

Data Logger

DL2200



WISCO DL2200 Utility V3.3.1

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Data Logger DL2200



- 8 Channels Analog Input (Programmable input)
- 4 Digital Input / Output
- Isolation Analog Input with Relay,
 Digital Input with Optoelectronic
- Easily configure at Panel LCD and Keyboard
- Use SD card memory for Data Storage
 (4GB)
- Stand Alone Data Logger and Real Time Data Acquisition

Data logger DL2200 is recording device for analog and digital signal. Data is storing in removable memory card for downloading to computer PC.

Analog Input is programmable compatible to any kind of Sensor such as Thermocouple, RTD, Ohm, Voltage and Current. Data, date and time will continuously record to memory card

Digital Input, there are 4 optoelectronic digital input which be able to show machine status or show alarm signal

Digital Output is Relay Contact, there are for channel for digital output which be able to send ON-OFF signal to control the system

Data that store in the computer can be show as table or trend graph. Moreover, data can be export for running on other windows program such as excel. **Dimension** (Unit: mm.)



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EX24

I. Wiring Diagram



Connect to Modem



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II. How to connect for each channel



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III. How to connect to computer PC

Before start recording data, user has set up the device's parameter such as I/O configuration, System Configuration, Record setting and advance setting by using the Utility program

There are 2 ways to connect DL2200 to Computer PC, connect using Serial port and USB port

Serial Port connection

RJ12 should connect to RS-232 of DL2200. DB9 Female should connect to computer comport



Connecting DL2200 to computer by using serial port

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USB Port connection

There are 2 types of USB connector which are Standard A and Standard B. Standard B should connect to USB port of DL2200, and Standard A should connect to USB port of computer



USB cable and USB port of computer



Connecting DL2200 to computer by using USB port

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Wisco DL2200 Utility

File Module Communication	Неір						
🚰 Open 🚽 Save 🛛 🕢 Write 🕐 Read 🛛 🍇 Reboot 🥒 Disconnect							
SetConfig Status Manage Files							
I/O Configuration System Configurat	ion Record Setti	ng Advance Setting	1				
🖅 🙆 Ai1 📃							
🗄 🝈 Ai2		Ana	log Input	1			
🚊 🙆 Ai3		7410	ing input				
🛓 ··· 🔕 Ai4							
🗄 🗠 🙆 Ai5	Туре	0 - 150mV	<u>^</u>				
🗄 ··· 🚱 Ai6			-				
🗄 ··· 🚱 Ai7	Name	AI 1	Unit	mV			
🕀 🥨 Ai8		-					
	Point	1 🗘					
		450.00		0.00	_		
	Max Input	150.00	Min Input	0.00			
ATZ		450.0	-				
H	Max Scale	150.0	Min Scale	0.0			
A 14							
A15	Record En						
Ai17	C	0.00					
Ai18	span	0.00					
Ai19	Zero	0.00					
🖮 💑 Ai20	Bias	0.00					
🖶 🚳 Ai21 🔍							

Wisco DL2200 Utility is program for reading value/Set up parameter such as I/O Configuration, System Configuration, Record setting and monitoring status (not fully real time function). linkage can be should as Serial port, USB port, or Modem(option)



1. What user should know before start using Wisco DL2200 Utility

The communication between Wisco DL2200 Utility program and Datalogger can connect by Wisco ASCII Protocol only. If the communication protocol are Modbus ASCII or Modbus RTU which is not Wisco ASCII, RS-485 is only port that can be connect for program and Datalogger

USB Port

- > Before connect USB port and Datalogger, Power has to be ON
- For the first time used of USB port, USB Driver should be installed as detail show on topic 1.1

Serial Port

All Serial port parameter such as station, Port, Baud Rate, Data Bits, Parity and Stop bit should be same values on both program and datalogger otherwise the connection will be error.

1.1 Set up USB Driver

USB Driver is located on startup CD or on website

www.wisco.co.th/download.html . Start set up by

- Insert CD CD/DVD-ROM drive
- Turn on DL2200 power
- Connect USB cable to DL2200 and computer
- Wait for a second then message "Found New Hardware Wizard" will appear

Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
Wisco USB VCom Port
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
 Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< <u>B</u> ack <u>N</u> ext > Cancel

♦ select ③ Install from a list or specific location (Advanced) and click on

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ound New I	lardware Wizard
Please ch	pose your search and installation options.
⊙ <u>S</u> ea	ch for the best driver in these locations.
Use path	the check boxes below to limit or expand the default search, which includes local s and removable media. The best driver found will be installed.
5	Search removable media (floppy, CD-ROM)
	Include this location in the search
	F:\Driver WiscoUSBVCOM
<u>O</u> on	't search. I will choose the driver to install.
Cho the c	ose this option to select the device driver from a list. Windows does not guarantee that triver you choose will be the best match for your hardware.

◆ Select Search removable media (floppy, CD-ROM...) and click on
 ◆ Wait for windows program search for Driver file on CD

Found New	Hardware Wizard
Please wa	uit while the wizard searches
Z	Wisco USB VCom Port
	<u>≺Back</u> <u>N</u> ext > Cancel

✤ "Hardware Installation" show then click on Continue Anyway



✤ USB Driver file copy to computer

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Please wa	it while the wizard installs the software
Į	Wisco USB VCom Port
	usbser.sys To C:\WINDOWS\system32\DRIVERS
	(***********************************
	< <u>B</u> ack <u>N</u> ext > Cancel

 "Completing the Found New Hardware Wizard" message show then click on Finish

 then Driver Wisco USB VCom Port installation has been complete

Found New Hardware Wizard					
	Completing the Found New Hardware Wizard The wizard has finished installing the software for:				
	< Back Finish Cancel				

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1.2 How to install Wisco DL2200 Utility Program

Wisco DL2200 Utility can be download from:

- Company website <u>www.wisco.co.th/download.html</u> (DL2200_Utility_Setup_v3_3_1.exe)
- ✤ Startup CD which come with DL2200
 - ✤ Insert CD to CD/DVD-ROM
 - open DL2200_Utility_Setup_v3_3_1_Full.exe file



♦ Then keep click on ★ until installation has been complete



Program Files location

[Windows Drive] > Program Files > Wisco > Wisco Utility > DL2200 Utility 3.3.1

Location of shortcut for run DL2200 Utility program

Start > All Programs > Wisco > Wisco DL2200 > DL2200 Utility

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1.3 How to uninstall Wisco DL2200 Utility program

Click start -> All Programs -> Wisco -> Wisco DL2200 -> Uninstall DL2200 Utility



✤ Then click on yes to confirm uninstall process

🛃 DL2200 Utility Uninstaller		Х
	Uninstall DL2200 Utility This program will uninstall DL2200 Utility 3.3.1. If DL2200 Utility is currently running, please close it before proceeding with the uninstallation. Otherwise, click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

 Wait for a second, Window will remove program and all component of program



1.4 How to run Wisco DL2200 Utility program

Click start -> All Programs -> Wisco -> Wisco DL2200 -> Uninstall DL2200

Utility

Adobe Acrobat 7.0	microsoft SQL Server 2005	Wisco RC31	
Professional	Microsoft Visual Basic 6.0	▶ 🕅 Wisco RC32 ►	
Calculator	i Microsoft Visual SourceSafe	▶ 🕅 Wisco SC22 ►	
200	movicon 9.1	🕨 🧰 Wisco ML99 🔹 🕨	
Microsoft Visual Basic	PowerQuest PartitionMagic 8.0	► 🕅 WiscoServ ►	
	🛅 Realtek	Wisco CL27	
MSDN Library for Visu Studio 2005	🖬 Wisco	🕨 🛅 Wisco DL2200 🔸 💼 DL2200 Utility	
	🛅 Startup	DL2200 Utility Manual.p	odf
All Programs 👂	🛅 Tera Term Pro	Uninstall DL2200 Utility	
	PSPad editor	•	
	🛅 Nero 7 Ultra Edition	•	
🦺 start 🔰 🖬 🗸	🛅 Visual Task Tips	•	

🗉 Wisco DL 2200 Utility 📃 🗖 🔀							
<u>File Module Communication Help</u>							
🚰 Open 📕 Save 🔕 Write 🕘 Read 🛛 💐 Reboot 💥 Connect							
SetConfig Status Manage Files Debug							
1/0 Configuration System Configuration Record Setting Advance Setting							
🖃 🙆 Ail 📃 🔼							
🖶 🍈 Ai2		Analo	a Input '	1			
🚊 👰 Ai3			5				
	Туре	Not I ise					
🗄 🚳 Ai7	Name		Unit				
🕀 😡 Ai8	Delet						
⊞	Point	<u> </u>					
	Max Input	0	Min Input	0			
🖬 🝈 Ai12							
🗎 😳 🙀 Ai13	Max Scale	0	Min Scale	0			
	Record End	bla 🗖					
	Hecold Elle						
🞰 🚳 Ai17	Span	0					
🕀 🥨 Ai18	Zero	0					
AII9	Bias	0					
🖬 🝈 Ai21 🔍							
All Detail Visible							

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2. How to use Menu and Toolbar 2.1 File



2.2 Module



2.3 Communication



2.4 Help



2.5 Toolbar

🔁 Open 🛛 🕞 Save	e 🕐 Write 🕐 Read 📲 Reboot 🖉 Disconnect
✤ Open	Open Config File
✤ Save	Save Config file to computer
✤ Write	Write Config file to datalogger
✤ Read	Read Config file from datalogge
✤ Reboot	Reboot Datalogger
Connect/Disconnect	Connect/Disconnect Datalogger

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3. How to link between Wisco DL2200 Utility with Datalogger

3.1 How to Set up communication parameter

The choice of connection can be choose by click on Communication -> Setup then "Communication setup" window will appear as below figure



Communication setup

- Connection with is selected communication channel such as USB, Serial, Modem (Option). For connection with serial additional configuration will be require as follow:
- ✤ Station choose station number (1 254)
- * **Port** select communication port
- Baud Rate select communication speed (4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200)
- ✤ Data Bits length of data (8, 7)
- Parity select Parity types (None, Odd, Even)
- Stop Bit configure stop bits (1, 2)

3.2 How to connect program to Datalogger





Disconnect

Click Connect if connection is success, button status will change to

🥖 Disconnect

3.3 How to disconnect program from Datalogger



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4. How to read and set up configuration to Datalogger

There are 4 sub window on SetConfig tab as follow.

✤ I/O Configuration

Record Setting

System Configuration

Advance Setting

4.1 I/O Configuration

SetConfig Status	Manage Files				
1/0 Configuration	System Configuration	Record Setting	Advance Setting		
			Anal	og Input 1	
		Туре	ТС Туре К 🛛 🔽		
	=	Name	Al1	Unit	С
		Point	1 🜲		
Ai11		Max Input	1300.0	Min Input	-250.0
Ai13 Ai14		Max Scale	1300.0	Min Scale	-250.0
		Record Enab	le 🔽		
in and Ai17		Span	0.0		
		∠ero Bias	0.0 0.0		
🕂 👰 Ai21	~				
All Detail Visib	le				
Treev	view		Г	▲ Detail	

There are 4 types of I/O Configuration which are Analog Input, Digital Input, Digital Output, and Counter (DI4)

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4.1.1 I/O Configuration

Treeview



Detail

	Analo	og Input 1	l
Туре	ТС Туре К 🛛 💌		
Name	Al1	Unit	С
Point	1 😂		
Max Input	1300.0	Min Input	-250.0
Max Scale	1300.0	Min Scale	-250.0
Record Ena	able 💌		
Span	0.0		
Zero	0.0		
Bias	0.0		

Show I/O configuration parameter which choose from Treeview

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4.1.2 Analog Input

		Analo	og Input 2	24
	Туре	0 - 20mA 💌		
	Name	Ai 24	Unit	mA
	Point	1 🜲	R Terminator	250.00
	Max Input	20.000	Min Input	0.000
	Max Scale	20.0	Min Scale	0.0
⊡	Record Ena			
	Zero	0.014		
∎ ∰ Do4 ∎ ∰ Ω1 ✓	Bias	0.047		
All Detail Visible	\uparrow			

แสดงค่าที่อยู่ในส่วนของการ Calibration

- Type choose analog input types
- Name Name Analog Input (12 alphabets)
- Unit signal unit (10 alphabets)
- Point Decimal point (0 4)
- *R Terminator* Resistance value for current analog input (250Ω)
 (more detail at appendix table T.1)
- Max Input Maximum input
- * *Min Input* Minimum input
- ✤ Max Scale Maximum value on display scale (-9999.9~9999.9)
- ✤ Min Scale Minimum value on display scale (-9999.9~9999.9)

For Example Datalogger has input types as current 4-20 mA

Max Input = 20 and Min Input = 4

Max Scale = 100 and Min Scale = 0

Then if Input = 20 mA, display data will show= 100

If Input = 4 mA, display data will show= 0

- * **Record Enable** Enable recording fuction for Analog input
- * Span, Zero, Bias show Calibration parameter



4.1.3 Digital Input and Digital Output



- * Name Name Digital input and Digital Output (10 alphabets)
- ✤ On Label Display when status is "ON" (10 alphabets)
- Off Label display when status is "OFF" (10 alphabets)
- Record Enable Enable record function for Digital Input and Digital Output

4.1.4 Counter



- Name Name Counter channel (10 alphabets)
- Unit Signal units (10 alphabets)
- Point decimal point (0 4)
- Multiplier value that multiple with counter value (0.1~9999.9)
- Offset offset value, this value will be add to counter value

* **Record Enable** enable record status for Counter (DI4)

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4.2 System Configuration

SetConfig Status Manage Files	
I/O Configuration System Configuration Record Setting	Advance Setting
Logger Name DL2200 Card Profile Implement V Enable	Station 1 Baud Rate 19200
LCD Interface	Data Length 8 💌
Display Mode Analog Input 💌	Parity None 🗸
Line1 AI Ch. 1 💌	Stop Bit
Line2 Al Ch. 2 💌	Auto Answer 🔽 5 🗢 Rings.
Line 1 DL2200	Protocol Wisco ASCII 💌
Line 2 wisco.co.th	Security
LCD Back Light	Security Mode
OFF	Application
O ON	✓ Lock Device Panel
O AUTO 2 ♀ Sec.	Security Active Timer 10 🗢 Sec.

Detail of System Configuration



4.2.1 Logger Name

Insert desired name for Datalogger (20 alphabets)

4.2.2 Card Profile Implement

Set Cogfig file which saved on memery card as default (for more detail see topic 7)

4.2.3 Device Port Setting

-Device Port Setting	
Station	1 💌
Baud Rate	19200 💌
Data Length	8 💌
Parity	None 🔽
Stop Bit	1 🗸
Stop Bit Auto Answer	1 🗸
Stop Bit Auto Answer Protocol	1 V 5 Rings. Wisco ASCII V

Define parameter for serial port connection

- ✤ Station station number of datalogger (1-254)
- Baud rate communication speed (4800, 9600, 14400, 19200, 28800, 38400, 57600, 115200)
- Data Length length of data bits (8,7)
- ✤ Parity define Parity Bit (None, Odd, Even)
- Stop Bit set up stop bit (1,2)
- Auto Answer set up amount of phone ring before automatically pick up (1-20)
- Protocol choose desired protocol
 - Wisco ASCII
 Modbus ASCII
 Modbus RTU
- ******* For serial port connection, the Wisco ASCII is the only protocol that can be use otherwise user has to use USB port

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Security	
Security Mode	
Application	
✓ Lock Device Panel	
Security Active Timer 10 🤤 Sec.	

4.2.4 Security

Mark for enable function

Application password will be required before program can connect to Datalogger (Default Passcode 0000)



- Lock Device Panel set up password for datalogger panel. (Default Passcode 0000)
 - Security Active Timer set up waiting time before datalogger panel will be lock (10-255 Sec.)

4.2.5 LCD Interface

LCD Interface	
Display Mode	Analog Input 🔽
Line1 AI Ch.	1 💌
Line2 Al Ch.	2 💌
Line 1	DL2200
Line 2	wisco.co.th
LCD Back Light	
OFF	
O ON	
O AUTO	2 🗘 Sec.

Display Mode

- > Date & Time display Date and Time
- Analog Input display analog input value. There are only 2 analogs can be display. One is on line 1 and another is on line 2
- > Logger Status display memory status
- > **MMC Status** display MMC information
- Ambient Temp show environment temperature
- User Define display desired message on line 1 and line 2 (16 alphabets)
- > LCD Back Light control ON/OFF for backlight
- OFF always turn off
- > **ON** always turn on
- AUTO automatically turn off when there is no activity.
 Waiting can be set. (2-255 วินาที)

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4.3 Record Setting

SetConfig Statu	Is Manage Files						
I/O Configuratio	n System Configurat	ion Record Setting	Advance Setting]			
	Machine Profile						
Store	Store Time 00:00:06 📚						
Avera	ge Measure value 🛛 🗹	3 🔽					
Maxim	um Record / File 6	0000 🗢					
Image: Schedule Image: Schedule							
Schedu	e Mode				Working Mode		
Schedu	e Start 07/04/2009	¥	Schedule Finish	10/04/2009 💌	LifeTime		
Start W	ork 01:08 🜲		Stop Work	13:16 🜲	All Day		
Work D	ay <mark>Sun</mark> 🗸	Mon Tue	Wed 🗹 Thu	✓ Fri Sat	All Week		

Machine Profile is set up Config in case of there is no other config file or Card profile Implement function is disable (for more detail see topic 7)

Record Setting set up Machine Profile

- Store Time set time interval for collecting data. Al least 1 second needed for 8 analogs input, 4 digital input, and 4 digital output. For extended module 24 analogs input, 4 digital input, and 4 digital output, at least 3 second will be needed.
- Average Measure Value collect average value. For example, store time is 10 second and average measure value is 5. Datalogger will read value every 2 second then save average value at second 10 to memory card.
- Maximum Record/File amount of data that can be contain on 1 file (0-60000)
- * Analog Record Enable enable analog input for recording
- * Digital Input Record Enable enable digital input for recording
- * Digital Output Record Enable enable digital output for recording
- * Counter Record Enable enable counter for recording (DI4)
- Record Mode select recording mode which are Manual, Schedule and Digital Trig (DI1) detail as follow
 - Manual manually control datalogger by click on Start/Stop button on panel or Start/Stop in program
 - Schedule set up date and time for device to start and stop recording. Detail as follow:

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Schedule Mode				
				Working Mode
Schedule Start	01/06/2008 💌	Schedule Finish 1	2/06/2008 💌	🗌 LifeTime
Start Work	01:05 🜲	Stop Work 1	3:08 🗘	🗌 All Day
Work Day	Sun Mon V Tue	Wed M Thu	Fri Sat	All Week

- Schedule Start start date
- Schedule Finish stop date
- Start Work start time
- *Stop Work* stop time
- Work Day days for recording

• *Life Time* no start/stop date

> Working Mode

Working Mode

All Day

All Week

- All Day no start/stop time
- All Week record everyday according to start/stop date and time
- Digital Trig strart record data when digital input 1 is "high" and stop record when digital input 1 is "low"

4.4 Advance Setting

SetConfig Status Manage Fi	es	
I/O Configuration System Co	nfiguration Record Setting Advance S	etting
Calibration		
Analog Input	Cold Junction Compensation	Cold Junction Compensation Expansion Module
1	Ambient Temp. 27.4	Ambient Temp. 0.0
3	 Internal 	 Internal
5	Calibration 0.0 🗢	Calibration 0.0 🗢
7 8	 External 	O External
9	Channel 1 🗸	Channel 1 🗸
11	O Disable	O Disable
13 14		
15 16	Read Am	bient Temp.
17 18 19		
20		
22 💌		

Advance Setting is Error Correction) and set Cold Junction Compensate. This setting is for thermocouple input. Ambient temperature is from sensor which locate inside datalogger.

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4.4.1 Cold Junction Compensation

Cold Junction Compensation		
Ambient Temp. 27.4		
 Internal 		
Calibration 0.0 😂		
O External		
Channel 1 🗸		
O Disable		

- Internal Cold junction compensation by using sensor inside datalogger. Calibration is set up Error correction (-5.0 ~ 5.0)
- External Cold junction compensation by using external sensor. The RTD Sensor has to be set (1 ~ 24)
- Disable No cold junction compensation
- Cold Junction Compensation Expansion Module is cold junction compensation for expansion modules
- 4.4.2 Ambient Temperature

✤ Click Read Ambient Temp. to read ambient temperature

4.4.3 Calibration

There are 2 way of calibration:

1) Click on Module -> Calibration then click analog input channel box will appear

Mod	dule	_	
0	Read Module		
0	Write Module		
5	Monitor		
\odot	Real Time Clock		
۲	Reboot		Calibration
	Calibration +	AnalogInput 1	Analog Input
		AnalogInput 1 AnalogInput 2 AnalogInput 3 AnalogInput 4 AnalogInput 5 AnalogInput 6 AnalogInput 7 AnalogInput 8	1 2 3 4 5 6

 click on 'SetConfig' tab then click 'Advance Setting' tab. 'choose Analog Input from calibration box

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If there is conflict between program and datalogger, window as below figure will show.

Question - Wisco DL2200 Utility						
2	Config of Analog Input 2 will be written to module before the calibration. Config : Point, Type, Max Input, Min Input, Max Scale, Min Scale, R Terminator, Span, Zero, Bias					
	Do you want to continue?					
	Yes No					

Before calibration, program will read value from analog input. If value that read from program is not the same value as datalogger, program will save the particular value to datalogger. Then click

Ithen "Calibration Analog Input" window will show.

- ✤ Bias set offset on axis Y
- ✤ Span revise scale of maximum input
- * Zero revise scale of minimum input

Calibrati	on Analog Input 1 - Wisco DL2200 Utility					
Туре	0-20mA					
Value	-2.1					
Compen	isate Bias					
Bias	-0.004					
Comper	isate Span/Zero					
Span	1.000 Zero 2.000					
Close						

- Type Analog Input type
- Value value that read from analog input which can be change if Bias, Span, and Zero is changed.
- ♦ Compensate Bias ใช้สำหรับปรับแต่งค่าของ Bias มีวิธีการดังนี้
 - **Bias** increase value by click <u>+</u> and decrease by click <u>+</u>
 - or key in the number by click on 🕛 to ョ

* Compensate Span/Zero

click on <u>to</u>

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5. Tab Status

Tab Status

- Logger Status
 Active Profile
 - Memory Card Status

5.1 Logger Status

SetConfig Status Manage Files
Logger Status Active Profile Memorycard Status
Logger Status Logger State : Logging Number Of Records : 7
File No. Current File No.(Auto Increase) : W00082.wda Reset File No. : Reset
Read

Logger Status show status and control Datalogger

Logger State show recording status of datalogger

- Logging is on record mode
- Fail recording is fail
- Idle empty and waiting for record

* Number Of Records amount of data that has been saved

- Start/Stop
 button control start/stop recording of datalogger
 - Start start record
 - Stop stop record

File No. show name of file that data has saved on. File name automatically generate by program.

- Reset button is reset file once click this button file name will start from "0". in order to reset file name user has to stop record data.
- Read button is read all data of all parameter on Logger status window



5.2 Active Profile

gger Status	Active Prof	file Memor	ycard Status				
Active Profile							
Store Time 00:00:06 🗘							
Avera	age Measure	value 🗹	3				
Maxir	num Record	/ File 600	000 😂				
Analog Record Enable VVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVVV							
Calcade	de Made						
Schedu	ule Mode					Working Mode	
Schedu	ule Mode ule Start 07	/04/2009	¥	Schedule Finish	10/04/2009 💌	Working Mode	
Schedu Schedu Start W	ule Mode ule Start 07 /ork 01	7/04/2009 :08 💠	~	Schedule Finish Stop Work	10/04/2009 💙 13:16 💠	Working Mode LifeTime All Day	

Active Profile Show all config parameter that have been set (for more detail see topic 7)

5.3 Memory card Status

Logger Status Active	age Files		
Logger status / herver			
	Exist :	Card ready	
	Memorycard Type :	SD v1	
	Capacities :	14500 KB	
	Free Space :	13672 KB	
	File System Type :	FAT12	
	Rea	ed and	

Memory card Status

- ✤ Exist show working status of memory card
 - > **Cars isn't exist** there is no memory card
 - Card ready memory card is ready
 - > **Card isn't ready** memory card is not ready
- * Memory card Type
 - > **Unrecognized** unidentify memory card
 - > **MMC** MMC memory card
 - > SD SD memory card
 - *microSD* micro SD memory card
 - SDHC SDHC memory card
- Capacities is memory card capacity
- ✤ Free Space space that has left
- ✤ File System Type show memory format
 - > **Unrecognized** unidentified Format memory card
 - FAT12 FAT12 format
 - > FAT16 FAT16 format
 - FAT32 FAT32 format

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6. How to manage data on memory card through Datalogger

SetConfig Status	, Manage Files		
Save Path D:\Da	ta		Browse 😽 List 🐼 Save 🎬 Delete
		File	es on card
File Name	Date	Time	Size
W00000.wda	20/03/2009	11:09:00	1875
W00001.wda	20/03/2009	11:09:00	20819
W00002.wda	20/03/2009	11:09:00	58003
W00004.wda	20/03/2009	11:09:00	1491
W00005.wda	20/03/2009	11:09:00	5363
W00006.wda	20/03/2009	11:09:00	2227
W00007.wda	20/03/2009	11:09:00	403
W00008.wda	20/03/2009	11:09:00	723
W00009.wda	20/03/2009	11:09:00	627
W00010.wda	20/03/2009	11:09:00	5875
W00011.wda	20/03/2009	11:09:00	8211
W00012.wda	20/03/2009	11:09:00	660
W00013.wda	20/03/2009	11:09:00	697
W00014.wda	20/03/2009	11:09:00	697
W00016.wda	20/03/2009	11:09:00	697
W00017.wda	20/03/2009	11:09:00	697
W00018.wda	20/03/2009	11:09:00	919
W00019.wda	20/03/2009	11:09:00	660
W00020.wda	20/03/2009	11:09:00	697
W00021.wda	20/03/2009	11:09:00	660
W00022.wda	20/03/2009	11:09:00	697
W00023.wda	20/03/2009	11:09:00	808
<			

Program can download and delete data files in memory card by using datalogger

6.1 Toolbar



6.2 POPUP Menu



Calling Popup Menu by right click on the files name

7. Profile

There are 3 type of profile

- Machine Profile is profile that has been saved on Datalogger. If there is no card profile, machine profile will be use.
- Card Profile is profile that has been saved on memory card. If card profile implement is enable, It will be load after device power has been turn on.
- > Active Profile is profile that is working at that moment.

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8. Data monitor display

Analog Input - Wisco DL2200 Utility			Digital Input/Output - Wisco DL2200	Utility 📃 🗖 🔀
AI 1	AI 2	^	Digital	Input
0.0	0.0		DI 1	DI 2
Al1 [mV]	AI2 [C]		OFF	OFF
AI 3	AI 4		DI1	DI2
0.0	0.0		DI 3	DI 4
AI3 [C]	AI4 [C]		OFF	OFF
AI 5	AI 6		DI3	DI4
0.0	0.0		Digital	Output
AI5 [C]	Al6 [mA]		DO 1	DO 2
AI 7	AI 8	_	OFF	OFF
0.0	0.0		DO1	DO2
			DO 3	DO 4
		~	OFF	OFF
			DO3	DO4
			On All	Off All



After program connect to Datalogger, monitor window can be display by click Module -> Monitor

8.1 How to use Menu and Toolbar on monitor window 8.1.1 Setup







8.1.3 Toolbar



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8.2 How to display Analog Input



Select Analog Input for reading value by click Setup -> Analog Input

Customize Monitor Ai will appear

Customize Mo	nitor Ai		
Avaliable Analog Inputs:		Current Analog Inputs:	
(Ai13)		🙆 Ai 1	
🙆 Ai 14		🙆 Ai2	
🕐 Ai 15		🙆 Ai 3	
🕐 Ai16		🙆 Ai4	
🕐 Ai17		🙆 Ai5	
🕘 Ai 18		🙆 Ai6	
🕐 Ai 19		💁 Ai7	
🕐 Ai20		🕐 Ai8	
🔮 Ai21		🕐 Ai9	
😳 Ai22	Add ->	Ai10	
Ai23		@ Ai11	
🕨 Ai24		😳 Ai 12	
	<- Remove		
			Move Up
			🕐 Move Down
			Clear
			Close

Customize Monitor Ai

- * Avaliable Analog Inputs
- Current Analog Inputs

analog input which is not set to display display analog input

- Add ->
- <- Remove
- Move Up
- Move Down
- Clear
- Close
- move selected analog input to higher level move selected analog input to lower level

click to add analog input

remove analog input from display list

- remove all analog input from display list
 - close Customize Monitor Ai window

8.3 Analog Input window



> OVR = reading value is over range

UDR = reading value is under range

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8.4 Digital Input/Output window

8.4.1 Digital Input



- Gray color = digital status is OFF
- Red color = digital status id ON

8.4.2 Digital Output



Gray color = digital status is OFF

Red color = digital status id ON

8.4.3 Counter



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9. Time set up of Datalogger (Real Time Clock)

Time format for utility program are "date/month/year" and "hour/minute/second"

Time set up of Datalogger can be done by click on Module -> Real Time Clock then "Set Real Time Clock" window will appear

Set RealTimeClock - Wisc	o DL2200 Utility
\bigcirc	
Computer's Time	22/03/2010 10:58:36
Mark July Theor	
Modules I ime	22/03/2010 10:58:37 💌
Sync. Time Wri	te Close
	:

Set Real Time Clock

Write

> **Computer's Time** is computer time

Module's Time	is datalogger time
---------------	--------------------

Sync. Time set datalogger time to be the same as computer time

set datalogger time to be the same as set time on "Module's Time" box

set up time on "Module's Time" box can be done by click on desire time then blue strip will appear

22/05/2008 15:24:31 💌

♦ Click ↑ to increase 1 at a time

- ♦ Click to for manually insert desired number
- ♦ Click Enter or click Write to complete set up

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Appendix

Table. 1 Input type information

T.1	Input type information				
Cada	Code Input Type		Managering Damag	Deselution	Accuracy (%FS)
Code			Measuring Range	Resolution	(Temp. 25 °C)
0	Not Use		—	—	—
1		R	0 – 1700 °C	1 °C	±0.2% (3.4°C)
2		S	0 – 1700 °C	1 °C	±0.2% (3.4°C)
3		К	(-)250.0 - 1300.0 °C	0.1 °C	±0.2% (2.6°C)
4	Thermocouple	E	0.0 - 1000.0 °C	0.1 °C	±0.2% (2.0°C)
5		J	(-)200.0 – 700.0 °C	0.1 °C	±0.2% (1.4°C)
6		Т	(-)250.0 – 400.0 °C	0.1 °C	±0.2% (0.8°C)
7		В	600 – 1800 °C	1 °C	±0.2% (3.6°C)
20		Cu10	0 – 150 °C	1 °C	±0.1% (1.5°C)
21	R.T.D	Pt100	(-)200.0 – 800.0 °C	0.1 °C	±0.1% (0.8°C)
22		Pt1000	(-)200.0 – 800.0 °C	0.1 °C	±0.1% (0.8°C)
30		600 Ω	0.00 - 600.00 Ω	0.01 Ω	±0.01% (0.06 Ω)
31	R (Ohm)	1200 Ω	0.0 - 1200.0 Ω	0.1 Ω	±0.02% (0.24 Ω)
32		4000 Ω	0.0 - 4000.0 Ω	0.1 Ω	±0.02% (0.8 Ω)
40	Voltago(m)()	0 - 80	0.000 – 80.000 mV	1 µV	±0.1% (8µV)
41	voltage(IIIv)	0 - 150	0.00 – 150.00 mV	10 µV	±0.02% (30µV)
42		0 - 1	0.0000 - 1.0000 V	100 µV	±0.05% (500µV)
43	λ	0 - 5	0.000 – 5.000 V	1 mV	±0.04% (2mV)
44	voltage (V)	0 - 15	0.000 - 15.000 V	1 mV	±0.02% (3mV)
45		0 - 30	0.00 - 30.00 V	10 mV	±0.033% (10 mV)
60		4 - 20	4.000 – 20.000 mA	1 µA	±0.01% (5µA)
61	Current(mA)	0 - 20	0.000 – 20.000 mA	1 µA	±0.01% (5µA)
62		0 - 40	0.000 - 40.000 mA	1 µA	±0.05% (0.0A)

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A. How to solve problem Error USB Driver on Windows 8, 8.1

For Windows 8 or 8.1 Signature Driver function should be turn off. In order to turn it off you can to by:

- 1) Click Windows () + R nat Keyboard to open "Run window"
- 2) Type in "Shutdown/r/o" as show in figure below then click

	Run ×			
	Type the name of a program, folder, document or Internet resource, and Windows will open it for you.			
Open:	shutdown /r /o 🗸			
	OK Cancel <u>B</u> rowse			

3) Windows will show message "You're about to be signed out" then click



4) Windows will Restart then click "Troubleshoot"



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5) And choose "Advance Option" then click on "Startup Settings" as show in figure

⊕ Troubleshoot	€ Ac	lvanced optior	าร		
Refresh your PC If your PC init running well you can refresh it without losing your files	2	System Restore Use a restore point recorded on your PC to restore Windows	Command Prompt Use the Command Prompt for advanced troubleshooting		
Reset your PC If you want to remove all of your files, you can reset your PC completely		System Image Recovery Recover Windows using a specific system image file	Startup Settings Change Windows startup behavior		
★∃ Advanced options	~	Automatic Repair Fix problems that keep Windows from loading			
6) Then click Restart					
Startup Settings					
Restart to change Windows options such as: Enable low-resolution video mode 					
Enable de Enable de Enable bo Enable Sa	bugging mode bt logging e Mode				
 Disable di Disable et Disable at 	ver signature enforcement rly-launch anti-malware protection tomatic restart on system failure				
			Restart		

Startup Settings

Press a number to choose from the options below: Use number keys or functions keys FI-F9. 1) Enable debugging 2) Enable boot logging 3) Enable low-resolution video 4) Enable Safe Mode

- 7) after Restart "Startup Settings" window will show up then click F7 or 7 at Keyboard to selecting "Disable driver signature enforcement" action
- 8) then computer will automatically Restart again. After complete restart install USB Driver one more time

Press F10 for more options Press Enter to return to your operating system

7) Disable driver signature enforcement
 8) Disable early launch anti-malware protection
 9) Disable automatic restart after failure

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B. When the device is not in use for a long time, the RTC Jumper should be removed.

When you want to stop using the device for a long time or want to keep the device to replace a broken device, storing the device for a long time causes the battery backup that supplies power to the clock (Real Time Clock) inside the device to work as follows.



1) Open the front cover of the device by using a screwdriver to pry open the grooves on the front cover at all 4 corners.



2) The jumper is located under the display. Connect the jumper to make

the RTC work. (Connection position jumper. Ⅰ)

3) Remove the jumper to disable the RTC. (Connection position jumper. -)

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