

Mar 14, 2021 | V 1.0

Software Function Guide TN054S-E Data Exchanger Helper

Overview

From PM Designer v2.1, there are many customers use Marco Funcion to transfer data from one PLC to another one. Based on this requirement, the new version is promoted it as "Data Exchanger" function in PM Designer v4.0. To use this function will be easy to make the data transfer easily.

Application

Advantage Features:

- Simple to configure the System Linking with different PLC Brand Models
- 2. Easy to create the Data Exchanger Table
- 3. It can use in all Cermate Edge Devices.

HMI & Box(S-Box & ES)

4. It can also use in edge SCADA, PanelExpress.





Setting

Software:	PM Designer v4.0.3.68							
Hardware:	PA2,PK2,PT2, PX,IT400, S-BOX,ES BOX and PanelExpresss series.							
Operation :	Software setting Use Siemens S7-200 communicating with Mitsubishi PLC FX5U as an example; 1 Activate Data Exchange Helper : Turn on PM 4.0 Double Click Data Exchanger from the project manager on the left. (Fig. 1) to activate the Data Exchanger function. PM Designer 4.0 - C:\Users\user\Documents\PM Designer\Data_Exchange.pm4 File Edit View Screen Draw Object Project Panel Tools Windo File Edit View Screen Draw Object Project Panel Tools Windo							
	Project Manager Project Manager Data_Exchange Global Production Production Cermate Cloud Data Exchanger MQTI Client Internal Memory Mitsubishi_FX5U							
	(Fig. 1)							

a Excha	inger									
⊡Enable Use No.	Source Data Type	Source Address/Tag	Source Length	Source Size (WORD)	Destination Tag/Address	Destination Data Type	Dst. Size (WORD)	Interval (Unit: second)	COV(*)	
	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $$	1	$1 \qquad \lor$		^
2	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
3	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
4	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
5	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
6	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
7	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
8	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
9	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
10	16-Bit Unsigned Integer $ \sim $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
11	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
12	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
13	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
14	16-Bit Unsigned Integer $ \sim $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
15	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \sim $	1	1 ~		
16	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \sim $	1	1 ~		
17	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \sim $	1	1 ~		
18	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
19	16-Bit Unsigned Integer $ \smallsetminus $		1	1	•	16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		
20	16-Bit Unsigned Integer $ \smallsetminus $		1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 ~		~

(Fig.2)

2 ` Enable:

Click the first check box to enable the first set of data. Please note that there are 64 sets of data to enable. The more data-enabled, the longer the communication will be. (See Fig. 3 – Fig. 4)

Data Exchanger

Enable	1		So
Use No	Source Data Type	Source Address/Tag	Ler
	16-Bit Unsigned Integer 🗸		1
2	16-Bit Unsigned Integer $ \smallsetminus $	•	1
3	16-Bit Unsigned Integer $ \smallsetminus $		1
4	16-Bit Unsigned Integer $ \smallsetminus $		1
5	16-Bit Unsigned Integer $ \smallsetminus $		1
Π.			
		(Fig.3)	
64	16-Bit Unsigned Integer $ imes $	•	U
		(Fig.4)	

3 🔨 The Source Data Type	
There are five different data types to	o choose from. See Fig. 5 and 6
a. 16-Bit Unsigned Integer	
b. 16-Bit Signed Integer	
c. 32-Bit Unsigned Integer	
d. 32-Signed Integer	
e. 32-Bit Floating Point	
It supports exchanging between th	ne above five data types.
Data Exchanger	
✓ Enable	Destination Data Type
Use No. Source Data Type	
	16 Bit Unsigned Integer
✓ 1 16-Bit Unsigned Integer ∨	16-bit Onsigned Integer V
2 16-Bit Unsigned Integer	16-Bit Unsigned Integer
3 32-Bit Unsigned Integer	32-Bit Llosigned Integer
4 32-Bit Floating Point	32-Bit Signed Integer
5 16-Bit Unsigned Integer 🗸	32-Bit Floating Point
(Fig.5)	(Fig.6)
4 Source Address/Tag:	
Click the checkboxes below from the	e Source Address/Tag to show the Adro
Input Keypad. See Fig. 7	
Data Exchanger	×
Use No. Type Data Source (Unit: word)	Data Destination (Unit: second) COV(*)
✓ 1 Word ✓ 1 ✓ 2 Word ✓ ✓ ✓ ✓	
□ 3 Word ∨ 1	
S Word Unic Mitsubish FXSU	
7 Word	
C A 1 2 3	3 CLR

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(Fig.7)

D B 4 5 6 BS

E : 7 8 9 ESC

F / . 0 ENT

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1

*Note: If COV (Change On Value) is checked, the data transfer occurs only when the source data changes.

🗌 11 Word 🗸

□ 12 Word ∨ □ 13 Word ∨ □ 14 Word ∨

🗌 15 Word 🗸

🗌 16 Word 🗠

□ 17 Word ∨ □ 18 Word ∨

🗌 19 Word 🖂

🗌 20 Word 🗸

5 Source Length Enter the Source continuous sou If it's an interna 512. See Fig. 8.	and Source Si ce Length you arce length is 1 al address, suc)	ze(WORD): want to exchan 25. h as \$U, then th	ge here. The maximum ne maximum source lengtł	n is
Source Address/1	rag 🔶	Source Length (WORD)	Destination Tag/Address	
		(Fig. 8)		
6 🔪 Interval:				
The interval un	it is "Second".	The system exc	hanges data with the inte	rval
you choose. Se	e Fig.9			
you choose. Se Interval (Unit: second) (1 0.1 0.2 0.3 0.4 0.5 1 2 3 4 5 10 20 30 40 50 60 120 180 240 300 7 Send when ch	e Fig.9 (Fig.9) ange:			data
If you click COV	'(*), the systen	n will send data	when there's any source	data
change. This fu	nction will inc	rease the efficie	ency of the system. (See Fi	g.10)
COV(-)				
	(Fig.10)			

Example:

Select Siemens S7-200 to send data to Mitsubishi FX5U PLC address. See Fig 11, 12

Here we send the data from Siemens S7-200 address W40001~W40010 to FX5U address D0~D9 with an interval of 5 seconds.

Settings:

The Source Address/Tag of the Siemens S7-200 starts at W40001

The receiving Address/Tag of the FX5U address starts at D0

Addres	s I <mark>npu</mark> t Key	pad		?	×	Addres	ss Input	Keypad		?	×
Link:	Siemens S7-	200			~	Link:	Mitsubis	hi FX3U			~
Type: Bit • Word Bit Of Word						Type:	⊖Bit ▼:	• Word	OBit	Of Word	
С	A	1	2	3	CLR	С	A	1	2	3	CLR
D	В	4	5	6	BS	D	В	4	5	6	BS
E	:	7	8	9	ESC	E	:	7	8	9	ESC
F	1	•	0	E	NT	F	- 1		0	Eľ	T

(Fig. 11)

When you finish setting, you will get the picture below. (Fig.13)

Data Excha	anger										×
⊡ Enable Use No.	Source Data Type	Source Address/Tag	Source Length	Source Size (WORD)	Destination Tag/Address	Destination Data Type	Dst. Size (WORD)	Interval (Unit: second)	COV(*)		OK
1	16-Bit Unsigned Integer ${\scriptstyle\lor}$	W40001	10	10 2\p0	a b	16-Bit Unsigned Integer ${\scriptstyle\lor}$	10	5 ~		^	Cancel
2	16-Bit Unsigned Integer \vee		• 1	1		16-Bit Unsigned Integer \vee	1	1 v	\checkmark		
3	16-Bit Unsigned Integer $ \smallsetminus $		• 1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 V	\checkmark		
4	16-Bit Unsigned Integer $ \lor $		" U 1	1		16-Bit Unsigned Integer $ \smallsetminus $	1	1 V			
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(Fig. 13)



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