

Comprehensive Motion Device Management Program atMotion



Thank you very much for selecting Autonics products. For your safety, please read the following before using.

Preface

Thank you for purchasing an Autonics product.

This user manual contains information about the product and its proper use, and should be kept in a place where it will be easy to access.

User Manual Guide

- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- A user manual is not provided as part of the product package.
 Visit www.autonics.com to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, and is subject to change without prior notice.
- This manual is produced based on atMotion 1.0 version.

User Manual Symbols

Symbol	Description		
Note	Supplementary information for a particular feature.		
Warning Failure to follow instructions can result in serious injury or death.			
A Caution	Failure to follow instructions can lead to a minor injury or product damage.		
Ex.	An example of the concerned feature's use.		
×1	Annotation mark.		

Table of Contents

	Pref	ace		iii
	Use	r Manual	Guide	iv
	Use	r Manual	Symbols	v
	Tabl	e of Con	tents	vii
1	atMo	otion Ove	erview	9
	1.1		W	
	1.2		S	
2	Inst	allina the	Program	
-	2.1	-	Requirements	
	2.2	5	ations	
			Installation Folder Structure	
			Uninstalling the Program	
	2.3	Start an	ıd Exit	
		2.3.1	Start	
		2.3.2	Exit	
	2.4	atMotio	n Screen Layout	19
		2.4.1	Menu	
		2.4.2	Project	24
			Supporting Device List (Docking Screen)	
			I/O List (Docking Screen)	
			I/O Status	
			Motion Control Property (Parameter)	
			Motion program	
			Message	
			My System	
			Runtime Screen	
			DAQ List	
		2.4.13	DAQ Space	
3	Gett	ing start	ed	47
	3.1		t Device List - Selecting a Device	
	3.2	Setting	RS-232, TCP/IP	51
		-	RS-232C	-
			TCP/IP	
	3.3	Adding	a Unit to My System	53
	3.4	Scan U	nit	56
	3.5	DAQ Li	st	58
	3.6	Adding	from DAQ List to Runtime Screen Library	59
		3.6.1	Data	60
	3.7	Connec	tion	71
	3.8	Saving	Project	73

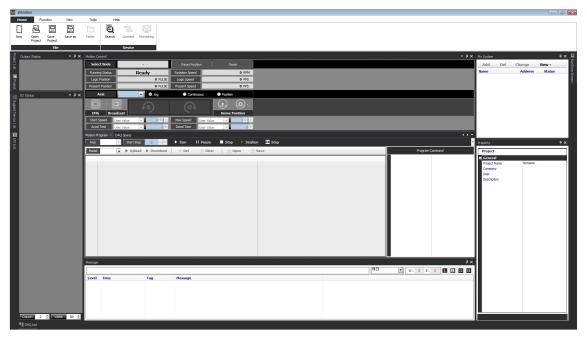
	3.9	Opening a project	75
		3.9.1 Open Project	75
		3.9.2 Open a saved project file	
		3.9.3 Open from Project List	76
	3.10	ModBus Map Table Report	77
4	Char	nging Program Language	79
	4.1	Change Language	79
	4.2	Modifying and Adding Languages	80
5	Runr	ning	81
	5.1	Index Mode	82
	5.2	Jog Mode	83
	5.3	Continuous Mode	84
	5.4	Position Mode (Quantitative Running)	
	5.5	Home Search	86
	5.6	Motion Program	

1 atMotion Overview

1.1 Overview

atMotion is a comprehensive motion device management program that can be used with Autinics motion controller(AiC-D, PMC-2HSP/2HSN, PMC-1HS/2HS, PMC-4B-PCI).

atMotion provides GUI control for easy and convenient parameter setting and monitoring data management of multiple devices.



1.2 Features

Features of atMotion are following.

(1) Multiple Device Support

- Simultaneously monitor multiple devices and set parameters.
- Simultaneously connect units of a single device with different addresses.
- When using ModBus RTU for communication, multiple RS-232 ports are accessible.

(2) Device Scan

When multiple units are connected with different addresses, the unit scan function automatically searches for units.

(3) Convenient User Interface

User can freely arrange windows such as data monitoring, properties, and projects. Saving a project saves the screen layout also.

(4) Project Management

Saving data as a project file includes added device information, data monitoring screen layouts, and I/O source selection. When you open the project file, the last state of the saving moment will be loaded. Organizing project list makes managing project files easier.

(5) Print Modbus Map Table Report

Print address map reports of registered Modbus devices. Modbus map table reports can be saved in html (*.html) and pdf (*.pdf) formats.

(6) Multilingual Support

Default supporting language is Korean and English. User can add a different language, by modifying, renaming and saving the files in the 'Lang' folder.

(7) Script Support

Using Lua Script language allows applying different I/O processes for each device.

2 Installing the Program

2.1 System Requirements

Item	Minimum specifications			
System	IBM PC compatible computer with Intel Pentium III or above			
Operations Windows 98/NT/XP/Vista/7/8/10				
Memory 256 MB+				
Hard disk 1GB+ of available hard disk space				
VGA Resolution: 1024×768 or higher				
Others	RS232C serial port (9-pin), USB port			

2.2 Preparations

- 1st Download atMotion program at Autonics web page(www.autonics.com).
- 2nd Close all programs before you start atMotion installation. Double-click atMotion setup.exe to start installation.
- 3rd When Installer Language window appears,select the language and click [OK] button. Supporting language is Korean and English.

Installer L	anguage 🛞	Installer L	anguage	8
~~~	Please select the language of the installer	~~~	Please select the language of the	installer
	Korean 💌		English	-
	English Korean		ок с	Cancel



4th Click [Next] button in the installation welcome window.

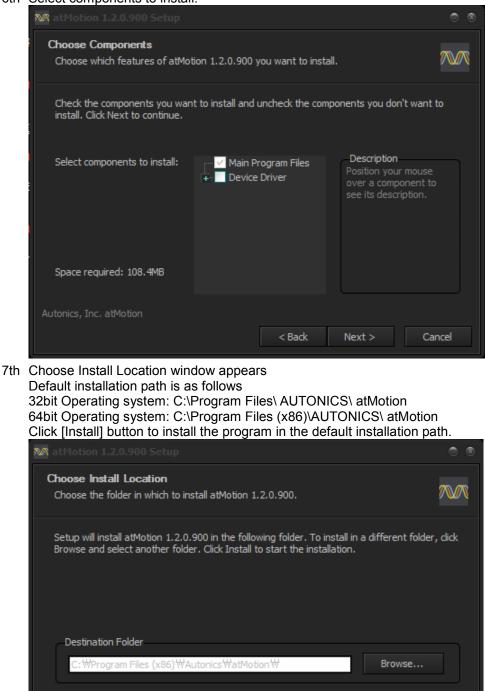
5th This process is license agreement.

You can check whole part of license agreement article by rolling mouse scroll downward, clicking downward arrow or press "Page Down(PgDn)" Key of the keyboard.

Please	read	the	articles	thoroughly	/ before	click	[  Aaree]	button.

🎊 atMotion 1.2.0.900 Setup	•
License Agreement Please review the license terms before installing atMotion 1.2.0.900.	~~~
Press Page Down to see the rest of the agreement.	
Autonics Software End User License Agreement	
PLEASE READ THIS SOFTWARE END USER LICENSE AGREEMENT CAREFULLY BEFORE INSTALLING OR USING THE AUTONICS "atMotion" SOFTWARE (hereinafter referred to as "Software")	
This license agreement (hereinafter referred to as "Agreement") is between you, the end user, and Autonics Corporation. By installing or using this Software, you acknowledge and accept these terms. If you do not accept the terms, do not install or	Ŧ
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install atMotion 1.2.0.900.	
Autonics, Inc. atMotion	
< Back I Agree Can	cel

6th Select components to install.



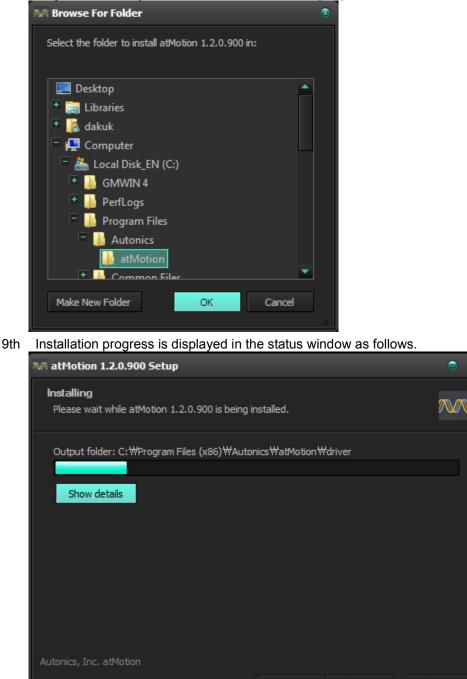
< Back

Install

Cancel

Space required: 108.4MB Space available: 307.1GB

8th If you want to install the program in anothor installation path, click [Browse..] button to designate a folder you want to install in and click [OK] button.



10thInstallation Complete window appears after installation is completed. If the check box in the Installation Complete window is checked, atMotion runs upon completion of installation.

You can run atMotion by double-clicking the atMotion icon on the desktop.



The initial screen displays as follows.

athoton		0 8 8
Hasee Function View Tools Help		
Let Let Lead Lead - See See See Conset Hontaria		
The boyest and the second and the se		
File Device		
g Output Status + ₹ X Hoton Control + ₹		9 × 🗐
E Select Node - Reset Publico Reset	Add Del	Change View -
A Rumming Status Ready Rotation Speed 0 8294	Name	Address Status
The second secon		8
Present Rustion 0 PLLSE Present Speed 0 PPS		
A [0.58bis + 3 x Asis ● 2.0 Colorus ● Porton	1	
	il i	
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To potenting at a large year of the state o	Property	9 ×
	Project	
Itodel         Image: bigload         Download         X Del         If Gear         B Save         Program Compand	General	Noname
	Project Name Company	Noname
	User	
	Description	
Mossage # 1	di li contra di la c	
Level Time Tag Hessage		
Column 2 0 100m 80 0		
F2 DAQ Lat		

### 2.2.1 Installation Folder Structure

This section explains the folder structure created when you installed atMotion.

After atMotion installs completely, folders are created as follows. The program and all relevant documents are stored in these folders.

The atMotion folder is created in [C:\Program Files\Autonics] as a subfolder unless you select a new destination to change locaion of atMotion folder.

#### atMotion

	device
	document
	driver
	help
	lang
	plugin
	Tools

#### (1) Device folder

Device folder contains a device information files (*.dev) which can be monitored and set with atMotion. When the program is executed, atMotion figures out the connected devices and automatically add related files from device folder to the program.

If devices are added or upgraded after the program is installed, copy the device information file and put it into this folder to update the list of available devices.

Since contents of the [plug-in] folder are also changed when a communication related function is added or modified, however, changes may or may not be applied depending on the level of upgrade

#### (2) Document Folder

Document folder contains user manual (kor, eng).

#### (3) Driver Folder

Driver folder contains device drivers of PMC-2HSP/2HSN, PMC-1HS/2HS, PMC-4B-PCI.

#### (4) Lang Folder

Lang folder contains language information files(*.lang). When the program is executed, atMotion reads all files in the folder and adds automatically to the program. The language information files are written in a text file format, so you can modify and add text using XML Notepad. Korean and English language files are in this folder by default.

#### (5) Plugin Folder

Plugin folder contains core library files (*.dll) for ModBus communications as well as runtime screen files (*.rpu).

#### (6) Tolls Folder

Tools folder contains basecore library files (*.dll) of atMotion program.

### 2.2.2 Uninstalling the Program

There are procedures to uninstall atMotion, Start > Program > atMotion > Uninstall or Start > Setting > Control Panel > Add/Remove a Program > atMotion.

When a confirmation window appears after selecting Remove, click [Yes] bottun to remove atMoiton from the computer.

## 2.3 Start and Exit

#### 2.3.1 Start

Double-click atMotion icon in the desktop or select Start > Program > atMotion to start the program.

#### 2.3.2 Exit

Click [X] button on the top right corner of the screen to end the program.

Since projects are not saved automatically, please make sure that you have saved the project before you exit.



## 🖉 Note

- The name of the atMotion process in Windows Task Manager is displayed as atMotion or DAQMaster.
- The program name of atMotion in the warning window is displayed as atMotion or DAQMaster.

## 2.4 atMotion Screen Layout



The program screen is divided into sections as shown in the preceding screenshot and each section is composed of the following items.

No.	Item	Description
1	Menu	Displays atMotion menus by category.
1	Ivienu	If you select a menu, submenus appear.
2	Project list	Displays recent projects or usually used project list to manage
	Tojectiist	the files.
3	Project	Displays basic information of currently running project.
4	Support device list	Displays a list of devices supported by atMotion.
5	I/O List	Displays parameter items of devices which are added to My System.
		Displays operation state, X, Y axis logic location and logic
6	Output status	speed of the selected nod.
-		Displays activate/inactivate state of all PC connected nod I/O
7	I/O status	reasons of state error alarm.
0	Mation control	Helps controlling motor in manual mode with jog, continuous
8	Motion control	and position running mode.
9	Droporty	Allows setting and modifying information of items in project, My
9	Property	System and DAQ list and parameters of connected units.
10	Motion program	Runs commands saved at each steps in order of step, after
10	Motion program	user enter commands.
11	DAQ space	Displays added UI items in runtime screen
12	DAQ list	Displays added parameter items in I/O List.
		Records events occurred while operating program.
13	Message	Displays connection and disconnection of communication and a
		list of errors.
14	My system	Displays list and connection status of devices connected to
		atMotion.
15	Run time screen	Displays screen library for data monitoring.

#### 2.4.1 Menu

#### (1) Home

Home	Fur	nction	View	Tools	Help		
L <b>t</b> New	Open Project	Save Project	Save as	Folder	<b>Q</b> Search	Connect	Monitoring
		File				Device	

#### 1) File

٠

- New: Creats a new project. Initializes currently opened project.
- Open project: Opens a saved project.
- · Save project: Saves the project you are working on.
- Save As: Saves the project as a file name.
- Project Folder: Opens the folder current project has saved in.
  - When project is not saved, this icon is inactivated.

#### 2) Device

 Search: Select items you want to search for from device, comm port, baudrate, node and click [Search] button.
 Select model nome from Find Node and click [Ohl button to odd the

Select model name from Find Node and click [Ok] button to add the device to My system.

earch	1.00	_		X
Device	Comm Port	Baudrate	Node Node	Find Node
AiC Series	COM1=Serial0	9600	V 1 🔺	PMC-2HSP/2HSN, COM10=VCP0, 115200, 1, PMC-2HS
PMC-2HSP/2HSN	COM10=VCP0	19200	2	
MC-1HS/2HS		38400	✓ 3	
		58600	▼ 4	
		115200	<b>▼</b> 5	
			V 6	
			7	
			V 8	
			9	
			V 10	
			V 11	
			V 12	
			V 13	
			✓ 14	
			15	
			16	
			17	
			18	
			19	
			20	
			7 21 *	
	PMC-2HSP/2H	SN, COM10=VCP0,	115200, 11	
		84%		Cancel Search Ok

- Connect/Disconnect: Connects driver to the selected nod or disconnects the driver
- Monitoring: Right after the driver is connected, the program is activated to monitoring mode.

Out of monitoring mode, Output status, I/O status and Motion control are inactivated while Motion program and necessary properties for motion operation are activated.

Only out of monitoring mode, adding and deleting DAQ list items in DAQ space are possible. In monitoring mode, Program mode window and Property window are activated.

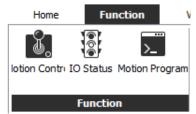
## **Autonics**

Monitoring mode	Inactivated	Activated	
Menu	•	•	
Project list	•	•	
Project	•	•	
Support device list	•	•	
I/O list	•	•	
Output status	x	•	
I/O status	x	•	
Motion control	x	•	
Property	•	•	
Motion program	•	•	
DAQ space	x	•	
DAQ list	•	•	
Message	•	•	
My system	•	•	
Run time screen	•	•	



W striktor- m Manuel Ancton Ven Tools Not	(w) B.(B
Image: Second	Alah De Change Vener And De Change Vener Marza Alexandro State Marza Alexandro State Mal
Bit         Dec         Figure # Upward         X Wat         IL Wat         IL Wat         Image: The State of the State o	Action of the second seco
Tore and the second of the sec	Ipol Literi         Jane           Specific Mitplier         D

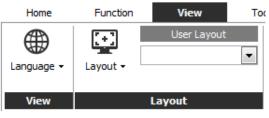
#### (2) Function



#### 1) Function

- Motion Control
- I/O Status
- Motion Program

#### (3) View



#### 1) View

٠

Language: Changes the program language. Default language is the selected language during installation.

_	H	Home		Function	Viev	v	То	
	Lang	guage +	La	Layout -		User Layout		•
	А	English			l	.ayout		
	한	Korear	1	s nanna			Ψ×	Motio

Select 'View > Language' to apply selected language.

#### 2) Layout

Saves or deletes layouts.

You can select the saved layout in user layout.

Home	Function	View	Тос
Language -	Layout -	User Layout	
View Project List		delete	Motio
List	Defaul	t	S

Layout save: Saves the current layout and adds it at user layout.

Layout save	×
Save for Default	•
Ok	Cancel

Layout delete: Select the saved layout and delete it

Layout delete	×
program mode	
Ok	Cancel

Default: Changes docking screen layout to default layout.

#### (4) Tools

Home	Function	View	Тоо	ols	Help				
		<b>O</b>			lhth		$\leq$	4	J.
Property	Support Device List	My System	Project	I/O List	RunTime UI	DAQ List	Message	Project List	Output Status
	Tool View								

#### 1) Tool View

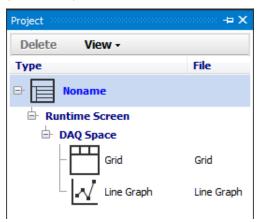
- Property
- Support Device List
- My system
- Project
- I/O List
- RunTime UI
- DAQ List
- Message
- Project List
- Output Status



#### 2.4.2 Project

Project saves current settings such as runtime screen information and I/O source, allowing to work in previously used environments later again.

In "Property" at the right side of the screen, you can change 'general information, data file, log data schedule, and project opening option'. For more information, refer to '2.4.7 Property (Parameter)'



### 2.4.3 Supporting Device List (Docking Screen)

Support Device List displays list of devices supported by atMotion. The support device list will be updated continuously.

Support Device Lis	t maanaanaanaanaa	
Search Device		Q
Name		Function
🖃 💼 Auto	onics (4)	
-	AiC Series	AiC Device
- 16	PMC-2HSP/2HSN	ModBus Motion Control
	PMC-48-PCI	PMC-48-PCI
- 16	PMC-1HS/2HS	Motion Controller

## 2.4.4 I/O List (Docking Screen)

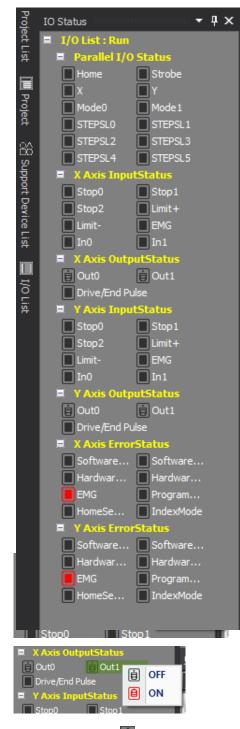
I/O List displays parameters items you can monitor for devices added to My System. I/O List appears after a device is connected.

List addaddadd			- 1000
vice	Source	Interface	
- 🏦 РМ	C- <b>2 1 (68/68)</b>	R5-232 - COM1=	
- Prese	nt Position X	Analog, R	
- Prese	nt Position Y	Analog, R	
- Drive	Speed X	Analog, R	
- Drive	Speed Y	Analog, R	
- Progr	am Step X	Analog, R	
- Progr	am Step Y	Analog, R	
- Read	Baudrate	Analog, R	
— Main	Connect	Analog, R	
- X Hor	ne approach	Digital, R	
- X Hor	ne	Digital, R	
- X End	oder Z Phase	Digital, R	
— X Limi	t+	Digital, R	
— X Limi	t-	Digital, R	
- X EM	G	Digital, R	
— X Inp	ut0	Digital, R	
— X Inp	ut1	Digital, R	
- Y Hor	ne approach	Digital, R	
- Y Hor	ne	Digital, R	
- Y End	oder Z Phase	Digital, R	
- Y Limi	t+	Digital, R	
— Y Limi	t-	Digital, R	
- YEM	3	Digital, R	
— Y Inp	ut0	Digital, R	
— Y Inp	ut1	Digital, R	
- Home		Digital, R	
— Strob	e	Digital, R	

When a device is connected, all items of I/O list is automatically added to DAQ list for monitoring units of the connected device. You can search a certain item.

### 2.4.5 I/O Status

I/O Status displays input/output status and alarm.



XItems in I/O status can be different depending on the connected device. Please refer to the user manual of the device.

EMG(emergency) of the CN3 I/O connector of the node is now in activated status. Among I/O status lamps, some only indicates current status and others have OFF/ON button to test output.

Items only for indication receive and display input/output status or error status of the driver. (OFF: . , ON: . )

Status items with 🔳 lamp is possible to test output with OFF/ON button.

After selecting status items with lamp, double-click the item or right-click to activate OFF/ON dialog in order to shift to desired status between OFF and ON.

## 2.4.6 Motion Control

Motion Control supports motor control with a various kind of modes, Jog, Cuntinuous, and Position.

Motion Control						
1 Select Node	1		2 Reset Posit	ion	3 Re	set
4 Running Status	Ready		Rotation Speed		X Axis 0, Y	Axis O RPM
X Logic Position		0 PULSE	X Logic Speed			O PPS
Y Logic Position		0 PULSE	Y Logic Speed			O PPS
5 Axis	x 🔽 🗗	Jog	🔵 Continu	JOUS	Position	
7	9 🔎	)	( <del>0</del> )		10	
EMG Broad	dcast 🦯				Home	Search
Start Speed	ser Value 🔻	100 🚔 💌	Max Speed	User Valu	e 🔻	100 🚔 💌
Accel Rate U	ser Value 🔻	100 🚔	Decel Rate	User Valu	e 🔻	100 🚔

#### (1) Select Node

Select Node displays selected node.

#### (2) Reset Position

Reset Position resets current position (X Logic Position, Y Logic Position) to 0(Home).

#### (3) Reset

Reset resets current position value and setting value to its default. OUT, DRIVE and ERROR which are in ON status are turned OFF. When motor is running, reset function can be used as an emergency stop signal because it stops motor right after the button is clicked.

#### (4) Running Status

Running Status displays the running status information of each axis, such as current running status of the motor, position and speed.

#### (5) Axis

Select an axis among X, Y, XY to run.

#### (6) Motion Control Mode

1) Jog

Jog mode runs a motor when direction button is being clicked. CW(+) is clockwise and CCW(-) is counter clockwise.



#### 2) Continuous

Continuous mode runs a motor when direction button is clicked and stops a motor when stop button is clicked.

CW(+) is clockwise and CCW(-) is counter clockwise.

▼ O Jo	g	Continuous	Position	
-			Home S	earch

#### 3) **Position**

Position mode has relative position and absolute position.

- Relative position: Runs motor from the current position as much as set relative position value.
  - Absolute position: Runs motor from 0 (Home) as much as set absolute position value.

After setting position value in the relative/absolute position setting box, click [Start] button to run a motor as much as set pulse value.



XOutput value range appears with mouse point over the box.

#### (7) Emergency Stop

Emergency Stop stops motor driver urgently. In case of emergency, it is used to stop motor driver in a hurry. After emergency stop is operated, all commends will be blocked. In order to return to normal operation, reset or reboot the motor driver.

* Operating function of emergency stop item is different depending on the connected device. Please refer to the user manual of the device.

#### (8) Broadcast

Broadcast sets or operates currently connected multiple nodes simultaneously. * Operating function of broadcast item is different depending on the connected device. Please refer to the user manual of the device.

#### (9) Operating Direction

[Jog, continuous running]	CW(+) click: Operates motor to the clockwise direction.
[Jog, continuous running]	CCW(-) click : Operates motor to the counter clockwise direction.
[Position running]	

#### (10) Home Search

Home Search operates home search command.

Clicking [Stop] button operates home search stop command.



#### (11) Running Speed and Acceleration/Deceleration Speed

Running Speed and Acceleration/Deceleration Speed sets running speed and acceleration/deceleration speed of jog, continuous, position (preset) mode. One out of drive speed (1~n) can be selected.

After putting user value in the box, press "Enter" key to apply the value.

Operating function of emergency stop item is different depending on the connected device.
Please refer to the user manual of the device.

1) Start Speed

Start Speed sets starting speed when running the driver. After selecting a value among drive speed (1~n) or putting user value in the box, press "Enter" key to apply the driver speed value which was set in Property (parameter).

#### 2) Max Speed

Max Speed sets driver speed.

After selecting a value among drive speed  $(1 \sim n)$  or putting user value in the box, press "Enter" key to apply the value which was set in Property (parameter).

As followings, speed acceleration/deceleration rate items ( $\times 1/\times 10/\times 100$ ), unit (RPM/PPS) can be selected.

Speed acceleration/deceleration rate activates speed overlight function which enables speed change in running status.

Max Speed	Drive Speed1	-	10 🛱 🗔	
Decel Rate	User Value	-	100	x 1
				x 10
📄 🕨 Run	Pause	Stop		x 100
X Del	XX Clear	년 Ope		RPM
	XX CICUI		•	PPS

#### 3) Accel Rate

Accel Rate sets acceleration rate when running the driver. After selecting a value among drive speed (1~n) or putting user value in the box, press "Enter" key to apply the acceleration rate which was set in Property (parameter).

#### 4) Decel Rate

Decel Rate sets deceleration rate when running the driver.

After selecting a value among drive speed  $(1 \sim n)$  or putting user value in the box, press "Enter" key to apply the deceleration rate which was set in Property (parameter).

## 2.4.7 Property (Parameter)

Property window allows to check and modify necessary items in running driver, such as project, My System and DAQ List.

In order to run motor driver properly, setting properties to fit to system to use is required prior to operation.

Property		селес <b>4 х</b>		
R5-232				
General				
Name	RS-232			
Information				
Configuration				
Search Port List	Auto Search	•		
Communication Port	COM5=VCP0	⊡		
Baudrate	9600	•		
Check Parity	None	•		
Stop Bit	2	⊡		
Bit Per Byte	8	⊡		
Hardware	None	•	≫ Bit Per Byte	8
Software	None	•	Hardware	5
DTR Control	Disable	⊡	Software	6
RTS Flow Control	Disable	$\overline{\bullet}$	DTR Control	8
Byte Time	0		RTS Flow Control	
			Byte Time	0

Poperty window consists of name and value setting box of each Property items. In value setting boxes, some only displays value and others can be modefied. Modifiable items are displayed in edit type, combo box type, or run type.

#### (1) Edit type

Configuration		
Mode	RT	u 🔽
≫ Timeout	100	0
Retries	3	100msec(0 ~ 60000)
Number of Length Byte	1	

Enter number of text in the box.

Input range appears with mouse point over the box.

#### (2) Combo box type

[X Axis] Operation N	[X Axis] Operation Mode							
Limit Stop Mode	Instant	⊡						
➢ Limit Active Level	Low	-						
S Curve	Low							
End Pulse	High							
Deceleration Value	Accel	⊡						
Software Limit	Disable	⊡						

Click combo button or press "Alt+direction" key to see a list of selectable items.

#### (3) Run type

» Information	
Click [] button to operate the relevant func	tion.
Information	
Information Version	
Serial Port Information	
Search Port 2 COM1=Serial0	
Hardware Information	
	Pinout and Signals
	1. DCD : Data Carrier Detect
ALC: NOT	2. RXD : Receive Data
	3. TXD : Transmitted Data
1234	4. DTR : Data Terminal Ready
5 /	5. GND : Signal Ground
6	6. DSR : Data Set Ready
8 9	7. RTS : Request to Send
	8. RI : Ring Indicator
	9. CTS : Clear To Send

#### 2.4.7.1 Project Properties

Click project name (default: Noname) in the project window to set General (project name, company, user, description), Data file (data folder, data file creation rules, CVS time type), Log data schedule (log data schedule, active schedule) and When opening project (run mode, layout)

		Property conservation			
Project	× ⇔ ×	Project			
Delete View -		General			
Туре	File	Project Name	Test		
- Noname		Company			
		User			
占 Runtime Screen		Description			
L DAQ Space					

#### (1) General

You can enter project name, company, user, description for project management.

#### 2.4.7.2 **My System Properties**

#### (1) RS-232

Click RS-232 in My System window to modify name in General of RS-232 properties. ΠV

			General	
			Name	RS-232
			Information	
			Configuration	
			Search Port List	Auto Search
ystem and and a second		🕈 🗙	Communication Port	COM5=VCP0
		r	Baudrate	9600
\dd Dol	Change			
		View +	Check Parity	None
Add <b>Del</b> me	Change Address	Status	Check Parity Stop Bit	None 2
				None 2 8
ne	Address	Status	Stop Bit	2
e 5-232 ModBus Master	Address COM5 RTU, 3, 1	Status Disconnect Disconnect	Stop Bit Bit Per Byte	2 8
ne 5-232 ModBus Master	Address COM5	Status Disconnect	Stop Bit Bit Per Byte ≫ Hardware	2 8 None
e 5-232 ModBus Master	Address COM5 RTU, 3, 1	Status Disconnect Disconnect (1) EA	Stop Bit Bit Per Byte ≫ Hardware Software	2 8 None None

You can also modify Search port list, Communication port, Baudrate, Check parity, Stop bit, Per byte, Hardware, Software, DTR control, RTS flow control, Byte time in the configuration of RS2232 Property.

#### (2) ModBus Master

Click ModBus Master in My System to modify name and check information in General of ModBus Master property. Ψ×

Property

y System		<b>4 ×</b>	ModBus Master	
Add Del	Change	View -	General	
	Address		Name	ModBus Master
lame	Address	Status	Information	
R5-232	COM5	Disconnect	Configuration	
🗄 ModBus Master	RTU, 3, 1	Disconnect	Mode	RTU
PMC-2HSP.		(1) = 1	Timeout	2000 msec
PMC-2HSP.	Autonics	(1) EA	Retries	3
	PMC-2HSP	Disconnect	Number of Length Byte	1
L 1	PMC-2HSP	Disconnect	Number of Length Byte	1

You can also modify Mode, Timeout, Retries and Number of length byte (1: default, 2: option) in the configuration of ModBus Master Property.

#### (3) Device(PMC-2HSP/2HSN)

Click device (PMC-2HSP/2HSN) in My System to check information in General of PMC-2HSP/2HSN property.

	Property	<b>Ф Х</b>				
PMC-2HSP/2HSN						
	🗉 File					
	Description	ModBus Motion Controller				
······································	Date	2016.04.01				
View -	Date Modified	2016.04.01				
ss Status	Creation					
	Revision	1.0.0				
	Version					
, I Disconnect	Vendor	Autonics				
cs (1) EA	Product	PMC-2HSP/2HSN				
	Major Revision	1				
HSP Disconnect	Minor Revision	0				
	↓     View -       view -        visconnect        0, 1     Disconnect       cs     (1) EA	Image: second				

#### (4) Address(1)

Click device address (1) in My System to check information in General of PMC-2HSP/2HSN>>1 Property. You can also set User unit name and modify DAQ repeat interval and Frame interval.

				Property	
				PMC-2HSP/2HSN >> 1	L
				General	
				Device Name	PMC-2HSP/2HSN
				Unit Address	1
				Model	PMC-2HSP-USB
				DAQ Repeat Interval	0 msec
				Frame Interval	40 msec
				User Unit Name	
			-	Version	HW: 12594, SW: 12848
4y System		*****************	<b>4</b> ×	[X Axis] Operation M	ode
Add	Del	Change	View -	[X Axis] Parameter	
Name		Address	Status	[X Axis] Home Searc	h Mode
RS-232		COM5	Disconnect	[Y Axis] Operation M	ode
				[Y Axis] Parameter	
	us Master	RTU, 3, 1	Disconnect	[Y Axis] Home Searc	h Mode
	PMC-2HSF	P Autonics	(1) EA	Pulse Mode	
999	)			Communication Optic	on
L 1		PMC-2HSP	. Disconnect	E RPM	

In the device connected status, click device address (1) to check and modify parameter of the device.

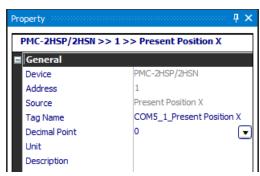
#### 2.4.7.3 DAQ List Properties

DA(

#### (1) General

Click DAQ list items, which are added from I/O list, to check information and to modify Tag name, Demical point and Unit in General of the selected I/O item Property

ре	Num	Delet	e All Select All	Delete t	he selected item(s	)						
All	68	No.	Device	Address	Source	Tag Name	Туре	R/W	Read Mode	Unit	Calculation	Descri
Group		- 8	Standard Tag (68)									
- Analog	18		COM5_PMC-2HSP	1	Present Position X	COM5_1_Present Position X	Analog	R	Cont		1	
Digital	50		COM5_PMC-2HSP	1	Present Position Y	COM5_1_Present Position Y	Analog	R	Cont		,	
String	0		COM5_PMC-2HSP	1	Drive Speed X	COM5_1_Drive Speed X	Analog	R	Cont		,	
Vidieo	0		COM5_PMC-2HSP	1	Drive Speed Y	COM5_1_Drive Speed Y	Analog	R	Cont		,	
			COM5_PMC-2HSP	1	Program Step X	COM5_1_Program Step X	Analog	R	Cont		,	
			COM5 PMC-2HSP	1	Program Step Y	COM5 1 Program Step Y	Analog	R	Cont			



#### (2) Write

Sets ON/OFF of tag value transmission.

🗉 Write	
≫ Value	
	OFF
	ON

Sets reset or emergency stop.

🗖 Write	
» Value	l 🔽
	Reset

#### 2.4.7.4 DAQ Space Properties

Runtime screen property allows you to set Name, Information and Update interval of the added runtime screen (Grid, Line graph).

Click Grid in the runtime screen window to modify name in General of Run UI Property.

You can also modify update interval (default: 1,000ms) in the configuration of Run UI.

Motion Program DAQ Space							
🗂 Grid 📃 🔲 🔀							
No.	Device	Tag Name	Time	Data	Unit	Min	Мах
1	COM5	COM5_1_Present Position X		0		-	
2	COM5	COM5_1_Present Position Y		0		-	-
3	COM5	COM5_1_Drive Speed X		0		-	- [
4	COM5	COM5_1_Drive Speed Y		0		-	-
5	COM5	COM5_1_Program Step X		0		-	-
6	COM5	COM5_1_Program Step Y		0		-	-
7	COM5	COM5_1_Read Baudrate				-	-
8	COM5	COM5_1_Main Connect		OFF		-	-
9	COM5	COM5_1_X Home approach		OFF	-	-	-
10	COM5	COM5_1_X Home		OFF	-	-	-
11	СОМ5	COM5_1_X Encoder Z Phase		OFF		-	-
12	COM5	COM5_1_X Limit+		OFF	-	-	-
13	COM5	COM5 1 Y Limit-		OFF			
•			III				▶ 3

Property 🛛 🕂 🗙				
Run UI				
E General				
Name	Grid			
Information				
Configuration				
Update Interval	1000 msec			

#### 2.4.8 Motion program

Runs motor on the commands written in each step in order of steps from 0.

Modern Program A DAQ space							
xis X 🔻 Start Step 5	🚔 子 Run 👍 Pause 5	Stop 🔓 SeqRun				16	alculator
Model PMC-2HSP 👻 🖌 Upload 🕩 Down	nload 🛛 🗙 Del 🕺 Clear	🚰 Open 🛛 🖉 Sav	e		Prog	ram Command	
Step _ ¥ Command	X C	Command			🖬 General		
16		uninana			Program Index	5	
				Â	X Axis Program		
					Command	Not Used	•
40					Y Axis Program		
<u>    1   6                             </u>					Command	Not Used	•
17							
5				-			

#### (1) Axis

: Select axis to run from X, Y, XY.

#### (2) Start Step

: Select step number to run or click the step in the editing box.

(3) Run

: Runs motor from the step which is selected in the start step or editing box.

(4) Pause

: Pauses after the currently running step has finished. After pause, click [Run] button to restart from the next step.

(5) Stop

: Stops after the currently running step has finished.

After stop, click [Run] button to restart from the start step.

#### (6) SeqRun

: Runs in order of step, from 0 to End command.

#### (7) Step

: Runs only one step, which is selected in the editing box, repeatedly.

#### (8) Model

: Displays model name of the connected controller.

#### (9) Upload

Loads program which is saved in motion controller.

It is activated when the program in the motion controller and the one in the editing program are not synchronized.

If there is edited program when you click the upload button, following message pops up.

Editing is in progress Would you like to ignore and upload it? The data being edited will be deleted,
Ok Cancel

#### (10) Download

Downloads edited program to motion controller.

It is activated when the program in the motion controller and the one in the editing program are not synchronized.

If they are not synchronized, following message pops up.

Program is not synchronized, Would you like to download edited program?
Ok Cancel

%The programs are synchronized after clicking [Load] or [Send] button, these buttons are

inactivated and commands will be written in motion controller in realtime.

#### (11) Del

Select the step to delete in the editing box and click [Del] button or press "Delete" key to delete the step. You can delete multiple steps at once with "Shift" key (consecutive selecting) and "Ctrl" key (individual selecting). It deletes the selected step as well as command.

#### (12) Clear

Deletes commands written in all steps.

### (13) Open

Opens a saved motion program command project file (*.amd). If there is edited program when you click the open, following message pops up.

Do you want to overwrite it with the saved program? The data being edited will be deleted,
Ok Cancel

### (14) Save

Saves currently applied motion program command as a project file (*.amd).

### (15) Motion Program Command

Select a step in the editing box to display command items to write command in the program command window. With items in the program command window, you can write command and specific data of the command.

* Command and specific data of the command can be different depending on the connected device. Please refer to the user manual of the device.

Motion Program 🗙 DAQ Spa	ce				
Offline Axis X	💌 Start Step 7 🚔	⊨ Run II Pa	use 📕 Stop	🕨 SeqRun 🛛 📴 Ste	Þ
Model PMC-2HSP 💌 🕨	Upload 🕨 Download	X Del XX Clea	r 🗟 Open	🖳 Save	
Step X Command			Y Command		
1         ABS [Pos: 300 pulse]           2         HOM [End Pulse:1],           3         END	e], [Speed: 2], [Timer: 0], [End P  , [Speed: 2], [Timer: 0], [End Pu , [Both:1]		ABS [Pos: 1000 puls TIM [On Time: 1000	se], [Speed: 1], [Timer: 0]	], [End Pulse:0 ], [Both:0 ] , [End Pulse:0 ], [Both:0 ]
4 5 Proc	gram Command		END	am Command	E Ger
General	-	📕 Gene	eral		Dev
Program Index	0	Progr	am Index	0	Unit
X Axis Program		E X Ax	is Program		Mod
Command	INC	Com	nand	INC	DAC
Position Drive Speed	Not Used ABS		on Speed	1000 2 1000pulse(-8	3388608 ~ 8388607
Post Timer End Pulse	INC HOM LID	E Post		0	Vers
Both	CID FID	Both		0	
Y Axis Program Command	RID TIM		is Program nand	NOP	■ [X / ■ [Y /

In value setting boxes, some only displays value and others can be modified. Modifiable items are displayed in edit type or combo box type.

Edit type



Enter number of text in the box.

Input range appears with mouse point over the box.

### Combo box type

Program Command						
🗉 General						
Program Index	0					
🔳 X Axis Program						
Command	INC	•				
Position	1000 pulse	_				
Drive Speed	2	•				
Post Timer	0	• •				
≫ End Pulse	1					
Both	0					
Y Axis Program	1					
Command	NOP					

Click combo button or press "Alt+direction" key to see a list of selectable items.

# Note

※1. PMC-1HS (1 axis)

Motion P	rogram × DAQ Space
Axis	🗴 👻 Start Step 0 🔶 🕨 Run II Pause 🗖 Stop 🕨 SeqiRun 亚 Step
Mode	PMC-1HS 💌 🕨 Upload 🕨 Download 🛛 🗙 Del 🐹 Clear 🗧 Open 🗐 Save
Step	Command
0	
1	
4	
4	

### ※2. PMC-2HS (2 axis)

Motion P	rogram × DAQ Space	
Axis	X 🔽 Start Step 0 🔶 Fun II Pause	🗖 Stop 🗼 SeqRun 🍜 Step
Mode	PMC-2HS Vpload Download X Del XX Clear	r 🗟 Open 🖳 Save
Step	X Command	Y Command
0		
1		
2		
3		
4		

### (16) Step setting

Motion F	Program 🗙 DAQ Space					
Onlin	ne Axis Y 🔽 Start Step 2 🚔 🕨 Run 🛛	Pause	<b>5</b>	top 🕨	SeqRun	🕩 Step
Model	PMC-2HSP Vpload Download X Del XX C	lear	ē (	)pen	🛛 Save	
Step	X Command	١	( Command			
0	INC [Pos: 1000 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]		ABS [Pos:5			[Timer: 0], [End Pulse:0], [Both:0]
1	ABS [Pos:-300 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]	Сору		Ctrl+C	[Speed: 1],	[Timer: 0], [End Pulse:0], [Both:0]
2	END					
3		Cut		Ctrl+X		
4		Paste	e	Ctrl+V		
5		Delet	e	Del		
6		Inser	t Step	Ctrl+I		
7			e Step	Ctrl+D		
8			e step	carro		

Right click a command to copy, cut, paste, or delete. A new step can be added between step and step, and all steps can be deleted at once.

### (17) Calculator

٠

Click Calculator to open calculator window.

- PMC-2HSP Series
  - : Output PPS, Circle interpolation center position and Manual deceleration point calculating function.
- PMC-2HSN Series: Output PPS calculating function.

Calculator consists of Output PPS, Circle Interpolation and Manual Deceleration Point taps.

① Output PPS (PMC-2HSP/2HSN Series)

msCalculator				×
Output PPS Circle Interpolation Manual Deceleration Poin	t			
Input		Output		
Speed Multiplier: 10			PPS	
Acceleration Rate : 400	>>		(pps	)
Start Speed : 50			Time for Start Speed to Drive Speed (sec	)
Drive Speed: 10				
	]			
			Calculate	ar Result

Click Output PPS tap to enter values in Speed Multiplier, Acceleration Rate, Start Speed and Drive Speed in the Input box. After entering the value, click [Calculate] button to see the result of the calculation from PPS to acceleration time of drive speed in the Output box.

2 Circle Interpolation (PMC-2HSP Series)

msCalculator		
Output PPS Circle Interpolation Manual Deceleration Po	int	
Angle -> End Position		
Input		Output
X Axis Center Position: 1000		Radius :
Y Axis Center Position : 1000		X Axis Center Position :
	>>	Y Axis Center Position :
Angle : 360		X Axis End Position :
Direction : CW(FID) -		Y Axis End Position :
		Calculate Clear Result
End Position -> Angle		
Input		Output
X Axis Center Position : 1000		Radius :
Y Axis Center Position: 1000		X Axis Center Position :
X Axis End Position : 1000	>>	
Y Axis End Position : 1000		Y Axis Center Position :
Direction : CW(FID)		Angle :
		Calculate Clear Result



Circle interpolation needs center position and end position.

There are two methods for calculation: entering center position and angle values for center position and end position, and entering center position and end position for radius and angle.

After entering the value, click [Calculate] button to see the result of the calculation in the Output box.

For detailed information about entering center position and end position, please refer to the user manual of PMC-2HSP/N.



Calculation result of circle interpolation includes round-off error. Since the input value is to be integer, result of calculation is also integer.

③ Manual Deceleration Point (PMC-2HSP Series)

msCalculator			
Output PPS Circle Interpola	ation Manual Deceleration Poi	nt	
Input			Output
Speed Multiplier :	10		
Acceleration Rate :	400		
Deceleration Rate :	400		
Start Speed :	50		
Drive Speed :	10		Changed Drive Speed :
X Axis Center Position :	1000	>>	
Y Axis Center Position :	1000		Manual Deceleration Point :
X Axis End Position :	1000		
Y Axis End Position :	1000		
Direction :	CW 🗸		
Fiexd Line Speed :	Enable 🔻		
1			Calculate Clear Result

Manual Deceleration Point is for setting manual deceleration point in circle interpolation, and is entered automatically when user writes CID, FID, RID commands in the main screen. When acceleration time between start speed and interpolation drive speed is longer than movement pulse, speed is unstable and warning popup appears. In this case, manual deceleration point calculation shows how to deal with. For CID, FID, RID commands, calculate manual deceleration point and check drive speed or manual deceleration point in the tap.

## 2.4.9 Message

Records events during running the program.

E.g.) Communication status (start/stop communication, communication error), log status (start/stop log), etc.

Message									<b>4</b> ×
				All	•	W: 0	E: 1	1 8	XX 11
Level	Time	Tag	Message						
info	06-09 08:14:49:899	MbDevice	COM5, Modbus Device Unit DAQ Run, device : 0/1, (null)						^
info	06-09 08:14:49:900	MbDevice	COM5, Modbus Device Unit DAQ Run, unit : 0/1, (null)						
info	06-09 08:14:49:909	Main	Start Run!						
info	06-09 08:14:58:384	MbDevice	COM5, Modbus Device Unit DAQ Run, device check : 1, 0						_
info	06-09 08:14:58:387	MbDevice	COM5, Modbus Device Unit DAQ Run, device : 0/1, (null)						E

## 2.4.10 My System

My System displays devices and units added from the device list in a tree structure. You can also check and configure connection status.

You can add, change or delete devices and units (addresses) in My System.

Add [	Del C	hange	View -	Add	Del C	hange V	liew -
lame		Address	Status	Name		Address	Status
R5-232		COM5	Disconnect	■ R5-232		COM5	Connected
🗄 ModBus M	laster	RTU, 3, 1	Disconnect	🖨 ModBus		RTU, 3, 1	Connected
- 👬 PN	1C-2HSP	Autonics	(1) EA	- 11	PMC-2HSP	Autonics	(1) EA
L 1	E	PMC-2HSP	Disconnect	L 1		PMC-2HSP	Connected

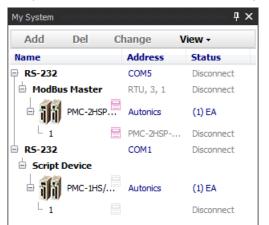
RS-232

: Allows property modification related to RS-232 communications in Property when devices are disconnected.

ModBus Master

: Allows property modification related to ModBus Master Protocol in Property when devices are disconnected. Mode and the number of retries are displayed.

- Device (PMC-2HSP/2HSN): Displays information of the connected device.
- Unit (1): Displays the parameter of the unit and allows modification of it.



It is possible to connects a device to multiple communications ports, as follows.

## 2.4.11 Runtime Screen

Double click UI item in the runtime screen to add the item to DAQ space.

DAQ Space Motion Program				
RunTime Screen				
Search			Q.	
Name	Version	Description		
Data				
Grid	1.0.0.1	Grid Plugin Library		
Line Graph	1.5.2.35	Line Graph Plugin Library		
Alarm				

## 2.4.12 **DAQ** List

DAQ List is a list of I/O sources to communicate.

The number of I/O sources is displayed by signal type in the left list, and selecting a item in the list rearrange I/O sources in right list by signal type.

ре	Num			Delete All Select All Delete the selected item(s)											
- All	136		N	о.	D	evice	Address	Source	Tag Name	Туре	R/W	Read Mode	Unit	Calculation	Description
Group					s	tandard Tag (136	)								
<ul> <li>Analog</li> </ul>	86	_		Ĕ,	/ 0	OM5 PMC-2HSP	1	Present Position X	COM5 1 Present Position X	Analog	R	Cont			
<ul> <li>Digital</li> </ul>	50	_			1 0	OM5_PMC-2HSP	1	Present Position Y	COM5_1_Present Position Y	Analog	R	Cont			
- String	0			-	/ c	OM5 PMC-2HSP	1	Drive Speed X	COM5_1_Drive Speed X	Analog	R	Cont			
L Vidieo	0				/ 0	OM5_PMC-2HSP	1	Drive Speed Y	COM5_1_Drive Speed Y	Analog	R	Cont			
				- •	/ 0	OM5_PMC-2HSP	1	Program Step X	COM5_1_Program Step X	Analog	R	Cont			
					/ c	OM5 PMC-2HSP	1	Program Step Y	COM5 1 Program Step Y	Analog	R	Cont			

You can search the desired tag (standard or user) at the right-top of the DAQList.

Calculation	Description	
r		
,		
,		
,		
,		
,		



## _ ....

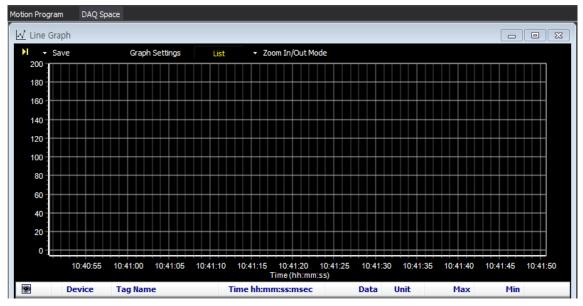
For certain I/O sources, demical point and unit is set automatically. This is set according to the setting value of the parameter.

Select I/O source to add from the DAQ list and drag/drop to the runtime screen.

Items of the DAQ list can not be added to the runtime screen when the monitoring is running.

## 2.4.13 DAQ Space

DAQ space displays UI screen (Grid, Line gragp) added from the runtime screen.

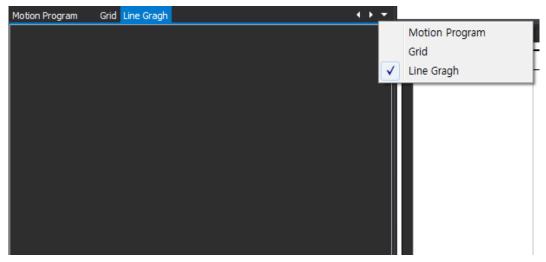


Right click 'DAQ Space' name on the top right side of the DAQ space screen to add or delete the DAQ space screen or modify name of the screen.

Motion Program	DAQ Space	
		Add
		Del
		Change Name

## **Autonics**

Click pull-down icon ( $\mathbf{\nabla}$ ) in the top right side of the DAQ space screen to select the activated space.



# Ex.

Names of two DAQ space screens are changed into 'Grid' and 'Line graph'.

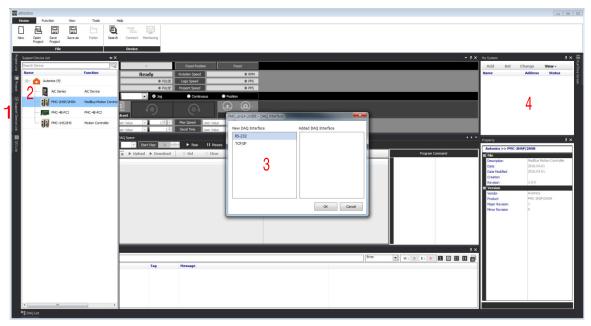
(1) Grid

Gri	Device	Tag Name	Time	Data	Unit	Min	Max
		Tag Name			Unit		
1	COM5	COM5_1_Present Position X	6/9/2017 4:14:22 PM	83348		0	83348
2	COM5	COM5_1_Present Position Y	6/9/2017 4:14:22 PM	0		0	0
3	COM5	COM5_1_Drive Speed X	6/9/2017 4:14:22 PM	1000		0	1000
4	COM5	COM5_1_Drive Speed Y	6/9/2017 4:14:22 PM	0		0	

## (2) Line Graph



## **3 Getting started**



The basic work order is followings.

- 1st Click support device list in the middle left side of the screen.
- 2nd Select a device from the support device list to add the device to My System (double click the name of the device or right click and select 'Add to My System').
- 3rd Select RS-232 interface. After selecting communication interface in My System, set communication configuration in Property below My System.
- 4th After selecting RS-232 in My System, configure communication in Property.

My System	000000000000000000000000000000000000000		
Add	Del	Change	View -
Name		Address	Status
B RS-232	!		Disconnect
🗄 ModB	us Master	RTU, 3, 1	Disconnect
11	PMC-2HSF	Autonics	(0) EA

Property	<b>џ х</b>
R5-232	
E General	
Name	RS-232
Information	
Configuration	
Search Port List	Auto Search 💽
Communication Port	COM5=VCP0
Baudrate	9600 🔽
Check Parity	None 🔽
Stop Bit	2 💌
Bit Per Byte	8 🔹
Hardware	None 🔽
Software	None 💽
DTR Control	Disable 💽
RTS Flow Control	Disable 💽
Byte Time	0

- <complex-block>
- 5th After selecting RS-232 in My System, select the relevant communication port in Property.

- 6th Select the device in My System.
- 7th Click [Add] button.
- 8th Add relevant unit (address).
- 9th Connect (reding and setting of the device parameter is possible).10th Run the program.

Ex.

With [Search] function, a device can be added to My system.

For more information, please refer to '2) device' in '2.4.1 menu'.

## 3.1 Support Device List - Selecting a Device

For example: PMC-2HSP (address 1) is connected to RS-232 port 1.

Select a device to communicate in the support device list. The support device list docking screen) is a list of devices supported by atMotion and the devices in the list are only possible to communicate

Support	Support Device List - 🛥 🗙					
			Q			
Name			Function			
-∎	Auto	nics (4)				
		AiC Series	AiC Device			
	- 11	PMC-2HSP/2HSN	ModBus Motion Control			
		PMC-4B-PCI	PMC-4B-PCI			
	- 11	PMC-1HS/2HS	Motion Controller			

Select a device in the support device list to check the basic information fo the device in Property.

Click (+) extention button in the support device list to see a list of supported device list.

Select a device (PMC-2HS) to add to My System. Double click the name of the device or right click and select 'Add to My System'.

Support Device	List processes			×		
Search Device	Search Device					
Name			Function			
🖻 👝 🥠	Autonics (4)					
- [	AiC Series	s	AiC Device			
-1	MC-2HS	P/2HSN	ModBus Motion Cont	rol		
- 1	PMC-48-F	•	Refresh Add to My system			
1	PMC-1HS	V≣	Expand All Collapse All			

- Refresh: Updates Support Device List when device files (*.dev) are added.
- Add to My System: Adds device to My System to communicate.
- Expand all: Displays the list of all supported devices.
- Collapse all: Hides the list of all supported devices.

Select RS-232 and click [OK] button or double click RS-232 from the New DAQ interface. You can modify the configuration of the added DAQ Interface in Property.

	PMC-2HSP/2HSN - DAQ Interface		×	J
	New DAQ Interface	Added DAQ Interface		
I	RS-232			I
	TCP/IP			
		OK Can	cel	

If there is another device added earlier, you can see RS-232-COM1 in the Added DAQ interface.

PN	AC-2HSP/2HSN - DAQ Interface		×
	New DAQ Interface	Added DAQ Interface	
	RS-232	RS-232 - COM1	
	TCP/IP		
		OK Cance	el

## 3.2 Setting RS-232, TCP/IP

## 3.2.1 RS-232C

Set up RS-232 for communication. Select RS-232 in My System and check Property window.

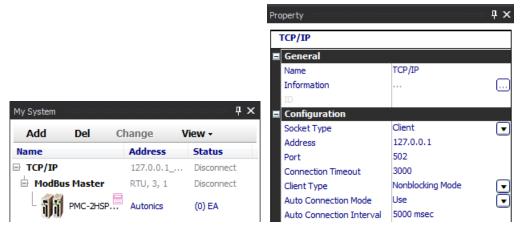
				Property		<b>4</b>
				RS-232		
				<b>■</b> General		
				Name	RS-232	
				Information		
				Configuration		1
				Search Port List	Auto Search	
				Communication Port	COM1=Serial0	
My System			Ч×	Baudrate	9600	
My System -			τ .	Check Parity	None	
Add	Del (	Change	View -	Stop Bit	2	
		Address	Status	Bit Per Byte	8	
Name						
		COM1	Disconnect	Hardware	None	
■ RS-232	e Maeter	COM1	Disconnect	Hardware Software	None	
■ RS-232	s Master	RTU, 3, 1	Disconnect Disconnect			
■ RS-232	s Master	RTU, 3, 1		Software	None	

Modification of the name displayed in My System is possible at the name in Property. Items in Property are followings.

Item		Description		
Search Port	Fix Init List	Loads communication port list of computer at the point when RS-232 is added, saves it to the Port List and then fixes it.		
List	Auto Search	When the port list of the computer (such as USB, 232) is changed, rearranges Port list.		
Communicati	on Dort	Displays a list of connectable COM Ports.		
Communicati	on Port	You can designate the connected COM Port.		
Baudrate		1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps		
Cheek Derity	Allows selecting communication parity.			
Check Parity		(None, Odd, Even, Mark, Space)		
Stop Bit		Allows selecting stop Bit. (1, 1.5, 2)		
Bit Per Byte	Allows selecting byte size. (5, 6, 7, 8)			
Hardware		None, RTS/CTS		
Software		None, XON/XOFF		
DTR Control		Disable, enable, handshake		
RTSFlow Control		Disable, enable, handshake, toggle		

## 3.2.2 TCP/IP

Set up TCP/IP for communication. Select TCP/IP in My System and check Property window.



Property window displays information about the communication port currently in use. If you want to change the name in My System, modify Name in Property window. The Config items are following.

Item		Description				
Socket	Client	Sets as client mode (when connecting PMC-2HSP)				
Туре	Server	Sets as server mode.				
Address		Enters the designated IP Address from the main device.				
Port Sets port number.		Sets port number.				
Connection	Timeout	Sets Connection Timeout				
	Non Blocking	After transmission, next transmission is available regardless				
Client Type	NOT BIOCKING	of response.				
Client Type	Plocking	After transmission, next transmission is available after				
	Blocking	receiving response.				
Auto	Use	Uses auto connection mode.				
Connection	Not used	Not use auto connection mode.				
Mode	NOL USED					

## 3.3 Adding a Unit to My System

[Add] button in My System can be inactivated depending on the connected device. Please refer to the user manual of the device.

My system displays device and communication interfaces added from the support device list in a tree structure. It also displays connection status and allows you to add, change and delete device units (addresses).

Select an item in My System to set of modify in Property.

			My System			<b>4</b>
			Add	Del (	Change	View -
			Name		Address	Status
			■ RS-232		COM1	Disconnect
			🗄 ModBu	s Master	RTU, 3, 1	Disconnect
M. C			- 16	PMC-2HSP	Autonics	(0) EA
My System		τ ~		Del		
Add Del	Change	View -		Add		
News						
Name	Address	Status				
R5-232	Address COM1	Status Disconnect		Scan Unit	Address	
					Address nit Parameter	rs
∃ R5-232	COM1 RTU, 3, 1	Disconnect		Read All U Copy Para	nit Parameter meters	
RS-232 ModBus Master	COM1 RTU, 3, 1	Disconnect Disconnect		Read All U Copy Para	nit Parameter	

Select PMC-2HSP device to activate [Add] button.

In order to add unit (address), click [Add] button in the top of My System or right click the device and select 'Add'.



Select designated adress (1) of the PMC-2HSP device and double click or click [ > ] button to add the unit to the Used device list and then click [OK] button.

Use All	Use None			M	ax Device :99
Device List			Used Device	Model	
1	*				
2	E				
3					
4		<			
5					
6					
7					
8					
Э					
10					
11					
12		>			
13					
14					
15	+				
d Unit - PMC-2HS	P/2HSN			ОК	Cancel
Use All	P/2HSN Use None			M	
Use All Device List	Use None		USED DEVICE		
Use All Device List			Used Device	M	
Use All Device List 1 2	Use None			M	
Use All Device List 1 2 3	Use None	<		M	
Use All Device List 1 2 3 4	Use None	<		M	
Use All Device List 1 2 3 4 5	Use None	<		M	
Use All Device List 1 2 3 4 5 6	Use None	<		M	
Use All Device List 1 2 3 4 5 6 7	Use None	<		M	
Use All Device List 1 2 3 4 5 6 7 8	Use None	<		M	
Use All Device List 1 2 3 4 5 6 7 8 9	Use None	<		M	Cancel
Use All Device List 1 2 3 4 5 6 7 8 9 10	Use None	<		M	
Use All Device List 1 2 3 4 5 6 7 8 9 10 11	Use None			M	
Use All Device List 1 2 3 4 5 6 7 8 9 10 11 12	Use None	× ×		M	
Use All Device List 1 2 3 4 5 6 7 8 9 10 11 12 13	Use None			M	
Use All Device List 1 2 3 4 5 6 6 7 8 9 10 11 12 13 14	Use None			M	
dd Unit - PMC-2HS Use All Device List 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Use None			M	

Now you can see the unit (address 1) under the device in My System. In case of adding same type of multiple devices, click [Add] button and add device. (Maximum 99 devices can be added.)

			My System	000000000000000000000000000000000000000			
			Add	Del	C	hange	View -
			Name			Address	Status
			■ RS-232			COM1	Disconnect
			📥 ModBu	ıs Master		RTU, 3, 1	Disconnect
			- 11	PMC-2HS	P	Autonics	(1) EA
					_		
			- 1 ₋				Disconnect
My System			- 1	Del			Disconnect
My System Add <b>Del</b>	Change	₽ × View •	- 1	Del Cha			Disconnect
	Change Address		- 1	Cha	nge	er Mask Sett	
Add Del	-	View -	- 1	Cha Para	nge imete		ings
Add Del Name	Address	View - Status	- 1	Cha Para User	<b>nge</b> amete r Gro	up Settings.	ings
Add Del Name RS-232 ModBus Master	Address COM1 RTU, 3, 1	View - Status Disconnect Disconnect	- 1	Cha Para User	<b>nge</b> amete r Gro		ings
Add Del Name RS-232	Address COM1 RTU, 3, 1	View - Status Disconnect	- 1	Cha Para User Read	nge amete r Gro d All	up Settings. Parameters	ings
Add Del Name RS-232 ModBus Master	Address COM1 RTU, 3, 1	View - Status Disconnect Disconnect	- 1	Cha Para User Read Save	nge amete r Gro d All	up Settings.	ings

Select the unit address (1) to activate [Change] button.

In order to change unit (address), click [Change] button in the top of My System or right click the unit address (1) and select 'Change'.

Clicking [Change] button displays using address(1) in yellow. Select address to change and click [OK] button to change address of the unit.

Change Unit - PMC-2HSP/2HSN -	• 1			×
Use All Use Non	e			Max Device :99
Device List			Used Device	Model
1			1	
2	Ξ			
3				
4		<		
5				
6				
7				
8				
9				
10				
11				
12		>		
13				
14				
15	-			
<b>L</b>				OK Cancel

🖉 Note

In the connected status, unit (address) cannot be deleted, changed or added.

#### 3.4 **Scan Unit**

'Unit address scan' can be inactivated depending on the connected device. Please refer the user manual of the device.

Scan Unit scans multiple device units connected to the communication. You can check the detected units and add them to My System.

1st Add PMC-2HSP device and configure RS-232 settings as followings, and then connect the device.

My System					<b>4 ×</b>
Add	Del	C	nange	Vi	ew -
Name			Address		Status
■ RS-232			COM5		Connected
🖶 ModBu	ıs Master		RTU, 3, 1		Connected
- 11	PMC-2HSP.	•	Autonics		(1) EA
L 1			PMC-2HSP		Connected

2nd When connected, select PMC-2HSP device and right click to select 'Unit adress scan'.

My System			
Add	Del	Change	View -
Name		Address	s Status
■ RS-232		COM5	Connected
🗄 ModBu	s Master	RTU, 3,	1 Connected
- <b>ij</b> ij - ₁	Del Ado Sca		·SS
		id All Unit Pa by Parameter	
		nt Modbus M t I/O Script	ap Table

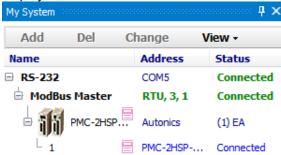
3rd Unit scan dialog appears as follows

Scan Unit - PMC-2HSP/2HSN		5.			x
Scan Unit Address Range	· ~ 99	✓ Retry	0 -	Start Scan	
Scan Status					
Scanned Unit	0	Other Scan	ned Unit	0	
No. Address Model	Version	No. Add	dress Model	Version	

4th Set an address range to scan and click [Start scan] button to scan units automatically. Scanned units are listed on the left side and other scanned units are listed on the right side.

ngni	Siue.					
Scan Un	nit - PMC-2H	HSP/2HSN				
Scan	Unit Address Ran	ge <u>1</u>	• ~ 99 •	Retry 0	·	Stop Scan
Scan S	tatus	5				
Scanne	ed Unit	1		Other Scanned Ur	nit O	)
No.	Address	Model	Version	No. Address	Model	Version
	1	PMC-2HSP-USB	SW:12343, HW			
						OK Cancel

5th Check a unit to add from the list and click [OK] to add the unit automatically which is displayed as 'connected'.



## 3.5 DAQ List

DAQ List displays a list of I/O sources to communicate.

Гуре	Num		elet	e All Select All	Delete t	he selected item(s	)							Q
- All	68	N	).	Device	Address	Source	Tag Name	Туре	R/W	Read Mode	Unit	Calculation	Description	
Group			١	Standard Tag (68)										-
<ul> <li>Analog</li> </ul>	18		Ě.	COM5_PMC-2HSP	1	Present Position X	COM5_1_Present Position X	Analog	R	Cont		,		
<ul> <li>Digital</li> </ul>	50			COM5_PMC-2HSP	1	Present Position Y	COM5_1_Present Position Y	Analog	R	Cont				
<ul> <li>String</li> </ul>	0			COM5 PMC-2HSP	1	Drive Speed X	COM5 1 Drive Speed X	Analog	R	Cont				
Vidieo	0			COM5_PMC-2HSP	1	Drive Speed Y	COM5_1_Drive Speed Y	Analog	R	Cont		,		
				COM5_PMC-2HSP	1	Program Step X	COM5_1_Program Step X	Analog	R	Cont				
			-4	COM5_PMC-2HSP	1	Program Step Y	COM5_1_Program Step Y	Analog	R	Cont		,		

To add I/O sources from the DAQ list to the runtime screen, select the source to add, and drag and drop to the runtime screen.

Select a source from the DAQ list to check and modify the item in Property.

Property	<b>₽</b> ×
PMC-2HSP/2HSN >	> 1 >> Present Position X
E General	
Device	PMC-2HSP/2HSN
Address	1
Source	Present Position X
Tag Name	COM5_1_Present Position X
Decimal Point	0 💌
Unit	
Description	

Items of the general in Property are followings.

- Device: Device name
- Address: Unit address
- Source: I/O source name
- Tag name: Saves tag name as 'address_I/O tag name' and is changeable.
- Decimal point: Changes the decimal point of data.
- Unit: Changes the unit of data.
- Description: Allows writing the description.



For certain I/O sources, demical point and unit is set automatically. This is set according to the setting value of the parameter.

Items of the DAQ list can not be added to the runtime screen when the monitoring is running.

## 3.6 Adding from DAQ List to Runtime Screen Library

Runtime screen is for monitoring the data, and you can search and select the runtime screen. Runtime screens can be set and added according to the user environment.

Search					
Name	Version	Description			
P- 🗐 Data					
Grid	1.0.0.1	Grid Plugin Library			
Line Graph	1.5.2.35	Line Graph Plugin Library			

To add a runtime screen from runtime screen library, double-click the type as required. Below is an example of runtime screen display. (Grid, Multi Panel, Line Graph are applied.) Following is the example of the runtime screen display (Line graph).



## 3.6.1 Data

## 3.6.1.1 Grid

### Grid displays multiple I/O sources in text.

Whenever data is updated in 'monitoring' status, the color of the time column inverts.

💾 Gri	d						- • •	X
No.	Device	Tag Name	Time	Data	Unit	Min	Max	-
1	COM3	COM3_1_Present Position X	6/9/2017 4:14:22 PM	0		0	0	*
2	COM3	COM3_1_Present Position Y	6/9/2017 4:14:22 PM	0		0	0	Ξ
3	COM3	COM3_1_Drive Speed X	6/9/2017 4:14:22 PM	0		0	0	=
4	COM3	COM3_1_Drive Speed Y	6/9/2017 4:14:22 PM	0		0	0	
5	COM3	COM3_1_Program Step X	6/9/2017 4:14:22 PM	0		0	0	
6	COM3	COM3_1_Program Step Y	6/9/2017 4:14:22 PM	0		0	0	
7	COM3	COM3_1_Read Baudrate	6/9/2017 4:14:22 PM	9600		-	-	
8	COM3	COM3_1_Main Connect	6/9/2017 4:14:22 PM	ON		-	-	
9	COM3	COM3_1_X Home approach	6/9/2017 4:14:22 PM	OFF	-	-	-	
10	COM3	COM3_1_X Home	6/9/2017 4:14:22 PM	OFF	-	-	-	
11	COM3	COM3_1_X Encoder Z Phase	6/9/2017 4:14:22 PM	OFF	-	-	-	
12	COM3	COM3_1_X Limit+	6/9/2017 4:14:22 PM	OFF	-	-	-	
13	COM3	COM3_1_X Limit-	6/9/2017 4:14:22 PM	OFF	-	-	-	Ļ
•							Þ	, di

Grid column is editable. Right-click the head of grid, 'Select Column' dialog box appears. You can check the desired item to show.

Select Column		×
Device		
Tag Name		
Time		
🔽 Data		
🗸 Unit		
🔽 Min		
Max		
Verage		
	OK Ca	ncel

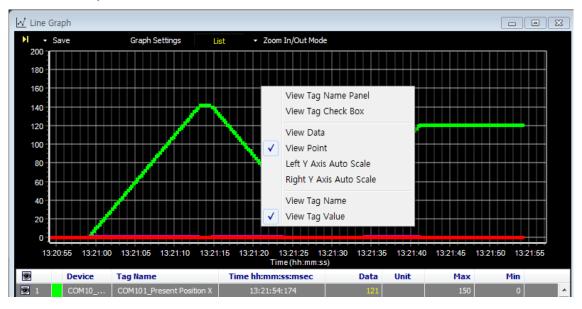
If you did not check 'Display When Updated' from the pop-up menu of the right click, the color does not invert upon update. If you select 'Reset Min./Max.' in the pop-up menu of the right click, min. and max. columns are reset and shows min./max. values from that point on.

Gri	d								8
No.	Device	Tag Name	Time		Data	Unit	Min	Max	
1	COM3	COM3_1_Present Position	n X 6/9/2017 4:14:59	PM	0		0	0	-
2	СОМ3	COM3_1_Present Position	n Y 6/9/2017 4:14:59	РМ	0		0	0	
3	СОМ3	COM3_1_Drive Spect	C IO 100 17 4-14-FO	М	0		0	0	=
4	СОМЗ	COM3_1_Drive Spe	Delete Selected I/O	м	0		0	0	
5	СОМ3	COM3_1_Program	Delete All I/O	м	0		0	0	
6	СОМ3	COM3_1_Program	Display When Updated	м	0		0	0	
7	СОМ3	COM3_1_Read Bau	Reset Min./Max.	м	9600		-		
8	СОМ3	COM3_1_Main Con		м	ON		-	-	
9	СОМ3	COM3_1_X Home a	Up Ctrl+Up	м	OFF		-		
10	СОМ3	COM3_1_X Home	Down Ctrl+Down	м	OFF	-	-	-	
11	СОМ3	COM3_1_X Encode	Row Color	м	OFF		-		
12	COM3	COM3_1_X Limit+	Default Row Color	м	OFF	-	-	-	
13	СОМ3	COM3_1_X Limit-	01012027 1121100	м	OFF		-	-	
•								ł	

### 3.6.1.2 Line Graph



Right click to config graph display settings (such as Tag, View data, View point and Left/Right Y axis auto scale).



Line graph displays multiple I/O sources in line graph. A list of the added I/O sources is displayed below the graph. Use the checkbox of 🖻 to show/hide the graph.



To change the color of each I/O source, double-click the color in front of device.



## (1) Save Image

Save Image saves the current graph screen as an image. Save Image dialog appears when [Save Image] button is clicked. Images can be saved in '*.bmp', or '*.wmf' format.



Save To File: Saves in Bitmap (*.bmp) or Windows metafile (*.wmf).

- Save To Clipboard (Bitmap): To use this image directly for other application program, saves image in Bitmap (*.bmp) file to clipboard.
- Save To Clipboard (MetaFile): To use this image file directly for other application program, saves image in MetaFile (*.wmf) to clipboard.
- Save CSV: Saves in CSV file(*.csv).

### (2) Graph Settings

Graph Settings tab Configures general graph settings.

> X Graph Settings Graph Settings Y Axis Settings Tool Config Graph Theme Axis Settings 1 Time Axis Settings • Time 0 Min 1 Sec 0 2 Time Format hh:nn:ss Hour/Min/Sec(hh:nn:ss) 💌 4 Square • 3 View Point 6 Point 2 5Line Width 1 * * • 7 🔲 View Data 8 30 Digital Axis (%) 9 Line Y Value Color Width Line Color Upper Limit 0.00 2 Change Reference 0.00 2 Lower Limit 0.00 2 Change OK Cancel

No.	Items	Description
1	Axis Settings	Sets time (hours, min. and sec.).
2	Time Format	Sets time expression for the time axis (X axis)
3	View Point	Shows data point when selected (hides data point when not selected).
4	Point Type	Sets point type.
5	Line Width	Sets thickness of the graph line.
6	Point	Sets point size.
7	View Data	Shows data values when selected (hides data value when not selected).
8	Digital Axis (%)	Sets digital axis as a percentage.
9	Line	Sets whether display or not upper limit, reference, lower limit line. Sets Y value, color, width and line color of upper limit, reference, lower limit line.

## Y Axis Settings tab

٠

Sets Y axis direction and range of each tag.

Gr	raph	Settings			L	×	
	Grap	oh Settings Y Axis S	Settings Too	l Config G	raph Theme		
		Left Y Axis	Min -50.0	00	Unit		
		Auto Scale	Max 200.	00	Inverted		
	1—	Grid In	crement 0	rement 0			
		Right Y Axis	Min -50.0	00	Unit		
		Auto Scale	Max 200.	Max 200.00 Inverted			
		Grid In	crement 0				
			Y Axis Setti	nas			
4	No	Tag Name	T AXIS SELU	Туре	Axis		
	1	COM101_Present	Position X	Analog	Left Y Axis		
	2	COM101_Present	Position Y	Analog	Left Y Axis		
	3	COM101_Drive Sp	peed X	Analog	Left Y Axis		
	4	COM101_Drive Sp	peed Y	Analog	Left Y Axis		
3	0	Left Y Axis		Right Y Axis	5		
				OK		el	
N	0.	Items	Descrip	otion			
		Left/Right V	Sets au	to scale	, the max.	/min.	range

INO.	nems	Description
1	Left/Right Y Axis	Sets auto scale, the max./min. range and unit of the left/right Y axis of the selected tag. Sets whether invert Y axis.
2	Tag List	Displays a list of tags added to the line graph. Selects a tag to be Y axis.
3	Left/Right Y Axis	Sets the Y axis type of the selected tag (left/right).

•

### Tool Config tap

A certain range in the line graph can be emphasized with a color band. Tool Config tap is for setting color band.

Graph Settings				×
Graph Settings	Y Axis Settings	Tool Config	Graph Theme	
Color Band				
			1 + -	Α
2 No Band				
3 Band name				
5 Band name			Left Y Axis End	•
6 Transparent			olor	
				_
		ОК		ncel

No.	Item	Description
1	Add/Delete/Delete All	Adds, deletes or deletes all color bands.
2	Band List	Displays a list of the added color band.
3	Band Name	Sets name of the color band
4	Base Axis	Sets a Y axis which the color band bases on.
5	Start/End	Sets starting, ending point of the color band range.
6	Transparent	Sets transparency of the color band.
7	Color	Sets color of the color band.

## • Graph Theme

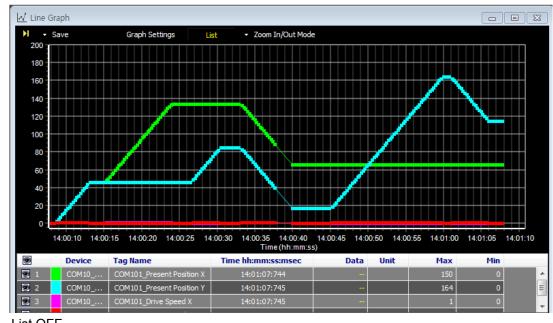
You can set the graph theme (text color, grid color, background color).

0	Graph S	Settings	
	Graph	n Settings Y Axis Settings Tool Cor	nfig Graph Theme
	1	Black	
	2	Data Text	Text
		Grid	Grid Bottom
		Bottom	
			OK Cancel
	No	Item	OK Cancel Description
	No	Item	Description Selects graph theme.
	No	Item	Description Selects graph theme Black
	No	Item	Description Selects graph theme Black
	No	Item	Description Selects graph theme. - Black
	No	Item	Description Selects graph theme. - Black
	No 1	Item Graph theme	Description Selects graph theme. - Black
			Description Selects graph theme. - Black
			Description Selects graph theme. - Black View cash Setting Technology Distribution of the cash Setting Technology
			Description Selects graph theme. - Black Understand of the organization of the organi
			Description Selects graph theme. - Black Update of the complete of the comple
			Description Selects graph theme. - Black Understand - White
			Description Selects graph theme. - Black Update of the control of

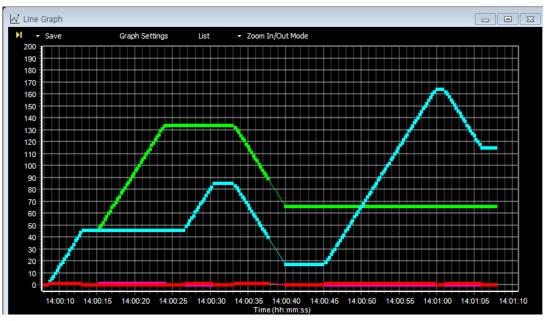
## (3) List

Sets whether display a list of I/O sources below the line graph. Click [List] button to shift between ON and OFF.

List ON







## **Autonics**

## (4) Zoom In/Out Mode

Sets to zoom in or zoom out the line graph.

•	Zoom In/Out Mode
•	Zoom In/Out Mode
	Data Analysis Mode
	Data Display Mode

### Zoom In/Out Mode

① Screen zoom in



On the graph, click and drag left mouse to the lower right side to enlarge the selected area.

2 Screen zoom out



On the graph, click and drag left mouse to the upper left side to return to the default scale.

③ X/Y axis reposition



On the graph, click and drag right mouse to move to another area in the graph. In the status that the graph is enraged or X/Y axis is repositioned, X axis will be frozen automatically, when data is updated.

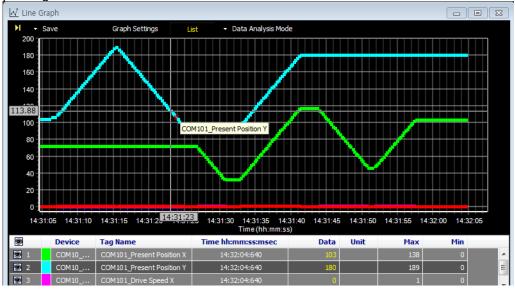
The program regards this status as a monitoring mode, keeps current status of repositioned axis or modified scale by users.

### ④ Mouse wheel function

Action	Function
Ctrl + Mouse wheel Up	Enlarges range of X axis
Ctrl + Mouse wheel Down	Reduces range of X axis
Shift + Mouse wheel Up	Enlarges range of Y axis
Shift + Mouse wheel Down	Reduces range of Y axis
Mouse wheel	Reduces/Enlarge range of X, Y axis

### Data Analysis Mode

On the graph, displays the value of X axis (time) and Y axis of the point where mouse is pointing.



### Data Display Mode

On the graph, displays all value of the x axis (time) and Y axis of the line where mouse is on.



## 3.7 Connection

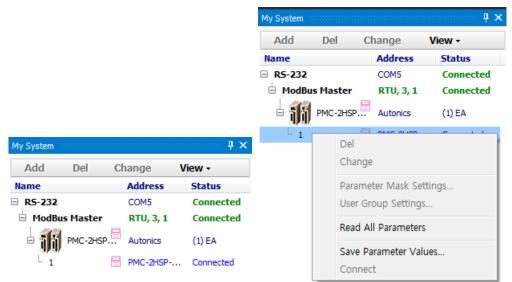
All necessary settings to connect a device has completed.



Clicking the [Connect] button displays connection status in My System and the status turns into 'Connected' when the connection is completed.

In order to set the parameter of the unit through atMotion, reading all parameters of the unit is necessay.

Right click address(1) in My System and click 'Read All Paremeters' in the drop menu.



After reading is completed, editing and checking the parameter are possible in Property.

roperty		( ۱
PMC-2HSP/2HSN >> 1		
General		4
Device Name	PMC-2HSP/2HSN	
Unit Address	1	
Model	PMC-2HSP-USB	
DAQ Repeat Interval	0 msec	
Frame Interval	60 msec	
User Unit Name		
Version	HW: 12338, SW: 12343	
[X Axis] Operation Mod	le	1
Limit Stop Mode	Instant 🔽	
Limit Active Level	Low 🔽	
S Curve	Disable 🔽	
End Pulse	Low V Low V Disable V Disable V Accel V Disable V Disable V Disable V Low V Low V	1
Deceleration Value	Accel 🔽	1
Software Limit	Disable 🔽	1
Power On Home Search	Disable 🔽	
Power On Program Start	Disable 🔽	
Input 0 Level	Low 🔽	1
Input 1 Level	Low 🔽	1
[X Axis] Parameter		
Speed Multiplier	10	
Jerk Speed	1000 pps/sec ²	
Acceleration Rate	400	
Deceleration Rate	400 pps	
Start Speed	10 pps	
Drive Speed 1	10 pps	
Drive Speed 2	100 pps	
Drive Speed 3	1000 pps	-

Modified parameter values in Property are applied to the device through communication.

While applying the parameters, all parameters are displayed in gray color (not modefiable) and turns back to original color after applying is finished.

Press "Enter" key after modifing values for edit type, and click combo button on the right side or press "Alt+direction" key to select a certain item for combobox type.

When the paremeter item related to unit or range is modified, the modified values are applied to rest of parameters which are related to the modified unit or range items.

When modified value is out of range, the modified value is ignored and returns to the original value. the range of the setting value is displayed at the bottom of the property.

Parameter Items with designated input format only allows values in the format.

Parameters in disable status are displayed in gray color without setting values.

Parameters in reading mode are displayed in gray color.

Regardless of the set up language, the language of the parameter is only displayed in English.

#### 3.8 Saving Project

Saves currently monitoring project.

Setting values of device, RS-232 configuration, reteat interval and runtime screen are saved in project and specifing properties of project is necessary prior to saving project.

1st Click 'Noname'at the top of the menu tree in the project.

Project	× 🕁 🗠
Delete View -	
Туре	File
□- <b>Noname</b>	
🕂 Runtime Screen	
DAQ Space	

2nd In Property of the project, the name of the project is diplayed as noname and company, user and description are empty.

Property	<b>ч</b> ×
Project	
E General	
Project Name	Noname
Company	
User	
Description	

You can enter the information in the project name, company, user and description as follows.

Property	1000000000000000		Ψ×
Proje	ct		
🗉 Gene	eral		
Projec	ct Name	atMotion test	
Comp	any	Autonics	
User		Administrator	
Descri	iption	Test	

Home	Functi	on	View	Tools	Help	)		_	
		Gave Project	Save as	Folder	<b>Q</b> Search	Disconnec	t Monitoring		
Save project	Libraries		nts 🕨			Device	▼ 49 Search	Documents	
	ds aces	Docur	nents libra 2 locations	ry	Date moo		Туре	Arrange by: Fol	
File na Save as ty	me: /pe: project	file(*.mmp	)				Sa	ve Ca	• • incel

3rd Click "File > Save Project" to save the project in the desired destination.

## 3.9 Opening a project

Opens a saved project.

There are two ways to open a project: 'Open Project' and 'Open From List'. You can only open a project when communications are disconnected.

#### 3.9.1 Open Project

Open Project is the most common way to open a project file by directly selecting project file.

Home	Fur	nction	View	Tools	Help		
Ľ	ē				Q	P	
New	Open Project	Save Project	Save as	Folder	Search	Connect	Monitoring
		File				Device	

#### 3.9.2 Open a saved project file

Opens a saved project file by double-clicking the file from the list.

Open project			8
🔾 🖓 🗸 🕌 « My Docu	ments 🕨 atMotion 👻 😽	Search atMotion	٩
Organize 🔻 New folde	er		
☆ Favorites ■ Desktop	Documents library atMotion	Arrange by: Fo	older 🔻
Downloads	Name	Date modified	Туре
🕮 Recent Places	🖬 project1	11/28/2017 9:30 AM	atMotion Pro
📜 Libraries	📼 project2	11/28/2017 9:30 AM	atMotion Pro
Documents	👼 project3	11/28/2017 9:30 AM	atMotion Pro
J Music			
Pictures			
🛃 Videos			
🖳 Computer			
🚢 Local Disk_EN (C			
👝 Local Disk_JP (D:)			
👝 Local Disk_CN (E 🖕	•		+
File na	ame: 🗸 🗸	project file(*.mmp)	•
	[	Open C	Cancel

#### 3.9.3 Open from Project List

Open from Project List opens a project file from the list of the project file of frequent use.

This function makes management of the project file convenient by listing frequently using project file to the list like bookmark of the web browser.

It is possible to make a subfolder under the project list as well as change the name of the file or folder, add project file, and add or delete the file or folder.

Selecting a folder activates Add folder, Set name, Add and Del. Selecting a file activates Add folder, Add and Del.

dd Folder 25et Name 🛛 🕃	Add 4 Del	
Project Name	Description	Vendor
🕂 🗟 Monitoring		
- 🗐 -	-	Run
	-	Run
- 🗐 -	-	Run
	-	Run
atMotion Test		Autonics
- 🗄 Test		

No.	Item	Description
1	Add Folder	Adds folder.
2	Set Name	Changes the name of a folder.
3	Add	Adds a project file. Clicks [Add] button to open the 'Open' window.
4	Del	Deletes the selected file or folder.

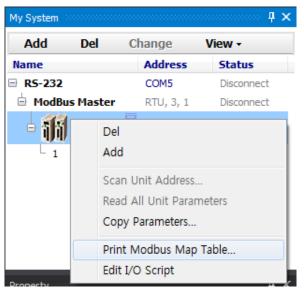
#### 3.10 ModBus Map Table Report

ModBus Map Table Report can be inactivated depending on the connected device. Please refer to the user manual of the device.

ModBus Map Table Report exports ModBus map table of the device using ModBus communication in a report format.

Direct printing and saving in PDF file (*.pdf), HTML file (*.html) are supported.

While a device is connected, right click the device in My System and click 'Print ModBus Map Table...' in the drop menu box.



2 2	Page : 1/5			iserJet		706 PCL 6		
20	Mod	Bus M	lemory I	Мар -	Table			
	Company Device N Date :	ame: PM	TONICS C-2H5P/2H5N 17-04-24				11	
	No	Mod Bus	Address	R/W	Size	Parameter		
	1	401001	003 EB	R/W (bi	t 0)1	Limit Stop Mode		
	2	401001	003 EB	R/W (bi	t 1)1	Limit Active Level		
	3	401001	003 EB	R/W (bi	t 2)1	S Curve		
	4	401001	003 EB	R/W (bi	t 3)1	End Pulse		
	5	401001	003 EB	R/W (bi	t 4]1	Deceleration Value		
	6	401001	003 E8	R/W (bi	t 5)1	Software Limit		
	7	401001	003 EB	R/W (bi	t 6)1	Power On Home Search		
	8	401001	003 E8	R/W (bi	t 7)1	Power On Program Start		
	9	401001	003 E8	R/W (bi	t 8)1	Input 0 Level		
	10	401001	003 E8	R/W (bi	t 9)1	Input 1 Level		
	11	401103	0044E	R/W	1	Speed Multiplier		
	12	401139	00472	R/W	1	Jerk Speed		
	13	401104	0044F	R/W	1	Acceleration Rate		
	14	401105	00450	R/W	1	Deceleration Rate		
	15	401106	00451	R/W	1	Start Speed		
	16	401107	00452	R/W	1	Drive Speed 1		
	17	401108	00453	R/W	1	Drive Speed 2		
	18	401109	00454	R/W	1	Drive Speed 3		
	19	401110	00455	R/W	1	Drive Speed 4		
	20	401111	00456	R/W	1	Post Timer 1		
	21	401112	00457	R/W	1	Post Timer 2		
	22	401113	00458	R/W	1	Post Timer 3		
	23	401114	00459	R/W	2	Software Limit +		
	24	401116	0045B	R/W	2	Software Limit -		
	25	401118	0045D	R/W	1	End Pulse Width		
	26	401119	0045E	R/W	1	Pulse Scale Numerator		
	27	401120	0045F	R/W	1	Pulse Scale Denominator		
	28	401053	0041C	R/W (bi	-	Step 1 Enable		
	29	401053	0041C	R/W (bi	t 1] <u>1</u>	Step 1 Direction		
	30	401053	0041C	R/W (bi	t 2]1	Step 2 Enable		
	31	401053	0041C	R/W (bi	t 3)1	Step 2 Direction		
	32	401053	0041C	R/W (bi	t 4]1	Step 3 Enable		

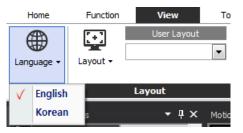
The following is screen of preview.

No.	Item	Description
1	Printer Settings	Sets printer settings to print. Printer settings can be different depending on the model of the print.
2	Print	Prints ModBus map table.
3	Close	Closes the preview window.

# 4 Changing Program Language

#### 4.1 Change Language

Changes the language of the program. Default lanuage is the program installation language.

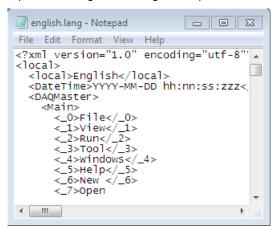


Select "view > Language" in the tool bar to change the program language.

Save Save as	Folder Search Disconnect Manitaring					
File ∞ + P.X	Device Notion Control				Ny System	
ide 1 A	Select Node 1 Reset Por	tion Reset		i	Add Del Ch	ange View
Status Ready losition 0 PULSE	Running Status Ready					Address Sta
peed 0 PPS	X Logic Pasition 0 PULSE X Logic Speed	0 FPS				COM5 Cor
oriton o PULSE	Y Logic Position 0 PULSE Y Logic Speed					RTU, 3, 1 Co
- 0 ×	Axis X 🔻 💿 Jog 💿 Conti	Positon			🖥 🌃 РМС-2НБР	Autonics (1)
i Ren					1 E_	PMC-2HSP Cor
llel 1/0 Status		. 🛛 😡 🐷				
e 🔳 Strobe	EHG Broadcast	Home Search				
s0 Mode1	Start Speed User Value 💌 10 👻 💌 Max Speed					
ISLO 🔳 STEPSL 1	Accel Rate User Value 💌 400 🗟 Decel Rate	User Value 400 🗇				
ISL2 STEPSL3 ISL4 STEPSL5	Motion Program × DAQ Space					
stersts is InputStatus	Axes X 💌 Start Step 0 📄 🕨 Post	Pause 📕 Stop 🕨 SeqRan 😳 Step		Calculator	Property	
0 Stop 1	Model PMC-245P - > Upload > Download X Del	II Clear 🗟 Open 🖾 Save	Program Ci	mmand	PHC-2HSP/2HSN >> 1	
2 Unit+ - EMG	Step X Command	Y Command	C General		E General	
101	0		Program Index		Device Name	PMC-2HSP/2HSN
is OutputStatus	1		E X Axis Program	iot Used	Unit Address Nodel	1 PMC-2HSP-USB
Und Pulse	2		Y Axis Program		DAQ Repeat Interval	0 msec
is InputStatus	3 4		Command	iot Used 💽	Frame Interval	40 msec
0 🔳 Stop 1	5				User Unit Name Version	HW : 12338, SW :
2 Limit+ - EMG	6				[X Axis] Operation Mos	
	7 8				Limit Stop Node	Instant
is OutputStatus	9				Limit Active Level S Curve	Low Disable
Out1	30				End Pulse	Disable
r/End Pulse is ErrorStatus	11 12				Deceleration Value	Accel
nare Software	13				Software Limit	Disable
war 🔳 Hardwar	14			I	Power On Home Search Power On Program Start	Disable
Program eSe IndexMode	15				Input 0 Level	Low
is ErrorStatus	15		•		Input 1 Level	Low
ware 🔳 Software	Nessage			ů ×	[X Axis] Parameter     Speed Multipler	10
war Hardwar			[0]21 × W1 0 E1		Jerk Speed	1000 pps/sec2
ESe IndexMode	Level Time Tag Message				Acceleration Rate	400 pps
	torio neg Message				Deceleration Rate	400 pps
					Start Speed Drive Speed 1	10 pps 10 pps
					Drive Speed 2	100 pps
					Drive Speed 3	1000 pps
					Drive Speed 4	8000 pps

#### 4.2 Modifying and Adding Languages

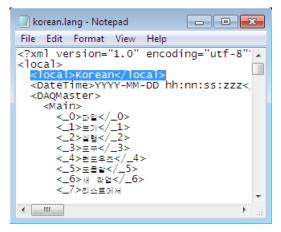
You can add or modify the program language of atMotion. Language file is in XML filr and placed in 'lang' folder in the installation folder. Open the 'lang' file through Notepad to edit the contents.



To add a language, copy and rename the existing language file.

Change' Korean' in the <local>Korean</local> part, highlightened with the blue color, into another language to change

(For example, to change the lanuage into Korean: Change 'file' to '파일')



Since the default language file is written in XML file format, you can edit the file using XML Notepad program (a freeware program provided by Microsoft)

# 5 Running

Motion driver provides five running modes such as Home Search as follows.

Running mode	Description
Index mode	Runs only one step which is selected from the motion program.
Jog mode	Runs a motor while input signal (CW, +, clockwise) (CCW, -, counter clockwise) is ON.
Continuous mode	Runs a motor when input signal (CW, +, clockwise) (CCW, -, counter clockwise) is on and stops a motor when stop button is clicked.
Motion program	Runs a motor according to written program.
Position mode	Moves a motor as much as set value.
Home Search	Runs Home Search

#### 5.1 Index Mode

Index mode runs only one step which is selected from the motion program.

- 1st Select one step in the motion program.
- 2nd Download after entering command at the program command in the right side or upload commands which are saved in the controller.
- 3rd Enter the number of step in the upper side of the motion program or click the step in the list.
- 4th Click [Step] button in the upper side of the motion program to run the step.

	Save	Wew	Tools Help	Disconnect Monitoring											
Projec Output Status	t Project File			Device							-	1 ×	My System		ą
Select Not		*	Select Node	1	Reset Position		]						Add Del		/iew -
X Logic Por	sition 11 P	PULSE	Running Status X Logic Position	Ready 11 PULSE		X Axis 12, Y Axis 0 RPM 10 PPS	-						Name RS-232	Address COM10	Status Connected
<		•	Y Logic Position	180 PULSE		0 PPS							ModBus Master		Connected
IO Status	: Run	• # ×	Axis	💌 💿 Jog	<ul> <li>Continuous</li> </ul>	Position							🛛 🎲 РМС-2Н5Р.		(1) EA
Paralle Horre	lel 1/0 Status Strob			Θ	(e)								- 1	PMC-2HSP	Connected
Mode0			EMG Broadca Start Speed User		Max Speed User W	Home Search		_		_	_				
STEPS			Accel Rate User												
STEPS			Motion Program × DAQ									• •	Property		ą
Stop0			Online Axis X	<ul> <li>Start Step 1</li> </ul>	🗧 🕨 Run 🛛 I F	Pause Stop 🕨	SeqRun 💿 Step				• Calcu	lator	Project		
Stop2	Limit-		Model PMC-2HSP +	▶ Upload ▶ Download	X Del 🔡 Cle	ear 🗟 Open	🗄 Save				ram Command		General		
110	🗌 İnt		Step X Command			Y Command				General     Program Index	1	_	Project Name Company	atMotion test Autonics	t
	OutputStatu			pulse], [Speed: 1], [Timer: 0], [En			ipeed: 1], [Timer: 0], [End Pulse:0 ], [Both:0 ]		^	X Axis Program			User	Administrator	r
	U) Out1 Ind Pulse		1 ABS [Post-300 p 2 UND	oulse], [Speed: 1], [Timer: 0], [En	d Pulse:0 ], [Both:0 ]	ABS [Post-S00 pulse], [ END	Speed: 1], [Timer: 0], [End Pulse:0 ], [Both:0 ]			Command	ABS	•	Description	Test	
	InputStatus		3			0.0				Position Drive Speed	-300 pulse				
Stop0			4							Post Timer		H			
Stop2			5							End Pulse	6	H			
Linit-			6							Both	0				
110	🔲 In 1		7							Y Axis Program					
	OutputStatu		8							Command	ABS	•			
E Out0	End Pulse		10							Position	-500 pulse				
	End Puse ErrorStatus		11							Drive Speed	1	•			
	are 🔳 Softv	ware	12							Post Timer	0				
Hardw	var 🕅 Hard		13							End Pulse	0	•			
Пенс	Progr	ram	14							5000					
HomeS	Se 🔲 Inder	Mode	15												
E Y Axis			16												
Softwa			17												
Hardw			18												
UNG			19												
HomeS	Se 🔲 Inder	×Mode													
			Message									Ψ×			
									Error	▼ W: 81 E:	0 1 🗉 🔠 🖽				
			Level Time	Tag	Message							_			
													_		
Column	2 2 WME														

#### 5.2 Jog Mode

Jog mode runs a motor while input signal (CW, +, clockwise) (CCW, -, counter clockwise) is ON.

- 1st Select Jog at the mode selection box in the motion control.
- 2nd Keep clicking W(+) or CCW(-) button to run the motor.
- 3rd Release clicking to stop the motor.

🚾 atMotio	-														- • ×
Home	Function	Wew	Tools	Help											
Ľ	9	Ei													
New	Open Save Project Project	Save as	Folder Sear	rch Disconnect Monitoring											
	File			Device											
Cutpu	t Status	- 9 ×	Motion Control								- ņ	× My	System		+× ≘
	lect Node 1 nning Status X3		Select Node	1	Reset Posibo								Add Del C	hange Vie	w.
	ogic Position -2		Running Status	X Jog Run	Rotation Speed	X Axis 1.2, Y Axis 0 RPM						Na			itatus
	ogic Speed 1	PPS *	X Logic Position		PULSE X Logic Speed	1 PPS							NodBus Master		Connected
10 Sta	d.s.	• • ×	Y Logic Position		PULSE Y Logic Speed	0 PPS							-aa =		1) EA
	O List : Run	_	Axis	X 💌 💿 Xo	Continuo	ous 💿 Position									
242	Parallel I/O Statu Home St			P ()	() G									PRODUCT N	an mecked
	x 🖹 Y			roadcast		Home Search									
2 n LILILIU	Mode0 Mo		Start Speed	User Value 💌	Max Speed	User Value 🔹 1 🔍 💌									
	STEPSL2 🔳 ST	EPSL3	Accel Rate	User Value 💌	100 Decel Rate	User Value 💌 100 🔅									
1 to the	STEPSL4 ST	EPSLS	Motion Program >										perty		₹×
lê 🗆	Stop0 🔳 St		Online A	kis X 💌 Start Step	1 🔶 🕨 Run	Pause    Stop    S	qRun 💮 Step				• Calculat	or i	Project		
	Stop2 Lin Limit- EV		Model PMC-2	HSP 👻 🕨 Upload 🕨 Dow	mload X Del	👯 Clear 🛛 🗟 Open 🖉	Save				m Command		General		
	in0 🔳 in	1	Step X Comme			Y Command				General Program Index	1		Project Name Company	atMotion test Autonics	
-	X Axis OutputSta			s: 1000 pulse], [Speed: 1], [Time s:-300 pulse], [Speed: 1], [Time			ed: 1], [Timer: 0], [End Pulse:0], [Both:0] eed: 1], [Timer: 0], [End Pulse:0], [Both:0]		î 🗖	X Axis Program			User	Administrator	
	Drive/End Pulse		2 END	ar ooo paraci) (opecor ii) (rimo	roll (character) (control	END	con () (mono), (and acto), (acto)			Command Position	ABS -300 pulse		Description	Test	
	Y Axis InputState Stop0	15	3 4							Drive Speed					
	Stop0 Sto Stop2 Lin		4							Post Timer	0				
	Limit- 🔳 EV		6							End Pulse Both	0	÷			
	In0 In Y Axis OutputSta		7 8							Y Axis Program					
	Out0 🗑 Ou		9							Command Position	ABS -500 pulse				
	Drive/End Pulse		10							Position Drive Speed	1				
	X Axis ErrorStatu	s ftware	11 12							Post Timer	0				
2		rdwar	13							End Pulse	0				
		ogram	14												
	HoneSe In Y Axis Experitate	JexMode	15												
		ftware	17												
Ē		rdwar	18												
	EMG Pri HomeSe In	ogram	19												
	nonese in	JEANOGE	Message								ņ	×			
								Erro	r	W: 81 E: 0					
			Level Time	Tag	Message					-11		-			
Colu	m 2 🗧 W	auh 80 💲		109	. iconge										
	0168											_			

## 5.3 Continuous Mode

Contiuouse mode runs motor to selected direction until internal stop command or external stop signal is input. Comtinuous mode and Home Search mode are included.

Stop command includes decelerating stop and immediate stop. In the most case, stopping mode is deceletating stop except some situations that final running speed is slower than initial running speed or reset, emergent stop is necessary.

- 1st Select Continuous at the mode selection box in the motion control.
- 2nd Set start speed and max spee (editable in running).
- 3rd click W(+) or CCW(-) button to run the motor.
- 4th Stop(■) button or limit signal of the direction stops the motor.

e Function	Vew	Tools Help						
8.8								
Open Save								
Project Project	bave as	Folder Search Disconnect Monitoring						
File		Device						
Status	- 4 X 🛛	fotion Control				- 0 x	My System	
ct Node 1		Select Node 1 Reset Position	Beret					Change View -
ning Status Rea			- HORE				Name	Address Status
pic Position -286 pic Speed 0 Pl	6 PULSE	Running Status Ready Rotation Speed	X Axis 0, Y Axis 0 RPM				□ RS-232	COM10 Conne
		X Logic Position -286 PULSE X Logic Speed	0 PPS				B ModBus Master	RTU, 3, 1 Conne
8	• # ×	Y Logic Position 180 PULSE Y Logic Speed	0 PPS				🖥 🌃 РМС-ЭНБР.	Autorics (1) EA
List : Run		Axis X 💌 🗨 Jog 💿 Continuous	Position					
arallel 1/0 Status							.1 .	PMC-2HSP Connec
tome Strol	be .							
4ode0 Mode	k1 [		Home Search					
जारम 🔲 जारम		Start Speed User Value  S S Max Speed User Value						
डाइम्ड.२ 🔲 डाइम		Accel Rate User Value  100  Decel Rate User V	alue 💌 100 🗢					
STEPS.4 STEP X Axis InputStatus		lotion Program X DAQ Space					Property	
Stop0 🔳 Stop		Online Axis X 💌 Start Step 1 🛶 🕨 Run	Pause 📕 Stop 🕨 SeqRun 💮 Step			• Calculator	Project	
Stop2		Model PMC-2HSP V Vpload Download X Del 3 Cl	ear 🗟 Open 📰 Save		Progr	am Command	General	
Linit- EMG		Step X Command	Y Command		General		Project Name	atMotion test
In0 In1 Axis OutputState		0 INC [Pos:1000 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]	ABS [Pos:500 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]		Program Index	1	Company	Autonics
Out0 📋 Out;		1 ABS [Pos:-300 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]	ABS [Pos:-500 pulse], [Speed: 1], [Timer: 0], [End Pulse:0], [Both:0]		X Axis Program     Command	ABS	User Description	Administrator Test
		2 END	END	1	Position	-300 pulse	Description	(est
/ Axis InputStatus Stop0		3 4			Drive Speed	1 •		
Stop2		5			Post Timer End Pulse	0		
Linit- EMG		6			Both	i i		
In0 🔲 In1		8			Y Axis Program			
Axis OutputStatu		9			Command	ABS 💌		
Drive/End Pulse		10			Position Drive Speed	-500 pulse		
Axis ErrorStatus		11			Post Timer			
Software 🔳 Soft Hardwar 🔲 Hard		12			End Pulse	• 💽		
EMG Prog		14			Both			
iorreSe 🔳 Inde		15						
		16						
		17						
Software 🔳 Soft								
Software Soft Hardwar Hard EMG Prog	dwar gram	18 19						
Software Soft Hardwar Hard EMG Prog	dwar gram			*				
Software Soft Hardwar Hard EMG Prog	dwar gram zxMode			v		₽ ×	4	
Software Soft Hardwar Hard EMG Prog	dwar gram zxMode	19		• Error	• W: 81 E:	+ ×		
	dwar gram exMode	19		Error	₩: 81 E:			

### 5.4 **Position Mode (Quantitative Running)**

Position (Preset) mode moves a motor as much as a fixed quantity.

Runs a motor as much as designated number of purse, at a constant speed or accelerate/decelerate speed. When the number of remaining purse is fewer than the number of consumed purse for accelerating, starts decelerating, and when purse output is over, running is finished.

- 1st Select Position at the mode selection box in the motion control.
- 2nd Select position (preset) mode from relative position and absolute position.
- 3rd Set position to move at the position setting box.
- 4th Set speed at the speed setting box (editable in running).
- 5th Runs the motor by clicking CW(+) or CCW(-) button.
- 6th Stop(■) button, or movement completion to the designated position or limit signal of the direction stops the motor.

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### 5.5 Home Search

While a motor is moving, a sensor figures out the position of the motor.

Home Search is that the motor returns to the position of home sensor after movement is finished.

- 1st Click [Home search] button to operate Home search.
- 2nd Home search is operated according to the setting value of Home Search Mode in Property.
- 3rd Click [Home Search Stop] button to stop operation.

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#### 5.6 Motion Program

Motion program mode runs a motor according to the written program.

- 1st Select a step in the motion program.
- 2nd Download after entering command at the program command in the right side or upload commands which are saved in the controller.
- 3rd Enter the number of step in the upper side of the motion program or click the step in the list.
- 4th Click [Run] button in the upper side of the motion program to run the step.

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