Datalogger and RS232 Interface

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RS232 Wiring Hardware

RS232 Wiring Diagram

Meter Side



RS232 Connector Diagram

5 1 (*****) 9 6	PIN2→RX PIN3→TX PIN4→DTR PIN5→GND	PIN4 DTR PIN6 DSR PIN7 RTS PIN8 CTS					
<u>Figure-3</u>							

9 to 25 pins Wiring Diagram

If 9 pins COM port is occupied, the 9 to 25 pins connector will be needed.



RS232 Default Settings

When RS-232 communication enabled ,the default RS-232 settings are

Baud Rate9600ParityNoneData bits8

Stop bit 1

RS232 Protocol

Transmitting Byte Code

Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
02	Oł	nm	Volt	age	Status	03

Byte1 : Starting Byte (02)

Byte2, Byte3 : Ohm Bytes

Byte4, Byte5 : Voltage Bytes

Byte6 : Status Bytes

Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0	
(Ohm)	- (V)	OL(V)	OL(Ohm)		40 V	00 : 40 Ohm ; 01 : 4 C)hm;	1
					4 V	10 : 400 mOhm 11 : 40	mOhm	0

Byte7 : Ending Byte

Commands

"U"----- 02 + Last Address (4300h) + 00 55 AA 00 + Sampling + First Set+...

+ 00 55 AA 00 + Sampling + Second Set +.....03

Last Address: 2 Bytes Sampling: 1 Byte Each Record: 5 Bytes

Hardware Requirements and Setup

PC HardWare Requirements :

HDD, CD Rom, 486 PC or above, with available COM portEGA or higher monitor4M bytes or more memory size

PC HardWare Setup :

- 1) Switch off all power related to the PC
- 2) Connect the socket (female) of RS232 cable to available COM port
- 3) Switch on all related power
- 4) Connect the socket of RS232 cable to Battery Capacity Tester

Software Requirements and Setup

- 1) Start up windows 98 / 2000 / XP operating system
- 2) Close all other applications
- 3) Insert disk in CD drive

Wait for "Autorun" to start and follow on-scree instructions

(If "autorun" does not sart, click on "Start" then "Run". Type the drive letter and

": \Disk1\Setup.exe" and click "OK" .)

1).	
Setup	
2	BatTester Setup is preparing the InstallShield(R) Wizard which will guide you through the rest of the setup process. Please wait.
	100 %

Setup program will run automatically.



Click Next> button

3).

Choose Destination Loc	ation 🗙
	Setup will install BatTester in the following folder. To install to this folder, click Next. To install to a different folder, click Browse and select another folder. You can choose not to install BatTester by clicking Cancel to exit Setup.
	Destination Folder C:\Program Files\BatTester\BatTester B <u>r</u> owse
	< <u>B</u> ack <u>Next</u> Cancel

- a. Click $\underline{N}ext$ > button to setup on the default folder or
- b. Click Browse...button to setup on a different folder

4). Select Program Folder х Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing Folders list. Click Next to continue. ----Program Folders: BatTester Existing Folders: Accessories * ACD Systems Axialis Programs Efficient Networks Games ICQ InstallShield 5.5 Professional Edition Kaspersky Anti-Virus Logitech • < <u>B</u>ack <u>N</u>ext > Cancel

Click Next> button

🛃 BatTester Setup		
BatTester		1
	Copying Windows System files c:\windows\system\comctl32.ocx 100 % Cancel	

Setup is completed.

Communicating Operation

Run the software

1. Click "Start" form Start menu and then move to "Programs" then "BatTester" and then click the "BatTester" icon.

F

				110000001100		
			(ACD Systems	►	
			(Visual Basic 3.0	•	
			(Visual Basic 4.0	•	
			(Visual Basic 5.0	•	
			Þ	Windows Media Player		
			W	Microsoft Word		
			C	Microsoft Outlook		
			C	Microsoft PowerPoint		
		52 I II I	e 💼	Microsoft Office Tools	•	
	<u> </u>	Windows Update	2	Microsoft Access		
	8	New Office Document	X	Microsoft Excel		
			8	Microsoft FrontPage		
		Open Office Document	e 💼	WinBAB	•	
	A	WinZin	Ē	WinZip	۲	
			E.	Efficient Networks	۲	
	76	ICQ	1	MSN Messenger 6.2		
		Free AOL & Unlimited Internet		ICQ	•	
				Kaspersky Anti-Virus	•	
L		Programs	. 🗖	Spyware Stormer	Þ	_
tio				BatTester		🚪 BatTester
Edi		<u>D</u> ocuments	•			
Ξ	R.	Calling				
niu	\$ \$\$	Settings				
eni		Sear <u>c</u> h	•			
MIII						
<u>م</u>		<u>H</u> elp				
Æ	-	<u>R</u> un				
ŝ	<u> </u>		_			
2	æ	Log Off HappySheu				
E						
3		Shut Down				
	Start	🗹 🈂 🛱 📐				

2.

Click an available COM port



3. Main software screen



If no connection, then shows below:

🖥 Panel ¥1.3
BATTERY TESTER
Ω
- 0.01 v
((1 + 1)) PASS WARN FAIL REL
V HOLD Q
MEM READ O
No COM

The right bottom side shows "No COM"

Record (Save to HDD)

Click 🖬 button. The dialog box shown below will appear.



Input a file name and then click "Save" to begin saving data to the file just named.



Click ២ button to stop recording.

Download Data

Download Data from EEP ROM (to read automatically recorded data)

Click Sutton. The Data Logger window, shown below, will open.

🔷 Data	Logger			
Memory	Size	Remained	100.0%	Completed
48.0) K	46.9K		
No: Oh 1 2	m Range 400mOF 40OF	V Range um 40Volta um 40Volta	sampling ge 1 ge 1	Records 9 13

Click on a SET number to view the set's details. For example, in the window above, there are 2 sets from which to choose. The list below is an example of an opened set.

III Data List							
	8						
No.s	Date	Time	400mOhm	40Voltage			
1	2003/09/23	10:45:21		-0.02			
2	2003/09/23	10:45:22		-0.02			
3	2003/09/23	10:45:23		-0.02			
4	2003/09/23	10:45:24		-0.03			
5	2003/09/23	10:45:25		-0.02			
6	2003/09/23	10:45:26		-0.03			
7	2003/09/23	10:45:27		-0.02			
8	2003/09/23	10:45:28		-0.02			
9	2003/09/23	10:45:29		-0.02			

(to read manual recorded data)

Click **READ** to read details.

1. Download Data from Hard Disk

Open					? ×
Look jn:	My Document		•	🗢 🗈 💣 🎟	
History History Desktop My Documents					
My Computer	File <u>n</u> ame: Files of <u>t</u> ype:	All Files (*.*)		•	<u>O</u> pen Cancel

Click 🗐 button. The Open window, shown below, appears

Input the file that was selected earlier and then click the Open button.

III 32.bxt									
<u>e</u> 3									
No.s	Date	Time		40hm	40Voltage	1			
1	2003/09/23	10:22:36	OL		9.21				
2	2003/09/23	10:22:38	OL		9.21				
3	2003/09/23	10:22:40	OL		9.21				
4	2003/09/23	10:22:42	OL		9.21				
5	2003/09/23	10:22:44	OL		9.21				
6	2003/09/23	10:22:46	OL		9.21				
7	2003/09/23	10:22:48	OL		9.21				
8	2003/09/23	10:22:50	OL		9.21				
9	2003/09/23	10:22:52	OL		9.21				
10	2003/09/23	10:22:54	OL		9.21				
11	2003/09/23	10:22:56			0.22				

Data Convert

Apply for Excel

Open Microsoft Excel, find the file saved in Excel type, for example, test.xls.

Open						<u>? ×</u>
Look <u>i</u> n:	My Documents	•	🔤 🔕 🖻 🗟		7	
Test						Open
						Cancel
						<u>A</u> dvanced
Find files th	at match these search criteria:					
File <u>n</u> ame:		•	Te <u>xt</u> or property:		•	Eind Now
Files of typ	e: Microsoft Excel Files	•	Last <u>m</u> odified:	any time	•	Ne <u>w</u> Search
1 file(s) fo	und.					

or find any file already saved in HDD, for example, sample.dat.(see below)

Open						<u>? ×</u>
Look <u>i</u> n:	My Documents	•	🖮 🔕 🖻 🗟			
🗟 Sample	3					Open
						Cancel
						<u>A</u> dvanced
, Find files th	nat match these search criteria:					
File <u>n</u> ame:		•	Te <u>xt</u> or property:		•	Eind Now
Files of typ	e: All Files	-	Last <u>m</u> odified:	any time	•	Ne <u>w</u> Search
12 file(s) l	All Files Out Microsoft Excel Files					
	Text Files					
	Lotus 1-2-3 Files Quattro Pro/DOS Files					
	Microsoft Works 2.0 Files	-				

The "Text Import Wizard" then appears. Follow the steps 1 to 3 to complete.

Text Import Wizard - Step 1 of 3	? ×						
The Text Wizard has determined that your data is Delimited. If this is correct, choose Next, or choose the data type that best describes your data.							
Choose the file type that best describes your data:							
Characters such as commas or tabs separate each field. Fixed width - Fields are aligned in columns with spaces between each field.							
Start import at <u>r</u> ow: 1 🚔 File <u>o</u> rigin: Windows (ANSI)	•						
Preview of file C:\WINDOW5\Desktop\Test.txt.							
1 No.sDDateDTimeD400hmD40Voltage							
2 102003/09/22016:13:4208.2409.20							
4 302003/09/22016:13:4608.2309.21 5 4Π2003/09/22016:13:4808.2409.21							
Cancel < Back Next > <u>F</u> inis	h						

Click Next> button

T	ext Im	port Wizard - S	Step 2 of 3						? ×
	This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.								
		Tab 🗌 Se	<u>mi</u> colon		ima		ic consecu	cive delimiters	as one
			her:			Tex	t gualifier:	: "	-
						J			
	Data or	review							
	bata pi	011011							
			1	1	1				
	No.s	Date	Time	400hm	40Vo.	ltage			-
	н Б	2003/09/22	16:13:42	8.24 0.22	9.20				
	ĥ	2003/09/22	16-13-46	8 23	9.20				
	4	2003/09/22	16:13:48	8.24	9.21				
				Ca	incel	<u> < B</u>	ack [Next >	<u>Fi</u> nish

Click "Next"

Text Impo	ort Wizard - 9	Step 3 of 3				? ×
This screen lets you select each column and set the Data Format. 'General' converts numeric values to numbers, date values to dates, and all remaining values to text.					Column data format <u>G</u> eneral <u>T</u> ext <u>D</u> ate: MDY	
© Do not import column (
GenerG	eneral	General	Genera	General	1	- 1
No.s D	ate	Time	400hm	40Volts	age 🚽	
1 2	003/09/22	16:13:42	8.24	9.20		
2 2	003/09/22	16:13:44	8.22	9.20		
3 2	003/09/22	16:13:46	8.23	9.21		
4 2	003/09/22	16:13:48	8.24	9.21		-
•					Þ	
			Ca	ncel	< Back Next > Einish	

Click **<u>F</u>inish** to complete.

	A	В	C	D	E
1	No.s	Date	Time	400hm	40∨oltage
2	1	9/22/2003	16:13:42	8.24	9.2
3	2	9/22/2003	16:13:44	8.22	9.2
4	3	9/22/2003	16:13:46	8.23	9.21
5	4	9/22/2003	16:13:48	8.24	9.21
6	5	9/22/2003	16:13:50	8.25	9.2
7	6	9/22/2003	16:13:52	8.23	9.2
8	7	9/22/2003	16:13:54	8.24	9.2
9	8	9/22/2003	16:13:56	8.24	9.21
10	9	9/22/2003	16:13:58	8.24	9.2
11	10	9/22/2003	16:14:00	8.24	9.21
12	11	9/22/2003	16:14:02	8.22	9.2
13	12	9/22/2003	16:14:04	8.24	9.21
14	13	9/22/2003	16:14:06	8.23	9.21
15	14	9/22/2003	16:14:08	8.23	9.2

Apply for Graph

Open a saved data in **HDD** or **EEP ROM**, click *k* button to complete.



Sampling Time

PC Sampling Rate:

Click 🔊 button on the Menu Bar.

Input Sampling Time	×
Enter the SAMPLING TIME in seconds (1 <= t <= 86400)	OK
	Cancel
E	

In the **Input Sampling Time** dialog box, input the willing sampling time and then click "**OK**" button to complete.