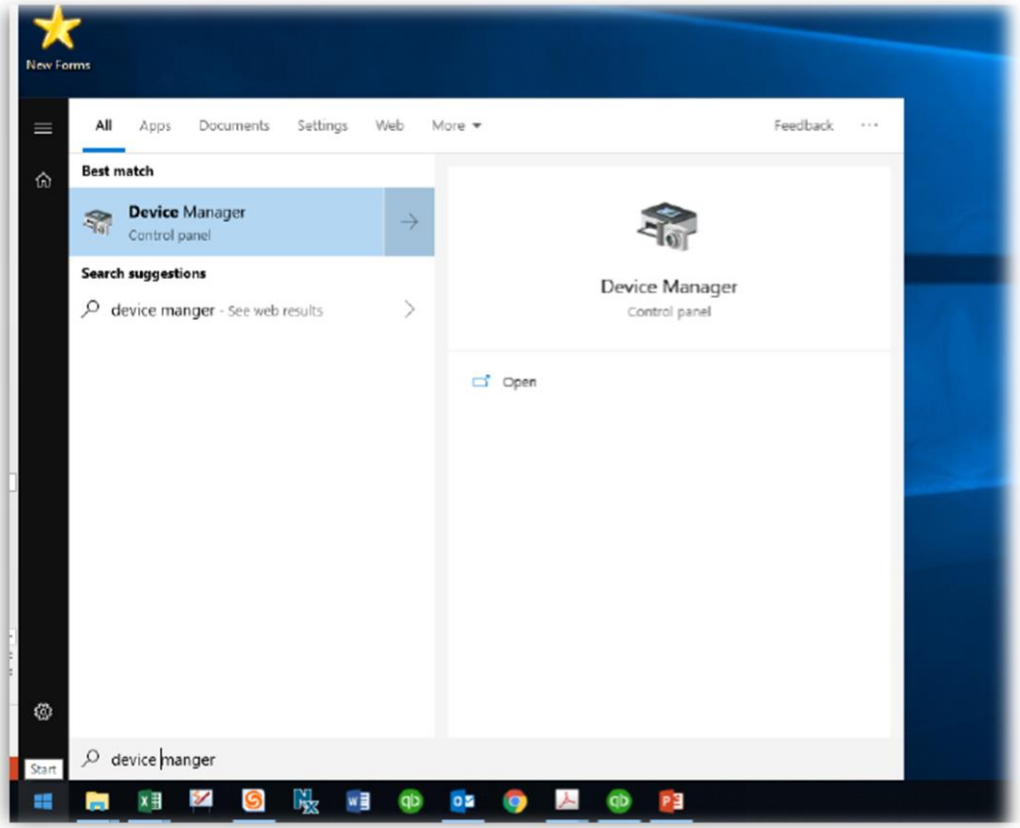
Eco Tool

Connect the **modem** to the **laptop via USB** slot on your laptop.



Eco Tool

Click on **Windows Start** button. Begin typing **Device Manager** in search box.

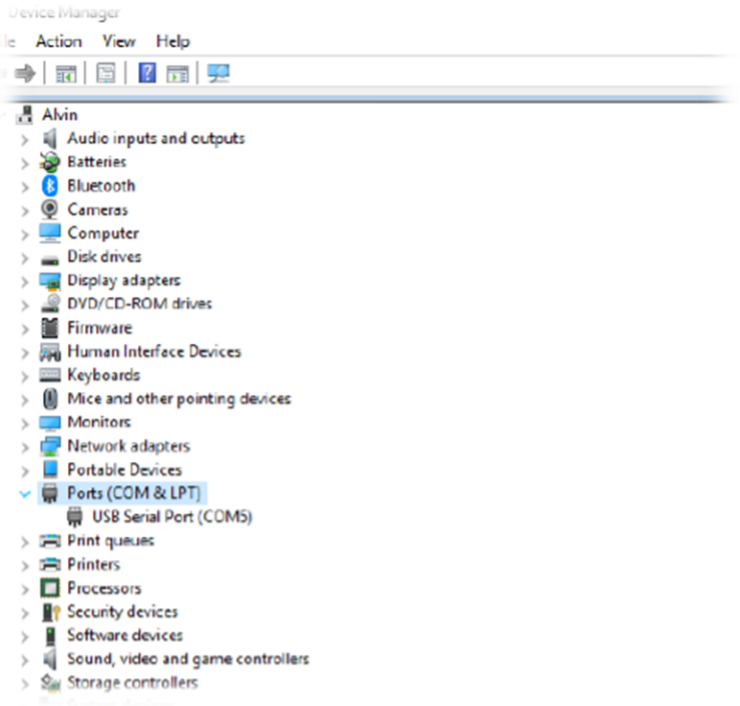


Eco Tool

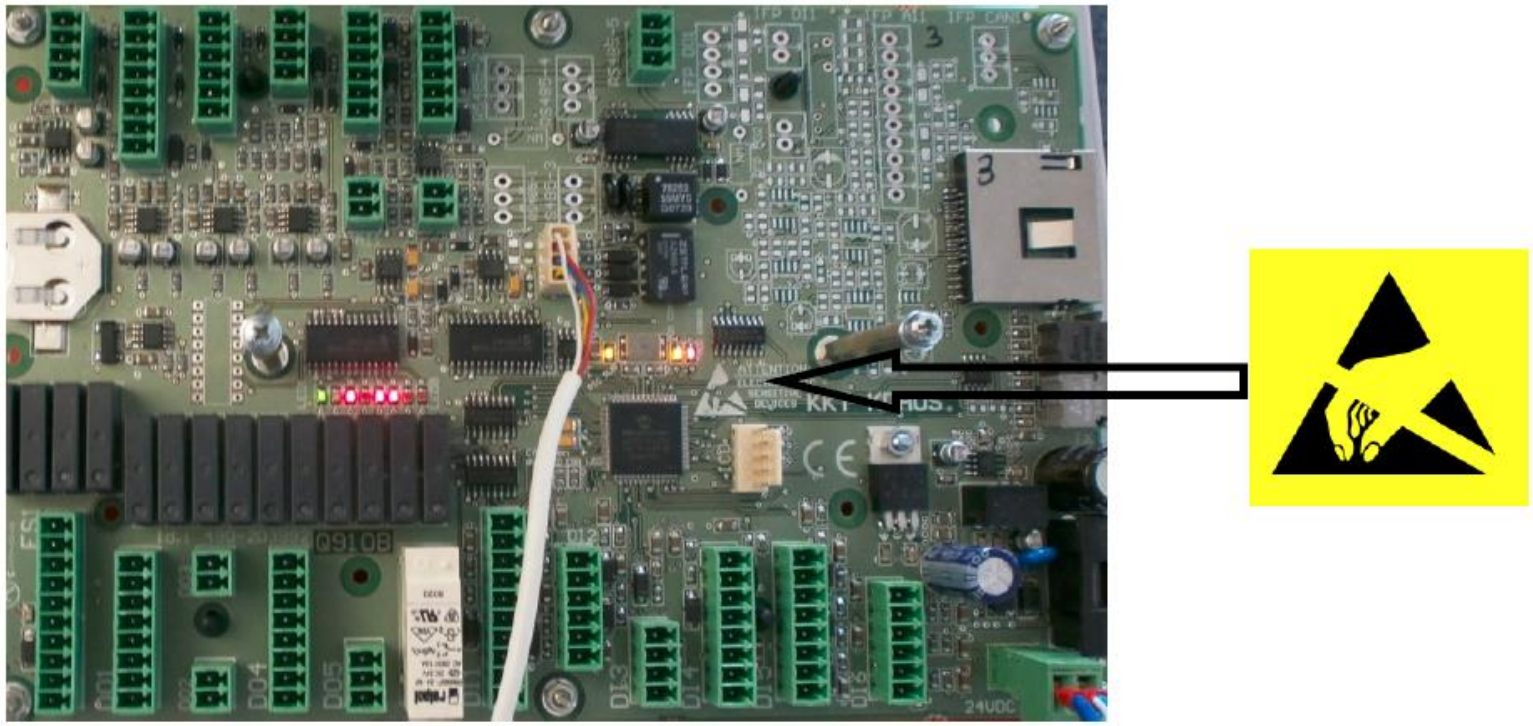
Click on **Device Manager** and scroll down to **Ports (COM & LPT).**

Click on the **Right Arrow** to view your **USB Serial Port (COMxx).**

Every laptop will assign a different com number. Note the COM number.



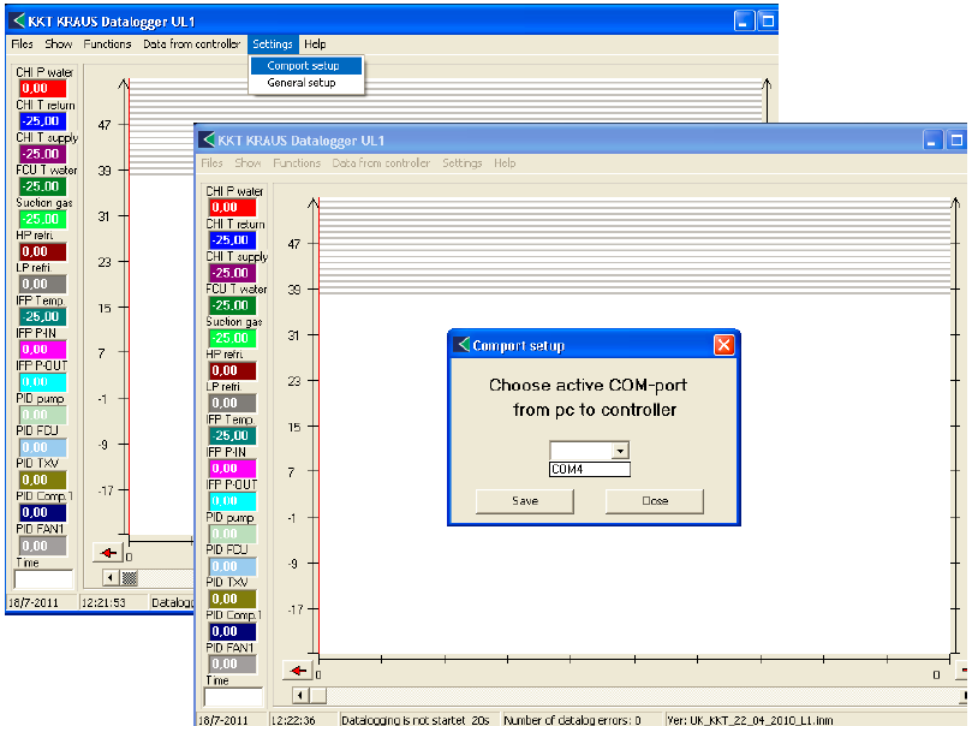
Connecting to the Chiller



Warning: You are operating with ESD equipment

- Connect the Data Logger
- Connect only at the 4 Pin contact

Com Port Setup

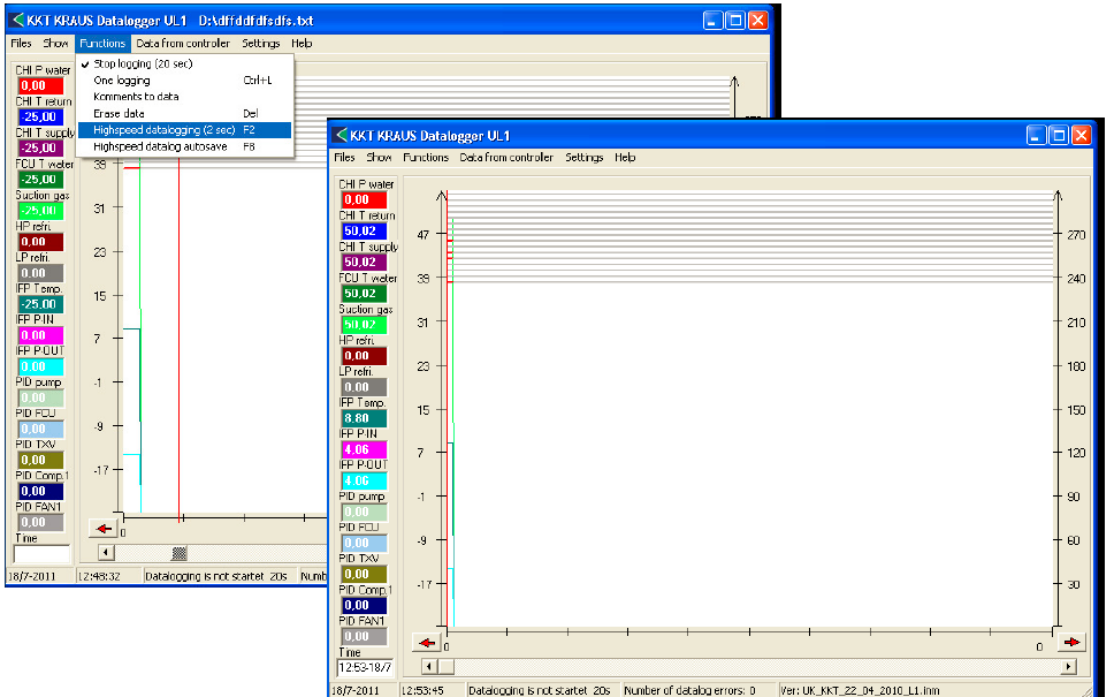


-Select **Settings** and **click** on **COM Port Setup.**

- In the dialog box, input your COM port number.

Contact your computer administrator if there are multiple com ports in order to determine the correct one.

Data Log

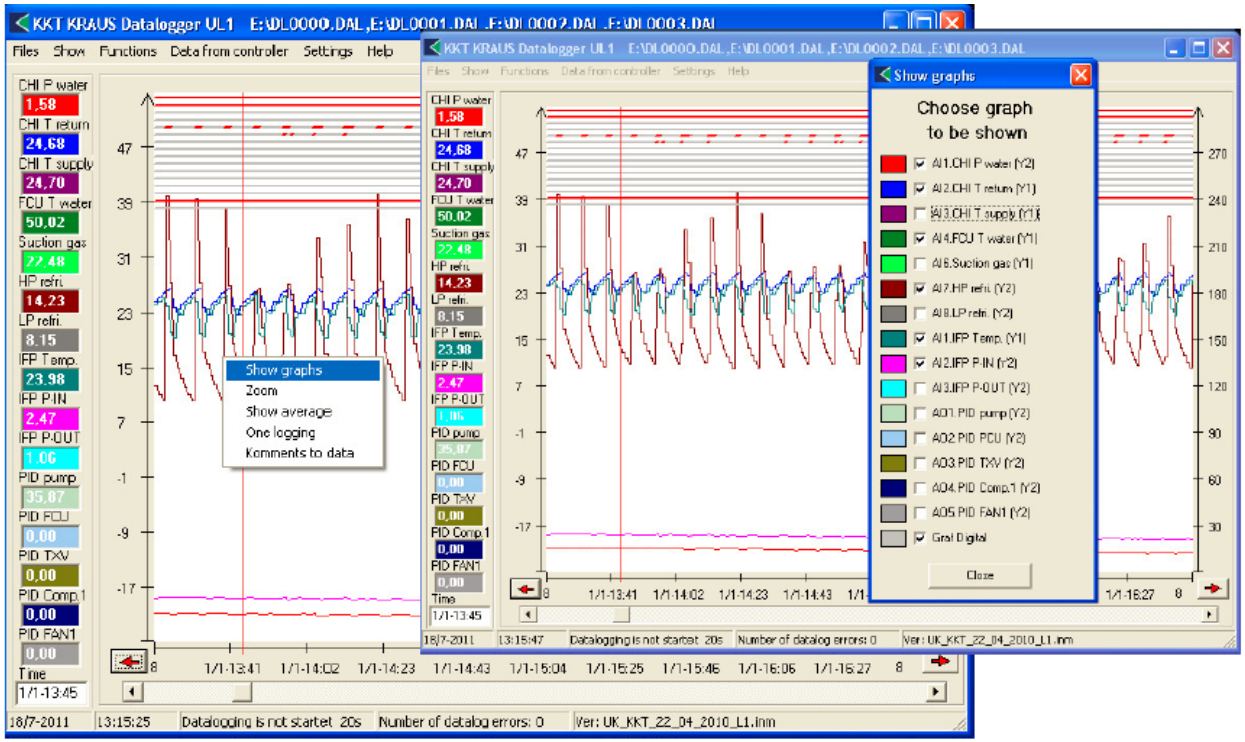


To activate, select **High Speed Data logging** in the menu or press **F2**.

Once connected, the values will begin to populate on the left side.

All information is displayed in real time.

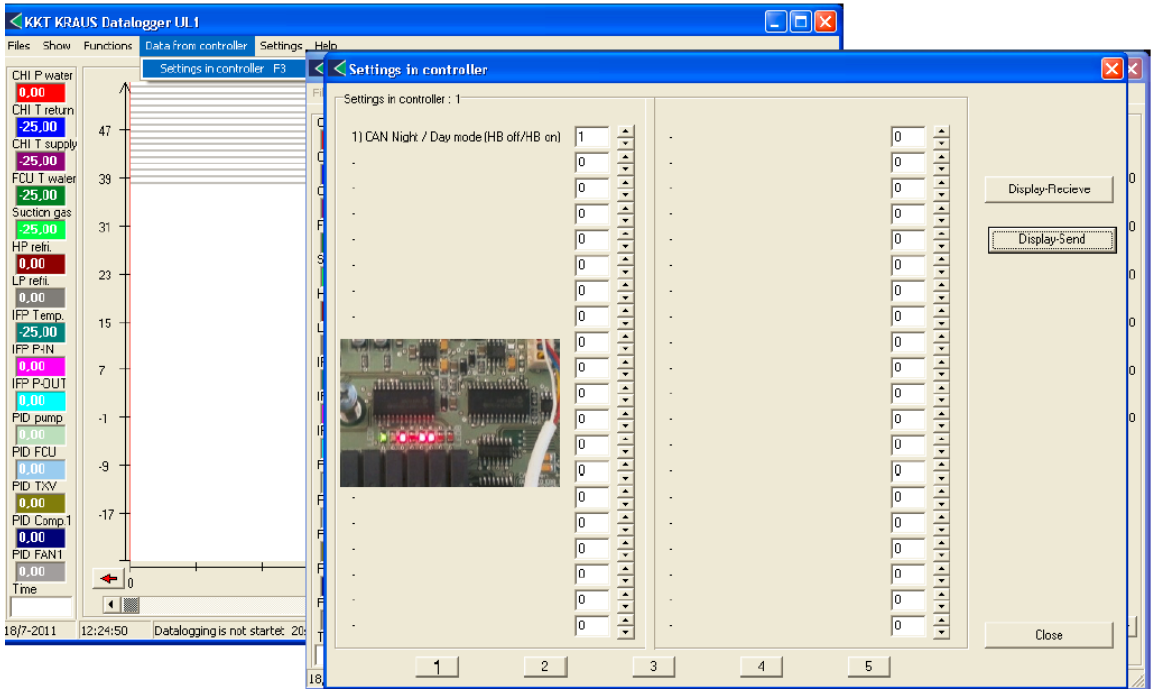
Graphs



Right clicking your mouse on the data logger graph allows you to view that activity in a separate graph without disrupting the other graphs you may be monitoring.

No data loss or interruption is caused by enabling or disabling the viewing of graphs.

Day & Night Mode Commands



- Stop data logging before accessing this feature

- Select **Settings in Controller**

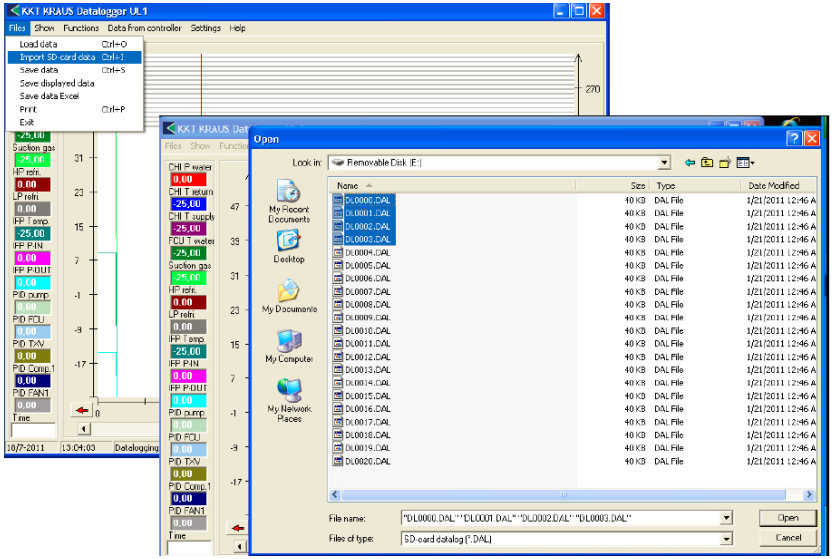
- Change Set Point, **1=Day Mode**; **0= Night Mode**

- Select **Display Send**

- Green LED (at the 8 bit Error Indicator) will flash during “Day Mode”, Solid during “Night Mode”

- Select the **Close** button

SD Card Loading



- Stop Data logging

- Remove the SD Card from the slot at the chiller PCB

ATTENTION! During the time when the SD Card is removed from the PCB there is no communication to the Siemens System and may result in the MR not functioning.

Additionally, the VTZ Compressor may not start without the card in place.

- KKT recommends to import a maximum of 10 files per session

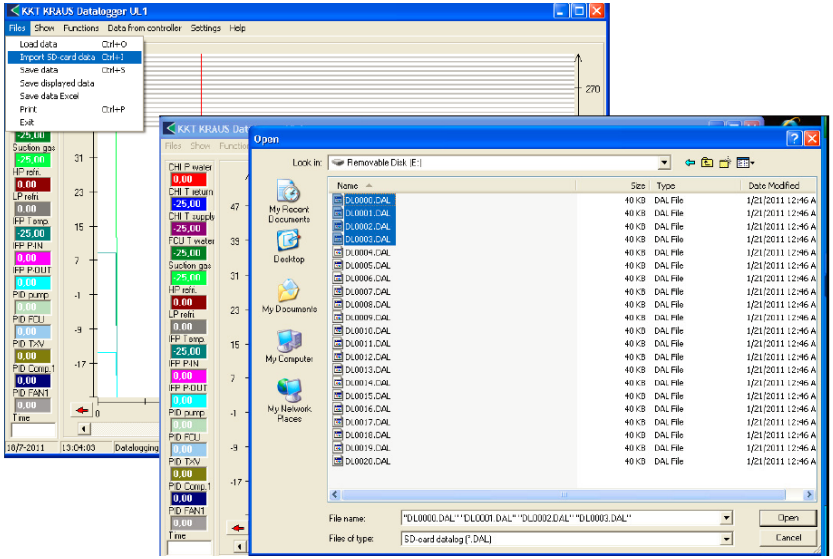
- Each file contains 6 hours of operations; every 6 hours one file is stored to the card.

- The time/date stamp is created when the file is closed on the card

- Select the data you wish to import and press **OPEN**

DO NOT START THE DATA LOGGER!

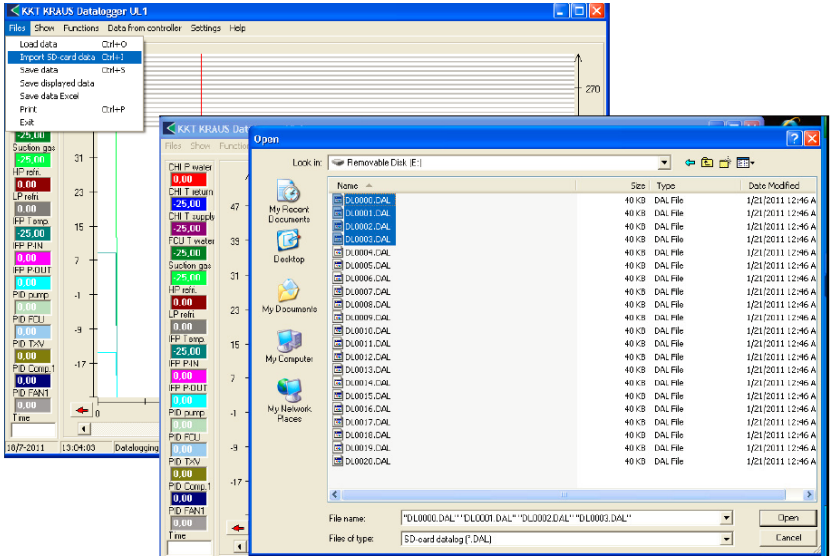
SD Card Sequence



ATTENTION! IMPORTANT NOTICE

It is necessary to import the files in the correct sequence; mark the “last” file you would like to view (Press and hold the CTRL Button) and go “UP” 10 files by marking each one after another.

SD Card Sequence



Get confirmation by viewing the File name in the lower “box”

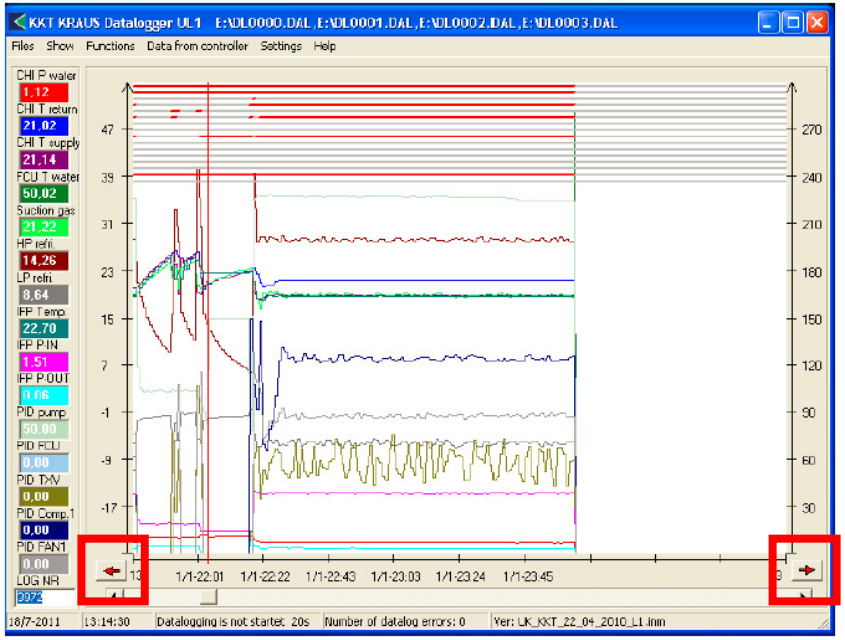
CORRECT FILE SEQUENCE EXAMPLE:

“DL000**0**.DAL” “DL000**1**.DAL” “DL000**2**.DAL” “DL000**3**.DAL”

INCORRECT FILE SEQUENCE EXAMPLE:

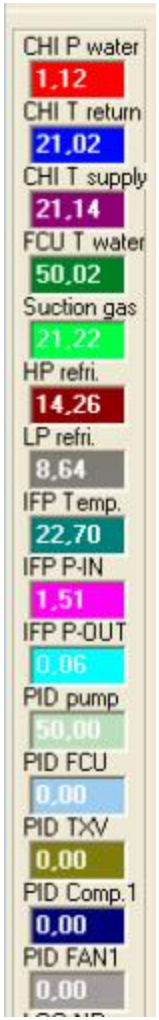
“DL000**1**.DAL” “DL000**2**.DAL” “DL000**3**.DAL” “DL000**0**.DAL”

Timeline Scroll



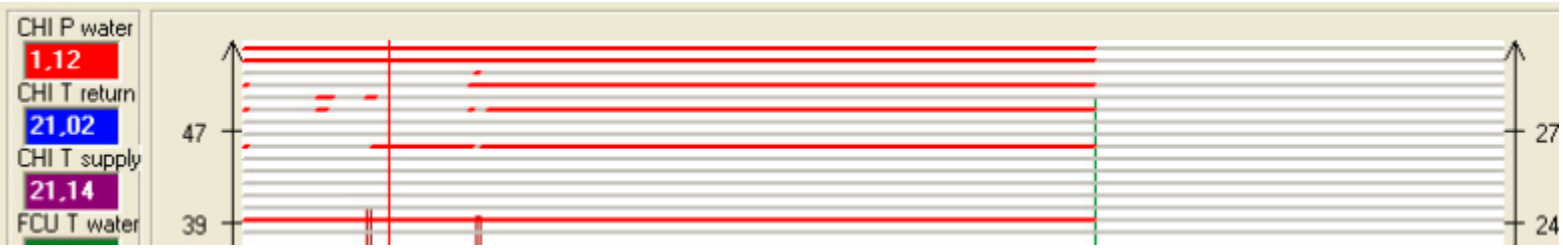
- Click on the **Red Arrow** buttons on the bottom to scroll (right and left) through the data logger file.
- **Left Mouse click** into the window will move the **RED** vertical line to this point
- All values are shown at this point on the left side
- Click the LOG-NR found in the lower left corner to view the data at this certain point.

Values Explanation- Analog Graph



Name	Description	remark
CHI P water	Inlet water pressure (chiller)	
CHI T return	Inlet water temperature (chiller)	
FCU T water	Water temperature after 3-way valve if installed	
Suction gas	Suction gas line (refrigerant circuit in chiller)	
HP refri.	Refrigerant HIGH pressure in chiller	
LP refri.	Refrigerant LOW pressure in chiller	
IFP Temp.	Water temperature IFP Inlet	
IFP-P IN	Water pressure IFP Inlet	
IFP-P OUT	Water pressure IFP Outlet	
PID pump	Pump in chiller	Value: 0-100% equal to 0-10V
PID FCU	3-way valve for Free Cooler	Value: 0-100% equal to 0-10V
PID TXV	EXV in chiller	Value: 0-100% equal to 0-10V
PID Comp.1	Frequency compressor in chiller	Value: 0-100% equal to 0-10V
PID FAN1	Big condenser fan in chiller	Value: 0-100% equal to 0-10V

Values Explanation- Digital Graph



Name	Description	Remark
Pump	Status RED = ON/Running	Run usually 24/7
CHI FAN1	Status RED = ON/Running	Maintain ~ 20bar
CHI FAN2	Status RED = ON/Running	Run 24/20bar
Comp1	Status RED = ON/Running	
Comp2	Status RED = ON/Running	
Hotgas1	Status RED = ON/Running	Run during compressor start up and low heat load
IFP Bypass	Status RED = ON	IFP Supply temperature < 16°C
Boost 3way	Status RED = ON/Running	Booster running (Booster option is not available jet)
Error/Fault	Status RED = ON	Collective fault message
Superheat	Status RED = ON	Superheat out of range >15K or < 3K
MP Comp2	Status RED = ERROR	Motor protection relay tripped
VFD Comp1	Status RED = ERROR	Frequency drive Comp.1 ERROR
J Booster	PCB detected installed Booster Option	
J FCU	PCB detected installed Free_Cooler Option	
J Comp2	PCB detected installed 2. Comp. Option	Only in ECO133 possible
Emergency STOP	System STOPPED	