

Tech. Note

TN527D

Communication settings between MicroLogix DF1 and PanelMaster

Revision 0.0, Nov. 2008

PanelMaster, PanelExpress and PM Designer



EIN #27-0381059

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Preface

This tech note introduces how to connect **AB MicroLogix Series DF1 RS232 CPU Port** with PanelMaster HMI.



MicroLogix PLC

1) PLC Parameter Setting:

(a) Executing Rockwell Software --- RSLinx tool to link with PLC(via DF1 RS232)

Step1: Connect with the program cable to Channel 0 and execute the "RSLinx" tool.



🗞 Rockwell Software RSLinx Lite - [RSWho - 1]	
👪 File View Communications Station <u>W</u> indow <u>H</u> elp	_ 8 ×
Image: Solution of the second seco	-
Configure Drivers: Name and Description Status AB_DFI-1 DH+Sts: 0 COM1: RUNNING Configure Allen-Bradley DF1 Communications Device Startup	
Device Name: AB_DFI-1	
KSLinx 区 AutoConfiguration appears to have succeeded, however, RSLinx has failed to identify the devicel 面距	
For Help, press F1 For Help, press F1 Use Modern Dialer Ok Cancel Delete Help	09:09 PM

Step2: Executing the "Auto-Configure" function to link with Channel0 automatically.

Driver=DF1	Full D	uplex E	Error D	etection=	CRC.

Channel Configuration	×
General Channel 0 Channel 1	
Driver DFI Full Duplex Source ID Baud 38.4K Parity NONE	
Protocol Control Control No Handshaking ACK Timeout (x20 ms) 50 Error Detection CRC V NAK Retries 3 Embedded Responses Auto Detect ENQ Retries 3 V Duplicate Packet Detect	

Step3: Setting the communication format (Standard: 19200; 8, None, 1/ node address:0);

- (b) When you wish to link with MicroLogix PLC, please follow below steps to create the devices that you want to link with.
- Step1: Executing the RSLogix 500 software and choose correct CPU type. With "OFFLINE" situation, move the mouse to the device and press right button of the mouse. Select the "New Window" to set the device range.



Step2: Select the "Propertise" option.

RSLogix 500 - UNTITLED		ΞX
Eile Edit Yiew Search Comms Iools Window Help		
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OFFLINE IN No Forces I Ale at the at		
No Edits + Fourse Disabled +		
Driver: AB_DFI-2 Node: 1d Viser & Bit & Timer/Counter & Input/Output & Compare		
🕼 UNTITLED 💶 🗖 🗙 🎉 LAD 2		
Help 0000	(END)	<u> </u>
		_
Controller Properties		
- 🛄 10 Configuration 🛛 🗮 Data File B3 (bin) BINARY		
Kennel Configuration		
Multipoint Monitor		
e in Program Files		
Sys1-		
// LAD 2-		
Bigging Data Files		
Cross Reference Symbol: Columns 16 -		
OO - OUTPUT Desc:		
H - INPUT B3 - Properties Usage Help		
S2 - STATUS		
I B - BINARY		
Custom Data Monitors		
CDM 0 - Unitied		
Trends		_
		1
For Help, press F1	XREF 0:0000 AP	

Step3: Change the "Last" device name from B3:0 to B3:255.

🌐 RSLogix 500 - UNTITLED	🔳 🖬 🔀
File Edit View Search Comms Iools Window Help	
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No Edits 🛨 Forces Disabled 🕑	
Driver: AB_DF1-2 Node : 1d Node : 1d	_ compare]
🖹 UNTITLED 📃 🗖 🗙 KLAD 2	
E Project	Data File Bernarting
0000	Data the Hopethes
	General
	F1 2
- III IO Configuration	Pile: 3
The Head Configuration	Type: B
Multipoint Monitor	Name: BINARY
📄 🦳 Program Files	Desc:
	Filemente 1 Last P2/255
	Lichtofitis, I
LAD 2 - 🔂 Data File B3 (bin) BINARY	Attributes
Data Files	C Debug
B3:0 0 0 0 0 0 0 0 0 0 0 0 0 0	Skip When Deleting Unused Memory
	scope
B3-BNARY	🖲 Global
B3:0/0 Radix	C Local To File: LAD 2 -
C5 - COUNTER	
R6 - CONTROL Desc	Protection
N7 - INTEGER	⊂ Consțant ⊂ <u>S</u> tatic ∈ <u>N</u>one
F8 - FLOAT	Memory Module
😑 🧰 Force Files 🔛	
00 - OUTPUT	(種ル: 4X/円 3K/円(五) 3X.991
Custom Deta Manifera	
CDM 0 - Lightland	
Trends	
For Help, press F1	XPEE 0.0000 APP PEAD

Step: When you press "OK" button to return Propertise window, you will see the range is created from B3:0 to B3:255. Please remember to execute "Download..." function to write this range setting to PLC.



(c) Cable Diagram:

HMI Side

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

HMI Side				PLC Side	
COM2 9-PIN F	DM2 9-PIN Female Serial Port 9-PIN Fem			Port 9-PIN Female	
PV-Series	6		(DF1 RS232)	
RXD +	2		3	TXD	
TXD -	3		2	RXD	
GND	5		5	SG	
RTS	7		7	CTS	
CTS	8		8	RTS	

2) HMI Setting:

Select [Direct Link [COM]] & [Device/Server : Allen Bradley \rightarrow MicroLogix 1000/1500]

Link Properties		×
General Paramet	ter	
Link Number:	1	
Link Name:	AB MicroLogix DF1	
Link Type:	Direct Link (COM)	J
Device/Server:	Allen Bradley Micrologix 1000/1500	-
Link Port:	COM1 (AB MicroLogix DF1)	
Record comn	nunication status in operation log	
The duration of s	showing a communication error message: 5 💌 second(s)	
	OK Cancel Help	

Set the linking parameter same like PLC software setting.

Link Properties		×
General Parameter		
Transmission Baud Rate: 38400 Data Bits: 8 Parity: None Stop Bits: 1	Others Panel Address: 0 * PLC Address: 1 * Timeout Time: 0 * (x 0.1 Sec.) Command Delay: 0 * (x 0.1 Sec.) Retry Count: 0 *	
	OK Cancel	Help

3) PLC Address

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Bit Devices:

it Device (Mic	rologix 1000/1500)	×
Bit Device	Address Range	Block Address C(
O:e.s/b	e: 0~9; s: 0~255; b: 0~15	N/A
l:e.s/b	e: 0~9; s: 0~255; b: 0~15	N/A
Sf:n/b	n: 0~65; f: 2; b: 0~15	b=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
Cf:n/CD	n: 0~255; f: 5, 9~255	N/A
Cf:n/DN	n: 0~255; f: 5, 9~255	N/A
Cf:n/OV	n: 0~255; f: 5, 9~255	N/A
Cf:n/UN	n: 0~255; f: 5, 9~255	N/A
Cf:n/UA	n: 0~255; f: 5, 9~255	N/A
Rf:n/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0
Rf:n.LEN/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0
Rf:n.POS/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0
Rf:n/EN	n: 0~255; f: 6, 9~255	N/A
Rf:n/DN	n: 0~255; f: 6, 9~255	N/A
Rf:n/ER	n: 0~255; f: 6, 9~255	N/A
Rf:n/UL	n: 0~255; f: 6, 9~255	N/A
Bf:n/IN	n: 0~255; f: 6, 9~255	N/A
Rf:n/FD	n: 0~255; f: 6, 9~255	N/A
Nf:n/b	n: 0~255; f: 7, 9~255; b: 0~15	b=0 🔽
•		
	Close	

Word Devices:

Vord Device (M	icrologix 1000/1500)			×
Word Device	Address Range	Size	Comment	
O:e.s	e: 0~9; s: 0~255	Word		
l:e.s	e: 0~9; s: 0~255	Word		
Sf:n	n: 0~65; 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		
Ff:n	n: 0~255; f: 8, 9~255	Word		
Af:n	n: 0~255; f: 9~255	Word		
I				
	Close			

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