Advantech AE Technical Share Document

Date	2015 / 09 / 17	SR#		
Category	■ FAQ □ SOP	Related OS	RTOS, WinXP, Win7	
Abstract	Communication between WebOP and AB SLC PLC			
Keyword	SLC, DF1			
Related Product	WOP-2000, WOP-3000, F	Panel Express		

Problem Description:

This Tech note is to explicate how to connect AB SLC Series DF1 RS232 CPU port with WebOP HMI as well as the related communication parameter settings.

In this document, we use SLC 500 series as the example. Please see the picture below.



Brief Solution - Step by Step:

PLC Settings

- 1. Rockwell Software Settings (RSLinx)
- 1.1. Step 1

Please connect RS232 cable with DF1 RS232 port and run *RSLinx* Software. Please see the illustration below.





🗞 Rockwell Software RSLinx Lite - [RSWho - 1]			
📅 File View Communications Station Window	Help			- 8 ×
Configure Drivers	vsing - node O found			
Configure Client Applications	💻 ?			
	00 01 DF1-COM1 Unrecogniz			
CIP Diagnostics				
	,			
Configure communication hardware			04/30/09	09:08 PM

1.2. Step 2

Select *Auto-Configure* option to detect DF1 port automatically. Please see the illustration below.

🍓 Rockwell Software	RSLinx Lite - [RSWho - 1]	
💑 <u>F</u> ile <u>V</u> iew <u>C</u> ommu	nications <u>S</u> tation <u>W</u> indow <u>H</u> elp	_ 8 ×
Autobrowse	igure Drivers	
Image: Second state Av Image: Second state Image: Second state Image: Second state<	vailable Driver Types: Add New	
	Migued Drivers: Name and Description AB_DFI-1 DH+ Sta: 0 COM1: RUNNING Configure Allen-Bradley DFI Communications Device Stortun	
	Device Name: AB_DF1-1 Comm COM1 Comm COM1	
RSLin	xx X X AutoConfiguration appears to have succeeded, however, RSLinx has failed to identify the devicel 通復定	
For Help, press F1	Auto-Configure Auto Configuration Successful! Use Modem Dialer 04/30/09 Ok Cancel Delete Help	09:09 PM

AD\ANTECH

Enabling an Intelligent Planet

1.3. Step 3

Parameter setting is 19200, 8, none, node: 1. Driver = DF1 Full Duplex. Error Detection = BCC

Channel Configuration	n	×
General Chan. 1 - System Driver DF1 Full D Baud DF1 Full D Parity DF1 Fail D DF1 Haif D DF1 Haif D Stop Bits Nutdown	Image: Chan. 0 - User Chan. 0 - User Duplex Image: Source ID Duplex Image: Optimizer Duplex Image: Optimizer Duplex Image: Optimizer	
Protocol Control Control No Han	ndshaking 💽 ACK Timeout (x20 ms) 50	
Error Detection	BCC VAK Retries 3 Excelled ENO Retries 3	
Linbourou responses	✓ Duplicate Packet Detect	
	確定 取消 套用(A) 説明	

2. Activate Data Files

You have to activate the "*Data Files*" in RSLogix 500 software before HMI and controller connection. Please follow the step below.

2.1. Step 1

Run RSLogix 500 and select associate CPU model. Then, right click the data file to be activated and select *"New Window"*. Please see the illustration below.



ТN520D-Е

Enabling an Intelligent Planet



2.2. Step 2

Click "Properties" button in data file dailog box. Please see the illustration below.

RSLogix 500 - UNTITLED	
File Edit View Search Comms Icols Window Help	
●☞■●४७๗♥♀	
OFFLINE 10 No Roines 10 No Editi 10 Forces Disabled 10 Driver AB_DFI-2 Node: 1d 10	
R UNTITLED 📃 🗖 🗙 🎊 LAD 2	
Image: Second	•>
Cuton Data Monitors Com 0 - United Tends	~

AD\ANTECH

Enabling an Intelligent Planet

2.3. Step 3

In *"Data File Properties"* dialog box, enter B3: 255 in the "Last Column". Please see the illustration below.

# RSLogix 500 - UNTITLED	
<u>File Edit View Search Comms Tools Window Help</u>	
- L 😂 🛃 🎒 ½ 🐚 🕄 >> >>	🕑 🖻 🔍 Q, 🗖 🛛 🕂
No Edits + Formes Disabled +	
Driver: AB_DF1-2 Node : 1d	Input/Output 🔏 Compare
TRATITLED SLAD 2	
Help 0000	Data File Properties
E Controller	
Controller Properties	General
Virocessor Status	File: 3
	Turne: P
⊕ → + Channel Configuration	Type. B
Multipoint Monitor	Name: EINARY
😑 🧰 Program Files	Desc:
SYS0-	Elements: 1 Last B3:255
Data File B3 (bin) BINARY	Attributes
Offset 15 14 13 12 11 10 9 8 7	6 5 4 🔲 Debug
00-OUTPUT B3:0 0 0 0 0 0 0 0 0	0 0 0 🔽 Skip When Deleting Unused Memory
- C H - INPUT	Scope
S2 - STATUS	C (flobel
B3-BINARY B3:0/0	Radix C Louis To The Lunco
T4 - TIMER Symbol:	C Focar 10 http://www.common.com
C5 - COUNTER Desc:	Protection
B3 Properties Usa	se Constant C Static © None
) Manach Leasan
00 - OUTPUT	確定 取消 套用(▲) 説明
🔄 H - INPUT	
🖶 🧰 Custom Data Monitors	
CDM 0 - Untitled	
Trends 🗸	
<	
For Help, press F1	XREF 0.0000 APP READ

2.4. Step 4

Press OK and you will see B3:0 to B3:255 are activated. Now, you can select *"Download..."* to write data to PLC. Please see the illustration below.



Enabling an Intelligent Planet

3. Connection Diagram

HMI				PLC
COM1 9-PIN Male		Serial Port 9-PIN Female		
PV-Series	S		(DF1 RS232)
RXD +	2		3	TXD
TXD -	3		2	RXD
GND	5		5	SG
RTS	7		7	CTS
CTS	8		8	RTS

HMI			PLC
COM2 9-PIN F	emale	Serial I	Port 9-PIN Female
PV-Serie	s	(DF1 RS232)
RXD +	2	 3	TXD
TXD -	3	 2	RXD
GND	5	 5	SG
RTS	7	 7	CTS
CTS	8	 8	RTS



ТN520D-Е

HMI Settings

1. General

Select Device/Server: Allen Bradley, SLC 5/03, 5/04.

General Paramete	er (
Link Number:	1
Link Name:	AB DF1 Link
Link Type:	Direct Link (COM)
Device/Server:	Allen Bradley VIC 5/03, 5/04 V
Link Port:	COM1 (AB DF1 Link) - Sub-links
Record comm	unication status in operation log
The duration of s	howing a communication error message: 5 💌 second (s)

2. Parameter

Communication parameters must be identical with PLC's settings.

General Parameter	
Transmission	Others
Baud Rate: 9600 👻	Panel Address: 0
Data Bits: 8 🗸	PLC Address: 2
Parity: None 🔻	Timeout Time: 0 🚖 (x 0.1 Sec.)
Stop Bits: 1 -	Command Delay: 0 🚔 (x 0.1 Sec.)
	Retry Count: 0

PLC Memory Address

1. Bit Device

Bit Device (SLC	5/03, 5/04)		×
Bit Device	Address Range	Block Address	C 🔺
O:e.s/b	e: 0~30; s: 0~255; b: 0~15	N/A	
l:e.s/b	e: 0~30; s: 0~255; b: 0~15	N/A	
Sf:n/b	n: 0~31; f: 2; b: 0~15	Ь=0	=
Bf:n/b	n: 0~255; f: 3, 9~255; b: 0~15	b=0	-
Tf:n/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
Tf:n.PRE/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
Tf:n.ACC/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
Tf:n/EN	n: 0~255; f: 4, 9~255	N/A	
Tf:n/TT	n: 0~255; f: 4, 9~255	N/A	
Tf:n/DN	n: 0~255; f: 4, 9~255	N/A	
Cf:n/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
Cf:n.PRE/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
Cf:n.ACC/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
Cf:n/CU	n: 0~255; f: 5, 9~255	N/A	
Cfm/CD	n: 0~255: F-5_9~255	N74	-
•	III		•
	Close		

2. Word Device

Word Device	Address Range	Size	Comm_^
O:e.s	e: 0~30; s: 0~255	Word	
l:e.s	e: 0~30; s: 0~255	Word	
Sf:n	n: 0~31; f: 2	Word	
Bf:n	n: 0~255; f: 3, 9~255	Word	
Tf:n	n: 0~255; f: 4, 9~255	Word	
Tf:n.PRE	n: 0~255; f: 4, 9~255	Word	=
Tf:n.ACC	n: 0~255; f: 4, 9~255	Word	
Cf:n	n: 0~255; f: 5, 9~255	Word	
Cf:n.PRE	n: 0~255; f: 5, 9~255	Word	
Cf:n.ACC	n: 0~255; f: 5, 9~255	Word	
Bf:n	n: 0~255; f: 6, 9~255	Word	
Rf:n.LEN	n: 0~255; f: 6, 9~255	Word	
Rf:n.POS	n: 0~255; f: 6, 9~255	Word	
Nf:n	n: 0~255; f: 7, 9~255	Word	
Ffm	n: 0~255: F-8_9~255	W/ord	
<	III		•

ADVANTECH Enabling an Intelligent Planet

Reference:

N/A