DS-CL28_42-SA User Program (GUI) Function



VER 1.1 Technical Manual

DS-CL28-SA / DS-CL42-SA





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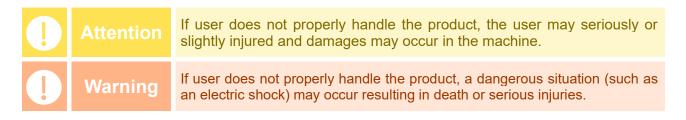
1. Safety Pre-caution

1.1 General Precaution

- Contents of this manual are subject to change without prior notice for functional improvement, change of specifications or user's better understanding.
- When the manual is damaged or lost, please contact with DINGS' distributors or our company at the address on the last page of the manual.
- Our company is not responsible for a product breakdown due to user's dismantling for the product, and such a breakdown is not guaranteed by the warranty.

1.2 Put the Safety First

- Before installation, operation and repairing the DS-CL28/42-SA thoroughly read the manual and fully understand the contents. Before operating DS-CL28/42-SA, please understand the mechanical characteristics of the DS-CL28/42-SA and related safety information and precaution.
- This manual divides safely precautions into Attention and Warning.



• Although precaution is only an **Attention**, a serious result could be caused depending on the situation, Follow safely precautions.

1.3 Check the Product

tention Check the product is damaged or parts are missing. Otherwise the machine may get damaged or the user may get injured.



1.4 Installation

!	Attention	 Carefully move the DS-CL28/42-SA. Otherwise, the product may get damaged or user's foot may get injured by dropping the product. Use non-flammable materials such as metal in the place where the DS-CL28/42-SA is to be installed. Otherwise, a fire may occur. When installing several DS-CL28/42-SA in a sealed place, install a cooling fan to keep the ambient temperature of the DS-CL28/42-SA as 50°C or lower. Otherwise, a fire or other kinds of accidents may occur due to overheating.
	Warning	The process of installation, connection, operation, checking and repairing should be done with qualified person. Otherwise, a fire or other kinds of accidents may occur.

1.5 Connect Cables

]	Attention	 Keep the rated range of Input Voltage for DS-CL28/42-SA. Otherwise, a fire or other kinds of accidents may occur. Cable connection should follow the wiring diagram. Otherwise, a fire or other kinds of accidents may occur.
!	Warning	 Before connecting cables check if input power OFF. Otherwise, an electric shock or a fire may occur. The case of DS-CL28/42-SA is insulated for the ground of the internal circuit by the condenser. Ground the DS-CL28/42-SA. Otherwise, an electric shock or a fire may occur.

1.6 Operation

•	Attention	 If a protection function(alarm) occurs, firstly remove its cause and then release(alarm reset) the protection function. If you operate continuously without removing its cause, the machine get damaged or the user may get injured. Do not make Motor Free and make input signal to ON during operation. Motor will stop and stop current will become zero. The machine may get damaged or the user may get injured.
		• All parameter values are set by default factory setting value. Change this value after reading this manual thoroughly. Otherwise, the machine may get damaged or other kinds of accidents may occur.



1.7 Check and Repair

!		• Stop to supply power to the main circuit and wait for a while before checking or repairing the DS-CL28/42-SA. Electricity remaining in the capacitor may occur danger.
	Warning	• Do not change cabling wile power is being supplied. Otherwise, the user may get injured or the product may get damaged.
		• Do not reconstruct the DS-CL28/42-SA. Otherwise, an electric shock may occur or the reconstructed product cannot get after service.

This manual describes how to operate User Program(GUI) for DS-CL28/42-SA. For more information, refer related manuals.

- (1) User Manual-Text
- (2) User Manual-Communication Function
- (3) User Manual-Position Table Function

2. Installation and Connection of the Program

2.1 Installation Environment of PC

DS-CL28/42-SA consists of two operation modes as follows:

- 1) Using Motion Library(DLL) provided for the program from Windows WINDOW7/8/10.
- 2) Using Position Table(PT) and external signals input by the user.

For the operation modes above, refer to each related manual.

This chapter describes the user program used for installation and running test of the controller. DS-CL28/42-SA is associated with RS-485. So, the user needs to convert RS-232C or USB for the PC into RS-485.

2.2 Program Version

There are 2 kinds of program version for DS-CL28/42-SA.

1) Firmware program in drive :

After connect the User Program(GUI), version number can be check in 'Board List' Window.

Product	Туре		Version
Port 4 Slave No 0	Ezi-SERVO Plus-R ALL-28 V2	Motor: 28M DI	Ezi-SERVO ALL-28 V2 (V06,01,30,23)



 \sim

Connect to RS485 Port No. : ______ Baudrate : 115200 Version : 6,46,8,50 (Revision 693)

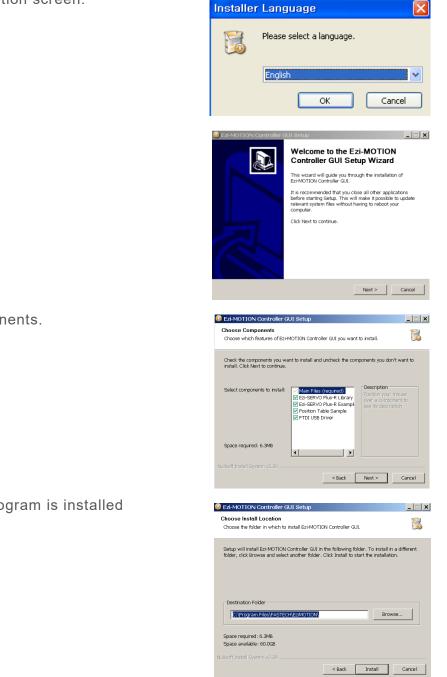
2) User Program(GUI) in PC :

After connect the User Program(GUI), version number can be check in 'About Plus-R GUI...'menu in 'Help' menu.

2.3 User Program (GUI) Installation

By executing 'Ezi-MOTION Plus-R V6 Install' program, please follow the next steps.

Select a language of installation screen.



Installation Start window. Click 'Next' button

Select all installation components. Click 'Next' button.

Select a folder where the program is installed Click 'Install' button.

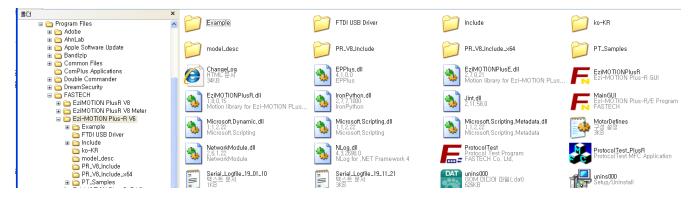


Installation is completed.



Then installation is completed at the selected folder, 'Program Files/DINGS/Ezi MOTION Plus-R V6' folder is created and also GUI icon and program folders are installed.

- 1) Include folder : *dll, *.lib, *.h files
- 2) Example folder : source code for sample
- 3) PT Samples folder : sample data tiles for position table.



2.4 Connecting PC with Drive Module

Execute which is User Program(GUI), click 'Connect' button, and the following window will be displayed.



ltem	Description
Port No.	To assign the port number of RS-232 or USB which is connected with drive module at the PC.
Baud rate	This should correspond to the setting which sets the controller communication speed. (Drive : adjusted to 115200[bps] at the factory).



After setting, click 'Connect' button, and the drive module will try to connect 16 drives from 0 to 15 (firmware of same level version) at the setting speed through a pertinent communication port.

Attention
 The communication speed of drive modules connected with one network must be set to the same value.
 When they are not connected, the user needs to check the port or the baud rate.

3. Main Window

Ezi-MOTION Plus-R GUI	
Drive View Iools Window Help	
🗜 🔁 Connect 📝 Board List 🔚 Parameter List 🔋 I/O Monitor 🎥 I/O Setting 🚓 Motion Test 🖈 Rep	peat Test 📴 Position Table 👔 Alarm Logs 🔤 Output
Board List	C Motion Test
Product Type Version	🖨 Motion Test 🛛 🛛 🔀
Z Port 3 Slave No 0 Ezi-SERVO Plus-R ST Motor: 56L DI RS-485 (V06,06,063,68)	Port 3 Slave No 0 👍 🔿
E Parameter List	
	Cmd Pos [pulse] Position Status Axis Status
Port 3 Slave No 0 🔶 🔿	Start Speed 1 [pps] Crnd Pos -6788 [pulse] Error All Errog Stop
Parameters	Move Speed 10000 [pps] Actual Pos -6788 [pulse] H/W +Limit Slow Stop
No. Name Unit Field Default Value Comment 🔿	Actual Vel U [pps] S/W + imit
0 Pulse Per Revolution 0 ~ 9 9 9 10000 1 Axis Max Speed pps 1 ~ 2500000 500000 500000	Decel Time 100 [msec] Pos Error 0 [pulse] S/W -Limit Servo On
2 Axis Start Speed pps 1 ~ 35000 1 3 Axis Acc Time msec 1 ~ 9999 100 100 4 Axis Dec Time msec 4 ~ 999 100 100	ABS Move ABS Move ABS Move Provide the served ABS Move ABS Move ABS Move ABS Move ABS Move ABS Move
5 Speed Override % 1 ~ 500 100 100	DEC Move INC Move Clear Position Origin Sensor
6 Jog Speed pps 1 ~ 250000 5000 5000 7 Jog Start Speed pps 1 ~ 35000 1 1 1 8 Joa Acc Dec Time mec 1 ~ 9999 100 100	Clear Position
9 Servo Alarm Logic 0 ~ 1 0 0 Low Active 10 Servo Diadic 0 ~ 1 0 0 Low Active 10 Servo Di Logic 0 ~ 1 0 0 Low Active	Jog Move Origin Err Over Speed Org Ret OK
11 Servo Alarm Reset Logic 0 ~ 1 0 0 Low Active 12 S/W Limit Plus Value pulse -134217728 ~ 134217727 134217727 134217727	Max Speed 5000 [pps] Search Speed 1000 [pps] Err Pos Tracking Motion DIR
13 S/W Limit Minus Value pulse -134217728 ~ 134217727 -134217728 -134217727 14 S/W Limit Stop Method 0 ~ 1 0 E-Stop	Accel / Decel 100 [msec] Speed 5000 [pps] Err Over load Motioning From Pause
16 Limit Sensor Logic 0 ~ 1 0 0 Low Active	Accel / Decel 50 [msec] Err Back EMF Motion Accel
17 Org Speed pps 1 ~ 50000 5000 5000 18 Org Search Speed pps 1 ~ 50000 1000 1000	-Jog +Jog Method Origin Graver Motion Decel
19 0r3 Acc Dec Time misec 1 ~ 3939 50 50 20 0r3 Method 0 ~ 5 0 0 Origin 21 0r3 Dir Method 0 ~ 1 0 0 CW 22 0r3 Offset pulse -134217728 ~ 34217727 0 0 ✓	- Limit + Limit Move Origin
	Status Value (HEX) 0x0450000
Set to Default Load ROM Save to ROM Load File Save to File Close	SV SERVO ON SERVO OFF ALARM STOP E-STOPI Close
Cutput	X
Connect Ezi-SERVO Plus-R ST (Port 3 Slave No 0) Disconnected Ezi-SERVO Plus-R ST (Port 3 Slave No 0)	<u>^</u>
Failed to find matching description file; Froit 3 Slave No 0 => Type 52, Version HS=485 (Vub.04,05,661SAW2) Connect Ezi-SERVO Plus-R ST (Port 3 Slave No 0) EAS GetParameter(3,0,0,0,00)	
FAS_GetParameter(3, 0, 1, (500000)) :return 0x00 FAS_GetParameter(3, 0, 2, (11)) :return 0x00	
Discontested Ex-CERVD Plus-48 31 (* 97 3 Slave No ()) Connect Ex-CERVD Plus-48 31 (* 97 3 Slave No ()) Connect Ex-CERVD Plus-48 (* 04 3 Slave No ()) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 04 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 04 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 04 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 04 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) FAS Coeffarmeter 3, 0 (* 1) (* 10 0 00) F	v 🗸
<	
Status	

This is the basic window to operate the program. Each window is displayed in this window.

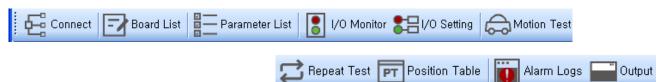
The user can open each window with a toolbar.

3.1 Menu

There are 'View' menu to display other windows simply and 'File' menu which the user can connect and disconnect communication.

1	F Ezi-MOTION Plus-R GUI							
Γ	Drive	<u>V</u> iew	<u>T</u> ools	<u>W</u> indow	<u>H</u> elp			
	E	Connect	F	oard List	Parameter List	I/O Monitor		

3.2 Toolbar





Click each button, and the following functions will be executed

Button	Description				
Connect	To connect or disconnect with the drive				
Board List	To display connected module information and communication status				
Parameter list	To set parameter values related to operation control like a position command				
I/O Monitor	To sort parameters that the user can change them easily				
I/O Setting	To monitor digital I/O signals of CN1 connector				
Motion Test	To set digital I/O signal assignment of CN1 connector				
Repeat Test	To execute motion commands such as Jog operation, Position operation, Origin return operation				
Position Table	To input and execute position table data				
Alarm Log	To display DLL function corresponding to the command being executed				
Output	To display the DLL command that is executed.				

3.3 Output

Click 'Output Bar' at the toolbar or check 'Menu –View – Output Bar', and the above window will be displayed. This window includes commands used for the controller. The user can check that which function is used, how parameter values are inputted, and how they are normally processed.

The above window displays functions which the user inputs or functions used when he clicks. For more information of commands, refer to [User Manual-Communication Function].

= Output	
FAS_GetParameter(3, 0, 33, [1]) :return 0x00 FAS_GetParameter(3, 0, 34, [400]) :return 0x00 FAS_GetParameter(3, 0, 35, [1]) :return 0x00 FAS_GetParameter(3, 0, 36, [10]) :return 0x00 FAS_GetParameter(3, 0, 37, [5]) :return 0x00 FAS_GetParameter(3, 0, 38, [0]) :return 0x00 FAS_SERVOGetEncoder(3, 0, [500]) :return 0x00 FAS_ServoEnable(3, 0, 1) :return 0x00 FAS_MoveSingleAxisIncPos(3, 0, 10000, 10000) :return 0x00	

3.4 Board List

🔁 Board List			×
Product	Туре	Version	
∕ Port 3 Slave N	lo 0 Ezi-SERVO F	Pine-R ST Mater 55 DL RS-485 (VDB 06.063,68) Disconnect Parameter List Motion Test Repeat Test I/O Monitor I/O Setting Position Table Alarm Logs	
		Parameter Compare Config Slave ID / IP Address	

To check the drive list connected with communication. The user can check information of each drive. There are buttons to go to windows for function setting or testing.



3.5 Parameter List

			Port 3 S	Slave No	0 0	← →
'aram	neters				\frown	
No,	Name	Unit	Field	Default	Value	Comment 🧖
0	Pulse Per Revolution		U~ 9	9	У	10000
1	Axis Max Speed	pps	1 ~ 2500000	500000	500000	
2	Axis Start Speed	pps	1 ~ 35000	1	1	
3	Axis Acc Time	msec	1~9999	100	100	
4	Axis Dec Time	msec	1 ~ 9999	100	100	
5	Speed Override	%	1~500	100	_100	
5 6 7	Jog Speed	pps	1 ~ 2500000	5000	5000	
7	Jog Start Speed	pps	1 ~ 35000	1	1	
8	Jog Acc Dec Time	msec	1~9999	100	100	
9	Servo Alarm Logic		0~1	Q	0	Low Active
10	Servo On Logic		0~1	0	U	Low Active
11	Servo Alarm Reset Logic		0~1	0	U	Low Active
12	S/W Limit Plus Value	pulse	-134217728 ~ 134217727	134217727	134217727	
13	S/W Limit Minus Value	pulse	-134217728 ~ 134217727	-134217728	-134217727	E 01
14	S/W Limit Stop Method		0~1	0	U	E-Stop
15	H/W Limit Stop Method		0~1	0	U U	E-Stop
16	Limit Sensor Logic		0 ~ 1 1 ~ 50000	0	5000	Low Active
17 18	Org Speed	pps		5000 1000	5000 1000	
18 19	Org Search Speed Org Acc Dec Time	pps	1 ~ 50000 1 ~ 9999	1000	50	
20	Org Acc Dec Time Org Method	msec	1 ~ 9999 0 ~ 5	50	50	Origin
20 21	Org Dir		0~5	0	U D	CW
22	Org Offset	pulse	-134217728 ~ 134217727	0	ŭ	C W
	org onset	puise		U	U	
<					\square	>

The user can set and save parameter values related to motion control by each drive module. 'Value' column displays the value applied to current motion control and can be edited.

1) Slave No



To display drive number for the current parameter list window. By using right/left arrow key, the user can select other drive.

Buttons at the bottom bar including 'SAVE to ROM' is available only for the current drive. To control several drive parameters, the user should execute related each one of slave separately.

2) Parameter Edit

No,	Name	Unit	Field	Default	Value
0	Pulse Per Revolution		0~9	9	9
1	Axis Max Speed	pps	1 ~ 2500000	500000	500000
2	Axis Start Speed	pps	1 ~ 35000	1	1
3	Axis Acc Time	msec	1~9999	100	100
4	Axis Dec Time	msec	1~9999	100	100 100
5	Speed Override	%	1 ~ 500	100	100

Select parameters as shown at the table, and the input box will be displayed and then the user can edit parameter values. When the user inputs the parameter value, it is saved to RAM area of the drive. The machine operates as the parameter is edited. However, when the drive is powered off, the value is deleted. To continuously operate the machine as the parameter value is set, the user must click 'SAVE to ROM' button and save the edited value to ROM.



When the input value is out of right range, it is displayed in red color. The value cannot be inputted in RAM of the drive.

3) Parameter List Window Buttons

Click each button, and the following functions will be executed.

Button	Description
Set to Default	Converts all parameter values into 'Default Value'.
Load ROM	Converts 'Value' items into values saved to the ROM area.
Save to ROM	Saves 'Value' items to the ROM area. (Even though the drive is powered off, they are not deleted.)
Load File	Sets 'Value' items to the values saved to an external file.
Save to File	Saves the current values to an external file. (The user defines folder position and file name. The extension is *.fpt.)

4) Save / Load to a File

DS-CL28/42-SA can save parameters, Input/output and position table data to an external file folder and can read them if necessary

File extension for parameter is *.fpt and for Input/output is *.fit. File extension for position table data is *.txt.

🛱 Repeat Test				
	1 Port 3	Slave No O	•	
Position Data			3	
Position 1	0 [pulse]			
Position 2	10000 [pulse]	Status 🕰		
Position 3	20000 [pulse]	Cmd Pos	-6788	[pulse]
Move Speed	10000 [pps]	Actual Pos	-6788	[pulse]
		Actual Vel	0	[pps]
Move Pos1	Nove Pos2 Move Pos3	Pos Error	0	[pulse]
Repeat Data	2	Cycle Time	00:00:00,000	[time]
Delay Time	100 [msec]	Repeat Count	0	
Repeat	0 Check Inposition	4	Clear S	itatus
STOP	E-STOP!	Repeat		Close

3.6 Repeat Test

- The repeat test is possible for up to 3 absolute position values.
- ② Delay time and repeat count can be set every repeat.
 - * Delay Time : Stand-by time until each motion is ended and then next motion is started. The unit is [msec].
 - * Repeat : To define the motion loop count. If this is set to '0', the test is endlessly repeated.
- ③ Operation status and repeat count are displayed.
 - * Cycle Time : displays the time until repeat test is completely finished.
- * Repeat Count : increases whenever one motion loop is finished.
- ④ When the user clicks 'Repeat' button while the machine is operating, the cycle in service ends and the machine stops operating. Click 'Stop' or 'E-Stop' button, and the machine will stop regardless of the cycle.



3.7 I/O Monitor

🚦 I/O Monita)r					×
1			Port	3 Slave	No O	+ +
LMT- Lin ORG Ori IN 1 PT IN 2 PT	nit+	PT A4 PT A5/User IN 6 PT A5/User IN 7 PT A7/User IN 8 PT Start Stop Jog +		Alarm Reset Servo On Pause Drigin Search Feaching E-Stop		JPT IN 2 JPT Start User IN 0 User IN 1 User IN 2 User IN 3 User IN 4
	A2 IN 6] Jog -		IPT IN 1		User IN 5
OUTPUT						
COMP Co	mpare Out OUT 8	Org Search OK	ι	Jser OUT 1	3	
OUT 1 Inp	osition OUT 9	Servo Ready	L	Jser OUT 2		
OUT 2 Ala	arm 📃	Reserved	L	Jser OUT 3		
OUT 3 Mo	oving	Brake	i	Jser OUT 4		(4)
OUT 4 Ac	c/Dec	PTOUTO	ι	Jser OUT 5		
OUT 5 AC	к 📃	PT OUT 1	ι	Jser OUT 6	ſ	I/O Setting
OUT 6 EN	ID O	PT OUT 2	i	Jser OUT 7		VO Detting
OUT 7 Ala	arm Blink	User OUT 0	Ľ	Jser OUT 8		Close

The user can set and check control I/O signals related to operation control through CN1 connecter. The next window is the sample setting of I/O Monitoring status.

1) Input Signal : ①

There are 32 definable input signals.

When each signal is [ON] through CN1 connecter, icon is changed into '**green**'. When the signal is [OFF], it returns to 'white' to the original state.

2) Virtual Input Function: ②

Even though the input pin is not assigned at all, the user can click each button and virtually change the signal into [ON]/[OFF]. For instance, click 'Pause' button, and the stop function will be operated temporarily. But only 'PT Start' signal is exceptional.

3) Output Signal : ③

There are 24 definable output signals.

When each signal is [ON] through CN1 connecter, icon is changed into '**red**'. When the signal is [OFF], it returns to 'white' to the original state. DS-CL28-SA is not supported.

4) Virtual Output Function:

After assigning the 'User OUT 0' ~ 'User OUT 8'signals to OUT1' ~ 'OUT3', when click that button the signal changed [ON]/[OFF] through that pin. DS-CL28-SA is not supported.



5) I/O Logic Setting button : ④

Click this icon, and the following window will be displayed. Then he can assign a pertinent signal to the physical pin of CN1 connecter and define 'Active Level' of the signal.

3.8 I/O Setting

Click 'I/O Logic Setting' icon at the I/O Monitor window, and the following window will be displayed.

		2		Po	ort 3 Sla	ve No D		
ssign INPUT-					Assign OUTPI	UT		
LIMIT+	Limit+	[]	Low Active		COMPARE	Compare Out	~	Low Active
LIMIT-	Limit-	× (Low Active		OUTPUT I	[NONE]	~	Low Active
OR GIN	Origin	V	Low Active		OUTPUT 2	[NONE]	~	Low Active
NFUT 1	[NONE]	1	Low Active		OUTPUT 3	[NONE]	~	Low Active
NFUT 2	[NOVE]		low Active		OUTPUT 4	[NONE]	~	Low Active
NFUT 3	Clear Pos	^	Low Active		OUTPUT 5	[NONE]	~	Low Active
NFUT 4	PT A0 PT A1 PT A2		Low Active		OUTPUT 6	[NONE]	~	Low Active
NFUT 5	PT A3 PT A4		Low Active		OUTPUT 7	[NONE]	~	Low Active
NFUT 6	PT A5/User IN INONEJ	6 🞽 (Low Active		OUTPUT 8	[NONE]	~	Low Active
NFUT 7	[NONE]	~	Low Active		OUTPUT 9	[NONE]	*	Low Active
NFUT 8	[NONE]	~	Low Active	C				
NFUT 9	[NONE]	~	Low Active		3			

1) Signal Assignment : ①

To change pin assignment of CN1 connecter, click 🔽 button to the right of the corresponding signal name as showed above, and select signals will be displayed at the drop-down menu.

2) Signal Level Assignment : ②

These buttons provide the user with functions that he can select the active level of signal for the signal to be recognized to [ON]. He can click the button to the right of the signal name and set the signal.

- * Low Active : when the signal is set[ON] to 0 volt
- * High Active : when the signal is set[ON] to 24 volt

3) Save: ③

Output pin of CN1 can be set described same as input. All changed signals are temporarily saved to the RAM area. To save them to the ROM area, the user must click 'Save to ROM' button. At this time, current parameter values are saved to the ROM area as well.



For more information of 'I/O Monitoring' and 'I/O Logic Setting' windows, refer to [User Manual-Text, 6. Control Input and Output Signal]

3.9 Motion Test

To test the motor connected with the controller drive. The user can test motion for one axis. He can test that the motor moves to the given position, and also simply transfer the motor to one direction. The user can move the motor to the origin or the limit and then test its sensor. At the position status and the axis status, the user can check the position, speed, and status of the current axis.

3.9.1 Initial Movement

- 1) Click 'Motion Test' at the manin menu.
- 2) The window as shown to the right is displayed

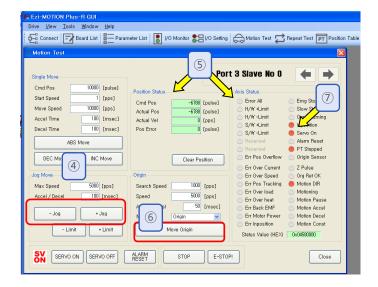
 By click 'SERVO ON', the motor will be start to be electrified and the motor becomes 'lock' status.

	C	
F Ezi-MOTION Plus-R GUI		$\widehat{1}$
Drive <u>V</u> iew <u>T</u> ools <u>W</u> indow <u>H</u> elp		
Connect Board List - Param	eter List 📳 I/O Monitor 🚼 I/O Setting	Motion Tes 🔁 Repeat Test F Position Table
Single Move	Por	t 3 Slave No 0 🔶 🗭
Cmd Pos 10000 [pulse] Start Speed 1 [pps] Move Speed 10000 [pps] Accel Time 100 [msec] Decel Time 100 [msec]	Position Status Cmd Pos -6788 [pulse] Actual Pos -6788 [pulse] Actual Vel 0 [pps] Pos Error 0 [pulse]	Avia Status Error All Errog Stop H/W -Limit Slow Stop H/W -Limit Org Returning S/W -Limit I position S/W -Limit Ssavo On
ABS Move DEC Move INC Move	Clear Position	Reserved Alarm Reset Asserved Pr Stopped Err Pos Overflow Origin Sensor Err Over Current Z Pulse
Jog Move Max Speed Accel / D - Jog - Limit + Limit	Origin Search Speed 10000 [pps] Speed 5000 [pps] Accel / Decel 50 [mse] Method Origin ♥	Err Over Speed Org Ret OK Err Over Landon OH Err Over Landon OH Err Over Landon OH Err Over Landon OH Err Over Landon Accel Err Mator Power Motion Accel Err Inposition Motion Const Status Value (HEX) 00000
SK SERVO ON SERVO OFF	ALARM RESET STOP E-STO	

4) JOG Operation

After setting jog related parameters, click and press '-Jog' or '+Jog' button. The motor will be operated to the setting direction.

5) According to the motion of motor, the user can check its position and operation status. For more information, refer to [User Manual -Text, 7. Other Operation Functions]



6) Origin Return Operation.

Click 'Origin', and origin return motion will be operated. The motion type may be different subject to how origin return type(parameter) is selected.

7) When origin return is finished, the red LED is displayed to ON like at the 'Axis Status' window. For more information, refer to [User Manual-Text, 7.Operation Functions]

3.9.2 Single Move Operation

The user can test straight-line move command for one axis. 'ABS Move' button finds and moves to the absolute position, and 'DEC Move' and 'INC Move' find and move to the relative position.

- * Cmd Pos : Indicates target position value. The unit is [pulse]. When 'ABS Move' is executed, this displays the absolute position. When 'DEC Move' or 'INC Move' is executed, this displays the relative position.
- * Start Speed : To set AxisStartSpeed at the second item in parameter lists. 'Start Speed' should be smaller than 'Move Speed'.
- * Move Speed : To set the moving speed when ABS Move, DEC Move, or INC Move is executed. 'Move Speed' should be larger than 'Start Speed'.
- * Accel Time and Decel Time : To set AxisAccel and AxisDecelTime in parameter lists.

3.9.3 Position Status

To displays the current position of axis. Click 'Clear Position' button, and Cmd Pos value and Actual Pos value will be initialized to '0(zero)'.

- * Cmd Pos : displays target position value while the motor is operating.
- * Actual Pos : displays current position value while the motor is operating.
- * Actual Vel : displays the actual operation speed of motor.

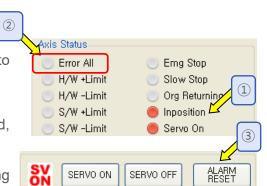
* Pos Error : displays the difference between Cmd Pos value and Actual Pos value. By this value, the user can check how much the current target position is tracked correctly.

3.9.4 Axis Status and Alarm

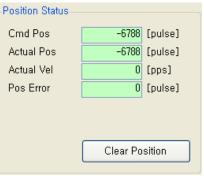
To display the current axis status. Each status is displayed to On/Off. 'On' indicates in red and 'Off' indicates in white.

1) When the motor stops operation and In position is finished, the corresponding LED at the right figure is displayed in red.

 When an alarm occurs during operation, the corresponding LED is displayed in red.









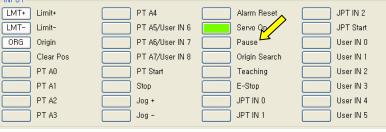


3.9.5 Stop Operating

1) Temporary Stop

Click 'Pause' button at the I/O Monitoring window to stop the motion temporarily. When clicking the button again, the motor restarts to operate. If 'Pause' signal is set to IN1~IN9, the actual external signal must be supplied to IONI status

signal must be supplied to [ON] status.



2) Complete Stop

When the motor needs to stop completely during operation, the button as shown to the right is available. 'STOP' button includes deceleration function and 'E-STOP' button does not include deceleration function.



3.10 Position Table (PT)

For more information of position table, refer to [User Manual-Position Table Function]. This chapter introduces its basic usage.

1) Reading position table data

Click 'Pos Table' icon at the main menu, and data saved to the RAM area will be loaded and then the following window will be displayed.

Nor		🔿 Single	Step	RUN		STOP		Port 3 S	lave No O		+	•
Vosition No,	n Table CMD	Position	Low Spd	High Spd	Accel	Decel	Wait Time	Check Inpos	JP Table No,	JPT 0	JPT 1	JPT 2
0 1 2	10 3	15000 0	1	10000 10000	100 100	100 100	0					
3 4 5 6	3 3 3	0 2500 5000	1 1	50000 100000 100000	100 100 100	100 100 100	1000 100 100		5 6 7			
7 8 9	3 3 3	7500 10000 12500	1 1	100000 100000 100000	100 100 100	100 100 100	100 100 100		8 9 10 11			
10 11 12	3 3 3 3	15000 17500 20000 22500	1	100000 100000 100000 100000	100 100 100 100	100 100 100 100	100 100 100 100		11 12 13 14			
12 13 14 15 16 17	333	25000 25000 22500 20000	1	100000 100000 100000	100 100 100	100 100 100	100 100 100		14 15 16 17			
17 <	3	17500	1	100000	100	100	100		18			>

Position table data can be changed at any time. The position table can save up to 64 step data. If the position table is used to the program area, it may be used for all point numbers without restriction. That is, it is possible to start at a random point number and jump to other point number.

Loading	×
Loading Position Table Data	
30%	
Cancel	



2) Position Table(PT) Edit

Put the mouse on a specific PT data line, click its right button, and the pop-up menu will be displayed as shown below.

PT Item Editor	PT Item Editor	PT Item Editor
Command ABS - Normal Motion	Command ABS - Normal Motion 💌	Command ABS - Normal Motion 💌
Motion Jump PT Output	Motion Jump PT Output	Motion Jump PT Output
Position 2500 [pulse]	JP Table No, 6 🔽 Next No,	PT Output Set
Low Speed 1 [pps]	_ JPT 0	🔿 Start Sign 🔿 End Sign 🔿 Pass Sign
High Speed 100000 [pps]	_ JPT 1	
Accel Time 100 [msec]	_ JPT 2	Output
Decel Time 100 [msec]	Counting Loop	□ PT 0 □ PT 1 □ PT 2
	Loop Count	Pass Sign
	JP Table No, at the end of loop	Trigger Position [pulse]
Check Inposition		Trigger Time [msec]
Waiting time after command	Clear Loop Count	
100 [msec]	JP Table No.	
Write Cancel	Write Cancel	Write Cancel

- * Input the value in order from 'Command' related items according to operation modes.
- * When all data of the positing table is completely inputted, click 'Save' key to save data.
- * To edit the next position table, the user should use PT select button.

3) Position Table(PT) Operation

Mode ● Nor Positio	mal n Table	🔿 Single	Step	RUN		STOP		Port 3 S	lave No (+	•
No,	CMD	Position	Low Spd	High Spd	Accel	Decel	Wait Time	Check Inpos	JP Table No,	JPT 0	JPT 1	JPT 2 🔨
0 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 <	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	25000 0 25000 5000 5000 12500 12500 12500 12500 20000 22500 22500 22500 22500 22500 22500 25000		10000 50000 50000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000 100000	100 100 100 100 100 100 100 100 100 100	100 100 100 100 100 100 100 100 100 100	1000 1000 1000 1000 100 100 100 100 100		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18			

Set the motor to 'Servo ON' and select the mode 'Normal', click PT No to start motion, and then execute 'Run'.

While PT No is operated in sequence, PT lines in service are changed in grey. Also, the user may monitor the operation status as described at '3.9.3 Position Status' and '3.9.4 Axis Status and Alarm' through 'Motion Test' window.



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