

# Topic: Passwords in a PLC

Applicable model	AH500 series, DVP-EC3 series, DVP-SX2 series, DVP-EH3 series, DVP-SS2 series, DVP-EH2 series, DVP-SE series, DVP-ES2/EX2 series, DVP-SV2 series, DVP-SX series, DVP-ES series, DVP-SV series, DVP-10MC series, DVP-EX series, DVP-SA2 series, TP04P series, TP70P series
keyword	Password



## Passwords in a PLC

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# 1. Preface and Purpose

Preface:

- A Users can use WPLSoft or ISPoft ot set passwords for all PLCs
- B DVPPCC01 can be used to read data in a PLC which is protected by passwords and write data to a PLC which is protected by passwords.

Purpose:

Understanding how to use WPLSoft or ISPSoft to set passwords

- PLC password and limitation on the number of guesses
- Subroutine password
- PLC ID and program ID
- Project password
- Disabling the uploading of a program

Understanding how to set passwords for DVPPCC01, use DVPPCC01 to read data in a PLC which is protected by passwords, and use DVPPCC01 to write data to a PLC which is protected by passwords

- PLC password
- PLC ID
- Subrouting password



# 2. Password List and Applicable Models

#### Limitation on **Disabling the** PLC PLC ID and Subroutine Project password uploading of a Model the number of password **Program ID** (Set by software) password guesses program v. 8.20 and v. 8.20 and v. 8.20 and v. 8.20 and ES/EC/EC3 V above above above above SS (The production of **DVP-SS** has been V -discontinued since 2013.) v. 8.20 and v. 8.20 and v. 8.20 and v. 8.20 and ΕX V above above above above SA (The production of **DVP-SA** has been V -------discontinued since 2013.) v. 3.00 and v. 3.00 and v. 3.00 and v. 3.00 and SX V above above above above SC (The production of **DVP-SC** has been V ---------discontinued since 2013.) WPLSoft v. 2.20 EΗ (and above) and (The production of ISPSoft v. 1.60 (and DVP-EH has been V -above) support discontinued since project passwords. 2010.) EH2 (The production of v. 1.40 and v. 1.40 and v. 1.40 and DVP-EH2 will be V above above above discontinued at the end of 2014.) SV (The production of v. 1.40 and v. 1.40 and v. 1.40 and DVP-SV will be V --above above above discontinued at the end of 2014.) ES2/EX2 V V V V V SS2 V V V V V V V V V V SA2 V V V V V SX2 SE V V ٧ ٧ ٧ MC V ٧ V V V EH3 V V V V V SV2 V V V V V V TP04P/TP70P V V V V

#### 2.1 DVP Series PLCs and TP Series Text Panels



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#### 2.2 AH500 Series PLCs

Model	PLC password	Limitation on the number of guesses	Subroutine password	PLC ID and program ID	Disabling the uploading of a program	Project password (Set by software)
AHCPU510-EN	V	V	V	V		
AHCPU510-RS2	V	V	V	V		
AHCPU520-EN	V	V	V	V		ISPSoft supports project
AHCPU520-RS2	V	V	V	V		passwords.
AHCPU530-EN	V	V	V	V		
AHCPU530-RS2	V	V	V	V		

Note 1:

(a) Blank cell: Not supported

(b) V: Supported

(c) Vx.xx: Supported by firmware version x.xx and above

Note 2: WPLSoft v. 2.20 and ISPSoft v. 1.60 are release on March, 2012.

Note 3: WPLSoft supports DVP series PLCs and TP series text panels. ISPSoft supports DVP series PLCs, TP series text panels, and AH500 series PLCs.



# 3. Using WPLSoft to Set Passwords

#### 3.1 Setting a PLC Password and Limiting the Number of Failures Allowed

If there is a need to limit users who can use a PLC program, **PLC Password Setting** in WPLSoft can be used. Point to **System Security** on the **Communication** menu, and click **PLC Password Setting**.



A PLC password is composed of four characters at most, e.g. 1234. The **Enable Limited Times** checkbox can be selected. The value selected in the box next to the **Enable Limited Times** checkbox should be in the range of 2 to 255. Click **OK** after the setting of a password is complete.

PLC Password Setti 🔀
Enter Password (4 Characters)
****
Confirmation
****
Enable Limited Times 4
OK Cancel
Unlocked

PLC Password Setti 🔀			
Enter Password (4 Characters)			
Warning ! Setting times remained: 4			
OK Cancel			
Locked			

If there is a need to unlock the PLC protected by the password set, the password needs to be typed. The remaining number of failures allowed is the value selected in the box next to the **Enable Limited Times** checkbox.

Example:

Users have to type "abcd" in the Enter Password box, select the Enable Limited Times checkbox, and select 5 in the box next to the Enable Limited Times checkbox.

PLC Password Setti 🔀
Enter Password (4 Characters)
****
Confirmation
****
Enable Limited Times 5
OK Cancel
Unlocked



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The users have to click **OK**.

PLC Password Setti 🔀
Enter Password (4 Characters)
Warning ! Setting times remained: 5
OK Cancel
Locked

The window below appears when the users want to upload/download the program protected by the password. The password needs to be typed in the **Enter Password** box.

PLC Password Setti 🔀
Enter Password (4 Characters)
Warning ! Setting times remained: 5
OK Cancel
Locked

After **OK** is clicked, the program can be uploaded/downloaded. If the number of guesses exceeds 5, the PLC will be locked, and the program can not be uploaded/downloaded. The users can only restore the PLC to its default settings if they forget the password. The restoration of a PLC to its default settings is described below.

#### 3.2 Setting a Subroutine Password

If users want to hide the subroutines in a program, they can use **Subroutine Password Setting**. Point to **Program Setting** on the **Options** menu, and click **Subroutine Password Setting**.

	Subroutine Password Setting	Subroutine Password Setting
Options Wizard Window Help	Enter Password (4~8 Characters)	Enter Password
Communication Setting     Image PLC Type     Cttl+Alt+M       Program Setting     Subroutine Password Setting       Edit Setup(A)     Program ID Setting	Confirmation *****	OK Cancel
Image: Set Color and Eont of Ladder Diagram     Project Password Setting       Image: Set RTC     Image: Set RTC       PLC Second Backup Setting     Image: Set RTC       Public Setting     Image: Set RTC	OK Cancel	Subroutine Locked

A subroutine password is composed of four to eight characters, e.g. 12345.



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(2) If the program above is protected by a subroutine password, the ladder diagram shown in WPLSoft will be the one shown below after the program above is downloaded and uploaded.



Note: When the program in a PLC is read, or a program is written to a PLC, WPLSoft does not tell the PLC whether the subroutines in the program are unlocked. After the subroutines in a program are unlocked, WPLSoft will display the subroutines following FEND.



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# 3.3 Setting a PLC ID and a Program ID

If a PLC ID is different from a program ID, a program code can not be successfully downloaded to a PLC. (1) Setting a PLC ID

Point to System Security on the Communication menu, and click PLC ID Setting.



A PLC ID is composed of four to eight characters, e.g. 12345. Click OK after the setting of a PLC ID is complete.

PLC ID Setting Enter PLC ID	
OK	Cancel
PLC ID Enabled	

(2) Setting a program ID

Point to Program Setting on the Options menu, and click Program ID Setting.

Options Wizard Window H	[elp		
Communication Setting			e 🔍 🗒 😫
Change PLC Type	Ctrl+Alt+M		
Program Setting		•	Subroutine Password Setting
Edit Setup( <u>A</u> )			Program ID Setting
Set Color and Font of Ladder Diagram			Project Password Setting
🛅 Modem Connection			
📋 Set <u>R</u> TC			
PLC Second Backup Setting			
Prompt to <u>E</u> dit Device Com	ment Ctrl+Alt+H		
DU01 Setting		•	
Language Setup		۲	

Program ID Setting		
Enter Program ID (4-8 Characters) ***** Confirmation *****		
OK Cancel Program ID Disabled		

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A program ID is composed of four to eight characters, e.g. 12345. Click **OK** after the setting of a program ID is complete.

Program ID Settin	ng
Enter Program ID	[
OK	Cancel
Program ID Enabled	

Example:

Users have to open the **PLC ID Setting** window after they write a program.

PLC ID: ABCDE			
	PLC ID Setting	 INC	D1
	Enter PLC ID (4~8 Characters)		—( Y2 )
 	Confirmation	 	FEND
	, .	 CALL	P1
	OK Cancel	 	—( Y2 )
	PLC ID Disabled		SRET

After the users click  $\mathbf{OK}$ , the window which appears is the one shown below.

	PLC ID Setting	INC	D1
	Enter PLC ID		( Y2 )
×3	OK Cancel	CALL	P1
	FLC ID Enabled		( Y2 )

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#### The users have to click Cancel in the PLC ID Setting window, and set a program ID.

#### Program ID: ABCDE

	1			INC	D1
		Program ID Setting			
		Enter Program ID (4-8 Characters)			—( Y2
		****			FEND
×3		Confirmation			
		****		CALL	P1
		OK Cancel			—( Y2 )
			J		SRET

After a PLC ID and a program ID are set, WPLSoft will check whether the two IDs are the same if the program needs to be uploaded/downloaded. If the PLC ID and the program ID are different, the window shown below will appear.

			D1
			—_( Y2 )
	Delta WPLSoft	3	FEND
×3	The verification of ID between PLC and program is inconsistent!	-CALL	P1
			—( Y2 )
			SRET

Note: If users forget a password, they can restore the PLC used to its default settings. If a PLC is restored to its default settings, the program in the PLC will be cleared.

If users want to restore a PLC to its default settings, they have to click **Format PLC Memory** on the **Communication** menu, select the **Reset PLC Memory (Factory Setting)** checkbox in the **Format PLC Memory** window, and click **OK**.

Format PLC Memory						
C Clear All Program Memory						
OK Cancel						



#### 3.4 Setting a Project Password

Users can use a project password to lock a project.

(1) Setting a project password:

Point to Program Setting on the Options menu, and click Project Password Setting.



A project password is composed of four characters at most, e.g. 1234.

Project Password Setting
Enter Password
OK Cancel

(2) After users save a project which is protected by a project password, they need to click Instruction List Mode/Ladder Diagram Mode/SFC Diagram mode, and enter the project password if they want to reopen the project.

# PASS	WORD	- Del	ta WP	LSo	ît														
i 🗋 🖨 🛛	. 🖀 🛛				$ \gamma_{\rm c} $		. 9	0		3	01	÷ (	<b>b</b> (	2 4	1				
<u> </u>	t Com <u>p</u> iler (	Co <u>m</u> ment	s <u>S</u> earch	⊻iew	Com	municat	ion	Options	s Wiza	ard	<u>W</u> indow	<u>H</u> elp							
	障 🔮 🖄	8 💷	<b>U</b> 🦉	T 9				0 🖕	9 🗛 🤅	<b>I</b> , (	Code		0101 #	Ē	۳, 🛎	Q	Q .	₹ 4	;
Instructi	ion List Moo	le																	



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Verify Program ID					
Enter Program ID (4~8	Characters)				
OK	Cancel				

(3) After a project password is set for a project, users can select the Synchronize Project and PLC Password checkbox in the Transfer Setup window when the program in the project is downloaded to a PLC. After the Synchronize Project and PLC Password checkbox is selected, the PLC password set will be the same as the project password.

Transfer Setup	
Communication Mode	
PC => PLC	OK
🔽 Program	
🔲 Device Comment	Const
🔲 Initialize Device Comment	Cancel
Synchronize Project and PLC Pa	nssword
🔲 Retentive Range	
🔲 Default Value	
TRTC	
🔲 Backup to Flash (EH2/EH2L/SV)	

(4) After a project password is set for a project, users can select the Synchronize Project and PLC Password checkbox in the Transfer Setup window when the program in the project is uploaded to WPLSoft. After the Synchronize Project and PLC Password checkbox is selected, the project password set will be the same as the PLC password.

Transfer Setup							
Communication Mode PC <= PLC	OK						
₩ Program							
Device Comment     Cancel     Cancel							
Synchronize Project and PLC Pa	nssword						
🔽 Retentive Range							
🔲 Default Value							
TRTC							
Eackup to Flash (EH2/EH2L/SV)	)						



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### 3.5 Disabling the Uploading of a Program

If the uploading of the program in a PLC is disabled, the program can not be uploaded. Note: After users disable the uploading of a program, they can not cancel the setting. If the users want to cancel the setting, they have to restore the PLC used to its default settings. If the program used is restored to its default settings, the program in the PLC will be cleared.

(1) Disabling the uploading of a program

Users have to point to System Security on the Communication menu, and click Program Upload Disabled.



After the Warning window appears, the users have to click Yes.

Warning	5	
<u>.</u>	Are you sure to e	xecute initial factory setting?
	Yes	No

(2) After the users disable the uploading of the program in a PLC, **Program Upload Disabled** will appear in the **PLC Information window**.

PLC Information			
Operation Mode: Capacity:	Stop Mode 30000 Steps		
PLC Version:	V1.88		
Released Date:	9/18		
MPU:	SV2		
Station Address (COM1):	1 (9600, 7, E, 1)		
Station Address (COM2):	1 (9600, 7, E, 1)		
Station Address (COM3):	XXXXX		
Grammar Check:	No Error		
Error Step:	XXXXX		
Locked:	Program Upload Disabled		
Close			



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(3) If the uploading of a program is disabled, the window shown below will appear after Read from PLC is clicked.





# 4. Using ISPSOft to Set Passwords

#### 4.1 Setting a Password and Limiting the Number of Failures Allowed

If there is a need to limit users who can use a PLC program, **Password Setting** in ISPSoft can be used. Point to **System Security** on the **PLC** menu, and click **Password Setting**.

PLC	<u>T</u> ools Wizard	<u>W</u> indow <u>H</u> elp		
5	Transfer	•	-	
	System Security	•	8	Password Setting Ctrl+W
0	Run	Ctrl+F11		PLC ID Setting
۲	Stop	Ctrl+F12		Program Upload Disable
7	Online Mode	Ctrl+F4		Read Only Area Setting

Password Setting	×
Password (4 Characters)	OK
	Cancel
Confirmation	
🗌 Enable Limited Times	
UnLock	

A password is composed of four characters at most, e.g. 1234. The **Enable Limited Times** checkbox can be selected. The value selected in the box next to the **Enable Limited Times** checkbox should be in the range of 2 to 255. Click **OK** after the setting of a password is complete.

Password Setting	
Password (4 Characters)	OK
****	Cancel
Confirmation	
****	
Enable Limited Times	4
UnLock	

Password Setting	×		
Password	ОК		
	Cancel		
Warning Setting times remained: 4			
Lock			

If there is a need to unlock the PLC protected by the password set, the password needs to be typed. The remaining number of failures allowed is the value selected in the box next to the **Enable Limited Times** checkbox.

Example:

Users have to type "abcd" in the **Password** box, select the **Enable Limited Times** checkbox, and select 5 in the box next to the **Enable Limited Times** checkbox.

Password Setting	X
Password (4 Characters)	OK
****	Cancel
Confirmation	
****	
Enable Limited Times	গ 🗧
UnLock	



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The users have to click **OK**.

Password Setting	X
Password	OK
	Cancel
Warning Setting times remained: 5	
Lock	

The window below appears when the users want to upload/download the program protected by the password. The password needs to be typed in the **Password** box.

Password Setting	X			
Password	ок			
	Cancel			
Warning Setting times remained: 5				
Lock				

After **OK** is clicked, the program can be uploaded/downloaded. If the number of guesses exceeds 5, the PLC will be locked, and the program can not be uploaded/downloaded. The users can only restore the PLC to its default settings if they forget the password. The restoration of a PLC to its default settings is described below.

#### 4.2 Setting a Subroutine Password

After users create subroutines in function blocks (POUs), they can set passwords for the POUs. The steps in setting a subroutine password are described below.

(1) The users have to right-click a POU in the **Function Blocks** section in the project management area, point to **POU** on the context menu which appears, and click **Properties...**.

Programs     Main [PF     Main [PF     Ponction Block     P1 FB 0	G,LD] S		
Delta Libi	POU	•	N <u>e</u> w
User Defi	Action/Transition	) (F	Delete
	Device Monitor	►	Сору
	POU Multi-Delete		Paste
	Task Property		Properties



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(2) The users have to type a password twice in the Protection section in the Properties window. The password typed in the Enter Password box and the password type in the Confirmation box must be the same. The users can type letters, numbers, and marks. Click OK after the setting of a password is complete. If a POU is protected by a password, the system asks for a password whenever the POU is reopened.

Properties	×
POU Name P1_FB	EN/ENO-
Protection (4-12 Characters) Enter Password Confirmation	Language <ul> <li>Ladder Diagram (LD)</li> <li>Sequential Function Chart (SFC)</li> <li>Function Block Diagram (FBD)</li> <li>Instruction List (IL)</li> <li>Structure Text (ST)</li> </ul>
POU Comment	OK Cancel

Verify POU Password	X
Enter Password	OK
	Close

(3) If the users want to unlock the POU, they have to reopen the **Properties** window, type the password set, and click **OK**.

Protection (Lock)	
Enter Password	
****	

If users want to download the program in ISPSoft to a PLC, and upload the program to WPLSoft, they have to set a subroutine password in ISPSoft first.

Point to **Program Settings** on the **Tools** menu, and click **Subroutine Password Setting**. (AH500 series PLCs do not support the function.)

	Subroutine Password Setting 🔀	Subroutine Password Setting 🔀
Tools       Wizard       Window       Help         Communication Settings          ●          ●         ●	Enter Password (4~8 characters)	Enter Password
Program Settings    Subroutine Password Setting		
Set RTC Program ID Setting		
DU01 Setting	OK. Cancel	OK Cancel
	Subroutine Unlocked	Subroutine Locked



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### 4.3 PLC ID and Program ID

If users want to download a program to a PLC, the program ID set for the program in ISPSoft and the PLC ID set for the PLC must be the same. A project protected by a program ID can only be downloaded to a specific PLC, and the PLC ID set for the PLC must be the same as the program ID set for the project.

(1) Setting a PLC ID

Point to System Security on the PLC menu, and click PLC ID Setting.

<u>P</u> L(	C <u>T</u> ools	Wizard	<u>W</u> indow	<u>H</u> elp			
٥	Transfer				•	6	2 🔜 i 🖛 🐻 🕜 10 🔶
	System S	ecurity			١	8	Password Setting Ctrl+W
D	Run		Ctrl	+F11			PLC ID Setting
•	Stop		Ctrl	+F12			Program Upload Disable
5	Online M	ode	Ctr	1+F4			Read Only Area Setting

PLC ID Setting	
Enter PLC ID (4~8 cl	haracters)
Confirmation	
OK	Cancel
PLC ID Disabled	

A PLC ID is composed of four to eight characters. Click OK after the setting of a PLC ID is complete.



PLC ID Setting	
Enter PLC ID	
OK	Cancel
PLC ID Enabled	

#### (2) Setting a program ID

Point to Program Setting on the Options menu, and click Program ID Setting.

Too	ols Wizard <u>W</u> indow <u>H</u> elp		
ŧ.	Communication Settings	8	😤 🕂 👯 🕴 🐺 🐻 🚺 🚺 🚔 🗲
-	Change PLC Type	E	ڬ 🙆 🚳 🔟 🕕 🕟 ㅋㅋ - () 1
	Program Settings		Subroutine Password Setting
1	Set RTC		Program ID Setting
	<u>D</u> U01 Setting ►		Project Password Setting

i e e e e e e e e e e e e e e e e e e e	
Program ID Setting	
Enter Program ID (4	~8 characters`
	,
Confirmation	
OK	Cancel
Program ID Disabled	



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A program ID is composed of four to eight characters	. Click OK after t	the setting of a program	ID is complete
--	--------------------	--------------------------	----------------

Program ID Setting	X
Enter Program ID (4~8 characters)	
****	
Confirmation	
****	
OK Cancel	
Program ID Disabled	

	n a progro		
Program ID	Setting		X
Enter Prog	fram ID		
		7	
OK		Cancel	
Due enere ID E			
LLOBLAU ID F	nabled		

Example:

Users have to open the **PLC ID Setting** window after they write a program. PLC ID: ABCDE

PLC ID Setting	
Enter PLC ID (4~8 cha	racters)
****	
Confirmation	, 
****	
	a 1
PLC ID Disabled	

After the users click **OK**, the window appears is the one shown below.

PLC ID Setting	
Enter PLC ID	
OK	Cancel
PLC ID Enabled	



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The users have to click **Cancel** in the **PLC ID Setting** window, and set a program ID. Program ID: ABCDE

Program ID Setting	×
Enter Program ID (4~8 characters)	
****	
Confirmation	
****	
OF	
Program ID Disabled	

After a PLC ID and a program ID are set, ISPSoft will check whether the two IDs are the same if the program needs to be uploaded/downloaded. If the PLC ID and the program ID are different, the window shown below will appear.

Delta ISPSoft 🛛 🔀
ID verification error!
OK

#### 4.4 Setting a Project Password

Users can use a project password to lock a project.

(1) Setting a project password:

Point to Program Settings on the Tools menu, and click Project Password Setting.

		Project Password Setting
		Password (4 Characters)
Tools Wizard Window Help		
Communication Settings	📍 🔮 🔜 🗄 🐺 🐻 🔿 10 🔶 C	
📻 Change PLC Type	🛅 🕙 🚾 🔟 💷 🕟 ++ -{ ) 1	Confirmation
i Program Settings 🔹 🕨	Subroutine Password Setting	
Set RTC	Program ID Setting	Enable Limited Times
DU01 Setting	Project Password Setting	Program Copy to PCC01
		OK Cancel



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A project password is composed of four characters at most, e.g. 1234. Click **OK** after the setting of a project password is complete.

Project Password Setting 🛛 🔀
Enter Password
OK Cancel

(2) After users save a project which is protected by a project password, they need to enter the project password if they want to reopen the project.

Verify Project Password	×
Enter Password	OK
	Close

(3) After a project password is set for a project, users can select the Synchronize Project and PLC Password checkbox in the Transfer Setup window when the program in the project is downloaded to a PLC. After the Synchronize Project and PLC Password checkbox is selected, the PLC password set will be the same as the project password.

Transfer Setup	X
PC => PLC (Download) Memory Remain: 15457 Steps	
<ul> <li>Transfer Selections</li> <li>Object Code</li> <li>Program</li> <li>Comments ···</li> <li>Synchronize Project and PLC Password</li> <li>Retentive Range</li> <li>Initial Value</li> <li>RTC</li> </ul>	OK Cancel



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(4) After a project password is set for a project, users can select the Synchronize Project and PLC Password checkbox in the Transfer Setup window when the program in the project is uploaded to ISPSoft. After the Synchronize Project and PLC Password checkbox is selected, the project password set will be the same as the PLC password.

Transfer Setup	X
PC <= PLC (Upload)	
Transfer Selections	OF
🗹 Object Code	
🗌 Program	Cancel
Comments …	
Synchronize Project and PLC Password	
🗹 Retentive Range	
🗌 Initial Value	
RTC	

#### 4.5 Disabling the Uploading of a Program

If the uploading of the program in a PLC is disabled, the program can not be uploaded. Note: After users disable the uploading of a program, they can not cancel the setting. If the users want to cancel the setting, they have to restore the PLC used to its default settings. If the program used is restored to its default settings, the program in the PLC will be cleared. (AH500 series PLCs do not support the function.)

(1) Disabling the uploading of a program

Users have to point to System Security on the PLC menu, and click Program Upload Disabled.

PL	C Tools Wizard	<u>W</u> indow <u>H</u> elp		
₽.	Transfer	•	Bg	2 🔜 🗄 🖛 🐻 🕥 10 🔶 👄
	System Security	•	8	Password Setting Ctrl+W
0	Run	Ctrl+F11		PLC ID Setting
0	Stop	Ctrl+F12		Program Upload Disable
8	Online Mode	Ctrl+F4		Read Only Area Setting

After the Confirm window appears, the users have to click Yes.
Confirm
You should execute the function "Reset FLC Memory (Factory Setting)" then the function "Program Upload" will be enabled again. Are you sure
to execute this function? (Y/N)
Yes No

(2) After the users disable the uploading of the program in a PLC, a message saying that the setting is successful will appear.





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(3) If the uploading of a program is disabled, the window shown below will appear after Upload from PLC is clicked.





# 5. Using DVPPCC01 to Write a Program/Parameters to a

# PLC/Read the Program/Parameters in a PLC

DVPPCC01 supports the copying of the program/parameters in a DVP series PLC. DVPPCC01 writes a program/parameters to a PLC and reads the program/parameters in a PLC through a COM on the PLC. It supports passwords, PLC IDs, subroutine passwords. It can be used to transmit data quickly and safely.



#### 5.1 Appearance



#### 5.2 Basic Functions

(1) Transmission speed:

Default communication protocol: ASCII, 9600, 7, E, 1

Transmission speed: 9600~115200 bps (ES/EX/EC/SS supports 9600 bps.)

(2) Reading/Writing data

Before DVPPCC01 is used to read data in a PLC or write data to a PLC, the PLC needs to be powered.

Step	(PLC→DVPPCC01) Reading data	(PLC←DVPPCC01) Writing data
1	Set the RD/WR switch on DVPPCC01 to RD.	Set the RD/WR switch on DVPPCC01 to WR, and
		make sure that the PLC stops running.
2	Connect DVPPCC01 to a COM on the PLC, and	Connect DVPPCC01 to a COM on the PLC, and wait
2	wait for five seconds.	for five seconds.
2	After the reading of the data in the PLC is	After the writing of data to the PLC is complete, the
3	complete, the OK indicator will be ON.	OK indicator will be ON.
4	Remove DVPPCC01 from the PLC.	Remove DVPPCC01 from the PLC.



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#### 5.3 Clearing the Data in DVPPCC01

First, connect DVPPCC01 to a COM on a PLC. Second, press the ERASE button in five seconds when the POWER indicator is ON. If the OK indicator is ON, the clearing of the data in DVPPCC01 is complete. Finally, remove the DVPPCC01.

#### 5.4 Limiting the Number of Times Data Is Copied

DVPPCC01 firmware version 2.0 (and above) has a function of limiting the number of times data is copied. If the function is enabled, the number of times DVPPCC01 can copy data will be limited.

#### 5.4.1 Setting the Number of Times DVPPCC01 Can Copy Data

- (1) Use WPLSoft to set M1480 to ON, and write the number of times DVPPCC01 can copy data to D1088.
- (2) Set the RD/WR switch on DVPPCC01 to RD, and connect DVPPCC01 to a COM on the PLC.
- (3) If DVPPCC01 reads that M1480 is ON, it will read the value in D1088, and store the value. (Exception: If M1480 is ON, but the value in D1088 is 0, the function of limiting the number of times DVPPCC01 can copy data will not be enabled.)

#### 5.4.2 Setting the RD/WR Switch on DVPPCC01 to WR

- (1) When DVPPCC01 is powered, it judges whether the function of limiting the number of times it can copy data is enabled. If the function of limiting the number of times it can copy data is enabled, it will check the number of times which remain. If the number of times which remain is 0, the ERR indicator will blink, and DVPPCC01 will not continue copying a program.
- (2) If the number of times which remain is greater than 0, DVPPCC01 will begin to copy data into a PLC.
- (3) After the copying of data is complete, 1 will be subtracted from the number of times which remain, and the difference will be stored.

#### Example:

A program/Parameters can be copied into several PLCs by means of DVPPCC01.

Procedure: The program in WPLSoft is downloaded to PLC\_A. $\rightarrow$ DVPPCC01 reads the program in PLC\_A. $\rightarrow$ DVPPCC01 writes the program to PLC\_B $\rightarrow$ ....





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#### ■ Backing the data in a PLC up onto DVPPCC01 (PLC→DVPPCC01)

Step 1: Use WPLSoft to set M1480 to ON, write the number of times DVPPCC01 can copy data to D1088, and download the program in WPLSoft to a PLC. (The number of times DVPPCC01 can copy data is two.)



Step 2: After the RD/WR switch on DVPPCC01 is set to RD, DVPPCC01 will begin to read the program in the PLC, and the values in M1480 and D1088 will be copied into DVPPCC01.



#### • Copying the data in DVPPCC01 into a PLC (DVPPCC01→PLC)

Step 1: After the RD/WR switch on DVPPCC01 is set to WR, the program in DVPPCC01 can be copied into PLC\_B and PLC\_C. When the program in DVPPCC01 is copied into PLC\_D, the ERR indicator blinks. The number of times DVPPCC01 can copy data is reached.

Note: Before users use DVPPCC01 to write data to a PLC or read data in a PLC, they have to make sure that the PLC stops running. Please refer to DVPPCC01 Instruction Sheet for more information.

#### 5.5 Setting a Password/PLC ID/Subroutine Password for DVPPCC01

Before the data in DVPPCC01 is written to a PLC protected by a PLC password and a PLC ID, the PLC password and the PLC ID in DVPPCC01 are compared with the PLC password and the PLC ID protecting the PLC. If the PLC password and the PLC ID protecting the PLC ID protecting the PLC, the data in DVPPCC01 will be written to the PLC. Besides, if DVPPCC01 is used to read data in a PLC, it will read the subroutine password along with the program in the PLC. If DVPPCC01 is used to write data to a PLC, it will write the subroutine password along with the program in it to the PLC.



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#### 5.5.1 Steps in Setting a PLC Password for DVPPCC01

- (1) Write a PLC password to D1086 and D1087 in a PLC by means of ISPSoft or WPLSoft, and set M1086 in the PLC to ON.
- (2) Set a PLC password for the PLC.
- (3) Set the RD/WR switch on DVPPCC01 to RD. After DVPPCC01 is connected to a COM on the PLC, DVPPCC01 will begin to read the program and the parameters in the PLC.
- (4) After DVPPCC01 finishes reading the data in the PLC, it will judge whether M1086 is ON. If M1086 is ON, DVPPCC01 will read the values in D1086 and D1087, and regard the values as the PLC password set for it. After the reading of the values in D1086 and D1087 is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from the PLC.

#### 5.5.2 Steps in Setting a PLC ID for DVPPCC01

- (1) Write a PLC ID to D1996~D1999, and the length of the PLC ID to D1995 in a PLC by means of ISPSoft or WPLSoft.
- (2) Set a PLC ID for the PLC. The PLC ID set must be the same as the PLC ID written to D1996~D1999.
- (3) Set the RD/WR switch on DVPPCC01 to RD. After DVPPCC01 is connected to a COM on the PLC, DVPPCC01 will begin to read the program and the parameters in the PLC.
- (4) When DVPPCC01 reads the data in the PLC, it asks the PLC whether it has a PLC ID. If the PLC has a PLC ID, DVPPCC01 will read the values in D1995~D1999, and regard the values as the PLC ID set for it. After the reading of the value in D1995~D1999 is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from the PLC.

#### 5.5.3 Setting a Subroutine Password for DVPPCC01

The subroutine password along with the program in the PLC is read by DVPPCC01. If the program in a PLC has a subroutine password, DVPPCC01 will read the subroutine password, and regard it as the subroutine password set for it.

Example:

A program/Parameters protected by passwords can be copied into several PLCs by means of DVPPCC01. Procedure: WPLSoft is used to set passwords for PLC\_A. $\rightarrow$ DVPPCC01 reads the passwords in PLC\_A. $\rightarrow$ DVPPCC01 writes the passwords to PLC\_B $\rightarrow$ ...

Related passwords: PLC password/PLC ID/Subroutine password





#### • Clearing the data in DVPPCC01

First, connect DVPPCC01 to a COM on a PLC. Second, press the ERASE button in five seconds when the POWER indicator is ON. If the OK indicator is ON, the clearing of the data in DVPPCC01 is complete. Finally, remove the DVPPCC01.

#### ● Backing the data and the password in a PLC up onto DVPPCC01 (PLC→DVPPCC01)

Step 1: Write a PLC password to D1086 and D1087 in PLC\_A, and set M1086 in PLC\_A to ON. Use WPLSoft to write a PLC password to D1086 and D1087 in PLC\_A, set M1086 to ON, and use the PLC password to protect PLC-A. (The PLC password written to D1086 and D1087 is the ASCII code "ABCD" (the hexadecimal value H41424344).)

D1086		H4142
D1087		H4344
M1086	•	

PLC Password Setti 🔀		
Enter Password (4 Characters)		
Warning ! Setting times remained: 4		
OK Cancel		
Locked		

Step 2: Write a PLC ID to D1996~D1999 in PLC\_A, and write the length of the PLC ID to D1995 in PLC\_A. Use WPLSoft to write a PLC ID to D1996~D1999 in PLC\_A, and use the PLC ID to protect PLC\_A. (The PLC ID written to D1996~D1999 is the ASCII code "1234" (the hexadecimal value "H31323334").)

D1996	Н3132
D1997	Н3334
D1995	H4

PLC ID Setting	
Enter PLC ID (4~8 Char *****	racters)
Confirmation	
ок	Cancel
PLC ID Disabled	

Step 3: Use WPLSoft to set a subroutine password, and download the program in WPLSoft to PLC\_A. (The subroutine password set is "5678".)

Subroutine Password Setting		
Enter Password	1	
OK	Cancel	
Subroutine Locked		



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Step 4: PLC\_A must stop running. Set the RD/WR switch on DVPPCC01 to RD. After DVPPCC01 is connected to a COM on PLC\_A, DVPPCC01 will begin to read the program and the parameters in PLC\_A.



PLC : A

After the reading of the data in PLC\_A is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from PLC\_A.

#### • Copying the data in DVPPCC01 into a PLC (DVPPCC01→PLC) Step 1:

Situation 1: PLC\_B is not protected by passwords.

PLC\_B stops running. Set the RD/WR switch on DVPPCC01 to WR. After DVPPCC01 is connected to a COM on PLC\_B, DVPPCC01 will begin to write a program and parameters to PLC\_B.





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Situation 2: PLC\_B is protected by passwords.

PLC\_B stops running. Set a PLC password and a PLC ID for PLC\_B. (The PLC password set is "ABCD", and the PLC ID set is "1234".) The PLC password and the PLC ID set must be the same as the PLC password and the PLC ID in DVPPCC01. Set the RD/WR switch on DVPPCC01 to WR. After DVPPCC01 is connected to a COM on PLC\_B, DVPPCC01 will begin to write a program and parameters to PLC\_B.

- 1. Set the RD/WR switch on DVPPCC01 to WR.
- 2. PLC password=ABCD
- 3. PLC ID=1234

PLC\_B is protected by passwords.

- 1. PLC\_B stops running.
- 2. PLC password=ABCD
- 3. PLC ID=1234



After the writing of the data in DVPPCC01 is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from the PLC\_B.

Step 2: After users use WPLSoft to read the program in PLC\_B, they can find that DVPPCC01 can be used to read the program in a PLC protected by passwords, and write a program to a PLC protected by passwords.

Note: If users want to use DVPPCC01 to write data to a PLC/read the data in a PLC, the PLC must stop running. Please refer to DVPPCC01 Instruction Sheet for more information.

#### 5.6 Special Functions of ES2

Users can use special functions of DVP-ES2 to set a PLC password and a PLC ID for DVPPCC01, and do not need to set special D devices or M devices.

Note: ES2 version 2.80 (and above) and DVPPCC01 version 1.6 (and above) support the special functions described below.

#### 5.6.1 Setting Passwords for DVPPCC01

(1) After users point to Program Setting on the Options menu, they can click Subroutine Password Setting, Program ID Setting or Project Password Setting. Subroutine Password Setting is used to set a subroutine password for DVPPCC01, Program ID Setting is used to set a PLC ID for DVPPCC01, and Project Password Setting is used to set a PLC password for DVPPCC01.





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(2) The users have to set a PLC password and a PLC ID for ES2.

The users have to point to **System Security** on the **Communication** menu, and click **PLC Password Setting** or **PLC ID Setting**. The PLC password and the PLC ID set for ES2 must be the same as the PLC password and the PLC ID set for DVPPCC01.



(3) After the users complete step (1) and step (2), they can download the program in WPLSoft to ES2.

#### 5.6.2 Copying Passwords into DVPPCC01

Set the RD/WR switch on DVPPCC01 to RD. After DVPPCC01 is connected to a COM on ES2, DVPPCC01 will read the subroutine password, the PLC password, and the PLC ID which are set for it. If the PLC password and the PLC ID set for DVPPCC01 are not successfully downloaded to ES2, there will be a PLC password/ID comparison error, and users need to repeat step (1) in section 5.6.1. If DVPPCC01 successfully reads the subroutine password, the PLC password, and the PLC ID set for it, the OK indicator will be ON.

Example:

The special functions of ES2 can be used to set passwords for DVPPCC01, and the passwords set for ES2 can be copied into several PLCs.

Procedure: WPLSoft is used to set passwords for ES2\_A. $\rightarrow$ DVPPCC01 reads the passwords in ES2\_A. $\rightarrow$ DVPPCC01 writes the passwords to ES2\_B $\rightarrow$ ....

Related passwords: PLC password/PLC ID/Subroutine password



#### • Clearing the data in DVPPCC01

First, connect DVPPCC01 to a COM on a PLC. Second, press the ERASE button in five seconds when the POWER indicator is ON. If the OK indicator is ON, the clearing of the data in DVPPCC01 is complete. Finally, remove the DVPPCC01.

#### ■ Backing the data and the password in a PLC up onto DVPPCC01 (PLC→DVPPCC01) Step 1: Write a PLC password to, a PLC ID, and a subroutine password to ES2\_A.

Use WPLSoft to set a PLC password, a PLC ID, and a subroutine password. (The PLC password set is "ABCD", the PLC ID set is "1234", and the subroutine password set is "5678".)





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Subroutine password (5678)	PLC ID (1234)	PLC password (ABCD)
Subroutine Password Setting         Enter Password (4-8 Characters)         *****         Confirmation         *****         OK         Cancel	PLC ID Setting Enter PLC ID (4-8 Characters) ***** Confirmation ***** OK Cancel	Project Password Setting Enter Password (4 Characters) **** Confirmation **** Copy program to PCC01 OK Cancel
Subroutine Unlocked	PLC ID Disabled	

Step 2: Use WPLSoft to set a PLC password and a PLC ID for ES2\_A.



Setting a PLC password	Setting a PLC ID
PLC Password Setting 🔀	PLC ID Setting
Enter Password (4 Character: ****	Enter PLC ID (4~8 Characters)
Confirmation ****	Confirmation *****
Enable Limited 3	OK Cancel
Unlocked	PLC ID Disabled

Step 3: Download the program in WPLSoft to ES2\_A.

Step 4: ES2\_A must stop running. Set the RD/WR switch on DVPPCC01 to RD. After DVPPCC01 is connected to a COM on ES2\_A, DVPPCC01 will begin to read the program and the parameters in ES2\_A.



After the reading of the data in ES2\_A is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from ES2\_A.

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#### • Copying the data in DVPPCC01 into a PLC (DVPPCC01→PLC)

#### Step 1:

Situation 1: ES2\_B is not protected by passwords.

ES2\_B stops running. Set the RD/WR switch on DVPPCC01 to WR. After DVPPCC01 is connected to a COM on ES2\_B, DVPPCC01 will begin to write a program and parameters to ES2\_B.



Situation 2: ES2\_B is protected by passwords.

ES2\_B stops running. Set a PLC password and a PLC ID for ES2\_B. (The PLC password set is "ABCD", and the PLC ID set is "1234".) The PLC password and the PLC ID set must be the same as the PLC password and the PLC ID in DVPPCC01. Set the RD/WR switch on DVPPCC01 to WR. After DVPPCC01 is connected to a COM on ES2\_B, DVPPCC01 will begin to write a program and parameters to ES2\_B.



After the writing of the data in DVPPCC01 is complete, the OK indicator on DVPPCC01 will be ON, and DVPPCC01 can be disconnected from the ES2\_B.

Step 2: After users use WPLSoft to read the program in ES2\_B, they can find that DVPPCC01 can be used to read the program in a PLC protected by passwords, and write a program to a PLC protected by passwords.

# 5.7 Making a DVP-ES/EX/EC Series PLC Run/Stops Running

Although there is no RUN/STOP switch on a DVP-ES/EX/EC series PLC, use can make it run/stop running by means of DVPPCC01. The users have to connect DVPPCC01 to a DVP-ES/EX/EC series PLC when the DVP-ES/EX/EC series PLC runs. They have to set the RD/WR switch on DVPPCC01 to WR. DVPPCC01 can not write data to the DVP-ES/EX/EC series PLC. The users have to press the ERASE button in thirty seconds when the ERR indicator and the OK indicator blinks simultaneously. The DVP-ES/EX/EC series PLC stops running. The users can remove and then connect DVPPCC01. After DVPPCC01 finishes writing data, the users have to press the ERASE button in thirty seconds when the the term of the OK indicator is ON. The DVP-ES/EX/EC series PLC runs again.



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