

PLC Connection Guide

TN527D

Communication settings between MicroLogix DF1 and PanelMaster



Designed to be Outstanding

Preface

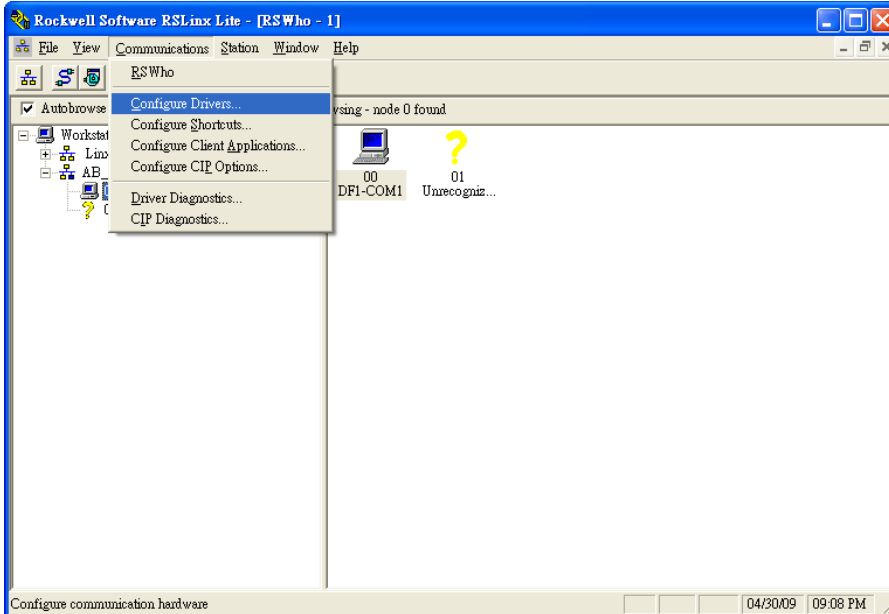
This tech note introduces how to connect **AB MicroLogix Series DF1 RS232 CPU Port** with PanelMaster HMI.



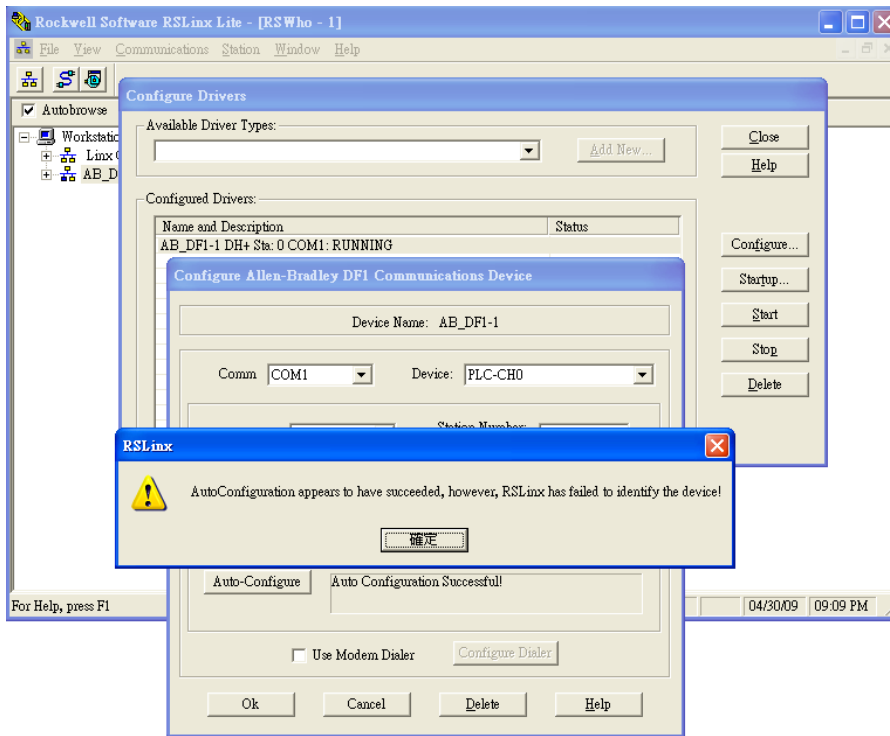
1) PLC Parameter Setting:

(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.

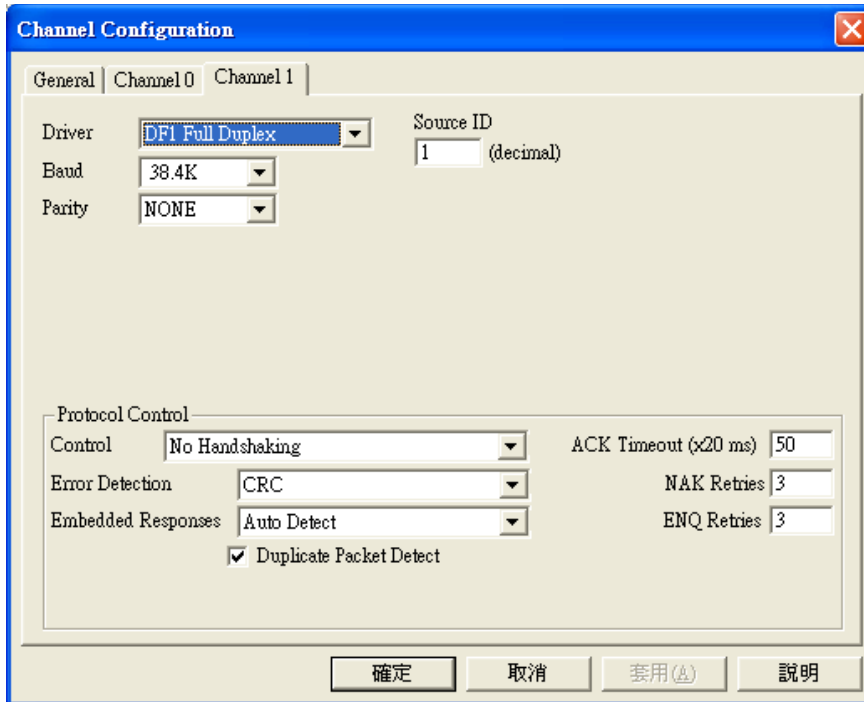


Step2: Executing the "Auto-Configure" function to link with Channel0 automatically.



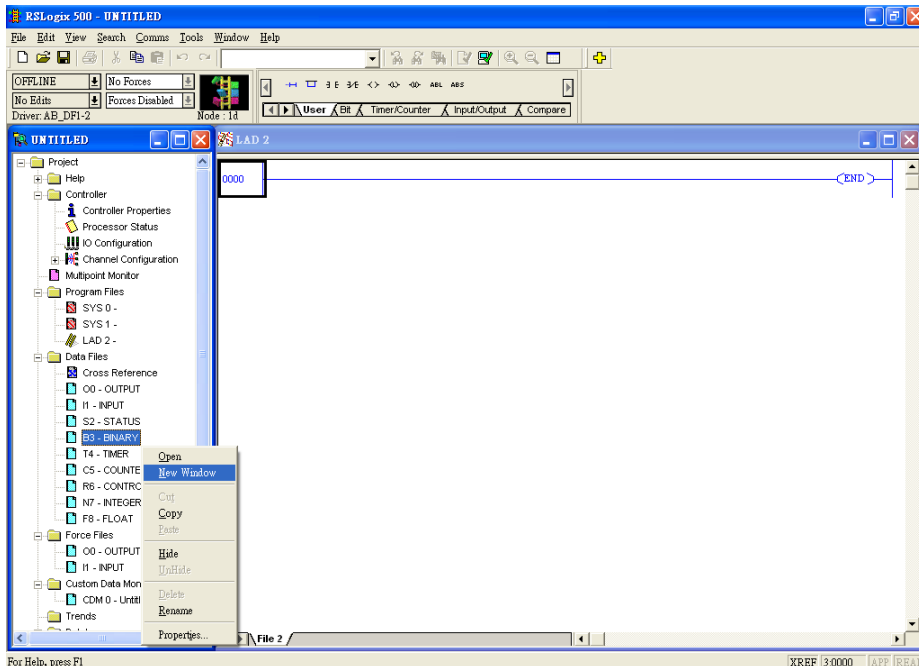
Step3: Setting the communication format (Standard: 19200; 8, None, 1/ node address:0);

Driver=DF1 Full Duplex 及 Error Detection=CRC.

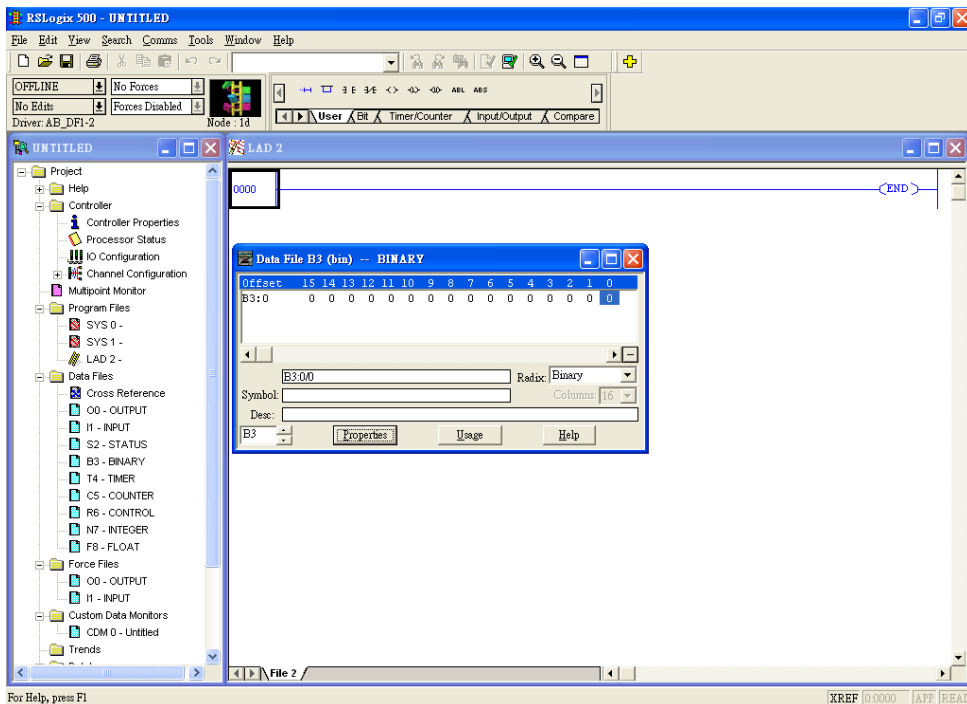


(b) When you wish to link with MicroLogix PLC, please follow below steps to create the devices that you want to link with.

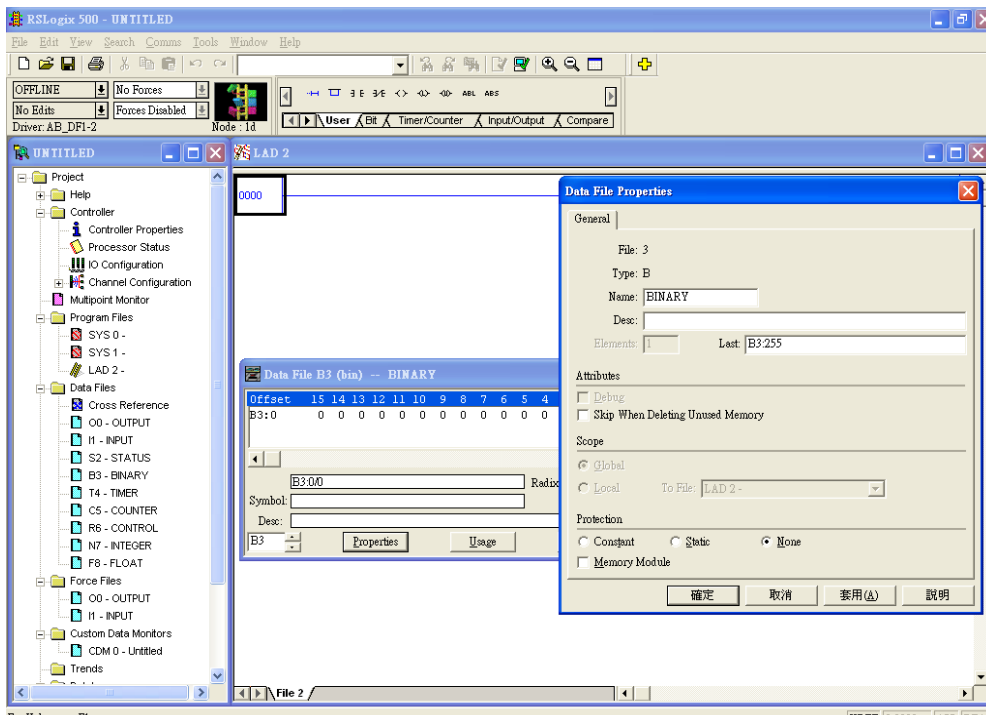
Step1: Executing the RSLogix 500 software and choose correct CPU type. With "OFFLINE" situation, move the mouse to the device and press right button of the mouse. Select the "New Window" to set the device range.



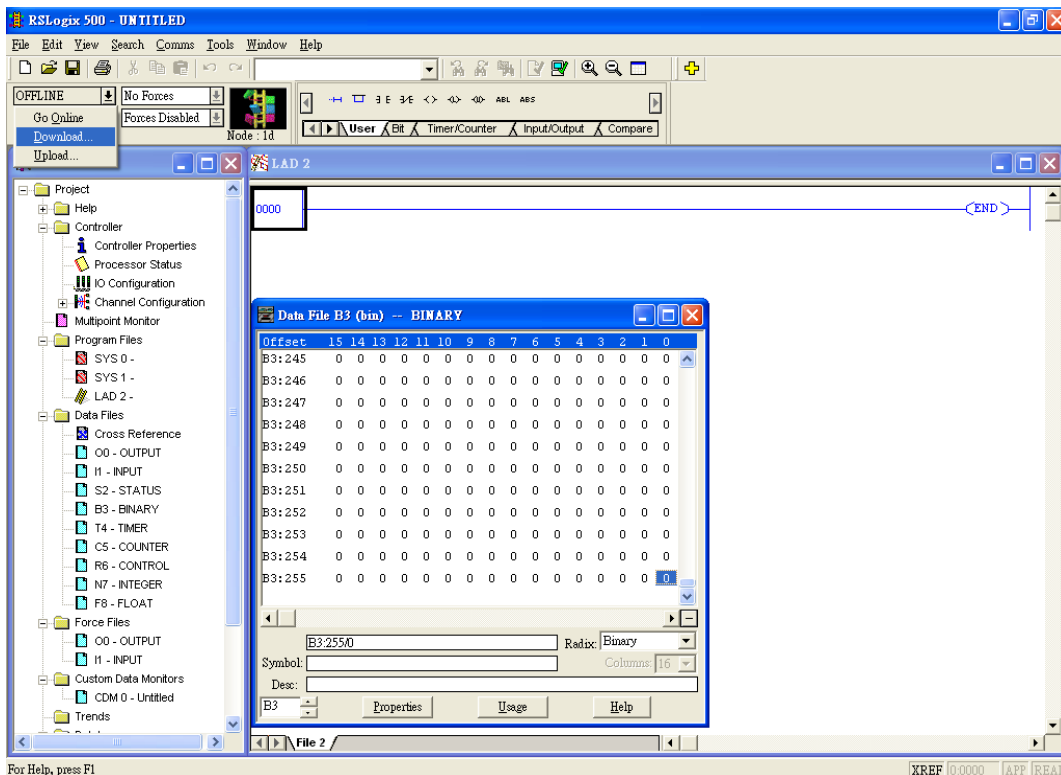
Step2: Select the "Propertise" option.



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



Step4: 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

PLC Side

COM1 9-PIN

Male

PV-Series

RXD +	2
TXD -	3
GND	5
RTS	7
CTS	8

Serial Port 9-PIN Female

(DF1 RS232)

3	TXD
2	RXD
5	SG
7	CTS
8	RTS

HMI Side

COM2 9-PIN

Female

PV-Series

RXD +	2
TXD -	3
GND	5
RTS	7
CTS	8

PLC Side

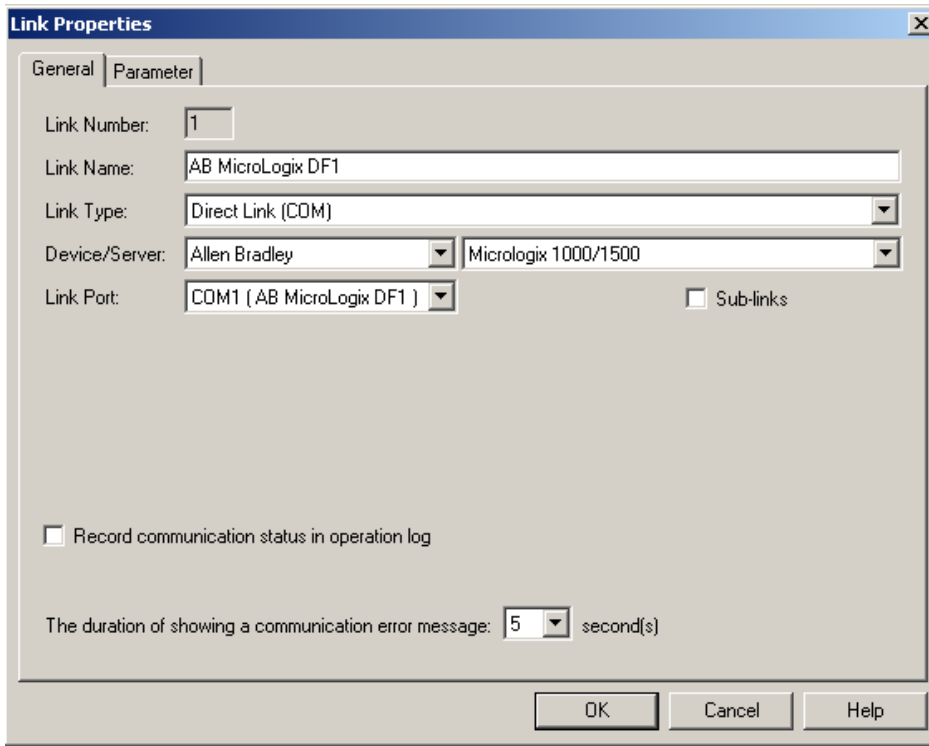
Serial Port 9-PIN Female

(DF1 RS232)

3	TXD
2	RXD
5	SG
7	CTS
8	RTS

2) HMI Setting:

Select **【Direct Link [COM]】** & **【Device/Server : Allen Bradley → MicroLogix 1000/1500】**

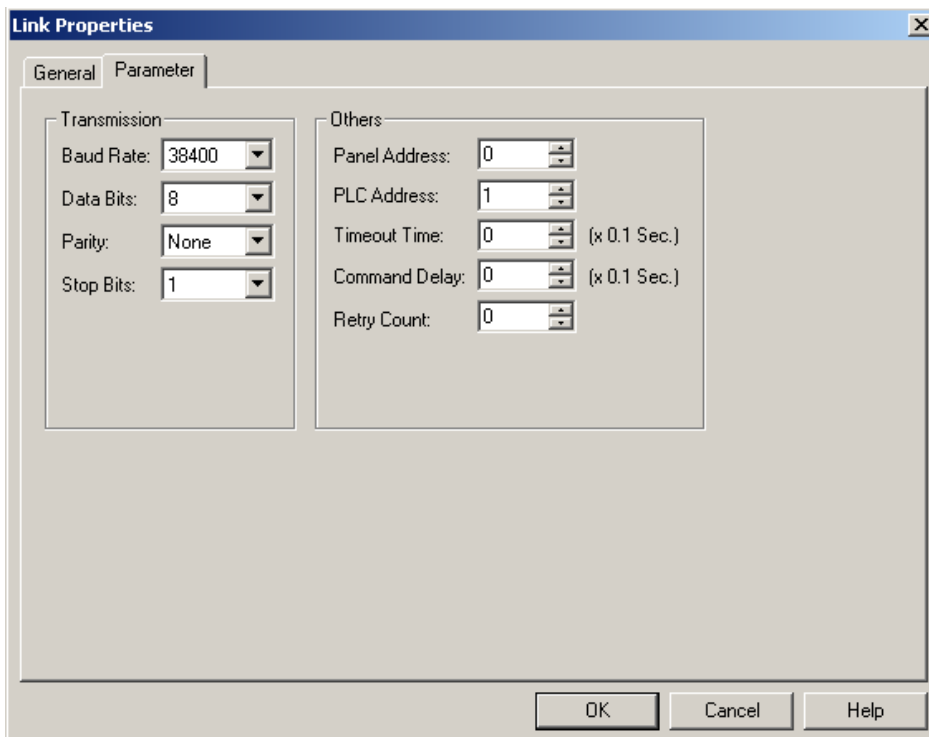


The screenshot shows the 'Link Properties' dialog box with the 'General' tab selected. The fields are as follows:

Link Number:	1	
Link Name:	AB MicroLogix DF1	
Link Type:	Direct Link (COM)	
Device/Server:	Allen Bradley	Micrologix 1000/1500
Link Port:	COM1 (AB MicroLogix DF1)	<input type="checkbox"/> Sub-links

At the bottom, there is a checkbox for 'Record communication status in operation log' which is unchecked, and a dropdown menu for 'The duration of showing a communication error message:' set to '5' seconds.

Set the linking parameter same like PLC software setting.



The screenshot shows the 'Link Properties' dialog box with the 'Parameter' tab selected. The fields are organized into two sections:

Transmission	Others
Baud Rate: 38400	Panel Address: 0
Data Bits: 8	PLC Address: 1
Parity: None	Timeout Time: 0 (x 0.1 Sec.)
Stop Bits: 1	Command Delay: 0 (x 0.1 Sec.)
	Retry Count: 0

3) PLC Address

Bit Devices:

Bit Device	Address Range	Block Address	Co
O:e.s/b	e: 0~9; s: 0~255; b: 0~15	N/A	
I:e.s/b	e: 0~9; s: 0~255; b: 0~15	N/A	
S:f.n/b	n: 0~65; f: 2; b: 0~15	b=0	
B:f.n/b	n: 0~255; f: 3, 9~255; b: 0~15	b=0	
T:f.n/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
T:f.n.PRE/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
T:f.n.ACC/b	n: 0~255; f: 4, 9~255; b: 0~15	b=0	
T:f.n.EN	n: 0~255; f: 4, 9~255	N/A	
T:f.n.TT	n: 0~255; f: 4, 9~255	N/A	
T:f.n.DN	n: 0~255; f: 4, 9~255	N/A	
C:f.n/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
C:f.n.PRE/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
C:f.n.ACC/b	n: 0~255; f: 5, 9~255; b: 0~15	b=0	
C:f.n.CU	n: 0~255; f: 5, 9~255	N/A	
C:f.n.CD	n: 0~255; f: 5, 9~255	N/A	
C:f.n.DN	n: 0~255; f: 5, 9~255	N/A	
C:f.n.OV	n: 0~255; f: 5, 9~255	N/A	
C:f.n.UN	n: 0~255; f: 5, 9~255	N/A	
C:f.n.UA	n: 0~255; f: 5, 9~255	N/A	
R:f.n/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0	
R:f.n.LEN/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0	
R:f.n.POS/b	n: 0~255; f: 6, 9~255; b: 0~15	b=0	
R:f.n.EN	n: 0~255; f: 6, 9~255	N/A	
R:f.n.DN	n: 0~255; f: 6, 9~255	N/A	
R:f.n.ER	n: 0~255; f: 6, 9~255	N/A	
R:f.n.UL	n: 0~255; f: 6, 9~255	N/A	
R:f.n.IN	n: 0~255; f: 6, 9~255	N/A	
R:f.n.FD	n: 0~255; f: 6, 9~255	N/A	
N:f.n/b	n: 0~255; f: 7, 9~255; b: 0~15	b=0	

Close

Word Devices:

Word Device	Address Range	Size	Comment
O:e.s	e: 0~9; s: 0~255	Word	
I:e.s	e: 0~9; s: 0~255	Word	
S:f.n	n: 0~65; f: 2	Word	
B:f.n	n: 0~255; f: 3, 9~255	Word	
T:f.n	n: 0~255; f: 4, 9~255	Word	
T:f.n.PRE	n: 0~255; f: 4, 9~255	Word	
T:f.n.ACC	n: 0~255; f: 4, 9~255	Word	
C:f.n	n: 0~255; f: 5, 9~255	Word	
C:f.n.PRE	n: 0~255; f: 5, 9~255	Word	
C:f.n.ACC	n: 0~255; f: 5, 9~255	Word	
R:f.n	n: 0~255; f: 6, 9~255	Word	
R:f.n.LEN	n: 0~255; f: 6, 9~255	Word	
R:f.n.POS	n: 0~255; f: 6, 9~255	Word	
N:f.n	n: 0~255; f: 7, 9~255	Word	
F:f.n	n: 0~255; f: 8, 9~255	Word	
A:f.n	n: 0~255; f: 9~255	Word	

Close