

# **2020 Service Series:**

The Eco Tool



## 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: <u>Support@kkt-chillersusa.com</u>

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







#### Double click the ECO Tool folder.

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	3D Objects				
	📃 Desktop				
	🔮 Documents				
	🖶 Downloads				
	👌 Music				
	Pictures				
	📕 Videos				
	🖕 OS (C:)				
	SD Card (E:)				





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

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SB Drive (E:)						
Data (G:)						





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







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







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







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.

Devic	Device Manager							
ile A	action View Help							
4	Alvin							
>	Audio inputs and outputs							
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> .	PVD/CD-ROM drives							
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>	Mice and other pointing devices							
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> [	Network adapters							
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~ !	Ports (COM & LPT)							
	USB Serial Port (COM5)							
> 5	Print queues							
> 0	Printers							
>	Processors							
>	P Security devices							
>	Software devices							
>	Sound, video and game controllers							
> 1	Storage controllers							

## 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

Eles Show	US Datalo	gger UL1 Data from cr	antroller Sel	ttipas Help						
CHI P water	Functions	Data monito		Comport setu	up					
0,00 CHI T return				General secu;	P					
CHI T supply	47 -			AUS Datalo;	gger UL1			ł		
FCU T water	39 -		Files Show	Functions	Data from controller	Settings Help				
-25.00 Suction gas -25.00 HP retri	31 -		CHI P water 0,00 CHI T return	1						
0,00 LP refi 0,00	23 -		CHI T supply •25.00 FCU T water	, 4/ <del>-</del> , 39 -						
-25,00 IFP P4N 0,00	15 - 7 -		-25.00 Suction gas -25.00 HP refri	31 -		Comport setup				
IFP P-OUT 0.00 PID pump 0.00	-1 -		0,00 LP refri. 0,00	23 -		Choose a from p	ctive COM-port c to controller			
PID FDJ 0.00 PID TXV	-9 —		-25,00 FP P-IN 0,00	15 <del>-</del> 7 -			<b>•</b> 1/14			
PID Comp.1 0,00 PID FAN1	-17		PID pump	-1 -		Save				-
0,00 Time			PID FOU 0.00 PID TXV	-9 -						
18/7-2011	12:21:53	Datalog(	PID Comp.1 0,00 PID FAN1	-17						-
			U,UU Time							0
		1	8/7-2011	12:22:36	Datalogging k pot st	artet 20c N mber of d	at alon errors : D Ver	UK KKT 22 04	2010 11 ioro	

-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.







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

	US Datal	ogger UL1			
CHI P water	Functors	Settings in controller F3	<	Settings in controller	XX
CHI P water 0.00 CHI T return 25,00 CHI T supply 25,00 FCU T water 25,00 HP retii 0.00 HP retii 0.00 HP retii 0.00 HP PENN 25,00 HP PENN 25,00 HP PENN 0.00 PID FOUT PID FOUT 0.00 PID FOUT 10.00 PID FOUT 10.00 PID FANI 0.00 PID	47 39 31 23 15 7 -1 -1 -9 -17 -17 -17 -17 -17 -17 -17 -17	Datalogging is not startet: 21		Settings in controller : 1           1) CAN Night / Day mode (HB off/HB on)           0           - <t< td=""><td>0       +         0       +    </td></t<>	0       +         0       +
			18	1 2 3 4	5

- 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

KKT KRAUS Datalogger UL1							
Files Show Functions Data from cont	troller Settings Help	1					
Load data Ctrl+O							
Import SD-card data Ctrl+1	-				<b>1</b>		
Save data Ctrl+S							
Save displayed data							
Save data Excel					270		
Print Oxf+P							
Exit E	VYT KDALK DS						
-25,00	NAT NAUS DE	Open					
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FP Temp	CHI T supply	Documente	DLUUU1.CAL		40 KB	DALFile	1/21/2011 12:46 A
-25,00	-25,00	100	DL0002.DAL		40 KB	DAL File	1/21/2011 12:46 A
IFP P-IN	FCU I water 39	1 😈	DL0003.DVL		40 KB	DIAL FIIO	1/21/2011 12:46 #
0,00 7 -	-25,00	Decktop			40 KB	DALFIE	1/21/2011 12:46 A
IFP P.OUT	25 00 31				10 NB	DALFIC	1/21/2011 12:46 4
0,00	HP min		DL0008.CML		40 KB	DOL File	1/21/2011 12:46 0
PID pump -1 +	0.00				40 1/2	DALEIA	1/21/2011 12:46 4
0,00 RD 6711	LP refri 23	My Documente			40 KB	DAL File	1/21/2011 12:46 4
10.00 -9 -	0.00	-			40 5/0	DAL File	1/21/2011 12:46 4
PID DAV	IFP Temp. 15		DL0011.DAL		40 KB	DAL File	1/21/2011 12:46 /
0,00	-25,00	MuConouter	DL0012.DAL		40 KB	DAL File	1/21/2011 12:46 A
PID Comp.1 -17	IFP P-IN	my compoter	DL0013.DAL		40 KB	DAL File	1/21/2011 12:46 A
0,00	0,00 7	<b>1</b>	DL0014.0AL		40 KB	DAL File	1/21/2011 12:46 A
PID FAN1	PP P-001		DL0015.DAL		40 KB	DAL File	1/21/2011 12:46 A
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10/7-2011 13:04:03 Datalogging	0.00 -9	1	C DL0019.CAL		40 KB	DAL File	1/21/2011 12:46 A
	PID TXV		🔄 DL0020.DAL		40 KB	DAL File	1/21/2011 12:46 A
	0,00						
	PID Comp.1 117		1				
	0,00						
	0,00	1	File name:	"DL0000.DAL" "DL0001.DAL" "DL0002.DAL"	"DL0003.DAL"	*	Open
	Time		Files of type:	SD-card datalog (*.DAL)		-	Cancel
	1	1					

- 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

KKT KRAUS Datalogger UL1							
Files Show Functions Data from con	troller Settings Holp						
Loadidata (Tri+O							
Interest SD-card data (Dd+1					•		
save data Ctrl+S							
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Save data Excel					- 270		
Print Orl+P							
Exit							
-25,00	KKT KRAUS Dat	floor					
Suction gas	Files Show Function	open					
-25,00 31 +	CHI R autor	Look in:	🖙 Removable D	iisk [E:]		🔻 🗢 🖻 👘	<b>-</b>
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25.00 15 +	-25,00	Contente	DL0002.DAL		40 KB	DAL File	1/21/2011 12:46/
FP P.IN	FCU T water 39 -		DL0003.DAL		40 KB	DAL Filo	1/21/2011 12:46 /
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FP POUT /	Suction gas	Durnop	DL0005.DAL		40 KB	DAL File	1/21/2011 12:46 /
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PID pump -1 -	HP rofri.		C DL0007.DAL		40 KB	DAL File	1/21/2011 12:46
0,00	0.00 21 -	My Dopumphie	DL0008.DAL		40 KB	DAL File	1/21/2011 12:46
PID FCU	LP retri		DL0009.CAL		40 KB	DAL File	1/21/2011 12:46
0,00 -9 +	U.UU		DL0010.DAL		40 KB	DAL File	1/21/2011 12:46
PID TXV	25.00 15 -	<b>1</b>	DL0011.DAL		40 KB	DAL File	1/21/2011 12:46
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PID Comp.1	0.00		DL0013.DAL		40 KB	DAL File	1/21/2011 12:46 /
0,00	IFP P-OUT	<b>6</b>	DL0014.0AL		40 KB	DAL File	1/21/2011 12:46 /
	0,00		DL0015.DAL		40 KB	DAL File	1/21/2011 12:46 /
- 0	PID.pump -1 -	Ny Nelwork	DL0016.DAL		40 KB	DAL File	1/21/2011 12:46 /
	0,00	Flaces	DL0017.DAL		40 KB	DAL File	1/21/2011 12:467
	PID FOU		DL0018.DAL		40 KB	DAL File	1/21/2011 12:467
10/7-2011 13:04:03 Datalogging	0.00 -9 1		DL0019.DAL		40 KB	DAL File	1/21/2011 12:46
	PID TXV		DL0020.DAL		40 KB	DAL File	1/21/2011 12:46/
	0,00						
	PID Comp.1		<				>
	DID FAMIL		1. C				
	0.00		File name:	"DL0000.DAL" "DL0001.DAL" "DL0002.DAL"	"DL0003.DAL"	*	Open
	Time 🔶		Files of type:	SD-oard datalog (*.DAL)		-	Cancel
							-

Get confirmation by viewing the File name in the lower "box"

#### CORRECT FILE SEQUENCE EXAMPLE:

"DL0000.DAL" "DL0001.DAL" "DL0002.DAL" "DL0003.DAL"

#### **INCORRECT FILE SEQUENCE EXAMPLE:**

"DL0001.DAL" "DL0002.DAL" "DL0003.DAL" "DL0000.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
<b>P</b>	•	1



#### Values Explanation- Digital Graph

