

Doc. Code: 134A-P-D1503-APN004-EN

Topic: The PLC link function of DVP series PLCs

Applicable model	DVP-EH3 series, DVP-SV2 series, DVP-ES2/EX2 series, DVP-SX2 series, DVP-SA2 series, DVP-SS2 series, DVP-SE series, DVP-10MC series, DVP-SX series, TP04P series, TP70P series
Keyword	PLC link function



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1. Preface, Purpose, and Note

Preface:

The PLC link wizards in WPLSoft and ISPSoft are used to set PLC links. DVP-EH3 series PLCs are used in the examples below.

Purpose: Helping users know how to use the PLC link wizards in WPLSoft and ISPSoft to construct PLC links

- (1) Manually specifying linked slave stations
- (2) Automatically searching for linked slave stations
- (3) Manually specifying the same slave station, but different communication addresses
- (4) Reading and writing simultaneously in a polling cycle
- (5) Enabling the function of linking thirty-two PLCs and exchanging more than sixteen pieces of data
- (6) Sending a write command after the change of values

Note:

If RS-232/RS-485 is used for the wiring of hardware, the length of the connection created should be as short as possible, and should be far from high noise. An RS-232 interface is a one-to-one connection, and the length of the connection created is usually shorter. Therefore, the use of standard cables on the market or Delta cables generally does not cause any problems. The distance of a high-speed RS-485 connection is long. Besides, an RS-485 connection has a high transmission rate and numerous stations. It attenuates signals highly. If the problems related to improper ground potential, impedance matching, noise interference, and wiring are not solved, there will be low communication quality. Users have to pay attention to the following notes about the wiring of RS-485 communication.

• Limit on the number of stations

The number of stations which can be connected to a DVP series PLC can be up to 254, but the maximum number of stations which can be driven by an RS-485 interface is 16. If more than 16 stations are required, an RS-485 repeater (IFD8510) should be used. Each repeater supports 16 stations. Users can add stations by adding repeaters until the number of stations reaches 254.

• Limit on distance

If an RS-485 interface is used, the maximum length of the cable which can be used for a specific transmission path is the function of a data signaling rate. The maximum length is affected by the factors such as the distortion of signals and noise. The graph below is gotten by using a 24 AWG copper twisted pair telephone cable (a cable whose diameter is 0.51 mm) with a 52.5 PF/M bypass capacitor and a 100 Ω terminator. (Please refer to GB11014-89 Appendix A.) If the maximum acceptable signal loss allowed is 6 dBV when data a signaling rate is lower than 90 kbit/s, the limit on the length of the cable which can be used will be 1200 m (4K feet). However, the graph is conservative, and a longer cable length is accessible in practical application. If cables whose diameters are different are used, the maximum cable lengths which can be gotten will be different. For example, if a data signaling rate is 600 kbit/s, and a 24 AWG cable is used, the maximum cable length gotten can be longer than 200 m. If a 19 AWG cable (a cable whose diameter is 0.91 mm) is used, the maximum cable length gotten can only be shorter than 200 m. The relation between transmission rates (bps) and transmission distances for an RS-485 standard communication interface is shown below.



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Limitation on cables

Users have to use shielded twisted pair cables. The quality of cables greatly influences transmission signals. If users use low quality cables (such as PVC twisted pair cables), signals will be attenuated highly and transmission distance will be shortened. In addition, noise can interfere with communication easily due to the poor noise immunity of low quality cables. Therefore, in a situation in which there is a high transmission rate, a long distance, or high noise, high quality twisted pair cables (such as polyethylene twisted pair cables) should be used. However, in a situation in which there are a low transmission rate and low noise, PVC twisted pair cable is an acceptable and cost saving choice though the signal loss of PVC cables is 1,000 times greater than high quality cables. If a long transmission distance attenuates signals, an RS-485 repeater (IFD8510) can be used to amplify the signals.

• Wiring topology

In RS-485 wiring, nodes should be near the master cable as much as possible. Generally, a daisy chain is used for RS-485 wiring. Topology is the link structure of a connection. The topology of RS-485 wiring is a configuration of stations which are wired together in sequence. That is, in RS-485 wiring, the first station is connected to the second station, the second station is connected to the third station, and so on. Start topology and ring topology are not allowed.

• SG (signal ground)

Though twisted cables can be used to connect an RS-485 network, noise can easily interfere with the twisted cables. The prerequisite for using twisted cables to connect an RS-485 network is that the ground potential (common mode voltage) between stations should not exceed the maximum common mode voltage allowed by an RS-485 IC. However, no matter how high the ground potential between stations is, users should use shielded twisted pair cables to connect the signal grounds of stations. The use of shielded twisted pair cables can reduce the common mode voltage between stations. It provides the shortest circuit for communication, and improves noise immunity.

Terminator

All cables have their own characteristic impedance (120Ω for a twisted pair). If the terminal impedance of a cable is different from the characteristic impedance of the cable when a signal in the cable is transmitted to a terminal, an echo signal will occur, and the waveform of the signal will be distorted (convex or concave). The distortion of the waveform of a signal will not be obvious if the cable used to transmit the signal is short. If the cable used to transmit a signal is long, the distortion of the waveform of the signal will become serious, and a terminator will be needed to maintain normal transmission.

Methods to reduce noise

After an RS-485 network is wired according to the rules above, or connected to a 120 Ω terminator, noise interference can be reduced. If the noise interference can not be reduced, it means that there is a strong noise source near the network. In addition to keeping cables away from the strong noise source (such as an electromagnetic valve, AC motor drive, an AC servo drive, or power equipment) and its power lines, the best way to reduce the noise interference is to add a noise suppressor to the noise source. The figure below shows the methods for reducing the



noise caused by an AC motor drive, an AC servo drive, and power equipment.

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Generally, an RS-485 cable comprises two wires twisted together. It transmits signals by the potential difference between the twisted pair, and therefore the transmission is called differential mode transmission. Differential mode interference is transmitted between two signal wires. It is symmetric interference. Differential mode interference can be reduced by adding a bias resistor to a circuit and using twisted pair cables. Common mode interference is transmitted between a signal wire and the ground. It is asymmetric interference. Common mode interference can be reduced by using the following methods.

- (1) Use shielded twisted pair cables and ground it properly.
- (2) Use galvanized pipes in strong electric fields.
- (3) Users should keep away from high voltage cables when they install cables. Do not bond high voltage power cables and signal cables together.
- (4) Use a linear power supply or a high quality switching-mode power supply (ripple < 50mV).

2. Communication Rates and Formats

2.1 DVP Series PLCs Supporting PLC Links

In the table below, V means supporting PLC links, and X means not supporting PLC links.

Model	EH3	SV2	ES2/EX2	SA2	SX2	SS2	SE	SX	MC	ES/EX/EC3
Supporting PLC links or not	V	V	V	$\mathbf{>}$	$\mathbf{>}$	V	$\mathbf{>}$	$\mathbf{>}$	\vee	X

2.2 DVP Series PLCs Supporting Function Codes of PLC Links

In the table below, V means supporting function codes of PLC links, and X means not supporting.

Mode Function Code	EH3	SV2	ES2/EX2	SA2	SX2	SS2	SE	SX	МС
H03	V	V	V	V	V	V	V	V	V
H06	V	V	V	V	V	V	V	V	X
H10	V	V	V	V	V	V	V	V	V
H17	V	V	V	V	V	V	V	V	V



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2.3 The Maximum Quantity of Data and Stations

The maximum quantity of data and station supported by DVP series PLCs are described below. In the table below, V means supporting and X means not supporting.

Model Max. Quantity	EH3	SV2	ES2/EX2	SA2	SX2	SS2	SE	SX	МС
100 data & 32 stations	V	>	Х	X	X	X	V1.60	Х	X
50 data & 16 stations	Х	Х	V	V	V	V	Х	V3.00	V

2.4 Communication Formats

DVP series PLCs support ASCII/RTU communication. The communication formats supported by DVP series PLCs are described below.

Model	Data length	Parity bit	Stop bit
EH3	7, 8	None, odd, even	1, 2
SV2	7, 8	None, odd, even	1, 2
ES2/EX2	7, 8	None, odd, even	1, 2
SA2	7, 8	None, odd, even	1, 2
SX2	7, 8	None, odd, even	1, 2
SS2	7, 8	None, odd, even	1, 2
SE	7, 8	None, odd, even	1, 2
MC	7, 8	None, odd, even	1, 2
SX	7, 8	None, odd, even	1, 2

2.5 Communication Rates

Users can set a communication format for a DVP series PLC by means of D1120 (COM2)/D1109 (COM3). The maximum communication rate that COM3 (DVP-F485) in a DVP-EH3 series PLC supports is 500 kbps. The setting of a communication format does not support bit 8~bit 15 in D1120/D1109. Please refer to the following table for more information about the communication rates that the RS-485 ports on DVP series PLCs support and the setting of a communication format.

Model	EH3	SV2/MC	ES2/EX2/SA2	ES2-C/SX2/SS2/SX	SE
RS-485 port	COM2/COM3	COM2	COM2/COM3	COM2	COM2/COM3
Baud rate (bps)	()	/: Supporting	the baud rate; X: N	lot supporting the baud rat	e)
110	V	V	X	Х	V
150	V	V	X	Х	V
300	V	V	X	Х	V
600	V	V	V	V	V
1200	V	V	V	V	V
2400	V	V	V	V	V
4800	V	V	V	V	V
9600	V	V	V	V	V
19200	V	V	V	V	V
31250	V	V	V	V	V
38400	V	V	V	V	V
57600	V	V	V	V	V
115200	V	V	V	V	V
500K	V	V	V	V	V
921K	COM2: V COM3: X	V	V	V	X



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Communication format									
	Contents								
b0	Data length	0: 7 bits 1: 8 bits (If an RTU communication format is selected, the data length set needs to be 8 bits.)							
b1 b2	Parity bit	00: None 01: Odd 11: Even							
b3	Stop bit	0: 1 bit 1: 2 bits							
b4 b5 b6 b7	Serial transmission rate	0001 (H1): 110 0010 (H2): 150 0011 (H3): 300 0100 (H4): 600 0101 (H5): 1200 0110 (H6): 2400 0111 (H7): 4800 1000 (H8): 9600 1001 (H9): 19200 1010 (HA): 38400 1011 (HB): 57600 1100 (HC): 115200 1101 (HD): 500000 1110 (HE): 31250 1111 (HF): 921000							
b8	Start-of-text character	0: None 1: D1124							
b9	First end-of-text character	0: None 1: D1125							
b10	Second end-of-text character	0: None 1: D1126							
b11~b15	Undefined								

Another way to set a communication format is described below.

(1) Start WPLSoft.



(2) Click the the Help menu, point to Auxiliary Editing, and click Protocol <=> Setting Code.

Ele Edit Compiler Comments Search View	v <u>C</u> ommunication <u>O</u> ptions Wizard <u>W</u> ir	dow <u>Help</u>	
i 🗋 🚅 🖪 🗃 💿 💿 🐰 🗈 🛍 🍠 🖆	। 🔍 🔍 🔍 🕜 🕴 🐺 🐻 🕚 🛽	About WPLSoft	
	o 🌃 📾 🖻 🔿 📥 🖬 🗠 🍟	cont 🛃 Auxiliary Editing 🔹 🕨	ASCII <=> HEX
	·	PLC Instruction and Special Registers Reference	Protocol <=> Setting Code
Relay Type		2 WPLSoft User Index Ctrl+F1	LRC/CRC Generator
		<u> <u> Revision History</u> </u>	PLC Copy Wizard
Communication Setting			Save Picture
RS232			
Ethemet			
I II III DOGOG			
IF J9300			
I DUPETNO1			
Direct int			
Detternet			



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(3) Select values in the Data Length drop-down list box, the Parity drop-down list box, the Stop Bits drop-down list

box, and the **Baud Rate** drop-down list box in the **Protocol <=> Setting Code** window, and then click **.** For example, the communication protocol (9600, 8, E, 1) can be converted into H'87 in D1120/D1036.

Pro	otocol <=> Se	tting Code				
	Communicatio	on Protocol			-Value in D1120/I	01036
	Data Length	8	•		0087	
	Parity	Even	•	-	J	
	Stop Bits	1 bit	•			
	Baud Rate	9600 bps	•			Close
٩	Note: RTU mod	de only supp	orts 8 l	oits data le	ngth!	

2.6 Setting a Communication format for COM2/COM3

- If users want to change the communication format set for COM2/COM3, they need to write the program shown in (3). After the RUN/STOP switch on a PLC is moved out of the STOP position and into the RUN position, the PLC will detect whether M1120/M1136 is On in the first scan time. If M1120/M1136 is On, the settings related to COM2/COM3 will be changed according to the values in D1120/D1109.
- (2) Whether the communication format set for COM2 is an ASCII mode or an RTU mode is determined by M1143, and whether the communication format set for COM3 is an ASCII mode or an RTU mode is determined by M1320. (If M1143/M1320 is Off, the communication format set for COM2/COM3 is an ASCII mode. If M1143/M1320 is On, the communication format set for COM2/COM3 is an RTU mode.)
- (3) If users want to change the communication format set for COM2/COM3 to an RTU mode and (9600, 8, E, 1), they need to write the program shown below.
 - COM2:
 - WPLSoft:



ISPSoft:





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- COM3:
 - WPLSoft:



ISPSoft:



Notes:

- (1) If COM2/COM3 is used as a slave port, please do not use any communication instructions in the program for COM2/COM3.
- (2) If the RUN/STOP switch on a PLC is moved out of the RUN position and into the STOP position after a communication format is modified, the communication format will not be changed.
- (3) After the modification of a communication format is complete, if a PLC is disconnected when the RUN/STOP switch on the PLC is in the STOP position and then powered, the PLC will be restored to the default communication format (9600, 7, E, 1).

3. Example 1—Manually Specifying Linked Slave Stations (M1355=On)

If M1355 is ON, M1360~M1375 (M1440~M1455) can be used to specify the stations which need to be linked, and therefore read/write commands will be transmitted cyclically through PLC links according to M1360~M1375 no matter how many PLCs are connected. (The master stations and the slave stations in the examples below are DVP-EH3 series PLCs.)

3.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with the two slave stations (two DVP-EH3 series PLCs) manually specified through a PLC link.

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Setting station addresses of PLCs]



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[Descriptions of devices]						
Device in a PLC	Description					
X0	X0 functions as a conditional contact used to enable M1350 and M1351.					
D1120	Communication protocol of COM2 (RS-485)					
D1121	PLC Communication address					
D1129	Abnormal communication timeout					
	Time unit: ms					
M1120	M1120 is used to retain the communication format of COM2 (RS-485).					
M1143	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an ASCII mode or an RTU mode. Off: ASCII mode On: RTU mode					
M1350	M1350 is used to enable a PLC link.					
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.					

[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Step 2: Click the PLC link wizard $\stackrel{\fbox}{\equiv}$ in WPLSoft.

🔚 <u>F</u> ile <u>E</u> dit C	mpiler Comments Search View Communication Options Wizard Window Help
🗋 🚅 🗐 🗃	◎ ◎ X 🗅 🛍 🔗 😩 🔍 🔍 🔍 🐺 🐻 🕚 💶 🔮 ⊖ 🔅 🛷
🔛 🎏 🖷 🔮	🖬 🖼 🌽 🖉 🖓 🐨 🚆 📓 🕲 🕐 🚍 🖫 🖉 🖉 🗮 🖽
Relay Type	្នាត់ ឌំ ឌ៉ ឌ៉ ឌិ ត ទ ត ត តា ឌិ តែ ត ត តែ តែ តែ តែ ត តែ តែ តែ តែ តែ តែ

Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection drop-down list box, and click

-Welcome to use the -The wizard will guil -Please follow the in	PLC Link Wizard! I you to complete the configu dications step by step.	rration settings.
Language Engli	sh	Open 🍃
Model Selection EH3	•	About
Communication Mode		
⊙ COM		
C USB		



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Step 4: Set a communication format for COM1 in the master PLC, click Auto Detect, click OK in the window which

s, click, and	click O	K in the	e window w	hich	appears.		_		52
-The set to conne paramate	ting is that ct with PL cr.	t choose C and th	a PC's COM le related	-	PC COM Port COM3 • • ASCII Data Length 7 • • RTU Parity bit Even • • Stop bit 1 • Auto Detect Baudrate 9600 • • Station Address 40 • Default Baudrate Setting Decided by • • • PLC Setting • •				
	Co	nfirm PL	PLC Li Aut	ink Cor co-Dete	figurati ×	from the o	connected		
Click .									
PLC Link Co	onfiguration		_	_			_		×
	Station ID	R/W	Master Buffer	\Leftrightarrow	Slave Buffer	Length	Status	Model Type	
	1	w	D1480~D1495	<	H100%, H10D2	16	Disabled	Others	
		W	D1490~DL@II	=>	HINGA HIND?	10	Disabled	Others	
ID 2	2	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others	
D 2	2	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others	
D 3	3	R	D1544~D1559	<=	H1064~H1073	16	Disabled	Others	
D 3	3	W	D1560~D1575	=>	H10C8~H10D7	16	Disabled	Others	
ID 4	4	R	D1576~D1591	<=	H1064~H1073	16	Disabled	Others	
ID 4	4	W	D1592~D1607	=>	H10C8~H10D7	16	Disabled	Others	
ID 5	5	R	D1608~D1623	<=	H1064~H1073	16	Disabled	Others	
ID 5	5	W	D1624~D1639	=>	H10C8~H10D7	16	Disabled	Others	
				-		1			-



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Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, select the **Auto** option button and **2** in the

The First ID box in the Slave PLCs Station Address section, and click

Window for ASCII communication:

PLC Link Configuration	(2)用用1+		X
-The protocol of the port wouldn't be applied in this	Data Length	7	Communication Mode
wizard.	Parity bit	Even 💌	C RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	© 16 words
The max linked machine	Time Out (ms)	200	C 100 words
number is 16 if selecting		J	Slave PLCs Station Address
16 words mode. -The max linked machine	✓ Hold the RS4	85 Setting	Auto The First ID 2
number is 32 if selecting			C Manual
100 words mode.	Set these register in	program, the protocol wo	ould be applied.
	D1120 134 [01129 200 M1120	On M1143 Off
	-		→

Window for RTU communication:

PLC Link Configuration	AND ADD	1 m	×
-The protocol of the port wouldn't be applied in this	Data Length	8	Communication Mode
wizard.	Parity bit	Even 💌	© RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 -	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	© 16 words
Transferring.	Time Out (ms)	200	C 100 words
number is 16 if selecting			Slave PLCs Station Address
-The max linked machine	I Hold the RS43	85 Setting	Auto Infernst ID Auto Manual
number is 32 if selecting 100 words mode.			
	Set these register in	program, the protocol wo	uld be applied.
	D1120 135 D	1129 200 M1120	On M1143 On
	-		→



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Step 7: Double-click the ID 1 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Slave Parameter Setting section, and click OK.

D#	Station ID	R/W	Master Buffer	\Leftrightarrow	Slave Buffer	Length	Status
01	2	R	D1480~D1495	<=	HO-HF	16	Disabled
01	2	W	D1496~D1511	=>	H0~HF	16	Disabled
)2	3	R	D1512~D1527	<=	H0~HF	16	Disabled
) 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled
D 3	4	R	D1544~D1559	<=	HO~HF	16	Disabled
D 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled
) 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled
) 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled
) 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled
) 5	6	W	D1624~D1639	=>	H0~HF	16	Disabled
Save 🔓	3		Clear All		-		•





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Step 8: Double-click the **ID 2** block in the **PLC Link Configuration** window, select the **DVP Series** option button in the **Linked Model Type** section, select the **Enable** option button in the **Linked Model Status** section (set M1361 to On), type "16" in the **Data Length** boxes in the **Master Parameter Setting** sections in the **Read** and **Write** sections, type "200" in the **Starting Device** box in the **Slave Parameter Setting** section in the **Read** section, type "250" in the **Starting Device** box in the **Slave Parameter Setting** section, and click **OK**.

PLC Link (Configuration	-	100,0000	-		100			
ID#	Station ID	R/W	Master Buffer	<	Slave Buffer	Length	Status		
ID 1	2	R	D1480~D1495	<=	H0~HF	16	Disabled		
ID 1	2	W	D1496~D1511	=>	H0~HF	16	Disabled		
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled		
ID 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled		
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled		
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled		
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled		
ID 4	5	W	D1592~D1607	=>	HO~HF	16	Disabled		
D 5	6	R	D1608~D1623	<=	HO~HF	16	Disabled		
ID 5	6	W	D1624~D1639	=>	H0~HF	16	Disabled		
Save (Clear All	-	-		-]	

-The radio box "Input Type" is the type for user to enter the pure hexidecimal machine address or the device name of PLC. To choose the device name will be tested in the range or not when clicking [OK]. -The field "Starting Device" is the starting device for the slaver's and master's buffer to exchange data. -The field "Data Length" is the number of words that exchange data one time. -"The Status of the Linked Machine" is selected for user to indicate this machine which is enabled or disabled when linking.								
Linked Model Type	Linked Model Stati	15						
 DVP Series 	O Disable							
C Others	 Enable 							
Read								
Master Paramter Setting Starting Device D 1512	Data Length 🖟 16	Slave Parameter Setting Starting Device D 200						
Write								
Master Paramter Setting	Ditt	Slave Parameter Setting						
D 1528	Data Length 16	D 250						
OK		Cancel						



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D#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status	
ID 1	2	R	D1480~D1495	<=	D100~D115	16	Enabled	1
ID 1	2	W	D1496~D1511	=>	D150~D165	16	Enabled	-
ID 2	3	R	D1512~D1527	<=	D200~D215	16	Enabled	
ID 2	3	W	D1528~D1543	=>	D250~D265	16	Enabled	
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled	1
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled	
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled	1
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled	1
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled	1
D 5	6	W	D1624~D1639	=>	H0~HF	16	Disabled	

Step 10: Click the Set Parameter button, click the Start Monitor button, and click b or set X0 to On.





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Step 11: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) //slave station (2) , and click Write Register/Read Register on the context menu which appears.



Step 12: The values read from slave 1 are 5000, that is, the values in D1480~D1495 are 5000. The values written to slave station 1 are 1000, that is, the values in D1496~D1511 are 1000.

Input Value			x
Device Name	Value	Device Comment	-
D1480	5000		
D1481	5000		
D1482	5000		
D1483	5000		
D1484	5000		
D1485	5000		
D1486	5000		
D1487	5000		
D1488	5000		
D1489	5000		
D1490	5000		
D1491	5000		
D1492	5000		
D1493	5000		
D1494	5000		-
Value Type © Decimal O Hexidecin	nal	Close	



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Input Value			x
Device Name	Value	Device Comment	
D1496	1000		
D1497	1000		
D1498	1000		
D1499	1000		
D1500	1000		
D1501	1000		
D1502	1000		
D1503	1000		
D1504	1000		
D1505	1000		
D1506	1000		
D1507	1000		
D1508	1000		
D1509	1000		
D1510	1000		_
Value Type © Decimal © Hexidecia	1 mal		

Step 13: The values read from slave 2 are 6000, that is, the values in D1512~D1527 are 6000. The values written to slave station 2 are 2000, that is, the values in D1528~D1543 are 2000.

Input Value			x
Device Name	Value	Device Comment	-
D1512	6000		
D1513	6000		
D1514	6000		
D1515	6000		
D1516	6000		
D1517	6000		
D1518	6000		
D1519	6000		
D1520	6000		
D1521	6000		
D1522	6000		
D1523	6000		
D1524	6000		
D1525	6000		
D1526	6000		-
Value Type © Decimal © Hexidecin	nal	Close	



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Input Value	_		×
Device Name	Value	Device Comment	
D1528	2000		
D1529	2000	and the second se	
D1530	2000		
D1531	2000		
D1532	2000		
D1533	2000		
D1534	2000		
D1535	2000		
D1536	2000		
D1537	2000		_
D1538	2000		_
D1539	2000		_
D1540	2000		_
D1541	2000		_
D1542	2000		
Value Type © Decimal © Hexideci	mal	Close	

Step 14: Close the Linked Machines Status window, click , and type "D1354". The value in D1354 indicates PLC link scan time.

🔮 Eile Edit Compiler Comments	<u>S</u> earch <u>V</u> iew <u>(</u>	communication Op	tions W <u>i</u> zard <u>W</u> in	idow <u>H</u> elp	
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🔠 🎏 🖷 🔮 🖄 🖽 🖮	🍃 🗉 🧃 🌔	III 🕼 📴 🔿 🤅) 🖪 🗐 😒 🔅		t 🛛 Q Q
<u></u>	Device Name	Comment	Status	T/C Set Value	Present Value (16 bi
Communication Setting	D1354				K423
RS232	L		-		
DVPEN01-SL					
IFD9506					
IFD9507					
PLC					
DVPFEN01					
→ USB					
Ethernet					

[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the values in D1528~D1543 in the master station are written to D250~D265 in slave station 2.



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Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.

3.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with the two slave stations (two DVP-EH3 series PLCs) manually specified through a PLC link.

Master/Slave station	Station address	Communication format
waster/Slave Station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
		2. RTU, 9600, 8, E, 1 (D1120=H'87)
Slave PLC 1	K2 (D1121=K2)	The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121-K3)	The communication format of the master DLO
	NO (DTIZI-NO)	same as the communication format of the master PLC.

[Setting station addresses of PLCs]

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1120	Abnormal communication timeout
DTI29	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M1142	ASCII mode or an RTU mode.
1011143	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.



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[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Program for RTU communication:



Step 2: Double-click NWCONFIG in the project management area, create a link, click , select Driver 1 in the Driver Name drop-down list box, click OK, select the master station and the slave stations, and click .

😜 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>Compile PLC T</u>ools W<u>i</u>zard <u>W</u>indow <u>H</u>elp : E) 🔗 📰 🎒 🔲 🛄 🧇 : 👎 🐻 🛛 10 - 🕀 🗢 3: 🦿 🕄 🕒 ! 🔛 🖳 🖉 😫 関 🖉 🖳 i 🌑 💿 | 🗶 🛅 🛅 🍠 | 🗨 👫 😭 📿 100% - ¥ 🕇 Local Symbols Project [\\172.16.144.36\g Class Identifiers Address Туре... Program Brack Discharge Comment Li
 Device Comment Li
 Used Device Report
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 Global Symbols
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 Delta Library
 User Defined Librar ÷ M1002 MOV En 🖉 Device Monitor Tab 4 | ÷ 16#0086 D 🖳 🛄 Monitor Table _D1120



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·			
File Edit View PLC Tools Help			
	j z) 🖽		
All_Devices	Untitled0	Untitled1	Untitled2
⊕ → ■ AH-Series ⊕ → ■ DVP-Series ⊕ → ■ AH-Modules ⊕ → ■ DVP-Modules	C2 Station Addr.: 40	C2 Station Addr.: 2	C2 Station Addr.: 3
MODBUS Device	ЕН3 12 СЗ	ЕН3 12 СЗ	ЕН3 12 <mark>13</mark>
Select a Driver Driver Name Image: Routing Mode First Station	Driver1		
No station coulde	be the First Station.		

Step 3: Select a PLC in the **Master Device** drop-down list box, click , and click **OK** in the window which appears.

Network #1 - PLC L	ink Table Editor
Select Master I	Device
	Please choose the Master device and port for PLC Link.
	Master Device Station address 40 EH3 Untitled0 - CPU _▼
	→
	Confirm
	Do you want to read the configuration setting from the connected PLC?
	OK Cancel



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#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Typ
1 1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=> 16#10C8^	16#10C8~16#10D7	16	Disabica	CHINIOWH
	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EUD
2	2	W	D1528~D1543	=>	D200~D215	16	Disabled	LIIJ
	2	R	D1544~D1559	<=	D100~D115	16	Disabled	Disabled EH2
	3	W	D1560~D1575	=>	D200~D215	16		ENG
	4	R	D1576~D1591	<=	16#1064~16#1073	16		Linkaran
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	Unknown
	E	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
10	5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	UNKNUWN

Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, unselect the **Synchronic R/W** checkbox and

the Run PLC Link after downloading checkbox, type "0" in the Interval time box, and click

Window for ASCII communication:

	(• 10 words
_	C 100 words
7	C 450 words (AH Only)
Even	
	✓ Hold the RS485 Setting
1	Synchronic R/W
9600	🔲 Run PLC Link after downloadin
200	Internal Time(ma)
40	interval finic(ins)
10077	
	7 Even 1 9600 200 40

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Window for RTU communication:

The protocol of Master devic	e	Transfer Capacity Mode
Master Port: CPU Com2		
Detecting result		C 100 words
Data Length	8	C 450 words (AH Only)
Parity bit	Even	✓ Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadir
Time Out (ms)	200	Interval Time(ms) 0
Station Address	40	
Communication mode	RTU	+ +

Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Address box in the Slave Parameter Setting section, and click OK.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Dischard	Linkasuus
'		W	D1496~D1511	=>	16#10C8~16#10D7	16	Disabled	UNKNOWN
2	2	R	D1512~D1527	<=	D100~D115	16	Dischied	EU2
2	2	W	D1528~D1543	=>	D200~D215	16	Disabled	EHS
- -	2	R	D1544~D1559	<=	D100~D115	16	Discussion.	EUD
	3	W	D1560~D1575	=>	D200~D215	16	Disabled	ЕПЭ
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	UNKNUWN
E	F	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
5 5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH	
Export Reset Check Settings Upload Download Monitor and Download (Finish)								



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Parameter Setting	×
Linked Device Station Address Device Type 2 + EH3	C Disable C Enable
Read Master Paramter Setting Starting Address Data Length D 1480 16 Words	Slave Parameter Setting Starting Address D 100
Write Master Paramter Setting Starting Address Data Length D 1496 16 Words	Slave Parameter Setting Starting Address D 150
OK	Cancel

Step 7: Double-click the 2 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "200" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "250" in the Starting Address box in the Slave Parameter Setting section, and click OK.

	#1 - PLC Lin	k Tabl	e Editor		-	and i			x
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	-
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	
l'		W	D1496~D1511	=>	16#10C8~16#10D7	16	C ICCDICC	CT IN IOT IT	
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	FH3	1
ľ	2	W	D1528~D1543	=>	D200~D215	16	Disabled	LIIJ	
	2	R	D1544~D1559	<=	D100~D115	16	Disabled	EU2	1
	5	W	D1560~D1575	=>	D200~D215	16	Disabled	Eng	
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	-
1	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled		
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	1
	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disablea	ONKHOWN	-	
Export Reset Check Settings Upload Download Monitor and Download Finish									



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Step 8: Check whether the contents of the 1 block and the 2 block are correct, and then click Monitor and Download.

Ħ	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1 2	R	D1480~D1495	<=	D100~D115	16	Enabled	EU2	
	2	W	D1496~D1511	=>	D150~D165	16	LIIODICU	
,	3	R	D1512~D1527	<=	D200~D215	16	Enabled	FH3
-		W	D1528~D1543	=>	D250~D265	16		
3 4	R	D1544~D1559	<=	16#0100~16#010F	16	Disabled	Unknown	
	4	W	D1560~D1575	=>	16#0200~16#020F	16	Disabled	OHKHOWH
	F	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
4		W	D1592~D1607	=>	16#10C8~16#10D7	16		
5	c	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Ustan
5	U U	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH



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Step 10: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) //slave station (2) //slave station (2) //slave station (2)





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Step 11: The values read from slave 1 are 5000, that is, the values in D1480~D1495 are 5000. The values written to slave station 1 are 1000, that is, the values in D1496~D1511 are 1000.

Input Value			x
Device Name	Value	Device Comment	*
D1480	5000		
D1481	5000		
D1482	5000		
D1483	5000		
D1484	5000		
D1485	5000		
D1486	5000		
D1487	5000		
D1488	5000		
D1489	5000		
D1490	5000		
D1491	5000		
D1492	5000		
D1493	5000		
D1494	5000		-
Value Type © Decimal © Hexidecir	nal		

Input Value			x
Device Name	Value	Device Comment	-
D1496	1000		
D1497	1000		
D1498	1000		
D1499	1000		
D1500	1000		
D1501	1000		
D1502	1000		
D1503	1000		
D1504	1000		
D1505	1000		
D1506	1000		
D1507	1000		
D1508	1000		
D1509	1000		
D1510	1000		-
Value Type © Decimal © Hexideci	mal	Close	



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Step 12: The values read from slave 2 are 6000, that is, the values in D1512~D1527 are 6000. The values written to slave station 2 are 2000, that is, the values in D1528~D1543 are 2000.

Input Value			x
Device Name	Value	Device Comment	
D1512	6000		
D1513	6000		
D1514	6000		
D1515	6000		
D1516	6000		
D1517	6000		
D1518	6000		
D1519	6000		
D1520	6000		
D1521	6000		
D1522	6000		
D1523	6000		
D1524	6000		
D1525	6000		
D1526	6000		-
Value Type © Decimal © Hexidecia	1 mal	Close	

Input Value			x
Device Name	Value	Device Comment	
D1528	2000		
D1529	2000		
D1530	2000		
D1531	2000		
D1532	2000		
D1533	2000		
D1534	2000		
D1535	2000		
D1536	2000		
D1537	2000		
D1538	2000		
D1539	2000		
D1540	2000		
D1541	2000		
D1542	2000		-
Value Type	1		
• Decimal • Hexideci	məl	Close	



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Step 13: Close the Linked Machines Status window, create a device monitoring table by means of Device Monitor

Table in the project management area, type "D1354" in the device monitoring table, and click ². The value in D1354 indicates PLC link scan time.

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💿 🔘 X 🗈 🛍 🍠 🔍	₽ ₿	1				
Project 🛛 🗘 🗙	Object	Identifiers	Device Name	Status	Data Type	Value (16bits)
NWCONFIG Project [M172.16.144.36½ Wed Device Comment Li Used Device Report Tasks Global Symbols Function Blocks Delta Library Device Monitor Table Man (PRG,LI Function Blocks Device Monitor Table Man (PRG,LI			D1354			421

[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the values in D1528~D1543 in the master station are written to D250~D265 in slave station 2.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.



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4. Example 2—Automatically Searching for Linked Slave Stations (M1355=Off)

If M1355 is Off, whether slave station 1~slave station 16 (slave station 1~slave station 32) are linked will be automatically detected (and can be monitored by means of M1360~M1375 and M1440~M1455 will be monitored). (The master stations and the slave stations in the examples below are DVP-EH3 series PLCs.)

4.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with the two slave stations (two DVP-EH3 series PLCs) automatically found through a PLC link.

Setting station addresse	es of PLCs 】	
Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

【Descriptions of devices】

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1129	Abnormal communication timeout
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
M1143	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an ASCII mode or an RTU mode. Off: ASCII mode On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.
M1355	M1355 is used to enable the function of automatically searching for linked slave stations.

[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, write related values to the PLC, and move the RUN/STOP switch into the STOP position.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program.

The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On), and therefore parameters must be written when the the RUN/STOP switch is in the STOP position.



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Step 2: Click the PLC link wizard 🗮 in WPLSoft.

📲 <u>F</u> ile <u>E</u> di	t Com <u>p</u> iler	Comments	Search View	w <u>C</u> omm	unication	<u>O</u> ptions V	V <u>i</u> zard <u>W</u>	indow <u>H</u> el	р	
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Relay Type	计	1/1- 111- 111 F2 F3 F4	(S) 🔁 (F5 F6 F	7 F8 F9	FII FI2	NP PN d	¥ I¥≓ ¥4 ⊁D AHPS A+	5 💷 🏔	🚾 🗄 🙀	LC Link

Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection drop-down list

	LC Link Configuration	×
1	-Welcome to use the PLC Link Wizard! -The wizard will guild you to complete the -Please follow the indications step by step.	configuration settings.
1	Language English -	Opén 🍃
	Model Selection EH3	About
	Communication Mode COM CUSB	
		→

Step 4: Set a communication format for COM1 in the master PLC, click **Auto Detect**, click **OK** in the window which appears, click , and click **OK** in the window which appears.

PC COM Port	COM3 💌	 ASCII
Data Length	7 💌	C RTU
Parity bit	Even 💌	
Stop bit	1 💌	Auto Detect
Baudrate	9600 💌	
Station Address	40 *	Default
Baudrate Setting I	Decided by	
 PLC Setting 		
C PC Setting		
		
—		
	PC COM Port Data Length Parity bit Stop bit Baudrate Station Address Baudrate Setting © PLC Setting © PC Setting	PC COM Port COM3 Data Length 7 Parity bit Even Stop bit 1 Baudrate 9600 Station Address 40 Baudrate Setting Decided by © PLC Setting C PC Setting

PLC Link Configurati
Auto-Detecting Finished
OK



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		? P	o you want to read LC?	the cor	figuration setting	from the o	connected	
					(ОК	Cancel	
<u> </u>						-		
PLC Lin	< Configuration	1	_	_				
D#	Station ID	R/W	Master Buffer	$\langle \Rightarrow \rangle$	Slave Buffer	Length	Status	Model Type
ID 1	1	R	D1480~D1495	<=	H1064~H1073	16	Disabled	Others
ID 1	1	W	D1496~DL311	=>	H10C8~H10D7	16	Disabled	Others
m a	2	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others
	2	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others
ID 2	2					10	Disabled	Others
ID 2 ID 2 ID 3	3	R	D1544~D1559	<=	H1064~H1073	16	DISSORD	Outers
D2 D2 D3 D3	3	R W	D1544~D1559 D1560~D1575	<= =>	H1064~H1073 H10C8~H10D7	16 16	Disabled	Others
D 2 D 2 D 3 D 3 D 4	3 3 4	R W R	D1544~D1559 D1560~D1575 D1576~D1591	<= => <=	H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16	Disabled Disabled Disabled	Others Others
D 2 D 2 D 3 D 3 D 4 D 4	3 3 4 4	R W R W	D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607	<= => <= =>	H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16 16	Disabled Disabled Disabled	Others Others Others Others
D 2 D 3 D 3 D 4 D 4 D 5	2 3 3 4 4 5	R W R W R	D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607 D1608~D1623		H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others

Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, select the **Auto** option button and **2** in the **The First ID** box in the **Slave PLCs Station Address** section, and click

Window for ASCII communication:

-The protocol of the port wouldn't be applied in this	Data Length	7	Communication Mode				
wizard.	Parity bit	Even 💌	C RTU				
-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode				
number of one time	Baudrate	9600 💌	 16 words 				
The max linked machine	Time Out (ms)	200	C 100 words				
number is 16 if selecting	1200 0 00 (0.2)]	Slave PLCs Station Address				
16 words mode. -The max linked machine number is 32 if selecting	₩ Hold the RS48	35 Setting	Auto The First D Auto Manual				
100 words mode.	Set these register in	program, the protocol we	buld be applied.				
	D1120 134 D1129 200 M1120 On M1143 Off						
	-		→				



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Window for RTU communication:

PLC Link Configuration	-	246 3	×
-The protocol of the port	Data Length	8	Communication Mode
wouldn't be applied in this wizard.	Parity bit	Even 💌	© RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1	-Timesfor Conscient Made
number of one time	Baudrate	9600 -	 16 words
transferring. -The max linked machine	Time (not)	200	C 100 words
number is 16 if selecting	Time Out (ms)	200	Slave PLCs Station Address
16 words mode. -The max linked machine	Hold the RS4	35 Setting	Auto The First ID
number is 32 if selecting			C Manual
100 words mode.	Set these register in	program, the protocol v	would be applied.
	D1120 135 D	1129 200 M112	20 On M1143 On
	-		

Step 7: Double-click the ID 1 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Disable option button in the Linked Model Status section (set M1360 to Off), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Starting section in the Write section, and click OK.

PLC Link Co	onfiguration							×
ID #	Station ID	R/W	Master Buffer	$\langle \Rightarrow \rangle$	Slave Buffer	Length	Status	-
ID 1	2	R	D1480~D1495	<=	H0~HF	16	Disabled	
ID 1	2	W	D1496~D1511	=>	HO~HF	16	Disabled	
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled	
ID 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled	
ID 3	4	R	D1544~D1559	<=	HO~HF	16	Disabled	
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled	
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled	
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled	
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled	
D 5	6	W	D1624~D1639	=>	H0~HF	16	Disabled	-
Save 🖡		a	ear All		-		•	


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-The radio box "Input Typ hexidecimal machine add device name will be tested -The field "Starting Devic master's buffer to exchan -The field "Data Length" time. -"The Status of the Linke machine which is enabled	e" is the type for user ress or the device nan in the range or not w ce" is the starting dev ge data. is the number of wor ed Machine" is selecte or disabled when linl	to enter the pure e of PLC. To choose the hen clicking [OK]. rice for the slaver's and ds that exchange data one ed for user to indicate this king.
Linked Model Type	Linked Model Status-	
 DVP Series 	 Disable 	
C Others	C Enable	
Read		
Master Paramter Setting Starting Device D 1480	Data Length	Slave Parameter Setting Starting Device D 100
Write Master Paramter Setting		Slave Parameter Setting
Starting Device D 1496	Data Length 16	Starting Device D 150
OK		Cancel

Step 8: Double-click the **ID 2** block in the **PLC Link Configuration** window, select the **DVP Series** option button in the **Linked Model Type** section, select the **Disable** option button in the **Linked Model Status** section (set M1361 to Off), type "16" in the **Data Length** boxes in the **Master Parameter Setting** sections in the **Read** and **Write** sections, type "200" in the **Starting Device** box in the **Slave Parameter Setting** section in the **Read** section, type "250" in the **Starting Device** box in the **Slave Parameter Setting** section, and click **OK**.

PLC Link Co	nfiguration	-	In Bear	-		100	
ID #	Station ID	R/W	Master Buffer	⇔	Slave Buffer	Length	Status
D1	2	R	D1480~D1495	<=	H0~HF	16	Disabled
ID 1	2	W	D1496~D1511	=>	H0~HF	16	Disabled
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled
ID 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled
D 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled
ID 5	6	W	D1624~D1639	=>	H0~HF	16	Disabled
Save 틙		c	lear All	1	-		•



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	AFITA	×
-The radio box "Input Type hexidecimal machine addr device name will be tested -The field "Starting Devic master's buffer to exchan -The field "Data Length" time. -"The Status of the Linke machine which is enabled	e" is the type for user ress or the device name in the range or not wh e" is the starting devi ge data. is the number of word: d Machine" is selected or disabled when link	to enter the pure e of PLC. To choose the ten clicking [OK]. cce for the slaver's and s that exchange data one d for user to indicate this ing.
Linked Model Type	Linked Model Status	
 DVP Series 	 Disable 	
C Others	C Enable	
Read		
Master Paramter Setting	S	lave Parameter Setting
D Starting Device	Data Length 16	Starting Device D 200
Write		
Master Paramter Setting	S	lave Parameter Setting
D 1528	Data Length 16	D 250
OK		Cancel

Step 9: Check whether the contents of the ID 1 block and the ID 2 block are correct, and then click

$\mathbb{D} = \frac{1}{2} + \frac{1}{2}$	Sevies
D1 2 R D1480-D1495 <= D100-D115 16 Disabled DVP	Newtee 1
	Series
ID 1 2 W D1496~D1511 => D150~D165 16 Disabled DVP	Series
ID 2 3 R D1512~D1527 <= D200~D215 16 Disabled DVP	Series
ID 2 3 W D1528~D1543 => D250~D265 16 Disabled DVP	Series
ID 3 4 R D1544~D1559 <= H0~HF 16 Disabled Other	S
ID 3 4 W D1560-D1575 => H0-HF 16 Disabled Other	s
104 5 R D1576-D1591 <= H0-HF 16 Disabled Other	S
1D 4 5 W D1592~D1607 => H0~HF 16 Disabled Other	S
ID 5 6 R D1608~D1623 <= H0~HF 16 Disabled Other	s
ID 5 6 W D1624~D1639 => H0~HF 16 Disabled Other	S



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Step 10: Click the Set Parameter button, click the Start Monitor button, move the RUN/STOP switch on the PLC into the RUN position, and click or set X0 to On.



Step 11: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program. If the window is not needed, **EXECUTE** can be used to close the window.





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Step 12: Close the Linked Machines Status window, click , and type "D1354". The value in D1354 indicates PLC link scan time.



[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the values in D1528~D1543 in the master station are written to D250~D265 in slave station 2.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ONES shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.



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4.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with the two slave stations (two DVP-EH3 series PLCs) automatically found through a PLC link.

Setting station addresse	es of PLCs】	
Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	3. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	4. RTU, 9600, 8, E, 1 (D1120=H'87)
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1129	Abnormal communication timeout
D1123	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M1140	ASCII mode or an RTU mode.
1011143	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.
M1355	M1355 is used to enable the function of automatically searching for linked slave stations.

[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, write related values to the PLC, and move the RUN/STOP switch into the STOP position.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program.

The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On), and therefore parameters must be written when the the RUN/STOP switch is in the STOP position.



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Step 2: Double-click NWCONFIG in the project management area, create a link, click 🛄, select Driver 1 in the Driver Name drop-down list box, click OK, select the master station and the slave stations, and click 🗮

😜 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>C</u>ompile <u>P</u>LC <u>T</u>ools Wizard <u>W</u>indow <u>H</u>elp : E) 🕼 🖪 🚺 🗔 🤌 : 👎 18 (0 10 - 🕀 (0 2) k) : () 🗢 19 🖳 🖳 🖳 🖉 🔳 🛡 🖳 🔮 🖳 - 🕎 : 🛅 📅 🛅 🖆 🙆 💁 🔟 📖 🔖 -++ -{-) 🔣 & 💿 💿 | 🗶 🛅 🛅 🥜 | 🗨 💱 😭 🔍 🔍 100% - 玉 수 Local Symbols NWCONFIG Project [\\172.16.144.36\g Class Identifiers Address Туре... 📲 Device Comment Li ● Used Device Report ● ● ● EH3 ● ● Tasks 👼 Global Symbols Network 1 Programs ÷. Function Blocks Delta Library E User Defined Librar, ÷ M1002 MOV + +Eт - 🚰 Device Monitor Tab ÷...

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File Edit View PLC Tools H	elp			
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E		Untitled0	Untitled1	Untitled2
AH-Series		C2 Station Addr.: 40	C2 Station Addr.: 2	C2 Station Addr.: 3
DVP-Modules DMV DMV DMV1000 MODBUS Device	< Network #:1 RS485 -	EH3 12 C3	EH3 12 C3	EH3
	Select a Driver Driver Name Routing Mode	Driver1		
	No station coulde			

Step 3: Select a PLC in the **Master Device** drop-down list box, click , and click **OK** in the window which appears.

Network #1 - PLC	Link Table Editor
Select Master	Device
	Please choose the Master device and port for PLC Link.
	Master Device Station address 40 EH3 Untitled0 - CPU
	▶
	Confirm
	Do you want to read the configuration setting from the connected PLC?
	OK Cancel



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#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Typ
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
<u> '</u>		W	D1496~D1511	=>	16#10C8~16#10D7	16	Disabica	CHINIOWH
	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EUD
<u> </u> 2	2	W	D1528~D1543	=>	D200~D215	16	Disabled	LIIJ
	2	R	D1544~D1559	<=	D100~D115	16	Disablad	EUD
	3	W	D1560~D1575	=>	D200~D215	16	Disabled	EHS
	4	R	D1576~D1591	<=	16#1064~16#1073	16	Diashlad	Unknown
⁴	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
	J	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH

Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, unselect the **Synchronic R/W** checkbox and

the Run PLC Link after downloading checkbox, type "0" in the Interval time box, and click

Window for ASCII communication:

	(• 10 words
_	C 100 words
7	C 450 words (AH Only)
Even	
	✓ Hold the RS485 Setting
1	Synchronic R/W
9600	🔲 Run PLC Link after downloadin
200	Internal Time(ma)
40	interval finic(ins)
10077	
	7 Even 1 9600 200 40



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Window for RTU communication:

The protocol of Master devic	e	G 16 words
Master Port: CPU Com2		(* To words
Detecting result		C 100 words
Data Length	8	C 450 words (AH Only)
Parity bit	Even	Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadi
Time Out (ms)	200	Interval Time(ms) 0
Station Address	40	
Communication mode	RTU	+ +

Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Disable option button in the Linked Status section (set M1361 to Off), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Address box in the Slave Parameter Setting section, and click OK.

Network	k #1 - PLC Lin	k Tabl	e Editor		-	-			x
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	^
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	1
		W	D1496~D1511	=>	16#10C8~16#10D7	16	01000100		
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3	
-	-	W	D1528~D1543	=>	D200~D215	16	Disabled	2110	
2	3	R	D1544~D1559	<=	D100~D115	16	Disabled	EH3	
	5	W	D1560~D1575	=>	D200~D215	16	Disabled	LING	
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	-
4	7	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH	
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	
	5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH	
Expor	rt Reset	Chee	k Settings Upload	D	ownload Monitor a	nd Down	load	Finis	sh



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Parameter Setting	×
Linked Device	Linked Status
Station Address Device Type	Oisable
2 <u>.</u> EH3	C Enable
Read	
Master Paramter Setting	Slave Parameter Setting
D 1480	D 100
Write	
Master Paramter Setting	Slave Parameter Setting
Starting Address Data Length	Starting Address
D 1496 16 Words	D [150
OK	Cancel

Step 7: Double-click the 2 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "200" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "250" in the Starting Address box in the Slave Parameter Setting section, and click OK.

# Station Addr. R/W Master Device Data <=> i 1 1 R D1480°D1495 <=> i 2 2 R D1495°D1511 => i 2 2 R D1512°D1527 <= i 3 3 R D1544°D1559 <= i W D1528°D1543 => i i 3 8 D1544°D1559 <= i 0 D1500°D1575 => i i	Slave Device Data 16#1064~16#1073 16#10C8~16#10D7 D100~D115 D200~D215 D100~D115 D2000-D215	Length S 16 D 16 D 16 D 16 D 16 D)isabled)isabled)isabled	Unknown EH3
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	16#1064~16#1073 16#10C8~16#10D7 0100~D115 0200~D215 0100~D115	16 D 16 D 16 D 16 D 16 D	Disabled	Unknown EH3
W D1496~D1511 ⇒> 2 2 R D1512~D1527 <=	16#10C8~16#10D7 D100~D115 D200~D215 D100~D115	16 16 16 16 D)isabled	EH3
2 2 R D1512~D1527 <= 0 W D1528°D1543 ⇒ 0 3 8 R D1544~D1559 <= 0 W D1560°D1575 ⇒ 0 R D156°D1575 ⇒ 0	D100~D115 D200~D215 D100~D115	16 16 16 D)isabled	EH3
W D1528°D1543 ⇒ I 3 B D1544°D1559 <=	D200~D215	16 16 D)isabled	EU0
3 3 R D1544~D1559 <= 0 W D1560~D1575 => 0 B D1576~D1591 <=	D100~D115	16 D)isabled	EUD
₩ D1560~D1575 => I B D1576~D1591 <= -	000~D01E			E E LA
B D1576~D1591 <= 1	JZUU DZ15	16		
4 4	16#1064~16#1073	16 D)isabled	Unknown
W D1592~D1607 => *	16#10C8~16#10D7	16	- Ioabioa	Childhom
B D1608~D1623 <= 1	16#1064~16#1073	16 D)isabled	Unknown
₩ D1624~D1639 => *	16#10C8~16#10D7	16	1999990	CHISTOWIT
Export Reset Check Settings Upload Do	wnload Monitor and	d Downlo	ad	🔶 🗧 Finist



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Step 8: Check whether the contents of the 1 block and the 2 block are correct, and then click Monitor and Download.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	2	R	D1480~D1495	<=	D100~D115	16	Disabled	EHS
•	2	W	D1496~D1511	=>	D150~D165	16	Disabled	Ens
2	3	R	D1512~D1527	<=	D200~D215	16	Disabled	FH3
_		W	D1528~D1543	=>	D250~D265	16		
3	4	R	D1544~D1559	<=	16#10C8~16#10D7	16	Disabled	Unknown
5	4 W	W	D1560~D1575	=>	16#10D7~16#10E6	16	Disabled	OHIMOWIT
4	5	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
-	5 W	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	OHKHOWIT
5	c	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
5	° w	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	UNKNOWN



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Step 9: Move the RUN/STOP switch on the PLC into the RUN position, and click b or set X0 to On.



Step 10: The state of the PLC link executed is shown in the Linked Machines Status window. The master PLC can exchange data with the slave stations through a program. If the window is not needed, a be used to close the window.





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Step 11: Close the Linked Machines Status window, create a device monitoring table by means of Device Monitor

Table in the project management area, type "D1354" in the device monitoring table, and click ². The value in D1354 indicates PLC link scan time.

🖳 <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>C</u> ompil	le <u>P</u> LC <u>T</u> ools W <u>i</u> zard	Window Help				
i 🗈 🚅 🖪 🎒 🔲 😅 🧇	🖛 🐻 🚺 10 🌲	🕒 Ə 🗟 🚺 🔿 🤇	🕽 💀 🖳 🛃 🛃	/ 🍠 📑 🦉 🦷) 🗐 🥊 🦉	
💿 🔘 X 🗈 🛍 🍠 🔍	₽ ₿	1				
Project 🛛 🗘 🗙	Object	Identifiers	Device Name	Status	Data Type	Value (16bits)
NWCONFIG Project [M172.16.144.36½ Wed Device Comment Li Used Device Report Tasks Global Symbols Function Blocks Delta Library Device Monitor Table Man (PRG,LI Function Blocks Device Monitor Table Man (PRG,LI			D1354			421

[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the value in D1528~D1543 in the master station are written to D250~D265 in slave station 2.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.



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5. Example 3—Manually Specifying the Same Slave Station, but Different Communication Addresses (M1356=On)

If M1356 is On, station addresses can be specified. If M1353 is On and M1356 is On, the values in D1900~D1931 will be the station addresses of station 1~station 32, and the consecutive station addresses specified by D1399 will not be used. (The master stations and the slave stations in the examples below are DVP-EH3 series PLCs.)

5.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with different communication addresses in the two slave stations (two DVP-EH3 series PLCs) manually specified through a PLC link.

[Setting station addresses of PLCs]						
Master/Slave station	Station address	Communication format				
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)				
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the				
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.				

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1120	Abnormal communication timeout
DTIZ9	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M1143	ASCII mode or an RTU mode.
	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.

[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to specify the stations which need to be linked (M1355 is On).



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Program for RTU communication:



Step 2: Click the PLC link wizard 🗮 in WPLSoft.

E File Edit	Compiler	Comments	Search View	<u>Communication</u>	Options Wiz	ard <u>W</u> indow	<u>H</u> elp
🗋 🖻 🔳	🗃 💿 🤇		🗅 🥜 🔿	$ $ \bigcirc $ $	0 🛛 🐺 🗟	1	🗧 🗢 😌 🦽 👘
副調師	🗳 🖄	è 🎟 🖮 🤅	🔊 🛡 🗊 🤇) 🏭 🍯 📴	0 🗢 💀 🖳	. 📡 👬 🦓	ं 🖫 📽 🛃 🗟
Relay Type	랍	<mark>1/1 1함 1함</mark> F2 F3 F4	PB F6 F7	FB FS FI FI	ž NP PN 💑	H₩ X₩ PD AHPS AHD PD	🖀 💁 🚍 🙀 PLC Link



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LC Link Configuration	×
-Welcome to use the PLC Link Wizard! -The wizard will guild you to complete the configur -Please follow the indications step by step.	ation settings.
Language English	Open 🍃
Communication Mode	About
C USB	⇒

Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection drop-down list

Step 4: Set a communication format for COM1 in the master PLC, click Auto Detect, click OK in the window which appears, click _____, and click **OK** in the window which appears.

LC Link Configuration			
-The setting is that choose a PC's COM to connect with PLC and the related	PC COM Port	00M3 -	• ASCII
paramater.	Data Length	7 🔹	C RTU
	Parity bit	Even 💌	
	Stop bit	1 -	Auto Detect
	Baudrate	9600 💌	
	Station Address	40 .	Default
	Baudrate Setting I	Decided by	
	 PLC Setting 		
	C PC Setting		
	-		⇒

Auto-Detecting Finished	PLC Link Configurati
	Auto-Detecting Finished
OK	OK



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		? P	o you want to read LC?	the cor	ofiguration setting	from the o	connected	
						ОК	Cancel	
PLC Link	Configuration					-		
D#	Station ID	R/W	Master Buffer	⇔	Slave Buffer	Length	Status	Model Type
	1	R	D1480~D1495	<=	H1064~H1073	16	Disabled	Others
	1	W	D1496~DL311	=>	H10C8~H10D7	16	Disabled	Others
L I TTO A	2	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others
LD 2						10	D: 11 1	0.1
1D 2 1D 2	2	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others
D 2 D 2 D 3	2	R	D1528~D1543 D1544~D1559	=> <=	H10C8~H10D7 H1064~H1073	16	Disabled	Others
D2 D2 D3 D3	2 3 3	R W	D1528~D1543 D1544~D1559 D1560~D1575	⇒ <= ⇒	H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16	Disabled Disabled Disabled	Others Others Others
D 2 D 2 D 3 D 3 D 4	2 3 3 4	W R W R	D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591	=> <= => <=	H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16	Disabled Disabled Disabled Disabled	Others Others Others Others
D 2 D 2 D 3 D 3 D 4 D 4	2 3 3 4 4	W R W R W	D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607		H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others
D 2 D 3 D 3 D 4 D 4 D 5	2 3 3 4 4 5	W R W R W R	D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607 D1608~D1623		H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others Others Others Others

Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **100 words** option button in the **Transfer Capacity Mode** section, select the **Manual** option button in the

Slave PLCs Station Address section, and click

Window for ASCII communication:

PLC Link Configuration			×
-The protocol of the port wouldn't be applied in this	Data Length	7 💌	Communication Mode
wizard.	Parity bit	Even 💌	O RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	○ 16 words
-The max linked machine	Time Out (ms)	200	© 100 words
number is 16 if selecting	=		Slave PLCs Station Address
-The max linked machine number is 32 if selecting	I Hold the RS4:	85 Setting	Auto Ihe First ID Manual
100 words mode.	Set these register in	program, the protocol wo	wld be applied.
	D1120 134 D	01129 200 M1120	On M1143 Off
	-		→



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Window for RTU communication:

-The protocol of the port wouldn't be applied in this	Data Length	8	Communication Mode
wizard.	Parity bit	Even 💌	
-The "Transfer Capcity Mode" is that the word	Stop bit	1 •	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	C 16 words
-The max linked machine	Time Out (ms)	200	(• IOU Words
number is 16 if selecting 16 words mode.	₩ Hold the RS4	85 Setting	Slave PLCs Station Address C Anto The First D
-The max linked machine number is 32 if selecting			 Manual
100 words mode.	Set these register in	program, the protocol w	ould be applied.
	D1120 135 D	1129 200 M1120) On M1143 On
	•		⇒

Step 7: Double-click the ID 1 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), select 2 in the Station Address box, type "100" in the Starting Device box in the Master Parameter Setting section in the Read section, type "150" in the Starting Device box in the Master Parameter Setting section, type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Slave Parameter Setting section in the Read section, type "150" in the Slave Parameter Setting section in the Read section, type "160" in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Write section, type "160" in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Write section, type "160" in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Write section in the Write section, type "160" in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Write section, and click OK.

D#	Station ID	R/W	Master Buffer	<->	Slave Buffer	Length	Status
D1	1	R	D0~D99	<=	H0~H63	100	Disabled
D1	1	W	D0~D99	=>	H0~H63	100	Disabled
ID 2	2	R	D0~D99	<=	H0~H63	100	Disabled
ID 2	2	W	D0~D99	=>	H0~H63	100	Disabled
D 3	3	R	D0~D99	<=	H0~H63	100	Disabled
ID 3	3	W	D0~D99	=>	H0~H63	100	Disabled
ID 4	4	R	D0~D99	<=	H0~H63	100	Disabled
ID 4	4	W	D0~D99	=>	H0~H63	100	Disabled
ID 5	5	R	D0~D99	<=	H0~H63	100	Disabled
ID 5	5	W	D0~D99	=>	H0~H63	100	Disabled
Save 🗐 Clear All 🔶							



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-The radio box "Input Typ hexidecimal machine add device name will be tested -The field "Starting Devi master's buffer to exchan -The field "Data Length" time. -"The Status of the Linke machine which is enabled	e" is the type for use ress or the device na lin the range or not t ce" is the starting de ge data. is the number of wor ed Machine" is select or disabled when lin	r to enter the pure me of PLC. To choose the when clicking [OK]. vvice for the slaver's and rds that exchange data one ted for user to indicate this uking.
Linked Model Type	Linked Model Status	Station Address
 DVP Series 	C Disable	2
C Others	• Enable	· ·
Read		
Master Paramter Setting	Dente	Slave Parameter Setting
D 100	Data Length	D 100
	10	-
Write		
Master Paramter Setting		Slave Parameter Setting
Starting Device	Data Length	Starting Device
D 150	16	D [150
OK		Cancel

Step 8: Double-click the ID 2 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), select 2 in the Station Address box, type "200" in the Starting Device box in the Master Parameter Setting section in the Read section, type "250" in the Starting Device box in the Master Parameter Setting section, type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "200" in the Slave Parameter Setting section in the Read section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Starting Device box in the Write section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Starting Device box in the Write section, type "250" in the Slave Parameter Setting section in the Read section, type "250" in the Starting Device box in the Write section, and click OK.

PLC Link Configuration							
D#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status
D1	1	R	D0~D99	<=	H0~H63	100	Disabled
D1	1	W	D0~D99	=>	H0~H63	100	Disabled
ID 2	2	R	D0~D99	<=	H0~H63	100	Disabled
ID 2	2	W	D0~D99	=>	H0~H63	100	Disabled
ID 3	3	R	D0~D99	<=	H0~H63	100	Disabled
ID 3	3	W	D0~D99	=>	H0~H63	100	Disabled
ID 4	4	R	D0~D99	<=	H0~H63	100	Disabled
ID 4	4	W	D0~D99	=>	H0~H63	100	Disabled
D 5	5	R	D0~D99	<=	H0~H63	100	Disabled
ID 5	5	W	D0~D99	=>	H0~H63	100	Disabled
Save 🗐 Clear All 🔶							



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-The radio box "Input Typ hexidecimal machine add device name will be tested -The field "Starting Devi master's buffer to exchan -The field "Data Length" time. - "The Status of the Linkk machine which is enabled	e" is the type for user ress or the device name in the range or not wh ce" is the starting devi ge data. is the number of word: d Machine" is selected or disabled when link:	to enter the pure e of PLC. To choose the ten clicking [OK]. cc for the slaver's and s that exchange data one d for user to indicate this ing.
Linked Model Type	Linked Model Status	Station Address
• DVP Series	C Disable	2
C Others	📀 Enable	•
Read		
Master Paramter Setting	2	lave Parameter Setting
D 200	Data Length 16	D 200
Write Master Paramter Setting		lave Parameter Setting
Starting Device D 250	Data Length 16	Starting Device D 250
OK		Cancel

Step 9: Double-click the ID 3 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1361 to On), select 3 in the Station Address box, type "300" in the Starting Device box in the Master Parameter Setting section in the Read section, type "350" in the Starting Device box in the Master Parameter Setting section, type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "300" in the Slave Parameter Setting section in the Read section, type "350" in the Slave Parameter Setting section in the Read section, type "350" in the Slave Parameter Setting section, and click OK.

가LC Link Configuration							
D#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status
D1	1	R	D0~D99	<=	H0~H63	100	Disabled
D1	1	W	D0~D99	=>	H0~H63	100	Disabled
ID 2	2	R	D0~D99	<=	H0~H63	100	Disabled
ID 2	2	W	D0~D99	=>	H0~H63	100	Disabled
ID 3	3	R	D0~D99	<=	H0~H63	100	Disabled
ID 3	3	W	D0~D99	=>	H0~H63	100	Disabled
ID 4	4	R	D0~D99	<=	H0~H63	100	Disabled
ID 4	4	W	D0~D99	=>	H0~H63	100	Disabled
ID 5	5	R	D0~D99	<=	H0~H63	100	Disabled
ID 5	5	W	D0~D99	=>	H0~H63	100	Disabled
Save 🔚 Clear All 🔶							



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-The radio box "Input Typ hexidecimal machine add device name will be teste -The field "Starting Devi master's buffer to exchar -The field "Data Length" time. -"The Status of the Link. machine which is enabled	pe" is the type for us ress or the device n d in the range or not cc" is the starting d age data. ' is the number of wo ed Machine" is sele d or disabled when li	er to enter the pure ame of PLC. To choose the when clicking [OK]. evice for the slaver's and ords that exchange data one cted for user to indicate this nking.
Linked Model Type	Linked Model Statu	s Station Address
 DVP Series 	O Disable	3
C Others	🖲 Enable	
Read		
Master Paramter Setting		Slave Parameter Setting
D 300	e Data Length 16	D 300
Write Master Paramter Setting		Slave Parameter Setting
Starting Device D 350	e Data Length 16	Starting Device D 350
OK		Cancel

Step 10: Double-click the ID 4 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1361 to On), select 3 in the Station Address box, type "400" in the Starting Device box in the Master Parameter Setting section in the Read section, type "450" in the Starting Device box in the Master Parameter Setting section, type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "400" in the Slave Parameter Setting section in the Read section, type "450" in the Slave Parameter Setting section in the Read section, type "450" in the Slave Parameter Setting section, and click OK.

PLC Link (Configuration	-						X
D#	Station ID	R/W	Master Buffer	<	Slave Buffer	Length	Status	
D1	1	R	D0~D99	<=	H0~H63	100	Disabled	
ID 1	1	W	D0~D99	=>	H0~H63	100	Disabled	
ID 2	2	R	D0~D99	<=	H0~H63	100	Disabled	
ID 2	2	W	D0~D99	=>	H0~H63	100	Disabled	
ID 3	3	R	D0~D99	<=	H0~H63	100	Disabled	
ID 3	3	W	D0~D99	=>	H0~H63	100	Disabled	
ID 4	4	R	D0~D99	<=	H0~H63	100	Disabled	
ID 4	4	W	D0~D99	=>	H0~H63	100	Disabled	
ID 5	5	R	D0~D99	<=	H0~H63	100	Disabled	
ID 5	5	W	D0~D99	=>	H0~H63	100	Disabled	
Save (Clear All		-		•	



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The radio box "Input Typ hexidecimal machine add device name will be tested -The field "Starting Devi- master's buffer to exchan -The field "Data Length" time. -"The Status of the Linke machine which is enabled	e" is the type for us ress or the device n in the range or not ce" is the starting d ge data. is the number of we d Machine" is sele or disabled when li	er to enter the pure ame of PLC. To choose the when clicking [OK]. levice for the slaver's and ords that exchange data one cted for user to indicate this nking.
Linked Model Type © DVP Series © Others	Linked Model Statu C Disable © Enable	IS Station Address
Read Master Paramter Setting Starting Device D 400	Data Length 16	Slave Parameter Setting Starting Device D 400
Write Master Paramter Setting Starting Device D 450	Data Length 16	Slave Parameter Setting Starting Device D 450
OK		Cancel

Step 11: Check whether the contents of the ID 1 block~the ID 4 block are correct, and then click

D#	Station ID	R/W	Master Buffer	⇔	Slave Buffer	Length	Status	
D1	2	R	D100~D115	<=	D100~D115	16	Enabled	
ID 1	2	W	D150~D165	=>	D150~D165	16	Enabled	
ID 2	2	R	D200~D215	<=	D200~D215	16	Enabled	
ID 2	2	W	D250~D265	=>	D250~D265	16	Enabled	
ID 3	3	R	D300~D315	<=	D300~D315	16	Enabled	
ID 3	3	W	D350~D365	=>	D350~D365	16	Enabled	
ID 4	3	R	D400~D415	<=	D400~D415	16	Enabled	
ID 4	3	W	D450~D465	=>	D450~D465	16	Enabled	
ID 5	5	R	D0~D99	<=	H0~H63	100	Disabled	
m 5	5	W	D0~D99	=>	H0~H63	100	Disabled	



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Step 13: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) slave station (2) , and click Write **Register/Read Register** on the context menu which appears.





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Step 14: The values in D100~D115 are values read from slave 1, and they are 5000. The values in D150~D165 are values written to slave station 1, and they are 1000.

Input Value			x
Device Name	Value	Device Comment	
D100	5000		
D101	5000	<i>"</i>	
D102	5000		
D103	5000		
D104	5000		
D105	5000		
D106	5000		
D107	5000		
D108	5000		
D109	5000		
D110	5000		
D111	5000		
D112	5000		
D113	5000		
D114	5000		-
Value Type © Decimal © Hexidecia	mal	Close	

Input Value			x
Device Name	Value	Device Comment	
D150	1000		
D151	1000		
D152	1000		
D153	1000		
D154	1000		
D155	1000		
D156	1000		
D157	1000		
D158	1000		
D159	1000		
D160	1000		
D161	1000		
D162	1000		
D163	1000		
D164	1000		_
Value Type © Decimal © Hexideci	nal	Close	



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Step 15: The values in D200~D215 are values read from slave 1, and they are 6000. The values in D250~D265 are values written to slave station 1, and they are 2000.

Input Value			x
Device Name	Value	Device Comment	
D200	6000		
D201	6000		
D202	6000		
D203	6000		
D204	6000		
D205	6000		
D206	6000		
D207	6000		
D208	6000		
D209	6000		
D210	6000		
D211	6000		
D212	6000		
D213	6000		
D214	6000		-
Value Type © Decimal © Hexidecia	mal		

Input Value		100 100	x
Device Name	Value	Device Comment	
D250	2000		
D251	2000	*****	-
D252	2000		
D253	2000		-
D254	2000		-
D255	2000		
D256	2000		-
D257	2000		-
D258	2000		-
D259	2000		
D260	2000		
D261	2000		-
D262	2000		
D263	2000		-
D264	2000		
Value Type © Decimal © Hexidecia	məl	Close]



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Step 16: The values in D300~D315 are values read from slave 2, and they are 7000. The values in D350~D365 are values written to slave station 2, and they are 3000.

Input Value			x
Device Name	Value	Device Comment	-
D300	7000		
D301	7000		
D302	7000		
D303	7000		
D304	7000		
D305	7000		
D306	7000		
D307	7000		
D308	7000		
D309	7000		
D310	7000		
D311	7000		
D312	7000		
D313	7000		
D314	7000		-
Value Type © Decimal © Hexidecir	nal	Close	

Input Value		28 ·	x
Device Name	Value	Device Comment	
D350	3000		
D351	3000		
D352	3000		
D353	3000		
D354	3000		
D355	3000		
D356	3000		
D357	3000		
D358	3000		
D359	3000		
D360	3000		
D361	3000		
D362	3000		
D363	3000		
D364	3000		
Value Type © Decimal C Hexidecin	1 mal		



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Step 17: The values in D400~D415 are values read from slave 2, and they are 8000. The values in D450~D465 are values written to slave station 2, and they are 4000.

Input Value			x
Device Name	Value	Device Comment	-
D400	8000		
D401	8000		
D402	8000		
D403	8000		
D404	8000		
D405	8000		
D406	8000		
D407	8000		
D408	8000		
D409	8000		
D410	8000		
D411	8000		
D412	8000		
D413	8000		
D414	8000		-
Value Type © Decimal © Hexidecir	nal	Close	

Input Value		and the second s	x
Device Name	Value	Device Comment	
D450	4000		
D451	4000		
D452	4000		
D453	4000		
D454	4000		
D455	4000		
D456	4000		
D457	4000		
D458	4000		
D459	4000		
D460	4000		
D461	4000		
D462	4000		
D463	4000		
D464	4000		
Value Type © Decimal © Hexidecir	1 mal	Close	



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Step 18: Close the **Linked Machines Status** window, click $\stackrel{\textcircled{2}}{=}$, click $\stackrel{\textcircled{2}}{=}$, and type "D1354". The value in D1354 indicates PLC link scan time.



- [Description of control]
- The values in D1900~D1903 in the master PLC are taken as slave station addresses. (The value in D1900 is 2, the value in D1901 is 2, the value in D1902 is 3, and the value in D1903 is 3.)
- The master station exchanges data with different communication addresses in the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D100~D115 in the master station, and the values in D150~D165 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 1 are written to D250~D265 in the master station are written to D250~D265 in slave station 1. The values in D250~D265 in slave station are written to D250~D265 in slave station 1. The values in D300~D315 in slave station 2 are written to D300~D315 in the master station, and the values in D300~D315 in slave station 2. The values in D400~D415 in slave station 2 are written to D400~D415 in the master station, and the values in D450~D465 in the master station 2. The values in D450~D465 in the master station are written to D450~D465 in the master station.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D100~D115	Reading	D100~D115 in the slave PLC whose station address is K2
D150~D165	Writing	D150~D165 in the slave PLC whose station address is K2
D200~D215	Reading	D200~D215 in the slave PLC whose station address is K2
D250~D265	Writing	D250~D265 in the slave PLC whose station address is K2
D300~D315	Reading	D300~D315 in the slave PLC whose station address is K3
D350~D365	Writing	D350~D365 in the slave PLC whose station address is K3
D400~D415	Reading	D400~D415 in the slave PLC whose station address is K3
D450~D465	Writing	D450~D465 in the slave PLC whose station address is K3

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D115	All are 0.	D100~D115 in slave station 1	All are 5000.
D150~D165	All are 1000.	D150~D165 in slave station 1	All are 0.
D200~D215	All are 0.	D200~D215 in slave station 1	All are 6000.
D250~D265	All are 2000.	D250~D265 in slave station 1	All are 0.
D300~D315	All are 0.	D300~D315 in slave station 2	All are 7000.
D350~D365	All are 3000.	D350~D365 in slave station 2	All are 0.



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Master PLC	Value	Slave PLC	Value
D400~D415	All are 0.	D400~D415 in slave station 2	All are 8000.
D450~D465	All are 4000.	D450~D465 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D115	All are 5000.	D100~D115 in slave station 1	All are 5000.
D150~D165	All are 1000.	D150~D165 in slave station 1	All are 1000.
D200~D215	All are 6000.	D200~D215 in slave station 1	All are 6000.
D250~D265	All are 2000.	D250~D265 in slave station 1	All are 2000.
D300~D315	All are 7000.	D300~D315 in slave station 2	All are 7000.
D350~D365	All are 3000.	D350~D365 in slave station 2	All are 3000.
D400~D415	All are 8000.	D400~D415 in slave station 2	All are 8000.
D450~D465	All are 4000.	D450~D465 in slave station 2	All are 4000.

5.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with different communication addresses in the two slave stations (two DVP-EH3 series PLCs) manually specified through a PLC link.

[Setting station addresses of PLCs]

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
Abnormal communication timeout	
DTIZ9	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M1140	ASCII mode or an RTU mode.
1011143	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.



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[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Program for RTU communication: Network 1 M1002 MOV 4 1 En 16#0087 D D1120 M1120 -(⁸) M1143 -(<u>\$</u>) MOV Er 40 D D1121 MOV En 200 D D1129 Network 2 X0 M1350 -|↑-| (S)

Step 2: Double-click NWCONFIG in the project management area, create a link, click , select Driver 1 in the Driver Name drop-down list box, click OK, select the master station and the slave stations, and click .

M1351 -(S)

😜 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>C</u>ompile <u>P</u>LC <u>T</u>ools Wizard <u>W</u>indow <u>H</u>elp : E) 🕼 🖪 🚺 🗔 🤌 : 👎 18 (0 10 - 🕀 (0 2) k) : () 🗢 19 🖳 🖳 🖳 🖉 🔳 🛡 🖳 🔮 🖳 - 🕎 : 🛅 📅 🛅 🖆 🙆 💁 🔟 📖 🔖 -++ -{-) 🔣 & 💿 💿 | 🗶 🛅 🛅 🥜 | 🗨 💱 😭 🔍 🔍 100% • * + Local Symbols Class NWCONFIG Project [\\172.16.144.36\g Identifiers Address Туре... 📲 Device Comment Li Used Device Report EH3 Tasks 👼 Global Symbols Network 1 Programs ÷. Function Blocks Delta Library E User Defined Librar, ÷ M1002 MOV + +En ÷... 🖉 Device Monitor Tab 🖳 Monitor Table D -D1120 16#0086 ±----- T APIs



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File Edit View PLC Tools H	elp			
🔲 🎒 💿 💿 🌻 🚰		9 , 🗐		
E		Untitled0	Untitled1	Untitled2
AH-Series		C2 Station Addr.: 40	C2 Station Addr.: 2	C2 Station Addr.: 3
DVP-Modules DMV DMV DMV1000 MODBUS Device	< Network #:1 RS485 •	EH3 12 C3	EH3 12 C3	EH3
	Select a Driver Driver Name Routing Mode	Driver1		
	No station coulde			

Step 3: Select a PLC in the **Master Device** drop-down list box, click , and click **OK** in the window which appears.

Network #1 - PLC	Link Table Editor
Select Master	Device
	Please choose the Master device and port for PLC Link.
	Master Device Station address 40 EH3 Untitled0 - CPU
	▶
	Confirm
	Do you want to read the configuration setting from the connected PLC?
	OK Cancel



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#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Typ
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
<u> '</u>		W	D1496~D1511	=>	16#10C8~16#10D7	16	Disabica	CHINIOWH
	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EUD
	2	W	D1528~D1543	=>	D200~D215	16	Disabled	EHS
	2	R	D1544~D1559	<=	D100~D115	16	Disablad	EUD
	3	W	D1560~D1575	=>	D200~D215	16	Disabled	EHS
	4	R	D1576~D1591	<=	16#1064~16#1073	16	Diashlad	Unknown
⁴	4 4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	ea Unknown
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
	5 5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH

Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **100 words** option button in the **Transfer Capacity Mode** section, unselect the **Synchronic R/W** checkbox

and the Run PLC Link after downloading checkbox, type "0" in the Interval time box, and click

	Window	for ASCII	communication:
--	--------	-----------	----------------

The protocol of Master devic	e	Transfer Capacity Mode
Master Port: CPU Com2		C 16 words
Detecting result		100 words
Data Length	7	C 450 words (AH Only)
Parity bit	Even	
Stan hit		I Hold the RS485 Setting
Stop bit	-	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloading
Time Out (ms)	200	
Station Address	40	Interval Internations)
Communication mode	ASCII	+ +



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Window for RTU communication:

The protocol of Master device	Transfer Capacity Mode
Master Port: CPU Com2	C 16 words
Detecting result	100 words
Data Length 8	C 450 words (AH Only)
Parity bit Even	Hold the RS485 Setting
Stop bit 1	Synchronic R/W
Baudrate 9600	🗌 Run PLC Link after downloadin
Time Out (ms) 200	Interval Time(ms)
Station Address 40	
Communication mode RTU	

Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "100" in the Starting Address box in the Master Parameter Setting section in the Read section, type "150" in the Starting Address box in the Master Parameter Setting section in the Write section, type "16" in the Data Length boxes in the Master Parameter Setting sections, type "100" in the Starting Address box in the Master Setting section in the Read and Write sections, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "100" in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

1	Vetwork	#1 - PLC Lin	k Tabl	e Editor		-	and i			x
	#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	
	1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1496~D1511	=>	16#10C8~16#10D7	16			
	2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3	-
			W	D1528~D1543	=>	D200~D215	16			
	3	3	R	D1544~D1559	<=	D100~D115	16	Disabled	EH3	
			W	D1560~D1575	=>	D200~D215	16			
	4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1592~D1607	=>	16#10C8~16#10D7	16			
	5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1624~D1639	=>	16#10C8~16#10D7	16			-
				•	1					
	Export	Reset	Chec	k Settings Upload	D	ownload Monitor an	d Down	load	Finis	h



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Parameter Setting	X
Linked Device Station Address Device Type 2 ÷ EH3	C Disable
Read Master Paramter Setting Starting Address Data Length D 100 16 Words	Slave Parameter Setting Starting Address D 100
Write Master Paramter Setting Starting Address Data Length D 150 16 Words	Slave Parameter Setting Starting Address D 150
OK	Cancel

Step 7: Double-click the 2 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "200" in the Starting Address box in the Master Parameter Setting section in the Read section, type "250" in the Starting Address box in the Master Parameter Setting section in the Write section, type "16" in the Data Length boxes in the Master Parameter Setting sections, type "200" in the Starting Address box in the Master Setting section in the Read and Write sections, type "200" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

Network #1 - PLC Link Table Editor										
	#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	
	1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1496~D1511	=>	16#10C8~16#10D7	16			
	2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3	
			W	D1528~D1543	=>	D200~D215	16			
	3	3	R	D1544~D1559	<=	D100~D115	16	Disabled	EH3	
			W	D1560~D1575	=>	D200~D215	16			
	4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1592~D1607	=>	16#10C8~16#10D7	16			
	5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1624~D1639	=>	16#10C8~16#10D7	16			-
Export Reset Check Settings Upload Download Monitor and Download Finish										
								Finis	h	


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Parameter Setting	X
Linked Device Station Address Device Type 2 + EH3	C Disable
Read Master Paramter Setting Starting Address Data Length D 200 16 Words	Slave Parameter Setting Starting Address D 200
Write Master Paramter Setting Starting Address Data Length D 250 16 Words	Slave Parameter Setting Starting Address D 250
OK	Cancel

Step 8: Double-click the 3 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "300" in the Starting Address box in the Master Parameter Setting section in the Read section, type "350" in the Starting Address box in the Master Parameter Setting section in the Write section, type "16" in the Data Length boxes in the Master Parameter Setting sections, type "300" in the Starting Address box in the Master Setting section in the Read and Write sections, type "300" in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

N	letwork	#1 - PLC Lin	k Table	e Editor		-	and i			x
	#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	
	1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1496~D1511	=>	16#10C8~16#10D7	16			
	2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3	
	-	-	W	D1528~D1543	=>	D200~D215	16	Disability	2.110	
	3	3	R	D1544~D1559	<=	D100~D115	16	Disabled	FH3	
		Ŭ	W	D1560~D1575	=>	D200~D215	16	Diodbiod		
	4	A R	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	
			W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabioa	Childhom	
	5	F	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	
	ľ	о 	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabica	Onichown	
ľ										
	Export Reset Check Settings Upload Download Monitor and Download Finish									

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Parameter Setting	X
Linked Device Station Address Device Type 3 = EH3	⊂ Linked Status
Read Master Paramter Setting Starting Address Data Length D 300 16 Words	Slave Parameter Setting Starting Address D 300
Write Master Paramter Setting Starting Address Data Length D 350 16 Words	Slave Parameter Setting Starting Address D 350
OK.	Cancel

Step 9: Double-click the 4 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "400" in the Starting Address box in the Master Parameter Setting section in the Read section, type "450" in the Starting Address box in the Master Parameter Setting section in the Write section, type "16" in the Data Length boxes in the Master Parameter Setting sections, type "400" in the Starting Address box in the Master Setting section in the Read and Write sections, type "400" in the Starting Address box in the Slave Parameter Setting section in the Kater Setting section in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

Network	#1 - PLC Lin	k Tabl	e Editor		-	-			x
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	-
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown	
		W	D1496~D1511	=>	16#10C8~16#10D7	16			
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3	
1	-	W	D1528~D1543	=>	D200~D215	16	Disabioa	2110	
2	2	R	D1544~D1559	<=	D100~D115	16	Disabled	EH3	
ľ	5	W	D1560~D1575	=>	D200~D215	16	Disabled	LING	
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown	-
1	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disableu	OHKHOWH	
5	5	R D1608~D1623 <= 16#1064~16	16#1064~16#1073	16	Disabled	Linka and	-		
5	5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	ONKNOWN	
Export Reset Check Settings Upload Download Monitor and Download Finish									



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Step 10: Check whether the contents of the 1 block~the 2 block are correct, and then click Monitor and Download.

Network #1 - PLC Link Table Editor									
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type	-
1	2	R	D100~D115	<=	D100~D115	16	Enabled	EH3	_
l.		W	D150~D165	=>	D150~D165	16	21100100		
2	2	R	D200~D215	<=	D200~D215	16	Enabled	EH3	
	-	W	D250~D265	=>	D250~D265	16	2,130100	Eno	
3	3	R	D300~D315	<=	D300~D315	16	Enabled	EH3	
ľ		W	D350~D365	=>	D350~D365	16	Endblod	Eno	
4	3	R	D400~D415	<=	D400~D415	16	Enabled	EH3	
		W	D450~D465	=>	D450~D465	16			
5	e.	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown	
-	-	W	D1624~D1639	=>	16#10C8~16#10D7	16			-
Export Reset Check Settings Upload Download Monitor and Download Finish									



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Step 12: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) //slave station (2) , and click Write Register/Read Register on the context menu which appears.





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Step 13: The values in D100~D115 are values read from slave 1, and they are 5000. The values in D150~D165 are values written to slave station 1, and they are 1000.

Input Value			X
Device Name	Value	Device Comment	-
D100	5000		
D101	5000		
D102	5000		
D103	5000		
D104	5000		
D105	5000		
D106	5000		
D107	5000		
D108	5000		
D109	5000		
D110	5000		
D111	5000		
D112	5000		
D113	5000		
D114	5000		-
Value Type © Decimal © Hexidecia	nal	Close	

Input Value			x
Device Name	Value	Device Comment	-
D150	1000		
D151	1000		
D152	1000		
D153	1000		
D154	1000		
D155	1000		
D156	1000		
D157	1000		
D158	1000		
D159	1000		
D160	1000		
D161	1000		
D162	1000		
D163	1000		
D164	1000		-
Value Type © Decimal © Hexidecia	1 mal	Close	•



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Step 14: The values in D200~D215 are values read from slave 1, and they are 6000. The values in D250~D265 are values written to slave station 1, and they are 2000.

Input Value			x
Device Name	Value	Device Comment	-
D200	6000		
D201	6000		
D202	6000		
D203	6000		
D204	6000		
D205	6000		
D206	6000		
D207	6000		
D208	6000		
D209	6000		
D210	6000		
D211	6000		
D212	6000		
D213	6000		
D214	6000		-
Value Type © Decimal © Hexidecia	mal		

Input Value		100 100	x
Device Name	Value	Device Comment	
D250	2000		
D251	2000	*****	-
D252	2000		
D253	2000		-
D254	2000		-
D255	2000		
D256	2000		-
D257	2000		-
D258	2000		-
D259	2000		
D260	2000		
D261	2000		-
D262	2000		
D263	2000		-
D264	2000		
Value Type © Decimal © Hexidecia	məl	Close]



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Step 15: The values in D300~D315 are values read from slave 2, and they are 7000. The values in D350~D365 are values written to slave station 2, and they are 3000.

Input Value			x
Device Name	Value	Device Comment	-
D300	7000		
D301	7000		
D302	7000		
D303	7000		
D304	7000		
D305	7000		
D306	7000		
D307	7000		
D308	7000		
D309	7000		
D310	7000		
D311	7000		
D312	7000		
D313	7000		
D314	7000		-
Value Type © Decimal © Hexidecir	nal	Close	

Input Value		28	×
Device Name	Value	Device Comment	
D350	3000		
D351	3000		
D352	3000		
D353	3000		
D354	3000		
D355	3000		
D356	3000		
D357	3000		
D358	3000		
D359	3000		
D360	3000		
D361	3000		
D362	3000		
D363	3000		
D364	3000		
Value Type © Decimal © Hexidecin	1 mal	Close	



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Step 16: The values in D400~D415 are values read from slave 2, and they are 8000. The values in D450~D465 are values written to slave station 2, and they are 4000.

Input Value			x
Device Name	Value	Device Comment	
D400	8000		
D401	8000		
D402	8000		
D403	8000		
D404	8000		
D405	8000		
D406	8000		
D407	8000		
D408	8000		
D409	8000		
D410	8000		
D411	8000		
D412	8000		
D413	8000		
D414	8000		-
Value Type © Decimal © Hexidecir	nal		

Input Value		Part and a second secon	x
Device Name	Value	Device Comment	-
D450	4000		
D451	4000	und	
D452	4000		
D453	4000		
D454	4000		
D455	4000		
D456	4000		
D457	4000		
D458	4000		
D459	4000		
D460	4000		
D461	4000		
D462	4000		
D463	4000		
D464	4000		-
Value Type © Decimal © Hexidecia	mal	Close	Ţ



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Step 17: Close the Linked Machines Status window, create a device monitoring table by means of Device Monitor

Table in the project management area, type "D1354" in the device monitoring table, and click ². The value in D1354 indicates PLC link scan time.

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: O O I X I	🗎 🛍 🥜 🔍	₽₿						
Project	p ×		Object	Identifiers	Device Name	Status	Data Type	Value (16bits)
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🗄 🔤 Project [V	\172.16.144.36\r							
🖉 Dev	/ice Comment Li							
👥 🚺 Use	d Device Report							
	3							
E Tas	ks							
Glo	ibal Symbols							
- Pro	grams							
	Main [PRG,LI							
	to I Choose							
	n Defined Librar							
	vice Monitor Tab							
	Monitor Table							

[Description of control]

- The values in D1900~D1903 in the master PLC are taken as slave station addresses. (The value in D1900 is 2, the value in D1901 is 2, the value in D1902 is 3, and the value in D1903 is 3.)
- The master station exchanges data with different communication addresses in the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D100~D115 in the master station, and the values in D150~D165 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 1 are written to D250~D265 in the master station are written to D250~D265 in slave station 1. The values in D300~D315 in the master station are written to D250~D265 in slave station 1. The values in D300~D315 in slave station 2 are written to D300~D315 in the master station, and the values in D300~D315 in slave station 2. The values in D400~D415 in slave station 2 are written to D400~D415 in the master station, and the values in D450~D465 in the master station 2. The values in D450~D465 in the master station are written to D450~D465 in the master station.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D100~D115	Reading	D100~D115 in the slave PLC whose station address is K2
D150~D165	Writing	D150~D165 in the slave PLC whose station address is K2
D200~D215	Reading	D200~D215 in the slave PLC whose station address is K2
D250~D265	Writing	D250~D265 in the slave PLC whose station address is K2
D300~D315	Reading	D300~D315 in the slave PLC whose station address is K3
D350~D365	Writing	D350~D365 in the slave PLC whose station address is K3
D400~D415	Reading	D400~D415 in the slave PLC whose station address is K3
D450~D465	Writing	D450~D465 in the slave PLC whose station address is K3

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D115	All are 0.	D100~D115 in slave station 1	All are 5000.
D150~D165	All are 1000.	D150~D165 in slave station 1	All are 0.
D200~D215	All are 0.	D200~D215 in slave station 1	All are 6000.
D250~D265	All are 2000.	D250~D265 in slave station 1	All are 0.
D300~D315	All are 0.	D300~D315 in slave station 2	All are 7000.



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Master PLC	Value	Slave PLC	Value
D350~D365	All are 3000.	D350~D365 in slave station 2	All are 0.
D400~D415	All are 0.	D400~D415 in slave station 2	All are 8000.
D450~D465	All are 4000.	D450~D465 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D115	All are 5000.	D100~D115 in slave station 1	All are 5000.
D150~D165	All are 1000.	D150~D165 in slave station 1	All are 1000.
D200~D215	All are 6000.	D200~D215 in slave station 1	All are 6000.
D250~D265	All are 2000.	D250~D265 in slave station 1	All are 2000.
D300~D315	All are 7000.	D300~D315 in slave station 2	All are 7000.
D350~D365	All are 3000.	D350~D365 in slave station 2	All are 3000.
D400~D415	All are 8000.	D400~D415 in slave station 2	All are 8000.
D450~D465	All are 4000.	D450~D465 in slave station 2	All are 4000.

6. Example 4—Reading and Writing Simultaneously in a Polling Cycle (M1354=On)

If M1354 is On, the Modbus function code H'17 (reading and writing simultaneously in a polling cycle through a PLC link) will be used to execute a PLC link. (The master station and the slave stations in the examples below are DVP-EH3 series PLCs.)

6.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with two slave stations (two DVP-EH3 series PLCs) in a polling cycle through a PLC link.

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Sotting station addresses of PLCs]

[Descriptions of devices]

Device in a PLC	Description							
X0	X0 functions as a conditional contact used to enable M1350 and M1351.							
D1120	Communication protocol of COM2 (RS-485)							
D1121	PLC Communication address							
D1120	Abnormal communication timeout							
DTIZ9	Time unit: ms							
M1120	M1120 is used to retain the communication format of COM2 (RS-485).							
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an							
M1142	ASCII mode or an RTU mode.							
1011143	Off: ASCII mode							
	On: RTU mode							
M1350	M1350 is used to enable a PLC link.							
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.							



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[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Step 2: Click the PLC link wizard $\stackrel{\boxtimes}{=}$ in WPLSoft.

E File	<u>E</u> dit	Compil	er Co	<u>m</u> ment	s <u>S</u> ea	irch	View	Con	nmuni	cation	<u>O</u>	otions	Wiza	ard	<u>W</u> ine	iow	Hel	р			
🗋 🖨		🕾 💿		χI		9			Q	٩	0				1		×			\$	
u 12	壘	🔮 🖄	13 E	•			9 (爗	Ē	0	• 5	1 🗐	2	CODE	CODE 			Ē		**
Relay T	ype	7	1 F2	静 F3 i	tt f8	2 F6	₽7 ₽7	F8	FS I	FTI F	2 1 12 N	IP PN	₫.	I€≓ A+PS	X ⊷ A+D	PID		~	5	PLO	Link

Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection box, and click

-Welcome to use the PLC Link Wizard! -The wizard will guild you to complete the config -Please follow the indications step by step.	iration settings.
Language English	Open 🍃
Model Selection EH3	About
Communication Mode	
C USB	
,	



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Step 4: Set a communication format for COM1 in the master PLC, click Auto Detect, click OK in the window which

ears, click 👥	, and	d click O	K in th	ne window w	hich	appears.							
ſ	PLC Link Configuration												
	-The set to conne paramate	ting is that et with PL er.	t choose C and t	e a PC's COM he related	PC COM Port COM3 • ASCII Data Length 7 • RTU Parity bit Even • Stop bit 1 • Auto Detect Baudrate 9600 • Station Address 40 • Default Baudrate Setting Decided by • PLC Setting • PC Setting •								
		Cor	nfirm	to you want to read	the cor	OK	from the	connected	×				
	OK Cancel												
		Ĺ					-]				
Step 5: (Click	+											
	PLC Link C	onfiguration					-	_	_	×			
	D#	Station ID	R/W	Master Buffer	⇔	Slave Buffer	Length	Status	Model Type	<u>^</u>			
	D1	1	R	D1480~D1495	<=	H1064~H1073	16	Disabled	Others				
	ID 1	1	W	D1496~DL>11	=>	H10C8~H10D7	16	Disabled	Others				
	D 2	2	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others				
	D2	2	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others				
		3	R	D1544~D1559	<=	H1064~H1073	16	Disabled	Others				
		3	W	D1560~D1575	=>	H10C8~H10D7	16	Disabled	Others				
		4	K W	D1576~D1591	<=	H1009, H1002	16	Disabled	Uthers				
		4	R	D1602~D1607	=>	H1064~H10D7	16	Disabled	Others				
		5	W	D1624~D1623		H10C8~H10D7	16	Disabled	Others				
		ľ	"	D1024-D1009	—			12120000	0000	~			
	Save 🖪		C	Jear All			1	-	1				



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Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, select the **Auto** option button, select **2** in the

The First ID box in the Slave PLCs Station Address section, and click

Window for ASCII communication:

PLC Link Configuration	(2)明闇:14		×
-The protocol of the port	Data Length	7	Communication Mode
wizard.	Parity bit	Even 💌	C RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 -	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	• 16 words
Transferring. -The max linked machine	Time Out (ms)	200	○ 100 words
number is 16 if selecting	Hold the DCM	05 Cauin a	Slave PLCs Station Address
-The max linked machine	I 11000 00€ 1434	0.26(ml8	Auto Internist information Auto 2
number is 32 if selecting 100 words mode.			
	Set these register in	program, the protocol wo	uld be applied.
	D1120 134 D	01129 200 M1120	On M1143 Off
	-		+

Window for RTU communication:

-The protocol of the port wouldn't be applied in this	Data Length	8	Communication Mode		
wizard.	Parity bit	Even 💌	• RTU		
-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode		
number of one time transferring.	Baudrate	9600 💌	 16 words 100 words 		
-The max linked machine	Time Out (ms)	200	Church Church and Lines		
16 words mode. -The max linked machine number is 32 if selecting	₩ Hold the RS4	85 Setting	C Manual		
100 words mode.	Set these register in program, the protocol would be applied.				
	D1120 135 D	01129 200 M1120) On M1143 On		
	+		-		



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Step 7: Double-click the ID 1 (Station ID 2) block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Device box in the Slave Parameter Setting section, and click OK.

PLC Link Co	onfiguration		100 Jane 1	-	- /	100		
ID#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status	
ID 1	2	R	D1480~D1495	<=	H0~HF	16	Disabled	
ID 1	2	W	D1496~D1511	=>	H0~HF	16	Disabled	
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled	
ID 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled	
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled	
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled	
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled	
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled	
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled	
ID 5	6	W	D1624~D1639	=>	HO~HF	16	Disabled	





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Step 8: Double-click the **ID 2** (**Station ID 3**) block in the **PLC Link Configuration** window, select the **DVP Series** option button in the **Linked Model Type** section, select the **Enable** option button in the **Linked Model Status** section (set M1361 to On), type "16" in the **Data Length** boxes in the **Master Parameter Setting** sections in the **Read** and **Write** sections, type "200" in the **Starting Device** box in the **Slave Parameter Setting** section in the **Read** section, type "250" in the **Starting Device** box in the **Slave Parameter Setting** section, and click **OK**.

	nfiguration		-	-	- 744.745			
D#	Station ID	R/W	Master Buffer	$\langle \Rightarrow \rangle$	Slave Buffer	Length	Status	
ID 1	2	R	D1480~D1495	<=	HO-HF	16	Disabled	
ID 1	2	W	D1496~D1511	=>	HO~HF	16	Disabled	
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled	
ID 2	3	W	D1528~D1543	=>	H0~HF	16	Disabled	
ID 3	4	R	D1544~D1559	<=	HO~HF	16	Disabled	
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled	
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled	
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled	
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled	
ID 5	6	W	D1624~D1639	=>	HO~HF	16	Disabled	





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D#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status	
ID 1	2	R	D1480~D1495	<=	D100-D115	16	Enabled	
ID 1	2	W	D1496~D1511	=>	D150~D165	16	Enabled	
ID 2	3	R	D1512~D1527	<=	D200~D215	16	Enabled	
ID 2	3	W	D1528~D1543	=>	D250~D265	16	Enabled	
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled	
ID 3	4	W	D1560~D1575	=>	H0~HF	16	Disabled	
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled	
ID 4	5	W	D1592~D1607	=>	H0~HF	16	Disabled	
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled	
D5	6	W	D1624~D1639	=>	H0~HF	16	Disabled	

Step 9: Check whether the contents of the ID 1 block~the ID 4 block are correct, and then click

Step 10: Select the Synchronic R/W checkbox, click the Set Parameter button, click the Start Monitor button, and click or set X0 to On.





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Step 11: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) slave station (2) , and click Write **Register/Read Register** on the context menu which appears.



Step 12: The values in D1480~D1495 are values read from slave 1, and they are 5000. The values in D1496~D1511 are values written to slave station 1, and they are 1000.

Input Value			x
Device Name	Value	Device Comment	-
D1480	5000		
D1481	5000		
D1482	5000		
D1483	5000		
D1484	5000		
D1485	5000		
D1486	5000		
D1487	5000		
D1488	5000		
D1489	5000		
D1490	5000		
D1491	5000		
D1492	5000		
D1493	5000		
D1494	5000		-
Value Type © Decimal O Hexidecir	mal		

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Input Value			x
Device Name	Value	Device Comment	
D1496	1000		
D1497	1000		
D1498	1000		
D1499	1000		
D1500	1000		
D1501	1000		
D1502	1000		
D1503	1000		
D1504	1000		
D1505	1000		
D1506	1000		
D1507	1000		
D1508	1000		
D1509	1000		
D1510	1000		
Value Type © Decimal ○ Hexidecia	1 mal	Close	

Step 13: The values in D1512~D1527 are values read from slave 2, and they are 6000. The values in D1528~D1543 are values written to slave station 2, and they are 2000.

Input Value			x
Device Name	Value	Device Comment	
D1512	6000		
D1513	6000		
D1514	6000		
D1515	6000		
D1516	6000		
D1517	6000		
D1518	6000		
D1519	6000		
D1520	6000		
D1521	6000		
D1522	6000		
D1523	6000		
D1524	6000		
D1525	6000		
D1526	6000		
Value Type © Decimal © Hexidecin	1 mal	Close	Y

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Input Value			X
Device Name	Value	Device Comment	
D1528	2000		
D1529	2000		
D1530	2000		
D1531	2000		
D1532	2000		
D1533	2000		
D1534	2000		
D1535	2000		
D1536	2000		
D1537	2000		
D1538	2000		
D1539	2000		
D1540	2000		
D1541	2000		
D1542	2000		
Value Type © Decimal © Hexideci	Hanna məl	Close	

Step 14: Close the Linked Machines Status window, click , and type "D1354". The value in D1354 indicates PLC link scan time.

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	Device Name	Comment	Status	T/C Set Value	Present Value (16 bi
Communication Setting	D1354				K355
Ethernet					
DVPEN01-SL			1		
IFD9506					
PLC					
DVPFEN01					
⊡					
Different Ethernet					

[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the values in D1528~D1543 in the master station are written to D250~D265 in slave station 2.



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Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.

6.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges sixteen pieces of data (sixteen words) with two slave stations (two DVP-EH3 series PLCs) in a polling cycle through a PLC link.

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	3. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	4. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Setting station addresses of PLCs]

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1120	Abnormal communication timeout
DTI29	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M11/2	ASCII mode or an RTU mode.
1011143	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.

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[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:



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Program for RTU communication: Network 1 M1002 MOV 4 1 En 16#0087 D D1120 M1120 -(⁸) M1143 -(<u>\$</u>) MOV Er 40 D D1121 MOV En 200-2 D D1129 Network 2 X0 M1350 -|↑-| (S) M1351

Step 2: Double-click NWCONFIG in the project management area, create a link, click , select Driver 1 in the Driver Name drop-down list box, click OK, select the master station and the slave stations, and click .

-(<u></u>)

😜 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>C</u>ompile <u>P</u>LC <u>T</u>ools W<u>i</u>zard <u>W</u>indow <u>H</u>elp : 🖹 🛩 🖪 🎒 🔲 💭 🛷 : 👎 18 🛛 10 🛛 🕂 🖨 🖓 🛷 : 🔿 🤤 19 🖳 🖳 💆 🖉 11 🔍 9 🖉 1. 🍥 🔘 🕺 🛅 🖨 🗨 🔍 😫 🎧 100% - 🕎 🔚 📅 🛅 😉 🙆 💁 🔟 🖳 😓 ++ -{) 🕄 & • 玉 수 Local Symbols Class Туре... Identifiers Address ■ NWCONFIG ■ Project [\\172.16.144.36\]; Inject (M /2.10.144.304)
 Device Comment Li
 Used Device Report
 EH3
 Gobal Symbols Network 1 Programs Prog0 [PRG,L Function Blocks ÷ Delta Library ÷... M1002 MOV En + +-💇 Device Monitor Tab ÷.... 🛄 Monitor Table 16#0086 S D _D1120



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File Edit View PLC Tools He	lp			
🔳 🎒 💿 💿 🗭 🕼 .	🛃 🖬 😰 👔 🗃 🚺	9, 🗉		
All_Devices		Untitled0	Untitled1	Untitled2
EILE FLC AH-Series DVP-Series AH-Modules		C2 Station Addr.: 40	C2 Station Addr.: 2	C2 Station Addr.: 3
DVP-Modules DVV DVV MODBUS Device		ЕН3 172 163	ЕН3 121 СЗ	EH3
	Network #:1 RS485			
	Select a Driver Driver Name	Driver1		
	Routing Mode			
	No station coulde	he the First Station		
		Cancel		
Step 3: Select a PLC in the Master De appears.	vice drop-down list b	ox, click 🔶	, and click (DK in the window

Select	Master Device	
	Please choose the Master device and port for PLC Link.	
	Master Device Station address 40 EH3 Untitled0 - CPU	
	•	
	Confirm	
	Do you want to read the configuration setting from the connected PLC?	
	OK Cancel	

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#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Typ
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16		
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	FH3
<u> </u>	2	W	D1528~D1543	=>	D200~D215	16	Disabled	Ens
2	2	R	D1544~D1559	<=	D100~D115	16	Disabled	EU2
	5	W	D1560~D1575	=>	D200~D215	16	Disabled	Ens
	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	OTIKTIOWIT
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
	5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	ONKHOWN

Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the 16 words option button in the Transfer Capacity Mode section, select the Synchronic R/W checkbox,

unselect the Run PLC Link after downloading checkbox, type "0" in the Interval Time box, and click

Window for ASCII communication:

The protocol of Master device	e	Transfer Capacity Mode
Master Port: CPU Com2		16 words
Detecting result		O 100 words
Data Length	7	C 450 words (AH Only)
Parity bit	Even	Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadir
Time Out (ms)	200	Interval Time(ms)
Station Address	40	
Communication mode	ASCII	*



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Window for RTU communication:

The protocol of Master devic	e	G 16 words
Master Port: CPU Com2		C 100 words
Detecting result		(° 100 words
Data Length	8	C 450 words (AH Only)
Parity bit	Even	Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadin
Time Out (ms)	200	Interval Time(ms)
Station Address	40	
Communication mode	RTU	+ +

Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Address box in the Slave Parameter Setting section, and click OK.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16	Disabica	OTINIOWI
,	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EU2
-	2	W	D1528~D1543	=>	D200~D215	16	Disabled	EHD
,	2	R	D1544~D1559	<=	D100~D115	16	Disabled	EUD
5	3	W	D1560~D1575	=>	D200~D215	16	Disabica	LIIO
	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Hekeoue
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disableu	OHKHOWH
-	E	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Halmann
5 5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	Unknown	



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Parameter Setting	X
Linked Device Station Address Device Type 2 ÷ EH3	Linked Status C Disable C Enable
Read Master Paramter Setting Starting Address Data Length D 1480 16 Words	Slave Parameter Setting Starting Address D 100
Write Master Paramter Setting Starting Address Data Length D 1496 16 Words	Slave Parameter Setting Starting Address D 150
OK	Cancel

Step 7: Double-click the 2 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "16" in the Data Length boxes in the Master Parameter Setting sections in the Read and Write sections, type "200" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "250" in the Starting Address box in the Slave Parameter Setting section, and click OK.

letwork	#1 - PLC Lin	k Tabl	e Editor					
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16		
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EH3
-		W	D1528~D1543	=>	D200~D215	16	Disabica	LING
3	3	R	D1544~D1559	<=	D100~D115	16	Disabled	EH3
0	3	W	D1560~D1575	=>	D200~D215	16	Disabica	Eno
А	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
-	7	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabica	Onknown
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
5	- -	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	OHKHOWH
			·		· · · · · · · · · · · · · · · · · · ·	•		·
Export	Reset	Cheo	ck Settings Upload		ownload Monitor a	and Down	load	Finish



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Step 8: Check whether the contents of the 1 block~the 2 block are correct, and then click Monitor and Download.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	2	R	D1480~D1495	<=	D100~D115	16	Enabled	EH3
•	2	W	D1496~D1511	=>	D150~D165	16	LIIODICO	LIIIO
,	3	R	D1512~D1527	<=	D200~D215	16	Enabled	FH3
-	5	W	D1528~D1543	=>	D250~D265	16	LINADICO	
2	4	R	D1544~D1559	<=	16#10C8~16#10D7	16	Disabled	Unknown
5	4	W	D1560~D1575	=>	16#10D7~16#10E6	16	Disabled	OHKHOWH
4	5	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
+	5	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	Onknown
5	c	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
5 6	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	UNKNOWN	

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Step 9: Click I or set X0 to On.



Step 10: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) //slave station (2) //slav





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Step 11: The values in D1480~D1495 are values read from slave 1, and they are 5000. The values in D1496~D1511 are values written to slave station 1, and they are 1000.

Input Value			x
Device Name	Value	Device Comment	*
D1480	5000		
D1481	5000		
D1482	5000		
D1483	5000		
D1484	5000		
D1485	5000		
D1486	5000		
D1487	5000		
D1488	5000		
D1489	5000		
D1490	5000		
D1491	5000		
D1492	5000		
D1493	5000		
D1494	5000		-
Value Type © Decimal © Hexidecir	nal		

Input Value			x
Device Name	Value	Device Comment	-
D1496	1000		
D1497	1000		
D1498	1000		
D1499	1000		
D1500	1000		
D1501	1000		
D1502	1000		
D1503	1000		
D1504	1000		
D1505	1000		
D1506	1000		
D1507	1000		
D1508	1000		
D1509	1000		
D1510	1000		
Value Type © Decimal © Hexidecia	1 mal	Close	T



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Step 12: The values in D1512~D1527 are values read from slave 2, and they are 6000. The values in D1528~D1543 are values written to slave station 2, and they are 2000.

Input Value			x
Device Name	Value	Device Comment	
D1512	6000		
D1513	6000		
D1514	6000		
D1515	6000		
D1516	6000		
D1517	6000		
D1518	6000		
D1519	6000		
D1520	6000		
D1521	6000		
D1522	6000		
D1523	6000		
D1524	6000		
D1525	6000		
D1526	6000		-
Value Type • Decimal	1 nal	Close	
	101		

Input Value			x
Device Name	Value	Device Comment	
D1528	2000		
D1529	2000		-
D1530	2000		-
D1531	2000		
D1532	2000		-
D1533	2000		-
D1534	2000		
D1535	2000		
D1536	2000		
D1537	2000		
D1538	2000		-
D1539	2000		1
D1540	2000		-
D1541	2000		-
D1542	2000		
Value Type © Decimal	1		
○ Hexideci	məl	Close	1



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Step 13: Close the Linked Machines Status window, create a device monitoring table by means of Device Monitor

Table in the project management area, type "D1354" in the device monitoring table, and click ². The value in D1354 indicates PLC link scan time.

💻 <u>F</u> ile	<u>E</u> dit <u>V</u> iew	<u>C</u> ompile	PLC	<u>T</u> ools	Wizard	Window	<u>H</u> elp						
i 🗎 🖻	E 🎒 🔳	🔜 🤌	1 1	8 🚯 🚺)	• 3 -	\$ I 🔿	🗢 💀 🖳		7 🔳 1	i 🗖 🗐	💡 🔮 📮	11
	XDD	<i>]</i>	₽₿				1						
Project		p ×		Object	t	Ident	tifiers	Device I	Name	Status	D	ata Type	Value (16bits)
e	NWCONFIG		•					D1354					360
ė <u>ē</u>	Project [\\172.16.	144.36\p											
	- 🙋 Device Con	nment Li											
	🔮 Used Device	e Report											
+													
+	- 🔯 Tasks												
	🗊 Global Sym	bols											
	Programs												
	Main	[FRG,LI											
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[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D115 in slave station 1 are written to D1480~D1495 in the master station, and the values in D1496~D1511 in the master station are written to D150~D165 in slave station 1. The values in D200~D215 in slave station 2 are written to D1512~D1527 in the master station, and the values in D1528~D1543 in the master station are written to D250~D265 in slave station 2.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1511	Writing	D150~D165 in the slave PLC whose station address is K2
D1512~D1527	Reading	D200~D215 in the slave PLC whose station address is K3
D1528~D1543	Writing	D250~D265 in the slave PLC whose station address is K3

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 0.
D1512~D1527	All are 0.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1511	All are 1000.	D150~D165 in slave station 1	All are 1000.
D1512~D1527	All are 6000.	D200~D215 in slave station 2	All are 6000.
D1528~D1543	All are 2000.	D250~D265 in slave station 2	All are 2000.



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7. Example 5—Enabling the Function of Linking Thirty-two PLCs and Exchanging More than Sixteen Pieces of Data (M1353=On)

If M1353 is On, the maximum length of the data which can be read/written by a PLC link will be 100 words, and users can specify data registers in which data can be stored. (The master stations and the slave stations in the examples below are DVP-EH3 series PLCs.)

7.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges one hundred pieces of data (one hundred words) with two slave stations (two DVP-EH3 series PLCs) through a PLC link which enables the function of linking thirty-two PLCs and exchanging more than sixteen pieces of data.

[Setting station addresses of PLCs]

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	2. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1120	Abnormal communication timeout
DTI29	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M11/3	ASCII mode or an RTU mode.
IVI 143	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.

[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to specify the stations which need to be linked (M1355 is On).



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Program for RTU communication:





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Step 2: Click the PLC link wizard 🗮 in WPLSoft.

E File	<u>E</u> dit	Compiler	Co <u>m</u> me	nts <u>S</u> ear	ch <u>V</u> iew	Commu	nication	<u>O</u> ptions	W <u>i</u> zard	Window	v <u>H</u> elp		
🗋 🖻		3	© X	00	9 🗅	0	< C) 17	F 🐻 C	1	÷	3 4	
III 📱	闡	🔮 🖄	12 🖽 🞙	🗉 🌽 (999		ē 🖸 🔇) 🗢 🛒	i 🗐 📡	CODE -	00E 📻 o A oloi E	≝≣_च	2
Relay T	ype	감	1/2 13 F2 F3	群略	운 달	F8 F8	FII FI2	NP PN	ở ₩S	A+D PI	🗛 🖉		C Link

Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection drop-down list box, and click

-Welcome to use the PLC Link Wizard! -The wizard will guild you to complete the co -Please follow the indications step by step.	nfiguration settings.
Language English	Opén 🍃
Model Selection EH3	About
Communication Mode	
○ ∞M	
C USB	

Step 4: Set a communication format for COM1 in the master PLC, click **Auto Detect**, click **OK** in the window which appears, click , and click **OK** in the window which appears.

PLC Link Configuration			
-The setting is that choose a PC's COM to connect with PLC and the related	PC COM Port	COM3 -	• ASCII
paramater.	Data Length	7 🔹	C RTU
	Parity bit	Even 💌	
	Stop bit	1 -	Auto Detect
	Baudrate	9600 💌	
	Station Address	40 .	Default
	-Baudrate Setting I	Decided by	
	 PLC Setting 	-	
	© PC Setting		
	+		•

PLC Link Configurati
Auto-Detecting Finished
ОК



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		? P	o you want to read LC?	the cor	nfiguration setting	from the o	Cancel	
PLC Lin	k Configuration	RAW	Master Buffer		Slave Buffer	1 en oth	Status	Model Type
D1	1	R	D1480~D1495	<=	H1064~H1073	16	Disabled	Others
						1.6		
ID 1	1	W	D1496~DL711	\Rightarrow	H10C8~H10D7	16	Disabled	Others
ID 1 ID 2	1	R	D1496~DL311 D1512~D1527	=> <=	H10C8~H10D7 H1064~H1073	16	Disabled Disabled	Others Others
D1 D2 D2	1 2 2	R W	D1496~DL311 D1512~D1527 D1528~D1543	⇒ ≪ ⇒	H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16	Disabled Disabled Disabled	Others Others Others
D1 D2 D2 D3	1 2 2 3	R W R	D1496~DL&11 D1512~D1527 D1528~D1543 D1544~D1559	=> <= => <=	H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16	Disabled Disabled Disabled Disabled	Others Others Others Others
D1 D2 D3 D3	1 2 2 3 3	W R W R W	D1496~DL&11 D1512~D1527 D1528~D1543 D1544~D1559 D1560~D1575	⇒ <= ⇒ <=	H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others
回1 回2 回3 回3	1 2 2 3 3 3 4	W R W R W R	D1496~DL§11 D1512~D1527 D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591	⇒ <= ⇒ <= <=	H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others Others
 回1 回2 回2 回3 回4 回4 	1 2 2 3 3 4 4 4	W R W R W R W	D1496~DL§11 D1512~D1527 D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607		H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7	16 16 16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others Others Others
 1 1 1 1 1 2 1 2 1 1	1 2 3 3 4 4 5	W R R W R R W R R	D1496~DL§11 D1512~D1527 D1528~D1543 D1544~D1559 D1560~D1575 D1576~D1591 D1592~D1607 D1608~D1623		H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073 H10C8~H10D7 H1064~H1073	16 16 16 16 16 16 16 16	Disabled Disabled Disabled Disabled Disabled Disabled Disabled Disabled	Others Others Others Others Others Others Others Others

Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **100 words** option button in the **Transfer Capacity Mode** section, select the **Auto** option button, select **2** in • the The First ID box, and click

r ASCII co	ommunication:							
	PLC Link Configuration			x				
	-The protocol of the port wouldn't be applied in this	Data Length	7	Communication Mode • ASCII				
	wizard.	Parity bit	Even 💌	C RTU				
	-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode				
	number of one time transferring.	Baudrate	9600 💌	C 16 words				
	-The max linked machine number is 16 if selecting	Time Out (ms)	1000	Slave PLCs Station Address				
	16 words mode. -The max linked machine number is 32 if selecting		35 Setting					
	100 words mode.	Set these register in program, the protocol would be applied.						
		D1120 134 D	1129 1000 M	1120 On M1143 Off				
		-						

Window for


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Window for RTU communication:

-The protocol of the port wouldn't be applied in this	Data Length	8	Communication Mode			
wizard.	Parity bit	Even	• RTU			
-The "Transfer Capcity Mode" is that the word	Stop bit	1 •	Transfer Capacity Mode			
number of one time	Baudrate	9600 💌	C 16 words			
-The max linked machine	Time Out (ms)	1000				
number is 16 if selecting 16 words mode. -The max linked machine	₩ Hold the RS4	85 Setting	Slave PLCs Station Address • Auto The First ID • Manual			
100 words mode.	Set these register in program, the protocol would be applied.					
	D1120 135 E	01129 1000 M1120	On M1143 On			
	+		•			

Step 7: Double-click the ID 1 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), type "100" in the Starting Device box in the Mater Parameter Setting section in the Read section, type "200" in the Starting Device box in the Mater Parameter Setting section, type "100" in the Data Length boxes in the Mater Parameter Setting sections, type "100" in the Starting Device box in the Read and Write sections, type "100" in the Starting Device box in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Device box in the Slave Parameter Setting section in the Read section i

on ID R/W R W R	Master Buffer D0~D99 D0~D99	(Slave Buffer H0~H63	Length 100	Status Disabled	
R W R	D0-D99 D0-D99	<= =>	H0~H63	100	Disabled	
W R	D0~D99	=>	UO UC2			
R			no-nos	100	Disabled	
	D0~D99	<=	H0~H63	100	Disabled	
W	D0~D99	=>	H0~H63	100	Disabled	
R	D0~D99	<=	H0~H63	100	Disabled	
W	D0~D99	=>	H0~H63	100	Disabled	
R	D0~D99	<=	H0~H63	100	Disabled	
W	D0~D99	=>	H0~H63	100	Disabled	
R	D0~D99	<=	H0~H63	100	Disabled	
W	D0~D99	=>	H0~H63	100	Disabled	
	R W R W R W	R D0-D99 W D0-D99 R D0-D99 W D0-D99 R D0-D99 R D0-D99 W D0-D99 Come All Come All	R D0-D99 <= W D0-D99 => R D0-D99 <=	R D0-D99 <=	R D0-D99 <=	R D0~D99 <= H0~H63 100 Disabled W D0~D99 => H0~H63 100 Disabled R D0~D99 <=



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-The radio box "Input Type" is the type for user to enter the pure hexidecimal machine address or the device name of PLC. To choose the device name will be tested in the range or not when clicking [OK]. -The field "Starting Device" is the starting device for the slaver's and master's buffer to exchange data. -The field "Data Length" is the number of words that exchange data one time. -"The Status of the Linked Machine" is selected for user to indicate this machine which is enabled or disabled when linking.					
Linked Model Type	Linked Model Stat	uS			
 DVP Series 	O Disable				
C Others	• Enable				
Read					
Master Paramter Setting		Slave Parameter Setting			
Starting Device	Data Length	Starting Device			
D Ito	μω				
Write					
Master Paramter Setting		Slave Parameter Setting			
Starting Device	Data Length	Starting Device			
D 200	100	D 200			
OK		Cancel			

Step 8: Double-click the ID 2 block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1361 to On), type "300" in the Starting Device box in the Master Parameter Setting section in the Read section, type "450" in the Starting Device box in the Master Parameter Setting section, type "100" in the Data Length boxes in the Master Parameter Setting sections, type "300" in the Starting Device box in the Read and Write sections, type "300" in the Starting Device box in the Read section, type "400" in the Starting Device box in the Starting Section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starting Device box in the Starter Setting section in the Read section, type "400" in the Starter Setting Section in the Starter Setting Section in the Read section, type "400" in the Starter Setting Section in the Starter Setting S

PLC Link C	onfiguration							_
ID #	Station ID	R/₩	Master Buffer	<=>	Slave Buffer	Length	Status	
ID 1	2	R	D0~D99	<=	H0~H63	100	Disabled	
ID 1	2	W	D0~D99	=>	H0~H63	100	Disabled	
ID 2	3	R	D0~D99	<=	H0~H63	100	Disabled	
ID 2	3	W	D0~D99	=>	H0~H63	100	Disabled	
ID 3	4	R	D0~D99	<=	H0~H63	100	Disabled	
ID 3	4	W	D0~D99	=>	H0~H63	100	Disabled	
ID 4	5	R	D0~D99	<=	H0~H63	100	Disabled	
ID 4	5	W	D0~D99	=>	H0~H63	100	Disabled	
ID 5	6	R	D0~D99	<=	H0~H63	100	Disabled	
ID 5	6	W	D0~D99	=>	H0~H63	100	Disabled	-
Save F	3	C	Jear All	1	-		•	



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-The radio box "Input Typ hexidecimal machine addr device name will be tested -The field "Starting Devic master's buffer to exchan -The field "Data Length" time. -"The Status of the Linke machine which is enabled	e" is the type for u ress or the device r in the range or no re" is the starting ge data. is the number of w d Machine" is selv or disabled when l	ser to enter the pure name of PLC. To choose the t when clicking [OK]. device for the slaver's and ords that exchange data one ected for user to indicate this inking.
Linked Model Type	Linked Model Stat	us
 DVP Series 	C Disable	
 Others 	• Enable	
Read		
Master Paramter Setting Starting Device D 300	Data Length 100	Slave Parameter Setting Starting Device D 300
Write		
Master Paramter Setting	D . I . 1	Slave Parameter Setting
D 400	100	D 400
OK		Cancel

Step 9: Check whether the contents of the ID 1 block~the ID 2 block are correct, and then click

D#	Station ID	R/W	Master Buffer	⇔	Slave Buffer	Length	Status	Model Type	
ID 1	2	R	D100~D199	<=	D100~D199	100	Enabled	DVP Series	
⊡ 1	2	W	D200~D299	=>	D200~D299	100	Enabled	DVP Series	
ID 2	3	R	D300~D399	<=	D300-D399	100	Enabled	DVP Series	
ID 2	3	W	D400~D499	=>	D400~D499	100	Enabled	DVP Series	
ID 3	4	R	D0~D99	<=	H0~H63	100	Disabled	Others	
ID 3	4	W	D0~D99	=>	H0~H63	100	Disabled	Others	
ID 4	5	R	D0~D99	<=	H0~H63	100	Disabled	Others	
ID 4	5	W	D0~D99	=>	H0~H63	100	Disabled	Others	
ID 5	6	R	D0~D99	<=	H0~H63	100	Disabled	Others	
ID 5	6	W	D0~D99	=>	H0~H63	100	Disabled	Others	



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Step 11: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) slave station (2) , and click Write **Register/Read Register** on the context menu which appears.





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Step 14: The values in D100~D199 are values read from slave 1, and they are 5000. The values in D200~D299 are values written to slave station 1, and they are 1000.

Device Name Value D100 5000 D101 5000 D102 5000 D103 5000 D104 5000	Device Comment	•
D100 5000 D101 5000 D102 5000 D103 5000 D104 5000	Image: Constraint of the second of the se	
D101 5000 D102 5000 D103 5000 D104 5000		
D102 5000 D103 5000 D104 5000		
D103 5000 D104 5000		
D104 5000		
T0105 5000		
1005 15000		
D106 5000		
D107 5000		
D108 5000		
D109 5000		
D110 5000		
D111 5000		
D112 5000		
D113 5000		
D114 5000		_
Value Type © Decimal © Hexidecimal	Close	•

Input Value			x
Device Name	Value	Device Comment	
D200	1000		
D201	1000		
D202	1000		
D203	1000		-
D204	1000		
D205	1000		
D206	1000		
D207	1000		
D208	1000		
D209	1000		-
D210	1000		
D211	1000		
D212	1000		
D213	1000		
D214	1000		
Value Type © Decimal © Hexidecir	t	Close	



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Step 13: The values in D300~D399 are values read from slave 2, and they are 6000. The values in D400~D499 are values written to slave station 2, and they are 2000.

Input Value			3
Device Name	Value	Device Comment	
D300	6000		-
D301	6000		
D302	6000		
D303	6000		
D304	6000		
D305	6000		
D306	6000		
D307	6000		
D308	6000		
D309	6000		
D310	6000		
D311	6000		
D312	6000		
D313	6000		
D314	6000		
Value Type © Decimal © Hexidecia	1 mal	Close	•

Input Value		(all the second	x
Device Name	Value	Device Comment	
D400	2000		
D401	2000		-
D402	2000		-
D403	2000		-
D404	2000		-
D405	2000		-
D406	2000		-
D407	2000		-
D408	2000		-
D409	2000		-
D410	2000		
D411	2000		-
D412	2000		-
D413	2000		-
D414	2000		1
Value Type © Decimal © Hexidecia	mal	Close	



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Step 14: Close the Linked Machines Status window, click , and type "D1354". The value in D1354 indicates PLC link scan time.

🔮 Eile Edit Compiler Comments	Search View	<u>Communication</u> <u>Op</u>	tions W <u>i</u> zard <u>W</u> in	dow <u>H</u> elp	
	n 🛍 🖉 🔼	🔍 ବ୍ ବ୍ 🔞	🐺 🐻 🔿 🛛	🕂 🖨 🗘 /	\$
🔛 滬 俸 🔮 🖄 🖽 🖮	🍃 💷 🎈	🏢 🎬 📴 🔿 🌾) 🖪 🗐 🖌 🕉		ti 🖬 Q Q
<u> </u>	Device Name	Comment	Status	T/C Set Value	Present Value (16 bi
Communication Setting	D1354				K1825
Ethernet					
			1	1	1
PLC					
DirectLink					

- [Description of control]
- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D199 in slave station 1 are written to D100~D199 in the master station, and the values in D200~D299 in the master station are written to D200~D299 in slave station 1. The values in D300~D399 in slave station 2 are written to D300~D399 in the master station, and the values in D400~D499 in the master station are written to D400~D499 in slave station 2.

Master PLC (1 PLC)		Slave PLC (2 PLCs)
D100~D199	Reading	D100~D199 in the slave PLC whose station address is K2
D200~D299	Writing	D200~D299 in the slave PLC whose station address is K2
D300~D399	Reading	D300~D399 in the slave PLC whose station address is K3
D400~D499	Writing	D400~D499 in the slave PLC whose station address is K3

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D199	All are 0.	D100~D199 in slave station 1	All are 5000.
D200~D299	All are 1000.	D200~D299 in slave station 1	All are 0.
D300~D399	All are 0.	D300~D399 in slave station 2	All are 6000.
D400~D499	All are 2000.	D400~D499 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D199	All are 5000.	D100~D199 in slave station 1	All are 5000.
D200~D299	All are 1000.	D200~D299 in slave station 1	All are 1000.
D300~D399	All are 6000.	D300~D399 in slave station 2	All are 6000.
D400~D499	All are 2000.	D400~D499 in slave station 2	All are 2000.



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7.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) individually exchanges one hundred pieces of data (one hundred words) with two slave stations (two DVP-EH3 series PLCs) through a PLC link which enables the function of linking thirty-two PLCs and exchanging more than sixteen pieces of data.

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	3. ASCII, 9600, 7, E, 1 (D1120=H'86)
Slave PLC 1	K2 (D1121=K2)	4. RTU, 9600, 8, E, 1 (D1120=H'87) The communication format of the slave PLCs needs to be the
Slave PLC 2	K3 (D1121=K3)	same as the communication format of the master PLC.

[Descriptions of devices]

Device in a PLC	Description			
X0	X0 functions as a conditional contact used to enable M1350 and M1351.			
D1120	Communication protocol of COM2 (RS-485)			
D1121	PLC Communication address			
D1120	Abnormal communication timeout			
DTIZ9	Time unit: ms			
M1120	M1120 is used to retain the communication format of COM2 (RS-485).			
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an			
M11/2	ASCII mode or an RTU mode.			
1011143	Off: ASCII mode			
	On: RTU mode			
M1350	M1350 is used to enable a PLC link.			
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.			

[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).



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Program for RTU communication:





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Step 2: Double-click NWCONFIG in the project management area, create a link, click \bigcirc , select **Driver 1** in the **Driver** Name drop-down list box, click **OK**, select the master station and the slave stations, and click \blacksquare .





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Step 3: Select a PLC in the Master Device drop-down list box, click _____, and click OK in the window which appears.

Net	wor	rk #1 - PLC Link Table Editor	X	J
	Sel	lect Master Device		
		Please choose the Master device and port for PLC Link.		
		Master Device Station address 40 EH3 Untitled0 - CPU		
		→		

Confirm		×
?	Do you want to read the configuration setting from the $\sigma_{\mbox{\rm PLC?}}$	connected
	ОК	Cancel

Netw	ork #1 - PLC Lin	k Tabl	e Editor		-	index.		
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Typ
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16	Disabled	CHARLOW
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	EUS
	2	W	D1528~D1543	=>	D200~D215	16	Disabled	Ens
	2	R	D1544~D1559	<=	D100~D115	16	Disabled	EUO
5	5	W	D1560~D1575	=>	D200~D215	16	Disabled	EHS
	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disableu	UNKNOWN
5	F	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
5	5	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	UNKNOWN



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Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **100 words** option button in the **Transfer Capacity Mode** section, unselect the **Synchronic R/W** checkbox and the **Run PLC Link after downloading** checkbox, type "0" in the **Interval Time** box, and click

Window for ASCII communication:

Network #1 - PLC Link Table Editor	a comut	×
The protocol of Master device Master Port: CPU Com2 Detecting result	·	Transfer Capacity Mode ⊂ 16 words ⓒ 100 words
Data Length	7	C 450 words (AH Only)
Parity bit	Even	✓ Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	Run PLC Link after downloading
Time Out (ms)	1000	Interval Time(ms) 0
Station Address	40	
Communication mode	ASCII	← →

Window for RTU communication:

The protocol of Master devic	e	Transfer Capacity Mode
Master Port: CPU Com2		C 16 words
Detecting result		100 words
Data Length	8	C 450 words (AH Only)
Parity bit	Even	✓ Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadi
Time Out (ms)	1000	Interval Time(ms)
Station Address	40	
Communication mode	RTU	+



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Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "100" in the Starting Address box in the Master Parameter Setting section in the Read section, type "200" in the Starting Address box in the Master Parameter Setting section in the Write section, type "100" in the Data Length boxes in the Master Parameter Setting sections, type "100" in the Starting Address box in the Master Setting section in the Read and Write sections, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "200" in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

Network #1 - PLC Link Table Editor								
#	Station Addr.	R/W	Master Device Data	<=>	=> Slave Device Data L		Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16		
2	2 2		D1512~D1527	<=	D100~D115	16	Disabled	FH3
	-	W	√ D1528~D1543 =		D200~D215	16	Disability	
3	3 3 R W		D1544~D1559 <		D100~D115	16	Disabled	EH3
ľ			D1560~D1575		D200~D215	16	Dinabiod	LIIO
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
1	Ĩ	W	D1592~D1607		16#10C8~16#10D7	16	Disablog	Chicklown
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
ľ	ľ	W D1624~D1639 => 16#10C8~16#1		16#10C8~16#10D7	16	0.000.00	-	
,								
Export	Reset	Chec	k Settings Upload	D	ownload Monitor an	ld Down	load	Finish

Parameter Setting	x
Linked Device	Linked Status
Station Address Device Type	C Disable
2 ÷ EH3	• Enable
Read	
Master Paramter Setting Starting Address Data Length D 100 100 Words	Slave Parameter Setting Starting Address D 100
Write Master Paramter Setting Starting Address D 200 100 Words	Slave Parameter Setting Starting Address D 200
(OK)	Cancel



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Step 7: Double-click the 2 block in the PLC Link Table Editor window, select 3 in the Station Address box, select the Enable option button in the Linked Status section (set M1361 to On), type "300" in the Starting Address box in the Master Parameter Setting section in the Read section, type "400" in the Starting Address box in the Master Parameter Setting section in the Write section, type "100" in the Data Length boxes in the Master Parameter Setting sections, type "300" in the Starting Address box in the Master Setting section in the Read and Write sections, type "300" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "400" in the Starting Address box in the Slave Parameter Setting section in the Write section, and click OK.

Network	#1 - PLC Lin	k Table	e Editor		-	and i		×
#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16		
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	FH3
	-	W	D1528~D1543	=>	D200~D215	16	Director	2
3	3	R	D1544~D1559	<=	D100~D115	16	Disabled	FH3
ľ	Ŭ	W	D1560~D1575	=>	D200~D215	16	Diodbiod	2110
4	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Upknown
	-	W	D1592~D1607	=>	16#10C8~16#10D7	16	Diablog	Grindioni
5	5	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	Upkpowp
ľ	Ŭ	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	-
Export Reset Check Settings Upload Download Monitor and Download Finish								

Linked Device Station Address Device Type 3 ÷ EH3	C Disable C Enable
Read Master Paramter Setting Starting Address Data Length D 300 100 Words	Slave Parameter Setting Starting Address D 300
Write Master Paramter Setting Starting Address Data Length D 400 100 Words	Slave Parameter Setting Starting Address D 400
(OK	Cancel



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Step 8: Check whether the contents of the 1 block~the 2 block are correct, and then click Monitor and Download.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	2	R	D100~D199	<=	D100~D199	100	Enabled	EUD
	2	W	D200~D299	=>	D200~D299	100	LUADIEO	EHS
2	3	R	D300~D399	<=	D300~D399	100	Enabled	EH3
-		W	D400~D499	=>	D400~D499	100		
2	4	R	D1544~D1559	<=	16#0100~16#010F	16	Disabled	Unknown
,	7	W	D1560~D1575	=>	16#0200~16#020F	16	Disabica	Onknown
1	4	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
•	7	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	Onknown
	R		D1608~D1623	<=	16#1064~16#1073	16	Disabled	Unknown
, ŭ		W	D1624~D1639	=>	16#10C8~16#10D7	16	Disableu	OTIKTOWIT
Export Reset Check Settings Upload Download Monitor and Download 🔶 🔶 Finish								





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Step 10: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading/Writing data through the PLC link wizard: Right-click slave station (1) //slave station (2) , and click Write Register/Read Register on the context menu which appears.



Step 11: The values in D100~D199 are values read from slave 1, and they are 5000. The values in D200~D299 are values written to slave station 1, and they are 1000.

Input Value			x
Device Name	Value	Device Comment	-
D100	5000		
D101	5000		
D102	5000		
D103	5000		
D104	5000		
D105	5000		
D106	5000		
D107	5000		
D108	5000		
D109	5000		
D110	5000		
D111	5000		
D112	5000		
D113	5000		
D114	5000		_
	1		× 1
Value Type			
 Decimal 			
C Hexidecir	nal		



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Input Value		-	x
Device Name	Value	Device Comment	
D200	1000		
D201	1000		
D202	1000		
D203	1000		
D204	1000		
D205	1000		
D206	1000		
D207	1000		
D208	1000		
D209	1000		
D210	1000		
D211	1000		
D212	1000		
D213	1000		
D214	1000		
Value Type © Decimal C Hexidecimal		Close	•

Step 14: The values in D300~D399 are values read from slave 2, and they are 6000. The values in D400~D499 are values written to slave station 2, and they are 2000.

Input Value		and the second s	x
Device Name	Value	Device Comment	
D300	6000		
D301	6000		
D302	6000		
D303	6000		
D304	6000		
D305	6000		
D306	6000		
D307	6000		
D308	6000		
D309	6000		
D310	6000		
D311	6000		
D312	6000		
D313	6000		
D314	6000		_
Pour -	1.000		
Value Type			
 Decimal 		C1	
 Hexidecia 	mal		



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Input Value		No. of Concession, Name	x
Device Name	Value	Device Comment	
D400	2000		
D401	2000		
D402	2000		
D403	2000		
D404	2000		
D405	2000		
D406	2000		
D407	2000		
D408	2000		
D409	2000		
D410	2000		
D411	2000		
D412	2000		
D413	2000		
D414	2000		_
	1		
Value Type			
 Decimal 		(1	
 Hexidecia 	mal	Liose	

Step 13: Close the Linked Machines Status window, create a device monitoring table by means of Device Monitor

Table in the project management area, type "D1354" in the device monitoring table, and click ². The value in D1354 indicates PLC link scan time.

File File	<u>E</u> dit <u>V</u> iew	Compile	<u>P</u> LC	<u>T</u> ools	Wizard	Window	<u>H</u> elp								
🖹 🖻	🖪 🎒 🔳	🔜 🧇 🗄	-	10)	• 3 -	\$ I 🔿	0 🖓	s , s ,	2	🖀 🧱 🕻	P 🗐 🥊	🖉 💂	l 1	
	XDD	🕒 🔍 🎙	È.				1								
Project		† ×		Object		Ident	ifiers	Dev	ice Name		Status	Data	Туре	Value	(16bits)
	WCONFIG	•						D1354						1824	
🗄 🥳 P	roject [\\172.16.	144.36\r													
	🙋 Device Con	nment Li													
	🚯 Used Devic	e Report													
÷	- EH3														
÷	🔯 Tasks														
	🗊 Global Sym	ibols													
	🛃 Programs														
	🗘 Main	[PRG,LI													
	🚽 Function Bl	locks													
÷	📦 Delta Librai	ry 🛛													
	🛃 User Define	d Librar													
	🔮 Device Mor	nitor Tab													
	🛄 Monit	tor Table													
÷	TT APIs														

[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1, and the PLC whose station address is K3 is slave station 2.
- The master station exchanges data with the two slave stations by means of a PLC link. The values in D100~D199 in slave station 1 are written to D100~D199 in the master station, and the values in D200~D299 in the master station are written to D200~D299 in slave station 1. The values in D300~D399 in slave station 2 are written to D300~D399 in the master station, and the values in D400~D499 in the master station are written to D400~D499 in slave station 2.



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Master PLC (1 PLC)		Slave PLC (2 PLCs)
D100~D199	Reading	D100~D199 in the slave PLC whose station address is K2
D200~D299	Writing	D200~D299 in the slave PLC whose station address is K2
D300~D399	Reading	D300~D399 in the slave PLC whose station address is K3
D400~D499	Writing	D400~D499 in the slave PLC whose station address is K3

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave stations are the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D199	All are 0.	D100~D199 in slave station 1	All are 5000.
D200~D299	All are 1000.	D200~D299 in slave station 1	All are 0.
D300~D399	All are 0.	D300~D399 in slave station 2	All are 6000.
D400~D499	All are 2000.	D400~D499 in slave station 2	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave stations will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D100~D199	All are 5000.	D100~D199 in slave station 1	All are 5000.
D200~D299	All are 1000.	D200~D299 in slave station 1	All are 1000.
D300~D399	All are 6000.	D300~D399 in slave station 2	All are 6000.
D400~D499	All are 2000.	D400~D499 in slave station 2	All are 2000.

8. Example 6—Sending a Write Command after the Change of Values

During the execution of a PLC link, the master station continuously sends a read command (function code H'03) to a slave station, and does not send any write command. If values in the master station are changed, and need to be written to a slave station, a write command (function code H'10) will be sent. (The master stations and the slave stations in the examples below are DVP-EH3 series PLCs.)

8.1 Using the PLC Link Wizard in WPLSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) reads sixteen pieces of data (sixteen words) in a slave station (a DVP-EH3 series PLC) through a PLC link. If three values (three words) in the master station are changed, the master station will send a write command to the slave station.

L Setting station addresse	S OF PLOS	
Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	1. ASCII, 9600, 7, E, 1 (D1120=H'86) 2. RTU, 9600, 8, E, 1 (D1120=H'87)
Slave PLC 1	K2 (D1121=K2)	The communication format of the slave PLCs needs to be the same as the communication format of the master PLC.

[Setting station addresses of PLCs]

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1129	Abnormal communication timeout



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Device in a PLC	Description
	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
M1143	ASCII mode or an RTU mode.
	Off: ASCII mode
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.
M10~M12	They are used to enable timers, and write 0 to D1450.
T0~T2	They are used to set M10~M12 to Off.
D0~D2	The values in D0~D2 are the previous values in D1496~D1498.
D50~D65	The values in D50~D65 are the values in D1480~D1495.
D1450	The value in D1450 indicates the length of the data written to slave PLC 1.
D1496~D1498	The values in D1496~D1498 are values written to D150~D152 in slave PLC 1.

[PLC link wizard]

Step 1: Start WPLSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Program for RTU communication:



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Step 2: Click the PLC link wizard 🗮 in WPLSoft.

E File	<u>E</u> dit	Compile	er Co <u>r</u>	<u>m</u> ments	Searc	:h <u>V</u> i	ew (<u>C</u> omm	unicat	ion	<u>O</u> pti	ons	W <u>i</u> za	ard	<u>W</u> ine	iow	Hel	р			
D 🖻		3 0		χī	0	9	\sim		০্ ০)	-			1		* *			\$	
8	쪹	2 🖄	i:	: 🖮	7 (, ,		000	障	3 () 🖕	5	5	8	CODE	000 -8-			Ē	Ē	11
Relay Ty	rpe	7	F 1/F 1 F2	1학 1년 F3 F	t (S) FS	P F6	€2 F	B FS	s 👬	HCH F12	-t- NP	PN.	₫.	H4H4 AHF3	X ↔ A+D	PID		~	뎕	PLC	nn o Link



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Step 3: Select a language in the Language drop-down list box, select a model in the Model Selection drop-down list box, and click

-Welcome to u -The wizard w -Please follow	ise the PLC Link Wizard! ill guild you to complete the confi the indications step by step.	guration settings.
Language	English	Open 🍃
Model Selection	EH3 -	About
Communication M	<i>l</i> iode	
⊙ COM		
C USB		1
		

Step 4: Set a communication format for COM1 in the master PLC, click **Auto Detect**, click **OK** in the window which appears, click , and click **OK** in the window which appears.

PLC Link Configuration				23
-The setting is that choose a PC's COM to connect with PLC and the related	PC COM Port	COM3 🗸	ASCII	
paramater.	Data Length	7 💌	C RTU	
	Parity bit	Even 💌]	
	Stop bit	1 -	Auto Detect	
	Baudrate	9600 💌]	
	Station Address	40	Default	
	Baudrate Setting I	Decided by		
	 PLC Setting 			
	C PC Setting			
	-		•	
PLC Link C Auto-Du	etecting Finished			
			~	

OK

Cancel



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D#	Station ID	R/W	Master Buffer	<->	Slave Buffer	Length	Status	Model T
ID 1	1	R	D1480~D1495	<=	H1064~H1073	16	Disabled	Others
D1	1	W	D1496~DL311	=>	H10C8~H10D7	16	Disabled	Others
ID 2	2	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others
ID 2	2	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others
ID 3	3	R	D1544~D1559	<=	H1064~H1073	16	Disabled	Others
ID 3	3	W	D1560~D1575	=>	H10C8~H10D7	16	Disabled	Others
ID 4	4	R	D1576~D1591	<=	H1064~H1073	16	Disabled	Others
ID 4	4	W	D1592~D1607	=>	H10C8~H10D7	16	Disabled	Others
ID 5	5	R	D1608~D1623	<=	H1064~H1073	16	Disabled	Others
ID 5	5	W	D1624~D1639	=>	H10C8~H10D7	16	Disabled	Others

Step 6: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, select the **Auto** option button, select **2** in the

The First ID box in the Slave PLCs Station Address section, and click

Window for ASCII communication:

PLC Link Configuration	(2)用用:+-		X
-The protocol of the port wouldn't be applied in this	Data Length	7	Communication Mode
wizard.	Parity bit	Even 💌	C RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 💌	Transfer Capacity Mode
number of one time	Baudrate	9600 💌	
-The max linked machine	Time Out (ms)	200	C 100 words
number is 16 if selecting	Hold the D M	25 Catting	Slave PLCs Station Address
-The max linked machine	IV 11000 00€ 1554(oo secung	Auto Internist ID Auto 2
number is 32 if selecting 100 words mode.			* III01001
	Set these register in	program, the protocol wo	uld be applied.
	D1120 134 D	1129 200 M1120	On M1143 Off
	-		•



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Window for RTU communication:

		-	a : :
-The protocol of the port	Data Length	8	Communication Mode
wizard.	Parity bit	Even	© RTU
-The "Transfer Capcity Mode" is that the word	Stop bit	1 -	-Transfor Conscient Made
number of one time	Baudrate	9600 🔻	 16 words
transferring. -The max linked machine	Time Out (ms)	200	○ 100 words
number is 16 if selecting		200	Slave PLCs Station Address
16 words mode.	✓ Hold the RS43	85 Setting	Auto The First D
number is 32 if selecting			C Manual
100 words mode.	Set these register in	program, the protocol wou	ld be applied.
	D1120 135 D	1129 200 M1120	On M1143 On
	-		-

Step 7: Double-click the ID 1 (Station ID 2) block in the PLC Link Configuration window, select the DVP Series option button in the Linked Model Type section, select the Enable option button in the Linked Model Status section (set M1360 to On), type "16" in the Data Length box in the Master Parameter Setting section in the Read section, type "0" in the Data Length box in the Master Parameter Setting section, type "100" in the Starting Device box in the Slave Parameter Setting section, type "150" in the Starting Device box in the Slave Parameter Setting section in the Write section, and click OK.

LC Link Co	nfiguration	-	-	-	- 7	1	
ID#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status
ID 1	2	R	D1480~D1495	<=	H0~HF	16	Disabled
ID 1	2	W	D1496~D1511	=>	H0~HF	16	Disabled
ID 2	3	R	D1512~D1527	<=	H0~HF	16	Disabled
ID 2	3	W	D1528~D1543	=>	HO~HF	16	Disabled
ID 3	4	R	D1544~D1559	<=	H0~HF	16	Disabled
ID 3	4	W	D1560~D1575	=>	HO~HF	16	Disabled
ID 4	5	R	D1576~D1591	<=	H0~HF	16	Disabled
ID 4	5	W	D1592~D1607	=>	HO~HF	16	Disabled
ID 5	6	R	D1608~D1623	<=	H0~HF	16	Disabled
ID 5	6	W	D1624~D1639	=>	HO~HF	16	Disabled



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-The radio box "Input Typ hexidecimal machine add device name will be tested -The field "Starting Devic master's buffer to exchan -The field "Data Length" time. "The Status of the Linke machine which is enabled	e" is the type for u ress or the device n in the range or no ce" is the starting ge data. is the number of w d Machine" is sele or disabled when 1	ser to enter the pure name of PLC. To choose the t when clicking [OK]. device for the slaver's and ords that exchange data one exceed for user to indicate this inking.
Linked Model Type	Linked Model Stat	20
 DVP Series 	O Disable	
© Others	 Enable 	
Read		
Master Paramter Setting Starting Device D 1480	Data Length 16	Slave Parameter Setting Starting Device D 100
Write Master Paramter Setting		-Slave Parameter Setting
D 1496	Data Length 0	D 150
OK		Cancel

Step 8: Check whether the contents of the ID 1 block are correct, and then click

PLC Link Cor	nfiguration								×
D#	Station ID	R/W	Master Buffer	<=>	Slave Buffer	Length	Status	Model Type	<u> </u>
ID 1	2	R	D1480~D1495	<=	D100~D115	16	Enabled	DVP Series	
ID 1	2	W	D1496	=>	D150~D149	0	Enabled	DVP Series	
ID 2	3	R	D1512~D1527	<=	H1064~H1073	16	Disabled	Others	
ID 2	3	W	D1528~D1543	=>	H10C8~H10D7	16	Disabled	Others	
ID 3	4	R	D1544~D1559	<=	H1064~H1073	16	Disabled	Others	
ID 3	4	W	D1560~D1575	=>	H10C8~H10D7	16	Disabled	Others	
ID 4	5	R	D1576~D1591	<=	H1064~H1073	16	Disabled	Others	
ID 4	5	W	D1592~D1607	=>	H10C8~H10D7	16	Disabled	Others	
ID 5	6	R	D1608~D1623	<=	H1064~H1073	16	Disabled	Others	
ID 5	6	W	D1624~D1639	=>	H10C8~H10D7	16	Disabled	Others	-
Save 📳		Cle	ar All	1	•		•		



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Step 10: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave station through a program or the PLC link wizard.

Reading data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard: Right-click slave station (1) data through the PLC link wizard slave station (1) data through the Right through through the Right through through

Writing data through the PLC link wizard: Owing to the fact that "0" is typed in the **Data Length** box in the **Master Parameter Setting** section in the **Write** section (D1450=0), the PLC link wizard can not be used to write any data to slave 1.





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Device Name Value Device Comment D1480 5000 D1481 5000 D1482 5000 D1483 5000 D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1488 5000 D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 D1493 5000 D1494 5000 D1493 5000 D1494 5000	Input Value		Date: See	x
D1480 5000 D1481 5000 D1482 5000 D1483 5000 D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type Terme IV Decimal Image: Comparison of the comparison of term	Device Name	Value	Device Comment	
D1481 5000 D1482 5000 D1483 5000 D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 D1495 5000 D1496 5000 D1497 5000 D1498 5000	D1480	5000		
D1482 5000 D1483 5000 D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type Value Type (* Decimal ************************************	D1481	5000		
D1483 5000 D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000	D1482	5000		
D1484 5000 D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000	D1483	5000		
D1485 5000 D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type ************************************	D1484	5000		
D1486 5000 D1487 5000 D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type C C Decimal C	D1485	5000		
D1487 5000 D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1493 5000 Value Type ************************************	D1486	5000		
D1488 5000 D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type ************************************	D1487	5000		
D1489 5000 D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type ************************************	D1488	5000		
D1490 5000 D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type ************************************	D1489	5000		
D1491 5000 D1492 5000 D1493 5000 D1494 5000 Value Type © Decimal	D1490	5000		
D1492 5000 D1493 5000 D1494 5000 Value Type ************************************	D1491	5000		
D1493 5000 D1494 5000 Value Type ************************************	D1492	5000		
Value Type © Decimal	D1493	5000		
Value Type © Decimal	D1494	5000		-
© Decimal	Value Tyre	17000		
(lass)	 Decimal 		(1000	1
C Henidecimal	C Hexideci	mal		

Step 11: The values in D1480~D1495 are values read from slave 1, and they are 5000.

Step 12: If any values in D1496~D1498 in the master PLC are changed, the value in D1450 in the master PLC will become 3, and the values in D1496~D1498 in the master PLC will be written to D150~D152 in slave 1.

Step 13: Close the Linked Machines Status window, click 📕, click 📕, and type "D1354". The value in D1354 indicates PLC link scan time.



[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1.
- The master station reads 16 pieces of data in slave 1 (D1434=16), and writes 0 pieces of data to slave 1 (D1450=0). If any values in D1496~D1498 in the master PLC are changed, the value in D1450 in the master PLC will become 3, the values in D1496~D1498 in the master PLC will be written to D150~D152 in slave 1, and the value in D1450 will become 0 after 100 milliseconds.
- The master station exchanges data with the slave station by means of a PLC link. The values in D100~D115 in the slave station are written to D1480~D1495 in the master station, and the values in D1496~D1498 in the master station are written to D150~D152 in the slave station.



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Master PLC (1 PLC)		Slave PLC (1 PLC)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1498	Writing	D150~D152 in the slave PLC whose station address is K2

• When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave station are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 0.	D150~D152 in slave station 1	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave station will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 0. (Unchanged)	D150~D152 in slave station 1	All are 0.

If any values in D1496~D1498 in the master PLC are changed, the values in the data registers used for data exchange in the master station and the slave station will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 1000. (Changed)	D150~D152 in slave station 1	All are 1000.

8.2 Using the PLC Link Wizard in ISPSoft (ASCII/RTU Mode)

[Control requirement]

A master station (A DVP-EH3 series PLC) reads sixteen pieces of data (sixteen words) in a slave station (a DVP-EH3 series PLC) through a PLC link. If three values (three words) in the master station are changed, the master station will send a write command to the slave station.

[Setting station addresses of PLCs]

Master/Slave station	Station address	Communication format
Master PLC	K40 (D1121=K40)	 ASCII, 9600, 7, E, 1 (D1120=H'86) RTU, 9600, 8, E, 1 (D1120=H'87)
Slave PLC 1	K2 (D1121=K2)	The communication format of the slave PLCs needs to be the same as the communication format of the master PLC.

[Descriptions of devices]

Device in a PLC	Description
X0	X0 functions as a conditional contact used to enable M1350 and M1351.
D1120	Communication protocol of COM2 (RS-485)
D1121	PLC Communication address
D1129	Abnormal communication timeout
	Time unit: ms
M1120	M1120 is used to retain the communication format of COM2 (RS-485).
M1143	M1143 is used to determine whether the communication format set for COM2 (RS-485) is an
	ASCII mode or an RTU mode.
	Off: ASCII mode



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Device in a PLC	Description
	On: RTU mode
M1350	M1350 is used to enable a PLC link.
M1351	If M1351 is ON, the PLC link executed will be an automatic mode.
M10~M12	They are used to enable timers, and write 0 to D1450.
T0~T2	They are used to set M10~M12 to Off.
D0~D2	The values in D0~D2 are the previous values in D1496~D1498.
D50~D65	The values in D50~D65 are the values in D1480~D1495.
D1450	The value in D1450 indicates the length of the data written to slave PLC 1.
D1496~D1498	The values in D1496~D1498 are values written to D150~D152 in slave PLC 1.

[PLC link wizard]

Step 1: Start ISPSoft, write a program to the master PLC connected, move the RUN/STOP switch on the PLC into the RUN position, and write related values to the PLC.



Owing to the fact that devices used to set related communication and a PLC link (M1350 and M1351) are not latching devices, they need to be set by means of a program. The PLC link wizard is used to manually specify the stations which need to be linked (M1355 is On).

Program for ASCII communication:





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Step 2: Double-click NWCONFIG in the project management area, create a link, click , select Driver 1 in the Driver Name drop-down list box, click OK, select the master station and the slave stations, and click .

😜 <u>F</u>ile <u>E</u>dit <u>V</u>iew <u>C</u>ompile <u>P</u>LC <u>T</u>ools W<u>i</u>zard <u>W</u>indow <u>H</u>elp : E) 🖉 🖪 🗿 🔲 💭 🧇 : 👎 18 🛛 💷 🕀 🌑 🖓 👘 🚷 🕒 🖓 😓 19 🖳 🖳 🖉 📓 🖤 🖳 🕈 🔮 🖳 - 🕎 : 🖪 🛱 🖪 🖆 🐿 🐿 🔟 🖳 🦓 ++ -{) 🕄 & i 🎯 🎯 | 🗶 🛅 🛅 🥭 | 🗨 👫 🔂 🗨 100% - * + Local Symbols Project ■ Project [\\172.16.144.36\p Class Identifiers Address Туре... 🙋 Device Comment Li Device Comment In
 Device Report
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 Global Symbols Network 1 ÷ 📲 Programs Prog0 [PRG,L Function Blocks Delta Library ÷ M1002 MOV User Defined Librar ÷... 🖉 Device Monitor Tab 4 | En D -🖵 Monitor Table 16#0086 _D1120 ± APIs <u>File Edit View PLC Tools Help</u> 🚍 🎒 💿 💿 🍨 🖓 🗊 🍕 🕺 🔞 🔜 🖽 🗐 🖳 🖼 - All_Devices Untitled0 Untitled1 PLC 🗄 ----- 💾 AH-Series C2 Station Addr.: 40 C2 Station Addr.: 2 DVP-Series H-Modules DVP-Modules DMV Ė ---- DMV1000 MODBUS Device Network #:1 RS485 <


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Select a Driver	X
Driver Name	Driver1
🗖 Routing Mod	e
First Station	Ŧ
No station coul	de be the First Station.
<u></u> K	<u>C</u> ancel

Step 3: Select a PLC in the Master Device drop-down list box, click _____, and click OK in the window which appears.

Network #1 - PLC Link Table Editor	x
Select Master Device	
Please choose the Master device and port for PLC Link.	
Master Device Station address 40 EH3 Untitled0 - CPU	
•	



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#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabler
'		W	D1496~D1511	=>	16#10C8~16#10D7	16	DISOUC
2	2	R	D1512~D1527	<=	D100~D115	16	Disables
2	2	W	D1528~D1543	=>	D200~D215	16	Disabled
		R	D1544~D1559	<=	16#1064~16#1073	16	D : 11
3	3	W	D1560~D1575	=>	16#10C8~16#10D7	16	Disabled
		R	D1576~D1591	<=	16#1064~16#1073	16	D: 11
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled
-		R	D1608~D1623	<=	16#1064~16#1073	16	
5	5	w	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled

Step 5: The PLC link wizard reads values according to the communication format set for COM2 in the master PLC. Select the **16 words** option button in the **Transfer Capacity Mode** section, unselect the **Synchronic R/W** checkbox and

the Run PLC Link after downloading checkbox, type "0" in the Interval Time box, and click

Window for ASCII communication:

Master Port: CPU Com2 Detecting result Data Length		 ○ 100 words
Detecting result Data Length	7	C 100 words
Data Length	7	
		C 450 words (AH Only)
Parity bit	Even	Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🗍 Run PLC Link after downloading
Time Out (ms)	200	Interval Time(ms)
Station Address	40	
Communication mode	ASCII	← →



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Window for RTU communication:

The protocol of Master devic	e	G 16 words
Master Port: CPU Com2		C 100 words
Detecting result		C 100 words
Data Length	8	C 450 words (AH Only)
Parity bit	Even	Hold the RS485 Setting
Stop bit	1	Synchronic R/W
Baudrate	9600	🔲 Run PLC Link after downloadi
Time Out (ms)	200	Interval Time(ms)
Station Address	40	
Communication mode	RTU	

Step 6: Double-click the 1 block in the PLC Link Table Editor window, select 2 in the Station Address box, select the Enable option button in the Linked Status section (set M1360 to On), type "16" in the Data Length box in the Master Parameter Setting section in the Read section, type "0" in the Data Length box in the Master Parameter Setting section in the Write section, type "100" in the Starting Address box in the Slave Parameter Setting section in the Read section, type "150" in the Starting Address box in the Slave Parameter Setting section, and click OK.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	1	R	D1480~D1495	<=	16#1064~16#1073	16	Disabled	Unknown
		W	D1496~D1511	=>	16#10C8~16#10D7	16	Discord	CHICHOWIT
2	2	R	D1512~D1527	<=	D100~D115	16	Disabled	ЕНЗ
2	2 W	W	D1528~D1543	=>	D200~D215	16	Disabled	
<u> </u>	2	R	D1544~D1559	<=	16#1064~16#1073	16	Diaphlad	Unknown
3	5 3 W	W	D1560~D1575	=>	16#10C8~16#10D7	16	Disabled	Unknown
		R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
4	4	W	D1592~D1607	=>	16#10C8~16#10D7	16		
	-	R	D1608~D1623	<=	16#1064~16#1073	16		
5	5	w	D1624~D1639	=>	16#10C8~16#10D7	16	Disabled	Unknown



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Step 7: Check whether the contents of the 1 block are correct, and then click Monitor and Download.

#	Station Addr.	R/W	Master Device Data	<=>	Slave Device Data	Length	Status	Device Type
1	2	R	D1480~D1495	<=	D100~D115	16	Enabled	FH3
	-	W	D1496	=>	D150	0		
2	3	R	D1512~D1527	<=	D100~D115	16	Disabled	Unknown
2	3 W	W	D1528~D1543	=>	D200~D215	16	Disabled	UNKNOWN
2	4	R	D1544~D1559	<=	16#1064~16#1073	16	Disabled	Unknown
5	4 W	W	D1560~D1575	=>	16#10C8~16#10D7	16	Disabled	
4	F	R	D1576~D1591	<=	16#1064~16#1073	16	Disabled	Unknown
4	5	W	D1592~D1607	=>	16#10C8~16#10D7	16	Disabled	
5	e	R	D1608~D1623	<=	16#1064~16#1073	16	Disabled	
5 6	W	D1624~D1639	=>	16#10C8~16#10D7	16	Disableu	ONKNOWN	



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Step 9: The state of the PLC link executed is shown in the **Linked Machines Status** window. The master PLC can exchange data with the slave stations through a program or the PLC link wizard.

Reading data through the PLC link wizard: Right-click slave station (1) , and click **Read Register** on the context menu which appears.

Writing data through the PLC link wizard: Owing to the fact that "0" is typed in the **Data Length** box in the **Master Parameter Setting** section in the **Write** section (D1450=0), the PLC link wizard can not be used to write any data to slave 1.





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Input Value				X
Device Name	Value	Device Comment		
D1480	5000			
D1481	5000			
D1482	5000			
D1483	5000			
D1484	5000			
D1485	5000			
D1486	5000			
D1487	5000			
D1488	5000			
D1489	5000			
D1490	5000			
D1491	5000			
D1492	5000			
D1493	5000			
D1494	5000			
TTI T	1			*
Value Type				
(• Decimal			Close	
 Hexideci 	mal			

Step 10: The values in D1480~D1495 are values read from slave 1, and they are 5000.

Step 11: If any values in D1496~D1498 in the master PLC are changed, the value in D1450 in the master PLC will become 3, and the values in D1496~D1498 in the master PLC will be written to D150~D152 in slave 1. Step 12: Close the Linked Machines Status window, create a device monitoring table by me of Device Monitor Table in the project management area, type "D1354" in the device monitoring table, and click The value in D1354 indicates PLC link scan time.



[Description of control]

- D1399 in the master PLC is used to set a start slave station address. The value in D1399 is K2, that is, the PLC whose station address is K2 is slave station 1.
- The master station reads 16 pieces of data in slave 1 (D1434=16), and writes 0 pieces of data to slave 1 (D1450=0). If any values in D1496~D1498 in the master PLC are changed, the value in D1450 in the master PLC will become 3, the values in D1496~D1498 in the master PLC will be written to D150~D152 in slave 1, and the value in D1450 will become K0 after 100 milliseconds.
- The master station exchanges data with the slave station by means of a PLC link. The values in D100~D115 in the slave station are written to D1480~D1495 in the master station, and the values in D1496~D1498 in the master station are written to D150~D152 in the slave station.



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Master PLC (1 PLC)		Slave PLC (1 PLC)
D1480~D1495	Reading	D100~D115 in the slave PLC whose station address is K2
D1496~D1498	Writing	D150~D152 in the slave PLC whose station address is K2

 When M1350 is Off, the values in the data registers used for data exchange in the master station and the slave station are the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 0.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 0.	D150~D152 in slave station 1	All are 0.

After M1350 is set to ON, the values in the data registers used for data exchange in the master station and the slave station will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 0. (Unchanged)	D150~D152 in slave station 1	All are 0.

If any values in D1496~D1498 in the master PLC are changed, the values in the data registers used for data exchange in the master station and the slave station will become the ones shown below.

Master PLC	Value	Slave PLC	Value
D1480~D1495	All are 5000.	D100~D115 in slave station 1	All are 5000.
D1496~D1498	All are 1000. (Changed)	D150~D152 in slave station 1	All are 1000.