

Re-Generative AC/DC Electronic Load

Ene-phant Series Control Software



M-2486 Ver1.1

NT-AA Controller

KEISOKU GIKEN Co., Ltd





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Warranty Information

KG (KEISOKU GIKEN CO. LTD.) certifies that this product met its published specifications in this manual at time of shipment from factory with rigorous product inspection.

KG hardware product is warranted against defects in material and workmanship for a period of one year from date of delivery.

During the warranty period KG will, at its option, either repair or replace products without charge which prove to be defective. Please contact a dealer you purchased from or KG directly for any request or questions of the warranty service and inform of product model number and serial number for the manufacturing traceability.

*This warranty is valid only in Japan.



Chapter 1: Introduction

1. 1. Introduction

We would like to thank you for purchasing our Ene-phant series. This software is compatible with AC / DC regenerative electronic load device, model name NT-AA-10KE-L, and is software which enables remote operation from PC by communication via Ethernet.

1. 2. Registered trademark

Microsoft Windows is a registered trademark of Microsoft Corporation in the US and other countries.. LabVIEW is a registered trademark of National Instruments Corporation in the United States and other countries.

1. 3. Copylight

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1. 4. Install

Since it is supplied in a form including runtime, it can be operated even on a PC on which LabVIEW is not installed.



Chapter 1: Preparation

2. 1. Recommended PC operating environment

OS : Windows 7(32bit,64bit) or later CPU : Compliant with the system requirements of each OS Memory : 4GB or more HDD: 300MB or more

- 2. 2. Install
- 1. Insert the product CD into the drive of the PC.
- 2. Double click on the "NT-AA Controller Installer" folder.



3. Double click on the "Volume" folder.



4. Double click on the "setup.exe" file.







setup.ini 構成設定

40.7 KB



5. Click on the、"Next"	outton.		
	過	NT-AA_Controller	- 🗆 🗙
	出力先ディ プライマリイ	イ レクトリ インストールディレクトリを選択してください。	
	すべてのソフ トールするに	トウェアを次のフォルダにインストールします。ソフトウェアを別の場所にインス は、「参照」ボタンを押して別のディレクトリを選択してください。	
	NT-AA_Cor	ntroller用ディレクトリ n Files (x86)¥NT-AA Controller¥	
		mines (Autor+NT-An_Solid Olier+ 参照	
	- National In:	struments 製品用ディレクトリ	
	C:¥Program	m Files (x86)¥National Instruments¥ 参照	
		《 戻る(2) 法へ(2) >> 】	キャンセル(の)
6. Click on the "Next" b	itton.		
	4 1	NT-AA_Controller -	
	インストーラの 続行する前(;	実行を開始 こ、以下の概要を確認してください。	
	追加または変更 • NT-AA_Controllerフ • NI-VISA 5.4.1 ランタイムサポート	7ァイル	
	インストールを開始するに() い。	は「次へ」ボタンをクリックしてください。「戻る」ボタンを押してインストールの設定を3	変更してくださ

- 7. Installation will be done to the specified location, click on the $\$ "End" button...
- 8. A software shortcut is created on the desktop.





Chapter 3: How to use

3. 1 Overview

3. 1. 1. Specification of NT-AA Controller

Specification	Contents
Interface	Ethernet
	Voltage
	Current
	Power
	Frequency
Measurement item	P.F.
	Peak Current
	Apparent Power
	Grid Power (Option)
	Alarm
Measurement interval	1s
Step interval time	1~99999s
Step interval resolution	1s
Step max rows	86400
Log interval time	1s
Log data max rows	86400
	Sequence time
	PC time
	Voltage
	Current
	Power
Logitom	Frequency
Log item	P.F.
	Peak Current
	Apparent Power
	Grid Power (Option)
	Set Load Value
	Alarm



3. 2. Sequence File

1.The default location of the software is as follows. C:\Program Files (x86)\NT-AA_Controller

2.Double click on the "SEQ" folder in the above path.

📙 🛃 📙 🗱 🔻 NT-AA_Controller				— C	×
ファイル ホーム 共有 表示					~ 🕐
\leftarrow \rightarrow \checkmark \uparrow \blacksquare « NT-AA_C > NT-AA_	_Controller v Č	NT-AA_Controlle	erの検索		Ą
名前 ~ ~	/ 更新日時	種類	サイズ		
CFG etc INI LOG	2018/04/09 16:21 2018/04/09 16:21 2018/04/09 16:21 2018/04/09 16:21 2018/04/09 17:42	ファイル フォルダー ファイル フォルダー ファイル フォルダー ファイル フォルダー ファイル フォルダー			
STEP NT-AA_Controller.aliases NT-AA_Controller.exe NT-AA_Controller.ini	2018/04/09 16:21 2018/04/09 16:21 2018/04/09 16:21 2018/04/09 16:21	ファイル フォルダー ALIASES ファイル アプリケーション 構成設定	1 KB 1,363 KB 1 KB		
9 個の項目					

3.At the time of installing the software, the following sample file exists.

If necessary, create	a text file with a	a new name					
-	🔜 💆 📑 🔯 🖛 SEQ					- 0	×
	ファイル ホーム 共有	表示					~ ?
	\leftarrow \rightarrow \checkmark \uparrow \square « N	IT-AA_Controller → SE	EQ võ	SEQの検索			P
	名前		更新日時	種類	サイズ		
	🖲 cc load sample.csv		2018/04/09 14:48	Microsoft Office E	1 KB		
	🐴 cp load sample.csv		2018/04/09 14:48	Microsoft Office E	1 KB		
	2 個の項目						

*The procedure for creating a new sequence file called "test.csv" is described below.



4.Create an empty "test.csv".

	1031.034				
	📙 💆 📙 🗱 🖛 SEQ				
	ファイル ホーム 共有 表示				~ 🕐
	← → × ↑ 🔒 « NT-AA_Controller > 5	SEQ v Ö	SEQの検索		Q
	名前	更新日時	種類	サイズ	
	🚳 cc load sample.csv	2018/04/09 14:48	Microsoft Office E	1 KB	
	B) ep load sample csv	2018/04/09 14:48	Microsoft Office E	1 KB	
ς	🐴 test.csv	2018/04/09 17:48	Microsoft Office E	O KB	
	3 個の項目				

5. Create the sequence file in the following format.

Row n(n≧1) : <StepFile Name>,<Step Repeat Time> <CR> <LF>

//// cc load sample.csv - 义モ帳	-	×
ファイル(<u>F</u>) 編集(<u>E</u>) 書式(<u>O</u>) 表示(<u>V</u>) ヘルプ(<u>H</u>)		
cc load sample.csv,1 cc load sample ver2.csv,1 cc load sample.csv,1		~
		\sim
<		>

Row	Name	Meaning	Input
n	StepFile	Specify the Step file name to be described later.	String
	Name		
	Step Repeat	Specify the number of times to execute Step of line n.	1 -
	Time	For example, if you specify 3, execute Step three times and	
		move on to the next line.	



3. 3. Step File

1.The default location of the software is as follows. C:\Program Files (x86)\NT-AA_Controller

2.Double click on the **"STEP**" folder in the above path.

- → × ↑ 📙 « NT-AA > NT-	AA_Controller > 🗸 🗸 🗸	0 NT-AA_Control	erの検索	
名前 ^	更新日時	種類	サイズ	
CFG	2018/04/09 16:21	ファイル フォルダー		
etc	2018/04/09 16:21	ファイル フォルダー		
- INI	2018/04/09 16:21	ファイル フォルダー		
LOG	2018/04/09 16:21	ファイル フォルダー		
SEO	2018/04/09 17:48	ファイル フォルダー		
STEP	2018/04/09 16:21	ファイル フォルダー		
NT-AA_Controller.aliases	2018/04/09 16:21	ALIASES ファイル	1 KB	
MT-AA_Controller.exe	2018/04/09 16:21	アプリケーション	1,363 KB	
NT-AA_Controller.ini	2018/04/09 16:21	構成設定	1 KB	

3. At the time of installing the software, the following sample file exists. If necessary, create a text file with a new name.

ate a text life with a new name	е.				
🔜 🗳 🔜 🔅 = STEP					
ファイル ホーム 共有 表示					~ 🕐
← → × ↑ 📙 « NT-AA_Controller > S	TEP v Č	STEPの検索			,c
名前 ^	更新日時	種類	サイズ		
🖼 1s sample.csv	2018/03/09 11:21	Microsoft Office E	1,315 KB		
🖼 cc load sample ver2.csv	2018/04/09 14:47	Microsoft Office E	1 KB		
🖼 cc load sample.csv	2018/04/09 14:48	Microsoft Office E	1 KB		
🖼 cp load sample.csv	2018/04/09 15:59	Microsoft Office E	1 KB		
4 個の項目					:::

*The procedure for creating a new sequence file called **"step test.csv"** is described below.



4.Create an empty "step test.csv".

🔜 🛛 🔁 🔜 🗱 🗢 🛛 STEP				
ファイル ホーム 共有 表示				~ ()
\leftarrow \rightarrow \checkmark \uparrow \square \ll NT-AA_Controller \Rightarrow S	TEP v Č	STEPの検索		م ر
名前	更新日時	種類	サイズ	
🛐 1s sample.csv	2018/03/09 11:21	Microsoft Office E	1,315 KB	
🖼 cc load sample ver2.csv	2018/04/09 14:47	Microsoft Office E	1 KB	
🖼 cc load sample.csv	2018/04/09 14:48	Microsoft Office E	1 KB	
🖼 cp load sample.csv	2018/04/09 15:59	Microsoft Office E	1 KB	
step test.csv	2018/04/09 17:57	Microsoft Office E	0 KB	
5個の項目 1個の項目を選択 0パイト				

5. Create the step file in the following format. Row 1(header) : Time, Load Value<CR> <LF> Row n(n≧2) : < Elapsed time >, < Load Value > <CR> <LF> . . .

Row m(Last row) : < Elapsed time >, <(Any Value)> <CR> <LF>

📗 cp load sample.csv - 乂モ帳	<
ファイル(E) 編集(E) 書式(Q) 表示(Y) ヘルプ(H) Time, Load value 00:00:00, 15000.000 00:00:10, 9000.000 00:00:20, 8000.000 00:00:30, 7000.000 00:00:40, 6000.000 00:00:50, 5000.000 00:01:10, 4000.000 00:01:20, 2000.000 00:01:30, 1000.000	< >
< >>	

Row	Name	Meaning	Input
n	Elapsed	Step specify the elapsed time	String
	Time		
	Load Value	Specify the amount of load in elapsed time.	Number
m	(Any Value)	Since the step ends when the last line is reached, the value	-
		here is not used. Enter an arbitrary value.	



3. 4. Start of test

This section describes the activation of the software installed in Chapter 2. It is assumed that software is installed on your PC based on Chapter 2 in advance. Also, connect the NT - AA - 10KE - L main unit to the PC with a LAN cable and turn on the power.

1.If the shortcut exists on the desktop, double-click the following icon..



If the above does not exist, double-click "NT - AA Controller.exe" which exists below.

C:\Program Files (x86)\NT-AA Controller

2."NT-AA Controller" window will be displayed.



Num	Measning
1)	Configuration Specify the configuration. The following patterns are provided.
	1P2W System.CFG \cdots 1 unit NT-AA is used on the load side by single phase 2 wire connection. 3P3W System.CFG \cdots 3 unit NT-AA is used on the load side by threee phase 3 wire connection.
2	Sequence · · · The lamp lights up during configuration operation.
3	Each tab · · · can be selected after configuration selection.



3. When you select the configuration, it looks like the following. We will make a communication connection here.

MT-AA Controller Plus.vi				—		×
KG KEISOKU NT-AA Controller	VER.1.1	Configration 3P3W System.CFG	~	Sequen	ce 🔵	
Connection Control&Measure Step Sequen	ice Control ET	c.				
	IP Address	72.30.10.40				
	Port 1	0001				
	Connec	tion 🥥				
	Co	nnect				
	Disc	onnect				
	Parallel 3	Sys 3P3W 🗸				
	Model					
	S/N					
	FIRM Ver.					
	DSP Ver.					
	UI Ver.					
	Hi Range 🔵	Lo Range 🦲				
<						×

4. Confirm the connection destination IP address and port number and press the Connect button. If the connection is made correctly it will be as follows.



- * Please confirm the following when the above does not go well.
 - The power of NT AA 10KE L is on.
 - · NT AA 10KE L and PC are Ethernet connected.
 - · The IP address and port number setting of NT AA 10KE L matches the software setting.
 - Some devices have the same IP address in addition to NT AA 10KE L in the intra.



3. 5. Manual Control

1. Go to "Control & Measure" tab.

hexadecimal notation.

Num ①

2

- For meaning of alarm status information, refer to the main unit manual.
- It is divided into two by the space, but the front is Status Register 1 and the back is Status Register 2.



3. 6. Confirm step

1. Go to "Step" tab.



Num	Meaning
1	Step Name • • • The Step file names in the STEP folder are displayed in a list. If you changed Step folder during software startup, please click "Step Folder renew" button.
2	The elapsed time and set value of the loaded Step file are displayed. You can not change the value here.
3	A graph of elapsed time and setting value of the loaded Step file is displayed.



3. 7. Sequence Control

1. Go to "Sequence Control" tab.

connection Control&Measure Step	VERS 1 Configration 3P3W System.CFG Sequence Control ETC.	Sequence
	Se que nce Name cp load sample.cv v Step Time 00:00:00 Load Value 0.0000 Sequence Time DD day 00:00:00 Step Times 1 Sequence Index 0 Step Index 0	
Add row above	Index Step Name Step Step 0 \$ cp load sample.csv \$ 1 90 0 \$ invalid step. \$ 0 0	2
Sequence Start Sequence Stop	● 0 \$ Invalid step.	
	3 -0.5- -1- 0 5 10 15 20 25 30 30	

番号	意味
1	Sequence Name · · · Specify the sequence file name used for the operation of the electronic load
	here.
2	The contents of the sequence file read above will be displayed here
3	Trend graphs up to the past 60 s are updated during sequence operation.
4	Controls the start and stop of the sequence.



2. During sequence operation, log data is saved in csv format.

The file name is created automatically from the time when sequence operation starts.

🔜 🛃 🛄 🗱 🗕 LOG					×
ファイル ホーム 共有 表示					~ 🕐
← → × ↑ 🔒 « NT-AA_Controller > L	OG √ Č) LOGの検索			Q
名前 ^	更新日時	種類	サイズ		
📳 20180409_152126.csv	2018/04/09 15:21	Microsoft Office E	1 KB		
🐴 20180409_152159.csv	2018/04/09 15:55	Microsoft Office E	151 KB		
🐴 20180409_155819.csv	2018/04/09 15:58	Microsoft Office E	1 KB		
🐴 20180409_155835.csv	2018/04/09 15:58	Microsoft Office E	3 KB		
🐴 20180409_155902.csv	2018/04/09 15:59	Microsoft Office E	1 KB		
🐴 20180409_155923.csv	2018/04/09 16:13	Microsoft Office E	74 KB		
6個の項目					

The format of the saved file is as follows.

Row 1(Header) : (See sample below)<CR> <LF> Row 2 \sim 86400 :

<Now time>,<Sequence elapsed time>,<Load set value>,<Voltage>,<Current>,<Power>,<Frequency>,<P.F.>,<Peak Current>,<Apparent Power>,<Grid Power (Option)>,<Alarm>,<SequenceIndex><CR> <LF>

A	1 2	r 😭 🗋					2018040	9_183605.csv	- Microsoft E	xcel						- 0	
	市台	插入	ページ レイアウト	装虹式	データ 校開	表示「	調発 アドン	C Team								0 -	
	۳. ۲	MS PJ3	/ック - 11	• A A	= = >	- 富折り	返して全体を表	示する 標準	É .	-				× 🖬	Σ-	A7 A	
貼り作	tt 🔒	BI	U - [- & -]	A - Z -	EEEE	_ 徳 國切ル	を結合して中央	揃え - 🗐	- % ,	8 -99 * (*	(付き テーブルと	บรุษมุด	挿入育	た書 刹		並べ替えと検索と	
- クリップ	マン デーボ らい			- (#) G		配置		5	数値		に、* 書式設立 スタイノ	E * スタイル * レ	- +	* * 2ル	2*	フィルタマン選択マー 編集	
	Q9	•	(f _x		<u>^</u>			^					<u> </u>				×
	А	4	В		С	D	E	F	G	Н	I	J	К		L	M	
1	Now Time	e	Sequence Elapse	d Time	Load set value	Volt	Curr	Pow	Freq	PF	PCurr	Apow	RGP	Alarm		SequenceInde	эх
2	2018/4/	⁽ 9.18:36		0:00:01	15000	1.1	0.2	0	1		198	0.3	1	0 0x0000	0x0000		0
3	2018/4/	⁽ 9 18:36		0:00:02	15000	1.1	0.2	0	1		198	0.3	1	0 0x0000	0x0000		0 =
4	2018/4/	⁽ 9 18:36		0:00:03	15000	209	1.8	0	1	0.1	8.8	360.7	1	0 0x0000	0x0000		0
5	2018/4/	⁽ 9 18:36		0:00:04	15000	207.2	111.5	9883.3	1	0.0	1 03.8	23051.5	1	0000x0 C	0x0000		0
6	2018/4/	⁽ 9 18:36		0:00:05	15000	203.8	112.5	10246	1	0.0	104.1	23239.2	1	0000x0 C	0x0000		0
7	2018/4/	⁽ 9 18:36		0:00:06	15000	203.8	112.5	10246	1	0.0	104.1	23239.2	1	0000x0 C	0x0000		0
8	2018/4/	⁽ 9 18:36		0:00:07	15000	205.5	73	15004.7	50	0.9	9 104.1	15024.8	1	0000x0 C	0x0000		0
9	2018/4/	⁽ 9 18:36		0:00:08	15000	205.5	73	15004.7	50	0.9	9 104.1	15024.8	1	0000x0 C	0x0000		0
10	2018/4/	′9 1 8:36		0:00:09	15000	205.7	73.2	15039.9	50	0.9	9 104.1	15046.5	1	0000x0 C	0x0000		0
11	2018/4/	′9 1 8:36		0:00:10	9000	205.5	73.3	15061.7	50	0.9	9 104.1	15071.3	1	0000x0 C	0x0000		0
12	2018/4/	′9 1 8:36		0:00:11	9000	205.5	73.3	15061.7	50	0.9	9 104.1	15071.3	1	0000x0 C	0x0000		0
13	2018/4/	′9 1 8:36		0:00:12	9000	205.6	71.8	14716	50	0.9	9 104.1	1 4994.8	1	0000x0 C	0x0000		0
14	2018/4/	′9 1 8:36		0:00:13	9000	206.3	44	9082	50) ·	104.1	9081.7	1	0000x0 C	0x0000		0
4 -	201	8040916	3605	0.004.4	0000	006.0		0000	50		1011	0.004 7			00000	_	
ועדב	: 201	00100_10													100% 🤆		(+)



3. 8. ETC.

1. Go to "ETC." tab.

🔤 NT-AA Controller Plus.vi		>
	Configration 3P3W System.CFG	Sequence
Connection Control&Measure Step Sequence Control ETC		
Log Földer C:¥Users¥ksuzuki¥Desktop¥NT-AA Controller¥LOG	• Alarm	•Alarm clear
Step File Folder C¥Users¥ksuzuki¥Desktop¥NT-AA Controller¥STEP	Software message 2018/04/09 18:57:47 Software start	t ^
Sequence File Folder		
After last row of sequence ->Sequence repeat / Sequence stop		4
<		×

Num	Meaning
1	<i>File Path</i> • • • The path to each folder of LOG, STEP, SEQ.
2	After setting the last line of the sequence file, set whether to return to the beginning or end the sequence as it is.
3	Sequence operation This lights up when an alarm occurs. Alarm clear is done with the next button.
4	Software message • • • Displayed here if there is a debugging message, such as when the software issues an error or an alarm occurs.



NT-AA Controller

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