STEP 7 环境下 Profinet 通讯控制 CMMT-PN



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关键词:

STEP7, Siemens, Profinet, CMMT, FB283

摘要:

本文介绍了使用西门子 S7-300 PLC 控制 Festo CMMT 控制器的实例,通讯协议为 Profinet, PLC 编程软件为 STEP 7。 文档主要内容包括 PLC 与 CMMT 通讯连接以及 PLC 控制 CMMT,故障读取,参数读写,910 报文实时读写等。

目标群体:

本文仅针对有一定自动化设备调试基础的工程师,需要对 Festo CMMT 伺服以及西门子 STEP 7 有一定了解。

声明:

本文档为技术工程师根据官方资料和测试结果编写,旨在指导用户快速上手使用 Festo 产品,如果发现描述与官方 正式出版物冲突,请以正式出版物为准。

我们尽量罗列了实验室测试的软、硬件环境,但现场设备型号可能不同,软件/固件版本可能有差异,请务必在理 解文档内容和确保安全的前提下执行测试。

我们会持续更正和更新文档内容, 恕不另行通知。

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1 软/硬件环境

软/硬件	版本
Step7	V5.6
Festo Automation Suite	V1.3.2.4
CMMT-AS Plug-in	V1.3.1.9
CMMT-AS Firmware	V017.0.8.48
CPU315-2-PN/DP	V3.2.6

2 硬件拓扑结构

本文档适用于西门子 S7-300 系列 PLC 在 STEP7 环境下,通过 ProfiNet 控制 CMMT-AS-PN 控制器,系统构架如下:



3 Festo Automation Suite 中相关的关键设置

AUTOMATION SUITE	CMMT-AS-C4-3/	A-PN-: ×					
PARAMETERISATION DIAGNOSIS	s control						
CMMT-AS-C4-3A-PN-S1 CMMT-AS-C4-3A-PN-S1 Path: 192.168.0.11 Disconnected	ect Plug-in PLC	Enabled Disabled	:=*		Correction Control Contro	Restart device Start first set	up
rameter pages < Fieldbus	功能	快上数据转换系数,比如 为位置=12345*10-5m=1	目标位置12345,速度 2345*10 ⁻² mm=123_45	678, mm			
Drive configuration	<u>н</u> .х.	速度=678*10 ⁻³	m/s=678mm/s			定位模式下实际速度反馈	
Device settings Fieldbus	Factor grou	P			Reference values	Activelocity的基准值	
Digital I/O	Current use	r unit	etric [m, m/s,] (6)		Base value speed) 1.00 m/s	
Analogue I/O	Position	0	-5		Base value acceleration	0 1.00 m/s ²	
Encoder interface	Velocity						
Axis 1	velocity			-	Base value deceleration	↓ 1.00 m/s*	
Motor	Acceleration		-3				
Gearbox	Jerk		-3	1.1	定位模式	下OverAcc和OverDec的基	准值
Record list							
Monitoring functions	Dynamic va	alues			Connection parameters		
Closed loop							
Auto tuning	Acceleration		1.00 m/s ²	1.1	Name of Station		
Notch filter	Deceleration	n	1.00 m/s ²	1.1	Active IP address	0.0.0.0	
Feed forward control	Jerk		100.00 m/s ^a		Active subnet mask	0.0.0.0	
Jog mode		L			Active gateway address	0.0.0.0	
Parameter list					MAC address	00:0E:F0:5D:36:89	
	Connection	properties			定位模式选择111		
	PZD telegra	m selection Te	legram 111 (111) 🔹				
	Current app	lication class Ap	oplication class 1 (1)				

设置系数组、动态参数基准值以及报文协议

据实际硬件连接情况,设置限位开关及参考开关类型

		CMMT-AS-C4	4-3A-PN-3 ×				- • ×
PARAMETERISATION	DIAGNOSIS CONT	ROL					
CMMT-AS-C4-3A-PN CMMT-AS-C4-3A-PN Path: 192.168.0.11 Disconnected	-S1 -S1 Connect	Plug-in PLC Control	Enabled Disabled Powerstage	Stop	Acknowledge all	Store on device Image: Reinitialize Image: Control and factory settings Image: Restart device	
Parameter pages <	Digital I/O						
Drive configuration							
Device settings Fieldbus		X1A					
Digital I/O		X1A.13 (input)) Tou	th probe 1 (7)	•	12 24	
Analogue I/O		X1A.14 (input)) Tour	th probe 0 (6)	•		
Encoder interface		X1A 15 (output)	() Cam	switch 1 (10)			
 Axis 1 		XIAII3 (Sulput)	can	switch I (TO)			
Motor		X1A.16 (output)	Cam	switch 0 (9)	•		
Gearbox		X1A.18 (input)	Ope	n holding brake 1 and	d 2 🔻		
Axis				设置参考开关类	型,一般不用		
Monitoring functions		x1c				设置限位开关类型	
Closed loop							
Auto tuning		X1C.2 (Input)	Disa	bled (0)		5 10	
Notch filter	1	X1C.6 (Input)	O Neg	ative limit switch: norr	nall 🔻 🔳		
Feed forward control		X1C.7 (Input)	O Posi	tive limit switch: norma	ally 🔻 🔳	1 . 6	
Jog mode	L L						

4 STEP7 中的配置

4.1 创建一个新的 STEP7 项目

🧠 s	SIMATI	C Mana	ger					
File	PLC	View	Option	s W	/indow	Help		
13	New	_						
	'New	Project'	Wizard					
	Open.							
New	Project							
New	Project							
U	ser project	s Librarie:	s Multiproje	ects				
	Name			Storag	e path		<u> </u>	
E	🗿 Beispiel	projekt_S7		C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
	🖢 bsp_old	Llib		C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
l lé	🖗 СММР_	AS_CAM_\	/1_8	C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
	🖗 СММР_	PB_NewLi	601122016	C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
	🔊 СММТ -			C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
l é	🖗 СММТ_	Profidrive		C:\Pro	gram Files (:	k86)\Sieme	ns\SI	
		Profidrino I	Fuomolo III	C-1 D-2	grom Eilon (.0e% eiama	*	
	Add to cu	rrent multipr	oject					
Nar	me:				Tj	/pe:		
Sie	emens_CM	MT_Profidr	ivel		F	roject	•	
Storage location (path):								
C:\Program Files (x86)\Siemens\Step7\s7proj Browse								
	·							
	OK Cancel Help							
			-				///	

SIMATIC Ma	anager - [Siemens_CMM	T_Profidrive C:\Pro	gram Files (x86)\Siemens\Step7\s7p
🞒 File Edit	Insert PLC View	Options Window I	Help
🗋 🗅 🗃 📲 i	🐖 X 🖻 🛍 🏜		📰 🏢 🕅 🛛 < No Filter >
Siemens	CMMT Profidrive	/PI(1)	
	Cut	Ctrl+X	
	Сору	Ctrl+C	
	Paste	Ctrl+V	
	Delete	Del	
	Insert New Object	•	SIMATIC 400 Station
	PLC	•	SIMATIC 300 Station
	Rename	F2	SIMATIC H Station
	Object Properties	Alt+Return	SIMATIC PC Station

4.2 硬件组态

4.2.1 打开硬件组态

🎝 SIMATIC Manager - [Siemens]	_CMMT_Profidr	ive C:\Program F	iles (x86)\Siemens\S
🎒 File Edit Insert PLC Vi	ew Options	Window Help	
D 🛩 🎛 🛲 X 🖻 🖻	🏜 오 🗣		📔 📔 < No Filter :
Siemens_CMMT_Profidrive	Hardware	Ope	Ctrl+Alt+O

4.2.2 安装 CMMT GSDML 文件

GSDML 文件可以从 Festo 官网支持与下载页面, 搜索 CMMT, 在 Software 选项中找到针对于 CMMT-AS-···-PN 的 Firmware Package, 下载之后解压出来 firmware 和 GSDML 文件。

https://wv	vw.festo.com.cn/c	n/zh/se	arch/?text=CMMT%	2520GSDML&tab=D0	WNLOADS		
	₽ cm	MT GSDML				×	
	立日 2	古住/下部	the 土丽 e				
	C nn (×14/ 14					
	产品信息 [1]						٥
	技术文档 [2]						•
	Software [2]						<
	Firmware Package Firmware CMMT-ASPN (PRO Firmware	FINET) & GSDML					
如下图,在	在 HW Config 里安:	裝 GSDN	1L.				
🖳 HW Cor	nfig - SIMATIC 300(1)						
	D D D		Customias	Chilly Alth. E			
] 🗋 🗁 🚡	, ■ ¶! ⊕ ⊡	E	Customize	Ctn+Ait+E			
	IC 300(1) (Configuratio	n)	Specify Module				
			Configure Network	Chilly Albert			
			Report System Error	Ctri+Ait+1			
		-					
			Edit Catalog Profile				
			opdate catalog				
			Install HW Updates				
			Install GSD File				
			Find in Service & Suppor	t			
			Create GSD file for I-Devi	ice			

Install GSD Files						×
Install GSD Files:	from	the directory		•		
C:\Users\Festo\Desktop\Cl	MMT-AS-PN_FW_V	017.0.8.48\CMM1	AS-PN_Fw	_V017.0.8	.48\G	Browse
File	AC 20101201	Release	00.00.444	Version	Languag	jes
GSDML-V2.34+F880+LMM	-AS-ZUTSTZUT.XMI	12/01/2019 12	UU:UU AM	VZ.34	English,	German
Install	Show Log	Select All	Desel	ect All		
Close						Help

4.2.3 更新 HW 目录

uration) Siemens_CMMT_Profidrive]								
Options Window Help								
Customize	Ctrl+Alt+E							
Specify Module								
Configure Network								
Symbol Table	Ctrl+Alt+T							
Report System Error								
Edit Catalog Profile								
Update Catalog								
Install HW Updates								
Install GSD File								
Find in Service & Support								
Create GSD file for I-Device								
Eind:								
Profile: Standard								
PROFIBUS DP PROFIBUS-PA								
PROFINET IO	🖻 🚟 PROFINET IO							









4.2.5 将 CMMT 添加到 Profinet 网络中



4.2.6 设置 CMMT 的 Profinet 设备名称

确保 离线	Profinet 设置如下	: 设备名称 <mark>离线和在:</mark> F.	线保持一致 。				
		- ∕		Termina Te	DO SERVO		
	Pr	roperties - CMMT-AS					— X—
	4	General Identification	Shared Access	1			
		Short description:	CMMT-AS				
			CMMT-AS V1				* *
		Order no./ firmware:	CMMT-ASPN	/ V1.0			
		Family:	Festo CMMT-AS				
		Device name:	CMMT-AS				
		GSD file:	GSDML-V2.34-Fe	esto-CMMT-A	S-20190601 xml		
			Change Release	e Number			
		Node in PROFINET	IO system				
		Device number:	1	-	PROFINET-IO-System (100)	
		IP address:	192.168.0.2		Ethemet		
		Assign IP addres	s via IO controller				
在线	设置如于	۶:					
300(1)	(Configur View (ration) Siemens_CMMT Options Window Hel	[_Profidrive]				
	Downloa	d	Ctrl+L	1			
1	Upload						
	Downloa	d Module Identification					
	Upload IV	lodule Identification to P	G				
	Faulty Mo	odules	04.0	IR			
	Operating	nformation g Mode	Ctrl+D Ctrl+I		^		
	Clear/Res	set		MP	U 315-2 PN/DP		
	Set Time	of Day		I PN-	10 1		
	Undate Fi	irmware					
	Save Devi	ice Name to Memory Car	'd				
	Ethernet	the memory car	•	Edit Ethe	ernet Node		
	PROFIBU	s	•	Verify D	vice Name		
	Save Serv	vice Data		Assign [evice Name		
-				-			

Edit Ethernet Node		×
Ethernet node	Nodes accessible online Browse	

Browse Network - 2 I	Nodes			×
Start	! IP address 192.168.0.2 0.0.0.0	MAC address 00-1B-1B-1C-69-D8 00-0E-F0-5D-36-89	Device type S7-300 Festo CMMT-AS	Name pn-io
✓ Fast search				
	•	Ш		Þ
Flash	MAC address:	00-0E-F0-5D-36-89		
ОК			Cancel	Help

Edit Ethernet Node

Edit Ethernet Node	— × —
Ethernet node	
Nodes acc	essible online
MAC address: 00-0E-F0-5D-36-89 Brow	se
Set IP configuration	
Use IP parameters	
Gateway	
IP address: Do no 	ot use router
Subnet mask: O Use m	outer
Addres	s:
C Obtain IP address from a DHCP server	
□ Identified by	
Client ID C MAC address	C Device name
Client ID:	
1	
Devices connected to an enterprise network or directly appropriately protected against usaythorized access of	y to the internet must be
and network segmentation	isit
http://www.siemens.com/industrialsecurity	isit.
Assign IP Configuration	
Assign device name	
CMMT-AS	Assign Name
- Reset to fastory settings	
These to factory settings	1
	Heset
Close	Halo

4.2.7 CMMT-AS 设备组态(定位模式报文 111)

删除默认报文1,添加报文111.



通讯测试 4.2.8

下载程序到 PLC



😑 (0) UR					
1 2 X1 X2 X2 P1	CPU 315-2 PN/DP MPI/DP PN-IO Port 1			Ethemet	(1): PROFINET-IO-System (100)
4					
			G	(1) CMMT-/	
Select Node Ad	dress			×	ן
Over which sta PN/DP?	ion address is the programming	device connecte	d to the module C	PU 315-2	
Rack:	0 -				
Slot:	2 -				
Target Station:	 Local C Can be reached by n 	neans of gateway			
Enter connec	tion to target station:				
IP address	MAC address	Module type	Station name	Module nar	
192.168.0.1	00-1B-1B-1C-69-D8	CPU 315-2	SIMATIC 30	CPU 315-2P	
•				+	
Accessible Noo	les				
192.168.0.1	00-18-18-10-69-08	CPU 315-2	SIMATIC 30	CPU 315-2P.	
•				+	
	U	odate			

Cancel



0K

http://www.siemens.com/industrialsecurity

Devices connected to an enterprise network or directly to the internet e.g. by use of firewalls and network segmentation. For more information about industrial security, please visit:

Help



4.3 下载并导入 Siemens FB283

4.3.1 点击下面链接,下载 Toolbox_V21.zip

https://support.industry.siemens.com/cs/document/25166781/sinamics-g-s%3A-toolbox-v2-1-s7-function-blocks?dti=0&lc=en-WW

SINAMICS G/S: Toolbox V2.1 / S7 Function Blocks

Entry Associated product(s)

DESCRIPTION:

The SINAMICS toolbox comprises a sample project 'Fb283_Bsp_V2_1.zip', which includes an interface block that allows to conveniently connect the SINAMICS converters to PROFIBUS / PROFINET.

- This version supports the following converters:
 - SINAMICS G120
 - SINAMICS G120D
 SINAMICS G130
 - SINAMICS G150
 - SINAMICS S110
 - SINAMICS S120

The function block FB283 allows to transfer all the necessary drive process data. This block is especially suitable for actuating the EPOS functions of the SINAMICS S110 and S120, but it can also be used as a mere speed drive.

Further, the FB283 provides the following functions:

- The existing drive parameters can be read or overwritten.
- The fault buffer can be read out.
 You can transfer up to 64 traversing blocks with one function trigger.
- Max. 10 arbitrary parameters can be read / written with one job (e.g. to adapt the product).

This S7 function block is documented in the file 'Fb283_V21_ger.PDF', which is also included in the toolbox ZIP file and can be read using the Acrobat

ZIP Toolbox_V21.zip (3011 KB)

Name	Тур	Komprimierte Größe
Fb283_Bsp_V21.zip	ZIP-komprimierter Ordner	301 KB
🔊 FB283_V21_eng.pdf	Adobe Acrobat Document	531 KB
FB283_V21_fr.pdf	Adobe Acrobat Document	556 KB
🔊 FB283_V21_ger.pdf	Adobe Acrobat Document	539 KB
🔊 FB283_V21_it.pdf	Adobe Acrobat Document	535 KB
🔊 FB283_V21_spa.pdf	Adobe Acrobat Document	550 KB
readme.txt	Textdokument	2 KB

4.3.2 在 STEP7 中导入包含 FB283 的样例程序



FB283_Bsp_V21 0B1 FB283 G FB283_Bsp_V21 FC70 FC71 G Quellen FC72 FC73 G Bausteine DB70 DB71 G DB72 DB73 G DB283 UDT30000	B283_Bsp_V21 C:\Program Fi	les (x86)\Siemens\Step7	7\\$7Proj\FB283_2 🗖 🔳 💌
UD130001 UD130002 UDT30007 UDT30008 UDT30009 UDT30010 VAT70_FaultBuffer VAT70_Para_1_10 VAT70_Parameter VAT70_SpeedControl VAT71_FaultBuffer VAT71_MDI VAT71_Para_1_10 VAT71_Parameter VAT71_TVB VAT71_Parameter VAT72_Para_1_10 VAT72_FaultBuffer VAT72_TVB VAT72_FaultBuffer VAT72_Para_1_10 VAT72_Para_1_10 VAT72_Para_1_10 VAT72_Para_1_10 VAT72_Parameter VAT72_Para_1_10 VAT72_Parameter VAT72_TVB VAT72_Parameter VAT72_TVB VAT73_FaultBuffer VAT72_TVB VAT73_FaultBuffer VAT73_MDI_APC VAT73_Parameter VAT73_TVB_APC SFB52 SFB53 SFC15 SFC20 SFC21 SFC20 SFC59 SFC58	FB283_Bsp_V21	 OB1 FC70 FC72 DB70 DB72 DB283 UDT30001 UDT30007 UDT30009 VAT70_PaultBuffer VAT71_FaultBuffer VAT71_FaultBuffer VAT71_FaultBuffer VAT71_TVB VAT71_TVB VAT71_TVB VAT72_MDI VAT73_FaultBuffer VAT73_FaultBuffer SFC52 SFC15 SFC21 SFC59 	FB283 FC71 FC73 DB71 DB73 UDT30000 UDT30000 UDT30002 UDT30002 UDT30002 UDT30010 VAT70_Para_1_10 VAT70_SpeedControl VAT71_Parameter VAT71_Parameter VAT71_Parameter VAT71_TVBlock VAT72_FaultBuffer VAT72_FaultBuffer VAT72_TVB VAT72_TVB VAT72_TVB VAT72_TVB VAT72_TVB VAT72_TVB_APC SFB53 SFC14 SFC20 SFC58

FB283 相关的预定义 UDT 包含如下几种: UDT30000: 基本 UDT。 UDT30001: 编辑程序步。

UD130001: 编辑性广少。

UDT30002: 读取故障记录。 UDT30008: 基于 111 报文的 MDI 和程序步控制。

UDT30009: 转速控制。

UDT30010: 基于 110 报文的 MDI 和程序步控制。

在轴数据块中,并不需要包含所有的 UDT 类型,仅包含需要的 UDT 即可。例如,对于使用 111 报文定位、读取故障记录、修改程序步设置的应用,仅需包含 UDT30000, UDT30001, UDT30002 和 UDT30008。

4.3.3 复制图中高亮显示的块到我们的程序中

包括: OB1, FB283, FC72, DB72, DB283, UDT30000, UDT30001, UDT30002, UDT30008, 以及其他系 统块。复制图中高亮显示的VAT72_开头的变量表, 便于功能测试。



4.4 修改 Siemens FB283

打开 OB1, 将 CALL FC 73 改成 CALL FC 72, 关闭 OB1 并保存。

OB1 : "Main Program Sweep (Cycle)"



将 FB283 实例化:

Network 1: Title:	
CALL "SINA_FB" , DB283	
NR_ACHS_DB:=72	*
LADDR :=256	
LADDR_DIAG:=8186	
WR_PZD :="Axis_TVB+M	DI_TLG111".MDI_Positioning.WR_PZD_POSBETR
RD_PZD :="Axis_TVB+M	DI_TLG111".MDI_Positioning.RD_PZD_POSBETR
CONSIST :=TRUE	
RESTART :=FALSE	
AXIS_NO :=B#16#2	

FC72 : Title:

Comment:		
A Network 1): Title:		
CALL "SINA_FB", "InstanceD8_to_FB283"	FB283 / DB283	Instanz-DB zum FB283
NR_ACHS_DB:=72		
LADDR :=256		
LADDR_DIAG:=8186		
WR_PZD :="Axis_TVB+MDI_TLG111".MDI_Positioning.WR_PZD_POSBETR	P#DB72.DBX172.0	
RD_PZD :="Axis_TVB+MDI_TLG111".MDI_Positioning.RD_PZD_POSBETR	P#DB72.DBX212.0	
CONSIST :=TRUE		
RESTART :=FALSE		
AXIS_NO :=B#16#2		

改变 symbolic 名称(可选)

如果不使用西门子默认的名称,可以这样更改:

mens_CMMT_Profidrive	Sources	🗟 Sym	bol Edito	or - [S7 Program	m(1) (Symbo	ols) Si	emen	s_CMM	T_Prof	fidrive\
SIMATIC 300(1)	🔁 Blocks	ම් Sy	mbol Tal	ble Edit Ins	ert View	Option	ns W	indow	Help)
CPU 315-2 PN/DP	🔄 Symbols		🖨	🕺 🖻 🛍	ю a	All Sy	mbols			-
Sources			Status	Symbol 🛆			Addr	ess	Data	type
🔄 🔂 Blocks		1		Axis_TVB+MD	I_TLG111		DB	72	DB	72
_		2		BLKMOV			SFC	20	SFC	20
		3		DPRD_DAT			SFC	14	SFC	14
		4		DPWR_DAT			SFC	15	SFC	15
		5		FILL			SFC	21	SFC	21
		6		InstanceDB_to	_FB283		DB	283	FB 3	283
		7		RD_SINFO			SFC	6	SFC	6
		8		RDREC			SFB	52	SFB	52
		9		SINA_FB			FB 3	283	FB 3	283
		10		UDT_64Traver	singBlocks		UDT 3	30001	UDT 3	30001
		11		UDT_Basis			UDT 3	30000	UDT 3	30000
		12		UDT_FaultBuff	er		UDT 3	30002	UDT 3	30002
		13		UDT_TVB+MD	_TLG111		UDT 3	30008	UDT 3	30008
		14		VAT72_FaultB	uffer		VAT	7		
		15		VAT72_MDI			VAT	16		
		16		VAT72_Para_1	1_10		VAT	19		
		17		VAT72_Param	eter		VAT	17		
		18		VAT72_TV			VAT	18		
		19		WRREC			SFB	53	SFB	53
				7	Ļ					

1	😪 Symbol Editor - [S7 Program(1) (Sy	ymbols) Siemens_	s_CMMT_Profidri	ve\SIMATIC 300(1)\CPU 315-2 PN/DP]
	🗟 Symbol Table Edit Insert Vi	iew Options Win	indow Help	
	🖉 🖳 🎒 🐰 🖻 🛍 🗠	C≥ All Symbols		
l	Status Symbol	Addres	ess Data type	Comment
	1 CMMT-AS	DB 7	72 DB 72	DB für eine Positionierachse mit Verfahrsätzen und MDI über TLG111
	2 BLKMOV	SFC 2	20 SFC 20	Copy Variables

在 FC72 中设置 CMMT 111 报文的起始地址,诊断地址和重启设置。保存并关闭 FC72.

FC72 : Tit	tle:				
Comment:					
Network	1: Title:				
	CALL "SIN NR_ACHS_D	A_FB" , B:=72	"InstanceDB_to_FB283"	FB283 / DB283	Instanz-DB zum FB283
	LADDR LADDR_DIA	:=0 G:=2037			
	WR_PZD	:="CMM]	-AS".MDI_Positioning.WR_PZD_POSBE	<pre>TR P#DB72.DBX172.</pre>	. 0
	RD_PZD CONSIST	:="CMM1 :=TRUE	-AS".MDI_Positioning.RD_PZD_POSBE	TR P#DB72.DBX212.	.0
	RESTART	:=TRUE			
	AXIS_NO	:=B#16‡	2		

起始地址和诊断地址按下图查询:

Image: Second		In SIMATIC 300(1) (Configuration) Siemens_CMMT_Profidrive							
Image: Constraint of the state of the s	1 2 X1 X2 2 2 2 2 7 3	R MPI/DP PN-IO R R Port 1 Port 2 V V V N N N N N N N N N N N N N				Ethemet(1): PRC	FINET IO system (100)		
Image: State Sta	•								
Slot Module Order number I Address Q address Diagnostic Address Comment Access O CMMTAS CMMTAS CMMTAS CMMTAS FM 2042* Full X1 FN40 Interface Z041* Z042* Full Full X7 FN40 Interface Z040* Full Full X72/R Foot 2 Z040* Full Full X72/R Foot 2 Z040* Full Full X72/R Foot 2 Z039* Full Full 1 Do SERVO Z037* Full Full 1.1 Module Access Faint Z037* Full 1.2 Siemens telegram 111, P** D23 D23 Z038* Full 1.4 empty submodule Z038* Full									
Slot Module Order number I Address Q address Diagnostic Address Comment Access Ø CMMT AS CMMT AS CMMT AS CMMT AS Part A Part A Part A XF1 R Part 2 Part A Part A Part A Part A XF2 R Part 2 Eddptb 11/50 Part A Part A XF2 R Part A Part A Part A XF2 R Part A Eddptb 11/50 Part A I DO SERVO Part A Part A I.1 Module Access Paint Q.23 Q.23 Full 1.2 I Siemens telegram 111, P* O23 Q23 Full 1.4 empty submodule Q.33%* Full		(I) CMMI-AS			4				
0 CMMT AS CMMT AS: FN 2042" Full X1 FN4D Interface 2041" 诊断地址 Full XF1 R Port 1 2040" Full Full XF2 R Full 2039" Full Full XF2 R Full 2038" Full Full XF2 R Full 2038" Full Full	Slot	Module	Order number	I Address	Q address	Diagnostic Address		Comment	Access
N Produ menace 2047 诊断地址 Full NF1 R Part 1 2040" Full NF2 R Part 2 2040" Full NF2 R Part 2 Etdelbtutho 2039" Full 1 DO SERVO 2037" Full 1.1 Module Access Paint 2037" Full 1.2 Image: Second full full full full full full full ful	0	CHAIAS	CMMTAS PN			2042*	SA NOT DUDING		Full
NF2R Four Part 2 Part 2 Image: Non-SERVO Part 2 Part 2 Part 2 Image: Non-SERVO Part 2 Part 2 Image: Non-SERVO Image: Non-S	NET B	Priviti Interiace				2047"	诊断地址		FUII Fuil
I DO SERVO 起始地比为0 2037* Full 11 Module Access Foint 2037* Full 1.2 23 23 Full 1.4 empty submodule 2038* Full	VE2P	Bad 2				2040			Full
1/1 Module Access Faint 2203** Full 1.2 023 023 Full 1.4 empty submodule 2038* Full	1		台地址为0			2037			1 640
1.2 1.3 Siemens telegram 111, P* 023 023 Full 1.4 empty submodule 2038* Full	11	Advatable deriver Baint				2037			Fidl
1.3 Siemens telegram 111, P* 023 023 Full 1.4 empty submodule 2038* Full	12	I AND AND AND DECEMPTION				2009			
1.4 empty submodule 2038* Full	1.3	Siemens telegram 111. P~		023	023				Full
	1.4	empty submodule				2038×			Full
				•					

至此,PLC中的设置和配置全部完成,保存程序并下载到 PLC中。

5 PLC 中控制测试

5.1 VAT72_TVB 测试

VAT72_TVB 主要用于测试位置表模式。 双击进入 VAT72_TVB.

SIMATIC Manager - [Siemens	_CMMT_Profidrive C:\Program Files (x86)\Siemens\Step7\s7proj\Siemens_]
🎒 File Edit Insert PLC Vi	ew Options Window Help
🗅 😅 🎛 🛲 👗 🗈 🖻	📩 🗣 🗣 📴 📰 🛍 🔁 🛛 < No Filter >
Siemens_CMMT_Profidrive	 System data OB1 FB283 FC72 DB72 DB283 UDT30000 UDT30001 UDT30002 UDT30008 VAT72_FaultBuffer VAT72_Para_1_10 VAT72_Parameter VAT72_TVB

由于原变量表中没有添加寻零功能,按照以下步骤进行添加:

Sec.	War - [VAT72_TVB Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 3									
	T	able Ed	it	Inser	t PLC	Variable	View	Options	Window H	
-24 🗅 🚅 🖬					Row 🔫				£ №? §	
	1	Address			Comme	nt Line				
1		// Antrieb	17		Variable	Table				
2		DB72.DB	W		Pangelo	f Variabler		Ctoly K		
3		DB72.DB	X		Kange o	i variables		CUITR	DSBETR.STW1	
4		DB72.DB	X		Symbol			Ctrl+J	DSBETR.STW1	
5		DB72.DB	X	110.0	Cmm1-		snonny		OSBETR.STW1	
6		// Verfah	rsa	itz akti	/ieren					
7		DB72.DB	X	173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW					
8		// Störung) q	uittiere	n					
9		DB72.DB	X	173.7	"CMMT-/	AS".MDI_Po	sitioning	.WR_PZD_F	POSBETR.STW1	
10		// Achse	im	Tipp-B	etrieb ver	fahren				
11		DB72.DB	X	172.0	"CMMT-/	AS".MDI_Po	sitioning	.WR_PZD_F	POSBETR.STW1	
12		DB72.DB	X	172.1	"CMMT-/	AS".MDI_Po	sitioning	.WR_PZD_F	OSBETR.STW1	
13										
14		// Achse	im	Verfah	rsatz-Mo	de betreibe	n			

在 DB72 中我们可以看到寻零启动位对应 172.3

				_				
172	2.0	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.Jog_1	BOOL	FALSE	p2589	Tippen Si	ignalquelle
172	2.1	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.Jog_2	BOOL	FALSE	p2590	Tippen Si	ignalquelle
172	2.2	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.LB	BOOL	FALSE	p854.	0 Führung g	gefordert
172	2.3	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.RefStart	BOOL	FALSE	p2595	Start Ref	erenziern
172	2.4	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.res_12	BOOL	FALSE	reser	viert	
172	2.5	MDI_Positioni	ng.WR_PZD_POSBETR.STW1.Externer_Satzwe	BOOL	FALSE	p2633	Externer Sa	atzwechsel
在	变量	量表中添加 DB	72.DBX 172.3					
	Va	r - [VAT72_TVB	Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU	J 315-2	PN/DP\S7 Pro	ogram(1)]		
5	Т	able Edit Inser	t PLC Variable View Options Window	Help				
-(¤)		0 🛩 🖬 🧧		9 / 6	r 🖛 🔐	47 <u>1</u> //ez		
	1	Address	Symbol			Display format	Status value	Modify valu
1		// Antrieb / Achse	einschalten und Betriebsart anwählen					
2		DB72.DBW 172				HEX		
3		DB72.DBX 173.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.OFF	1	BOOL		true
4		DB72.DBX 173.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.RejT	rvTask	BOOL		true
5		DB72.DBX 173.5	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.IntMS	Stop	BOOL		true
6		// Verfahrsatz akti	vieren					
7		DB72.DBX 173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.TrvS	tart	BOOL		true
8		// Störung quittiere	n					
9		DB72.DBX 173.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.Ack	Fault	BOOL		false
10		// Achse im Tipp-B	etrieb verfahren					
11		DB72.DBX 172.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.Jog_	1	BOOL		false
12		DB72.DBX 172.1	"CMMT-AS".MDI Positioning.WR PZD POSBETR.ST	W1.Joa	2	BOOL		false
13		//Homing						
14		DB72.DBX 172.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.ST	W1.RefS	Start	BOOL		.

CMMT上使能

11 V	👪 Var - [VAT72_TVB @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(2) ONLINE]								
	👪 Table Edit Insert PLC Variable View Options Window Help								
-[#1		0 🛩 🖬 🧧	* BR - X - * *	66° 47° 66° 1	1 Ila				
	A	Address	Symbol	Display format	Status value	Modify value			
1		// Antrieb / Achse	einschalten und Betriebsart anwählen	11					
2		DB72.DBW 172		HEX	W#16#043F				
3		DB72.DBX 173.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.OFF1	BOOL	true	true			
4		DB72.DBX 173.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RejTrvTask	BOOL	true	true			
5		DB72.DBX 173.5	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.IntMStop	BOOL	true	true			
6		// Verfahrsatz akti	vieren						
7		DB72.DBX 173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart	BOOL	false	false			
8		// Störung quittiere	Π						
9		DB72.DBX 173.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.AckFault	BOOL	false	false			
10		// Achse im Tipp-B	etrieb verfahren						
11		DB72.DBX 172.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_1	BOOL	false	false			
12		DB72.DBX 172.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_2	BOOL	false	false			
13		//HOMING							
14		DB72.DBX 172.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RefStart	BOOL	false				
15		// Achse im Verfah	nrsatz-Mode betreiben	. <u>.</u>					
16		DB72.DBX 174.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart	BOOL	false	false			
17		DB72.DBB 175		DEC	0				
18		DB72.DBX 175.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_0	BOOL	false				
19		DB72.DBX 175.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_1	BOOL	false				
20		DB72.DBX 175.2	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_2	BOOL	false				
21		DB72.DBX 175.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_3	BOOL	false				
22		DB72.DBX 175.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_4	BOOL	false				
23		// Rückmeldungen	der Achse	÷					
24		DB72.DBW 212		HEX	W#16#2F37				
25		DB72.DBX 213.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.IOP	BOOL	true				
26		DB72.DBB 215		HEX	B#16#00				
27		DB72.DBX 215.0	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_0	BOOL	false				
28		DB72.DBX 215.1	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_1	BOOL	false				
29		DB72.DBX 215.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_2	BOOL	false				
30		DB72.DBX 215.3	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_3	BOOL	false				
31		DB72.DBX 215.4	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_4	BOOL	false				
32									
33		DB72.DBD 222	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.XistP	DEC	L#468068				
34									
er									

CMMT 寻零

%	Fable Edit Inser	rt PLC Variable View Options Window Help								
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6	Address	Symbol	Display format	Status value M			LUTE			
1	// Antrieb / Achse	einschalten und Betriebsart anwählen			\equiv		UIIL	🔺 Q.	2	CMMT-AS-
2	DB72.DBW 172		HEX	W#16#0C3F		CIVIIVI I_Step / "				
3	DB72.DBX 173.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.OFF1	BOOL	true						
4	DB72.DBX 173.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RejTrvTask	BOOL	true		PARAMETERISAT	ION	CONTROL	DIAGNOSI	S
5	DB72.DBX 173.5	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.IntMStop	BOOL	true						
3	// Verfahrsatz akti	vieren			-	CMMT-AS-C4-3	A-PN-S	S1		Plug-in
7	DB72.DBX 173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart	BOOL	false		CMMT-AS-C4-3	A-PN-S	51 Disconnect		PLC
3	// Störung quittiere	۰. ۳				Path: 192.168.0.5	55	Disconnect		Control
3	DB72.DBX 173.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.AckFault	BOOL	false		Connected				control
10	// Achse im Tipp-B	etrieb verfahren			Cambral		1	Manual manual and		
11	DB72.DBX 172.0	"CMMT-AS".MDI Positioning.WR PZD POSBETR.STW1.Jog 1	BOOL	false	Control	pages	`	ivianuai movement		
12	DB72.DBX 172.1	"CMMT-AS".MDI Positioning.WR PZD POSBETR.STW1.Jog 2	BOOL	false	Manu	al movement				
13	//Homing	1			in and	in the remember of the remembe		Page is disable	d due to the	following reason
14	DB72.DBX 172.3	"CMMT-AS".MDI Positioning.WR PZD POSBETR.STW1.RefStart	BOOL	true	Record	list				reason
15			4					i ne piug-in nas i	no control.	
16	// Achse im Verfah	hrsatz-Mode betreiben	1							
17	DB72.DBX 174.7	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.MDIStart	BOOL	false						
18	DB72.DBB 175		DEC	0						
19	DB72.DBX 175.0	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.TryBit 0	BOOL	false						Homing
20	DB72.DBX 175.1	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.TrvBit 1	BOOL	false					- I -	
21	DB72.DBX 175.2	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.TrvBit 2	BOOL	false						
22	DB72.DBX 175.3	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.TrvBit 3	BOOL	false						
23	DB72.DBX 175.4	"CMMT-AS" MDI Positioning WR PZD POSBETR EPosSTW1 TryBit 4	BOOL	false						Homing valid
24	// Rückmeldungen	der Achse	1						-	
25	DB72.DBW 212		HEX	W#16#0A70						
26	DB72.DBX 213.2	"CMMT-AS" MDI Positioning RD PZD POSBETR ZSW1.IOP	BOOL	false						
27	DB72.DBB 215		HEX	B#16#00						



在 DB72.DBB175 中输入位置号:

// Achse im Verfahrsatz-Mode betreiben

DB72.DBX	174.7	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.MDIStart	BOOL	false	
DB72.DBB	175		DEC	2	2
DB72.DBX	175.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_0	BOOL	false	
DB72.DBX	175.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_1	BOOL	true	
DB72.DBX	175.2	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_2	BOOL	false	
DB72.DBX	175.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_3	BOOL	false	
DB72.DBX	175.4	"CMMT-AS".MDI Positioning.WR PZD POSBETR.EPosSTW1.TrvBit 4	BOOL	false	

DB72.DBX 173.6 上升沿触发位置表:

👪 Var - [VAT72_TVB -- @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(2) ONLINE]

👪 Table Edit Insert PLC Variable View Options Window Help

-[2]	D 🛩 🖬 🖉	, Keenson X = 1 K? 🛛 🖤	66 MP 66 M	1 //w	
ń	Address	Symbol	Display format	Status value	Modify value
4	DB72.DBX 173.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RejTrvTask	BOOL	true	true
5	DB72.DBX 173.5	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.IntMStop	BOOL	true	true
6	// Verfahrsatz akti	vieren			
7	DB72.DBX 173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart	BOOL	true	true
8	// Störung quittiere	Π			
9	DB72.DBX 173.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.AckFault	BOOL	false	false
10	// Achse im Tipp-B	etrieb verfahren			
11	DB72.DBX 172.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_1	BOOL	false	false
12	DB72.DBX 172.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_2	BOOL	false	false
13	//HOMING				
14	DB72.DBX 172.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RefStart	BOOL	false	false
15	// Achse im Verfah	irsatz-Mode betreiben			
16	DB72.DBX 174.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart	BOOL	false	false
17	DB72.DBB 175		DEC	2	2
18	DB72.DBX 175.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_0	BOOL	false	
19	DB72.DBX 175.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_1	BOOL	true	
20	DB72.DBX 175.2	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_2	BOOL	false	
21	DB72.DBX 175.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_3	BOOL	false	
22	DB72.DBX 175.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.TrvBit_4	BOOL	false	
23	// Rückmeldungen	der Achse			
24	DB72.DBW 212		HEX	W#16#3F37	
25	DB72.DBX 213.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.IOP	BOOL	true	
26	DB72.DBB 215		HEX	B#16#00	
27	DB72.DBX 215.0	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_0	BOOL	false	
28	DB72.DBX 215.1	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_1	BOOL	false	
29	DB72.DBX 215.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_2	BOOL	false	已到达2
30	DB72.DBX 215.3	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_3	BOOL	false	
31	DB72.DBX 215.4	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.EPosZSW1.ActTrvBit_4	BOOL	false	▶ 目标位
32					-
33	DB72.DBD 222	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.XistP	DEC	L#20000	

5.2 VAT72_MDI 测试

VAT72_MDI 主要是用于测试直接定位模式。双击打开 VAT72_MDI,按照 111 报文格式,按需要添加相应的参数。 下图举例添加了常用参数。

¥	.vat72_MDI @	Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Prog	ram(2) ONLINE				
	Address	Symbol	Symbol comment	Display format	Status value	Modify value	
1	// Antrieb / Acl	se einschalten					
2	DB72.DBW 17	2		HEX	W#16#047F		
3	DB72.DBX 17	0 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.0FF1	p840.0 Aus1	BOOL	true	true	
4	DB72.DBX 17	8.4 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RejTrvTask	p2641 Verfahrauftrag verwerfen	BOOL	true	true	
5	DB72.DBX 17	1.5 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.IntMStop	p2640 Betriebsbedingung Zwischenhalt	BOOL	true	true	
6	// Verfahrbefe	nl aktivieren					
7	DB72.DBX 17	8.6 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart	p2631 Verfahrauftrag aktivieren / p2650 direct setpoint i	BOOL	true	true	
8	// Störung quit	eren					
9	DB72.DBX 17	8.7 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.AckFault	p2103.0 Störspeicher Rücksetzen	BOOL	false	false	
10	// Achse im Tip	p-Betrieb verfahren					
11	DB72.DBX 17	2.0 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_1	p2589 Tippen Signalquelle 1 ein	BOOL	false	false	
12	DB72.DBX 17	2.1 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_2	p2590 Tippen Signalquelle 2 ein	BOOL	false	false	目電地に位
13	//HOMING						TLING& T
14	DB72.DBX 17	2.3 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RefStart	p2595 Start Referenziern	BOOL	false		
15	// Achse im ME	L-Mode betreiben					
16	DB72.DBX 17	I.0 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIPsTyp	p2648 direct setpoint input / MDI - positioning type	BOOL	true	true	
17	DB72.DBX 17	I.1 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIPos	p2651 direct setpoint input / MDI - positive direction	BOOL	false	false	
18	DB72.DBX 17	2 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDINeg	p2652 direct setpoint input / MDI - negative direction	BOOL	false	false	
19	DB72.DBX 17	I.4 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDITrTyp	p2649 direct setpoint input / MDI - transfer type	BOOL	false	false	
20	DB72.DBX 17	I.6 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDISetup	p2653 direct setpoint input / MDI - setup selecetion	BOOL	false	false	
21	DB72.DBX 17	I.7 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart	p2647 MDI-Mode anwählen	BOOL	true	true	
22	DB72.DBW 18	0 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.OVERRIDE	Geschwindigkeitsoverride (100%)	DEC	16384		
23	DB72.DBD 18	CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIPos	MDI Position	DEC	L#200000	L#200000	
24	DB72.DBD 18	CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIVel	MDI Geschwindigkeit	DEC	L#600000	L#600000	
25	DB72.DBW 19	0 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIAcc	MDI Beschleunigungsoverride in Prozent der Nennbeschle	DEC	16384		
26	DB72.DBW 19	2 "CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIDec	MDI Verzögerungsoverride in Prozent der Nennverzögerg	DEC	16384		目标位置到达
27	// Rückmeldun	en der Achse	-				
28	DB72.DBW 21	2		BIN	2#0011_1111_0011_	0111	
29	DB72.DBX 21	2.2 CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.TargPos	r2684.10 Sollposition erreicht	BOOL	true		
30	DB72.DBX 21	2 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.IOP	r899.2 Status Reglerfreigabe	BOOL	true		
31							故暗标志位和代码
32	DB72.DBD 22	CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.XistP	Lageistwert (Positionierbetrieb)	DEC	L#200000		的中国
33	DB72.DBD 22	CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.NistP	Drehzahlistwert	DEC	L#237368		
34	0070 0011 01		0/00 0	-			
35	DB72.DBX 21		12193.3 Storung	BOOL	talse		
36	DB72.DBW 23	U CMMT-AST.MDI_Positioning.RD_PZD_POSBETR.Fehler	12131 Aktueller Fehlerstorcode	DEC	U		
37	DB72.DBX 21	1.7 "CMMT-AS".MULPositioning.RD_PZD_POSBETR.ZSW1.Alarm	r2139.7 Warnung	BOOL	talse		
38	DB72.DBW 23	2 CMM1-AST.MDI_Positioning.RD_P2D_POSBETR.Warnung	r2132 Aktueller Warnstorcode	DEC	0		10 警怀态12 相10 的
1 39	DB72 DBX 176	6 "CMMT_AS" MDL Destinging WP_DZD_DOSBETD EDgeSTW2 SftLimAct	n7582	BOOL	falea		
41	DB72.DBX 170	7 "CMMT AS" MDL Positioning WR PZD POSBETR EPosSTW2 StrCamAct	22502	BOOL	falso		
42	0012.007 170	Gimmi-AG .mb(_r0sid)img.wk_r2b_r03bLitk.tr0s51W2.3lpt8llAC	读取反向/正向	BUUL	Idioc		激活软限位
43	DB72 DBX 217	6 "CMMT-AS" MDL Positioning PD_PZD_POSBETD FPos7SM/2 S#Swillin Ant	(2683.6—0) (2683.6—0)	8001	false		
44	DB72 DBX 217	7 "CMMT-AS" MDL Positioning RD_PZD_POSDETR.EP0523W2.SIISWMIIAC	r26837_Some 软限位状态	BOOL	false		
45	JU12.00X 217	Children and Food Children and Food Children and Children		5502	1000		
46	DB72 DBX 214	0 "CMMT AS" MDI Desitioning DD DZD DOSBETD EDes 75144 CinCambinA	r2684.13 Endechalter Negativ	8001	falea		激活硬限位
40	DB72.00X 214	1 "CMMT-AS" MDL Positioning PD_PZD_POSDETR.EPos2SW1.StpCamMinA		BOOL	false		
48	JU12.00A 214	- Comment of the state of the s	读取反向/正向	5501	1000		
			硬限位状态				

MDI-MODE 参数的解释如下:

参数名	说明	
DB72.DBW172	控制字 1: STW1	
STW1.OFF1	ON/OFF1,启动/停车信号	0=OFF1
		0→1=0N
STW1.RejTrvTask	撤销运行 MDI	0=撤销运行 MDI
		1=允许运行 MDI
STW1.IntMStop	暂停运行 MDI	0=暂停运行 MDI
		1=继续运行 MDI
STW1.TrvStart	执行指令	0→1=接收设定值(执行任务)
STW1.AckFault	故障复位	0→1=复位故障
STW1.jog1	正向点动	0=停止
		1=激活
STW1.jog2	负向点动	0=停止
		1=激活
STW1.RefStart	启动回参考点命令	0=停止
		1=激活
EPosSTW1.MDIPsTyp	相对定位/绝对定位	0=相对定位
		1=绝对定位
EPosSTW1.MDITrTyp	MDI 指令接收模式	0=单步接收设定值
		1=连续接收设定值
EPosSTW1.MDISetup	MDI 模式选择	0=定位模式
		1=调整模式

EPosSTW1.MDIStart	激活 MDI 功能	0=MDI 未激活
		1=激活 MDI
OVERRIDE	转速设定值系数	4000 hex = 100%
MDIPos	MDI 位置设定值	双字,单位 LU 取决于系数组
MDIVel	MDI 速度设定值	双字,单位 LU 取决于系数组
MDIAcc	MDI 加速度系数	4000 hex = 100%
MDIDec	MDI 减速度系数	4000 hex = 100%
DB72.DBW212	状态字 1: ZSW1	
ZSW1.TargPos	到达目标位置	0=未到达
		1=到达
ZSW1.IOP	使能状态	0=停机
		1=已使能
XistP	位置实际值	单位 LU
NistP	速度实际值	4000 0000 hex = 100%
ZSW1.Fault	故障标志位	0=无故障
		1=有故障
Fehler	故障代码	DEC
ZSW1.Alarm	报警标志位	0=无报警
		1=有报警
Warnung	报警代码	DEC

按照下图,按步骤 1,2,3,4 依次写入:

Jack Address Symbol Symbol Comment Display formal Statu value Modity value 2 Address Symbol Addres Statu value Modity value Notify value<	5	.VA	T72_MDI @Sier	nens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Prog	ram(2) ONLINE			
1 // Anthe // Actise enschaften 2 0P72.09X 173.0 VEX. Vex169047F 3 0P72.09X 173.0 VEX. Vex169047F 4 0P72.09X 173.0 VEX. Vex169047F 5 0P72.09X 173.0 VEX. Vex169047F ED0.1 True True 6 0P72.09X 173.5 VEX.173.5	\square	1	Address	Symbol	Symbol comment	Display format	Status value	Modify value
2 0972.08W 172 text VerlageAr text VerlageAr 3 0972.08W 173 'CMIT-AS' MDL Postioning WR, PZD, POSBETR STW1 OFT p2440.0 Aust thue thue thue 4 0972.08W 173.6 'CMIT-AS' MDL Postioning WR, PZD, POSBETR STW1 Int/MStop p2640.0 Berkebaddingurg Zwischenhalt BOOL True thue thue 7 0972.08W 173.6 'CMIT-AS' MDL Postioning WR, PZD, POSBETR STW1 ANTAS' p2610 Verfahreuhren / p2650 drest settorent B00L True thue	1		// Antrieb / Achse	einschalten				
31 DP22 DBX 173.0 CNMIT-AS* MDL_Postoning WR_PZD_POSBETR STW1.0F(FT) pp364 / Varianulting verwerfen BOOL Itrue true true 51 DP72 DBX 173.5 CMMIT-AS* MDL_Postoning WR_PZD_POSBETR STW1.1mMStop p2641 Varianulting verwerfen BOOL Itrue true true 61 // Varianultedini addiviren P2631 Varianulting verwerfen BOOL Itrue true true 7 Varianulting verwerfen BOOL Itrue true	2		DB72.DBW 172			HEX	W#16#047F	
4 DP22 DBX 173.4 CNMIT-AS* MDL/Pastoning VML/P2D_POSBETR STWI Ref/Trask p2440 Verfahreufting zwischenhalt BOOL Inse true 6 0P22 DBX 173.5 CNMIT-AS* MDL/Pastoning VMR_PZD_POSBETR STWI Ind/Stop p2640 Betrisbadedingung Zwischenhalt BOOL Inse true true 7 DB72 DBX 173.5 CNMIT-AS* MDL/Pastoning VMR_PZD_POSBETR STWI AckFault p2031 Verfahreufting attiveren / p2650 direct setpoint L BO Inse faise fa	3		DB72.DBX 173.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.OFF1	p840.0 Aus1	BOOL	🚺 true	true
5 DB72 DRX 1173.5 CUMIT-AS* MDL Postoning WR_PZD_POSBETR STW1 httMStop p2840 Betriebsbedingung Zwischenhalt BOUL True True 7 DB72 DRX 1173.6 'CUMIT-AS* MDL Postoning WR_PZD_POSBETR STW1 And Fault p2831 Verfahraufting atkiveren / p2850 direct setpoint. BoUL True	4		DB72.DBX 173.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RejTrvTask	p2641 Verfahrauftrag verwerfen	BOOL	🚺 true	true
6 // Verfahrsefehl aktivieren // Verfahrsefehl aktivieren p2631 Verfahrsuftrag aktivieren / p2650 drect selpoint L. 0.4 It stel true 7 DB72.DEX.1173.6 ''UMIT-AS' MDL Postioning WR_PZD_POSBETR STW1 AckFault p2010.0 Störspeicher Rücksetzen BOU. Talse false	5		DB72.DBX 173.5	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.IntMStop	p2640 Betriebsbedingung Zwischenhalt	BOOL	🚹 true	true
7 DB72.DBX 173.6 CMMT-AS* MD_Postioning WR_P2D_POSBETR STW11TrvStart p2831 Vertalinauting aktiveren / p2850 direct septiont i B0 1 Inse true 9 DB72.DBX 173.7 "CMMT-AS* MD_Postioning WR_P2D_POSBETR STW1 AckFaut p2103.0 Storspeicher Rücksetzen BOOL faise	6		// Verfahrbefehl al	tivieren		-		
8 // Storung quittered 9 OB720DR 173.7 \ 'CMIT-AS' MDL Postoning WR_PZD_POSBETR STW1 AckFaut p2103.0 Storspeicher Rücksetzen BOOL false false 11 OB720DR 172.1 \ 'CMIT-AS' MDL Postoning WR_PZD_POSBETR STW1 Jog_1 p2589 Tipen Signalquele 1 en BOOL false false false 12 OB720DR 172.1 \ 'CMIT-AS' MDL Postoning WR_PZD_POSBETR STW1 Jog_2 p2590 Tipen Signalquele 2 en BOOL false false false 13 OB720DR 172.3 \ 'CMIT-AS' MDL Postoning WR_PZD_POSBETR STW1 Ag_2 p2595 Start Referenziern BOOL false false false 14 DB720BX 174.1 \ 'CMIT-AS' MDL Postoning WR_PZD_POSBETR EPosSTW1 MDPs p2546 direct setpoint input / MD - posting region BooL false false <th< td=""><td>7</td><td></td><td>DB72.DBX 173.6</td><td>"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart</td><td>p2631 Verfahrauftrag aktivieren / p2650 direct setpoint i</td><td>^{BC} 4</td><td>true</td><td>true</td></th<>	7		DB72.DBX 173.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.TrvStart	p2631 Verfahrauftrag aktivieren / p2650 direct setpoint i	^{BC} 4	true	true
9 DB72.0BX 173.7 TCMIT-AS* MDL/Positioning WR_PZD_POSBETR STW1 AckFault p2103.0 Stbrspeicher Rücksetzen BOOL false false false 10 // Ackse mit Dipo-Betterburg verfahren B00L false	8		// Störung quittiere	n				
10 // Achse im Tipp-Betrieb verfahren 11 D872 DBX 172.0 CMMT-AS* MDL Positioning WR_PZD_POSBETR STW1 Jog_1 p2589 Tippen Signakuele 1 ein BOOL false	9		DB72.DBX 173.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.AckFault	p2103.0 Störspeicher Rücksetzen	BOOL	false	false
11 DB72.DBX 172.0 CMMT-AS*MLPostioning WR_P2D_POSETR STW1.Jog_1 p2599 Typen Signakuele 1 ein BOOL false false false 12 DB72.DBX 172.1 CMMT-AS*MDLPositioning WR_P2D_POSETR STW1.Jog_2 p2599 Typen Signakuele 2 ein BOOL false f	10		// Achse im Tipp-B	etrieb verfahren				
12 DB72.DBX 172.1 "CMMT-AS" MDLPositioning WR_PZD_POSBETR STW1 Jog_2 p2590 Tippen Signatquelle 2 ein BOOL false false 13 //HOUMIG ///HOUMIG ///HOUMIG ///HOUMIG ///HOUMIG //HOUMIG ///HOUMIG ///HOUMIG ///HOUMIG ///HOUMIG //HOUMIG	11		DB72.DBX 172.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_1	p2589 Tippen Signalquelle 1 ein	BOOL	false	false
13 //HOUMIG 14 DB72.DBX 172.3 CMMT-AS* MDL Postioning WR_PZD_POSBETR STW1 RefStart p2595 Start Referenziern BOOL false 16 DB72.DBX 174.3 'CMMT-AS* MDLPostioning WR_PZD_POSBETR EPosSTW1 MDPs p2644 drect setpoint input / MDL- postioning type B0 Itue Itue Itue 17 DB72.DBX 174.3 'CMMT-AS* MDLPostioning WR_PZD_POSBETR EPosSTW1 MDPs p2641 drect setpoint input / MDL- postion input / MDL- faste false fa	12		DB72.DBX 172.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.Jog_2	p2590 Tippen Signalquelle 2 ein	BOOL	false	false
14 DB72.DEX 172.3 "CMMT-AS" MD_Positioning WR_PZD_POSBETR.STW1.NDPS Typ p2595 Start Referenziem BOOL false 15 /// Achse im MDI-Mode betreben BOZ_DEX 174.0 "CMMT-AS" MD_Positioning WR_PZD_POSBETR.EPoSSTW1.MDPs typ p2648 direct setpoint input / MDI- positioning type BOZ_DEX 174.1 True true true true true true false f	13		//HOMING					
15 // Achse im MUNMode betreiben 16 DB72.DBX 174.0 "CMMT-AS" MDLPositioning WR_P2D_POSBETR.EPosSTW1.MDPs to p2681 direct setpoint input / MDI - position BOL false	14		DB72.DBX 172.3	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.STW1.RefStart	p2595 Start Referenziern	BOOL	false	
16 DB72.DBX 174.0 'CMMT-AS': MDLPostioning WR_PZD_POSBETR.EPosSTW1.MDPsop p2851 direct setpoint input / MDI - positive direction BOQ Intract 17 DB72.DBX 174.1 'CMMT-AS': MDLPostioning WR_PZD_POSBETR.EPosSTW1.MDPsop p2851 direct setpoint input / MDI - positive direction BOQ false	15		// Achse im MDI-Mo	ode betreiben				
17 DB72.DBX 174.1 "CMMT-AS".MDLPostioning.WR_PZD_POSBETR.EPosSTW1.MDPos p2851 direct setpoint input / MD1- positive direction BO0	16		DB72.DBX 174.0	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIPsTyp	p2648 direct setpoint input / MDI - positioning type	^{BC} 2	true	true
16 DB72_DBX 174.2 "CMMT-AS" MDL/Positioning WR_PZD_POSBETR EPoSTW1 MDINeg p2822 direct setpoint input / MD1- negative direction BOOL false false 19 DB72_DBX 174.4 "CMMT-AS" MDL/Positioning WR_PZD_POSBETR EPoSTW1 MDITryp p2649 direct setpoint input / MD1- negative direction BOOL false	17		DB72.DBX 174.1	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIPos	p2651 direct setpoint input / MDI - positive direction	BOL	false	false
19 DB72 DBX 174.4 "CMMT-AS":MDLPositioning WR_PZD_POSETR EPosSTW1 MDT:Typ p2849 direct setpoint input / MD1-transfer type BOOL false false false 20 DB72 DBX 174.6 "CMMT-AS":MDLPositioning WR_PZD_POSETR EPosSTW1 MDIStart p2853 direct setpoint input / MD1-setup selection BOOL false	18		DB72.DBX 174.2	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDINeg	p2652 direct setpoint input / MDI - negative direction	BOOL	false	false
20 DB72.DBX 174.6 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart p2853 direct setpoint input / MD1- setup selecetion BOU If false false 21 DB72.DBX 174.7 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart p2647 MD1-Mode anwählen BC If true true true 22 DB72.DBN 182 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart p2647 MD1-Mode anwählen BC If true true true 23 DB72.DBN 182 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.MDIPos MD1 Position DEC I#200000 L#200000 L#200000 L#600000 L#600	19		DB72.DBX 174.4	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDITrTyp	p2649 direct setpoint input / MDI - transfer type	BOOL	false	false
21 DB72.DBX 174.7 "CMMT-AS".MDL_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart p2647 MDLMode anwählen B0 Image: true true 22 DB72.DBW 180 "CMMT-AS".MDL_Positioning.WR_PZD_POSBETR.OVERRDE Geschwindigkeitsoverride (100%) DEc L#2000.00 L#2000.00 24 DB72.DBV 180 "CMMT-AS".MDL_Positioning.WR_PZD_POSBETR.MDIVel MDI Position DEc L#2000.00 L#2000.00 25 DB72.DBW 190 "CMMT-AS".MDL_Positioning.WR_PZD_POSBETR.MDIVel MDI Beschleunigungsoverride in Prozent der Nennbeschle DEC 16334 26 DB72.DBW 192 "CMMT-AS".MDL_Positioning.WR_PZD_POSBETR.MDIVec MDI Verzögerungsoverride in Prozent der Nennverzöger DEC 16384 27 // Rückmeldungen der Achse WI ruck WI ruck 16384 16384 28 DB72.DBX 212 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL Image: With ruck 1 29 DB72.DBX 212 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.ZSW1.10P r899.2 Status Reglerfreigabe BOOL Image: With ruck 1 1 1	20		DB72.DBX 174.6	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDISetup	p2653 direct setpoint input / MDI - setup selecetion	BOOL	false	false
22 DB72.DBW 180 'CMMT-AS".MDLPostioning.WR_PZD_POSBETR.MDIPos MDI Postion DEC 16384 23 DB72.DBD 182 ''CMMT-AS".MDLPostioning.WR_PZD_POSBETR.MDIPos MDI Postion DEC L#200000 L#2000 24 DB72.DBD 186 ''CMMT-AS".MDLPostioning.WR_PZD_POSBETR.MDIVel MDI Geschwindigkeit DEC L#800000 L#6000 25 DB72.DBW 190 ''CMMT-AS".MDLPostioning.WR_PZD_POSBETR.MDIAcc MDI Beschleunigungsoverride in Prozent der Nennbeschle DEC 16384 26 DB72.DBW 190 ''CMMT-AS".MDLPostioning.WR_PZD_POSBETR.MDIAcc MDI Verzögerungsoverride in Prozent der Nennverzögerg DEC 16384 27 // Rückmeldungen der Achse EIN 2#0011_1111_0011_0111 1 28 DB72.DBW 212 'CMMT-AS".MDLPostioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL Itrue 1 29 DB72.DBW 212 'CMMT-AS".MDLPostioning.RD_PZD_POSBETR.ZSW1.IOP r899.2 Status Reglerfreigabe BOOL Itrue 1 30 DB72.DBW 221 'CMMT-AS".MDLPostioning.RD_PZD_POSBETR.XistP Lageistwert (Postionierbetrieb) DEC L#2	21		DB72.DBX 174.7	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.EPosSTW1.MDIStart	p2647 MDI-Mode an wählen	BC 1	true	true
23 DB72 DBD 182 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.MDIPos MDI Position DEC L#20000 L#20000 L#200 24 DB72.DBD 186 "CMMT-AS".MDL/Positioning.WR_PZD_POSBETR.MDIVel MDI Geschwindigkeit DE L#60000 L#6000 L#60000	22		DB72.DBW 180	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.OVERRIDE	Geschwindigkeitsoverride (100%)	DEC	16384	
24 DB72.DB0 186 *CMMT-AS*.MDLPostioning.WR_PZD_POSBETR.MDIVel MDI Geschwindigkeit DE 16334 25 DB72.DBW 190 *CMMT-AS*.MDLPostioning.WR_PZD_POSBETR.MDIAcc MDI Beschleunigungsoverride in Prozent der Nennbeschle DEC 16384 26 DB72.DBW 192 *CMMT-AS*.MDLPostioning.WR_PZD_POSBETR.MDIDec MDI Verzögerungsoverride in Prozent der Nennverzögerg DEC 16384 27 // Rückmeldungen der Achse BIN 2#0011_1111_0011_011 1 28 DB72.DBX 212 *CMMT-AS*.MDLPostioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 213.2 *CMMT-AS*.MDLPostioning.RD_PZD_POSBETR.ZSW1.NOP r699.2 Status Reglerfreigabe BOOL true 1 31	23		DB72.DBD 182	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIPos	MDI Position	DEC	L#200000	L#200000
25 DB72.DBW 190 *CMMT-AS".MDLPositioning.WR_PZD_POSBETR.MDIAcc MDI Beschleunigungsoverride in Prozent der Nennverzöger DEC 16384 26 DB72.DBW 192 *CMMT-AS".MDLPositioning.WR_PZD_POSBETR.MDIDec MDI Verzögerungsoverride in Prozent der Nennverzöger DEC 16384 27 // Rückmeldungen der Achse 2#0011_1111_0011_011 28 DB72.DBW 212 CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 212.2 *CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 31 0 DB72.DBX 213.2 *CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.OP r899.2 Status Reglerfreigabe BOOL true 32 DB72.DBD 222 *CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 33 DB72.DBD 226 *CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Drehzahlistwert DEC L#.321842 34 0 0 11 12 12 12 12 12 12 12 12 12 12 12 12	24		DB72.DBD 186	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIVel	MDI Geschwindigkeit	DE 3	L#600000	L#600000
26 DB72.DBW 192 "CMMT-AS".MDLPositioning.WR_PZD_POSBETR.MDIDec MDI Verzögerungsoverride in Prozent der Nennverzöger DEC 16384 27 // Rückmeldungen der Achse BIN 2#0011_1111_0011_0111 28 DB72.DBW 212 CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 213.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.IOP r899.2 Status Reglerfreigabe BOOL true 31	25		DB72.DBW 190	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIAcc	MDI Beschleunigungsoverride in Prozent der Nennbeschle	DEC	16384	
27 // Rückmeldungen der Achse 28 DB72.DBW 212 EIN 2#0011_1111_0011_0111 29 DB72.DBX 212.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 212.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 213.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.IOP r899.2 Status Regierfreigabe BOOL true 31 DB72.DBD 222 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 33 DB72.DBD 226 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Drehzahistwert DEC L#-321842 34	26		DB72.DBW 192	"CMMT-AS".MDI_Positioning.WR_PZD_POSBETR.MDIDec	MDI Verzögerungsoverride in Prozent der Nennverzögerg	DEC	16384	
28 DB72.DBW 212 EIN 2#0011_1111_0011_0111 29 DB72.DBX 212.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Soliposition erreicht BOOL true 30 DB72.DBX 213.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.OP r899.2 Status Reglerfreigabe BOOL true 31 DB72.DBD 222 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 33 DB72.DBD 226 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 34	27		// Rückmeldungen	der Achse				
29 DB72 DBX 212.2 "CMMT-AS" MDLPositioning.RD_PZD_POSBETR.ZSW1.TargPos r2684.10 Sollposition erreicht BOOL true 30 DB72.DBX 213.2 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.IOP r699.2 Status Reglerfreigabe BOOL true Image: Comparison of the comparison	28		DB72.DBW 212			BIN	2#0011_1111_0011_0111	
30 DB72.DBX 213.2 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.ZSW1.IOP r899.2 Status Reglerfreigabe BOOL true 31 0 0 0 0 0 0 32 DB72.DBD 222 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 33 DB72.DBD 226 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.XistP Drebahlistwert DEC L#201000 34 0 0 0 0 0 0 35 DB72.DBX 213.3 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.ZSW1.Fault r2193.3 Störung BOOL false 36 DB72.DBX 213.3 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.Fehler r2131 Aktueller Fehlerstörcode DEC 0 37 DB72.DBX 213.7 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.ZSW1.Alarm r2139.7 Warnung BOOL false 38 DB72.DBX 213.7 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.Warnung r2132 Aktueller Warnstörcode DEC 0	29		DB72.DBX 212.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.TargPos	r2684.10 Sollposition erreicht	BOOL	true	
31 <	30		DB72.DBX 213.2	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.IOP	r899.2 Status Reglerfreigabe	BOOL	true true	
32 DB72.DBD 222 "CMMT-AS".MDL/Positioning.RD_PZD_POSBETR.XistP Lageistwert (Positionierbetrieb) DEC L#200000 33 DB72.DBD 226 "CMMT-AS".MDL/Positioning.RD_PZD_POSBETR.NistP Drehzahlistwert DEC L#-321842 34 Image: Comparison of the comp	31							
33 DB72.DBD 226 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.NistP Drehzahlistwert DEC L#-321842 34	32		DB72.DBD 222	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.XistP	Lageistwert (Positionierbetrieb)	DEC	L#200000	
34 34 35 DB72.DBX 213.3 "CMMT-AS".MDLPostioning.RD_P2D_POSBETR.ZSW1.Fault r2193.3 Storung BOOL false 36 DB72.DBX 203 "CMMT-AS".MDLPostioning.RD_P2D_POSBETR.Tehler r2131 Aktueller Fehlerstörcode DEC 0 37 DB72.DBX 213.7 "CMMT-AS".MDLPostioning.RD_P2D_POSBETR.ZSW1.Alarm r2139.7 Varnung BOOL false 38 DB72.DBW 232 "CMMT-AS".MDLPostioning.RD_P2D_POSBETR.Texturnung r2132 Aktueller Warnstörcode DEC 0	33		DB72.DBD 226	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.NistP	Drehzahlistwert	DEC	L#-321842	
35 DB72.DBX 213.3 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.Fault r2193.3 Störung BOOL false 36 DB72.DBW 230 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Fehler r2131 Aktueller Fehlerstörcode DEC 0 37 DB72.DBX 213.7 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.Alarm r2139.7 Warnung BOOL false 38 DB72.DBW 232 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Warnung r2132 Aktueller Warnstörcode DEC 0	34							
36 DB72.DBW 230 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Fehler r2131 Aktueller Fehlerstörcode DEC 0 37 DB72.DBX 213.7 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.Alarm r2139.7 Warnung BOOL false 38 DB72.DBW 232 "CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Warnung r2132 Aktueller Warnstörcode DEC 0	35		DB72.DBX 213.3	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.Fault	r2193.3 Störung	BOOL	false	
37 DB72.DBX 213.7 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.ZSW1.Alarm r2139.7 Warnung BOOL false 38 DB72.DBW 232 "CMMT-AS".MDLPositioning.RD_PZD_POSBETR.Warnung r2132 Aktueller Warnstörcode DEC 0	36		DB72.DBW 230	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Fehler	r2131 Aktueller Fehlerstörcode	DEC	0	
38 DB72.DBW 232 "CMMT-AS".MDL_Positioning.RD_PZD_POSBETR.Warnung r2132 Aktueller Warnstörcode DEC 0	37		DB72.DBX 213.7	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.ZSW1.Alarm	r2139.7 Warnung	BOOL	false	
	38		DB72.DBW 232	"CMMT-AS".MDI_Positioning.RD_PZD_POSBETR.Warnung	r2132 Aktueller Warnstörcode	DEC	0	

Current user unit	Rev [rev, rpm,] (Rev [rev, rpm,] (3)				
Position	0	-3				
Velocity	0	-3				
Acceleration	0	-3				
Jerk	0	-3				



5.3 VAT72_Parameter

VAT72_Parameter 主要是用于读写参数测试(包括故障代码读取)。VAT72_Parameter 用于单个参数读写, VAT72_Parameter_1_10 用于最多 10 个参数读写。

参数读写功能是通过 PNU 对参数进行访问的,每个参数对应的 PNU 号可以从 CMMT-PN 手册 12.4 章节 PNUs reference list 查找,手册下载地址如下:

https://www.festo.com.cmn/net/zh-cn_cn/SupportPortal/Downloads/467198/629460/CMMT-AS-SW_2019-02a_8104266g1.pdf

> 🔲 Technology functions			12.4 P	NUs reference list			
 Safety signals Diagnostics and fault clearance 			PNU	Name	Data type	Access	Parameter
> 🔲 CDSB operator unit			Profile spe	ecific parameters			
> 🗍 EtherCAT	4		1.0	STW1	Unsigned16	rw	P1.1147990.0.0
🗍 General			2.0	ZSW1	Unsigned16	ro	P1.1145990.0.0
> PROFINET communication			3.0	STW2	Unsigned16	rw	P1.1148990.0.0
> 🔲 PROFIdrive			4.0	ZSW2	Unsigned16	ro	P1.1146990.0.0
PNUs reference list			5.0	Target speed NSOLL_A/NSOLL_B	FloatingPoint	rw	P1.11280502.0- .0
			6.0	Actual velocity value	FloatingPoint	ro	P1.1210.0.0
			7.0	Target speed NSOLL_A/NSOLL_B	FloatingPoint	rw	P1.11280502.0-
		Parameter	8.0 index	Actual velocity value	FloatingPoint	ro	P1.1210.0.0

욻	Var - [VAT72_Parameter @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(1) O									
S	T	able Edit	Inse	rt PLC Variable View Options Window Help						
÷	▰▯▻▻◼▤▮ਸ਼▫▫××▫◾ਃਲ਼!ヅ๙๛๛๙๙ฃ๛									
	1	Address		Symbol	Display forma	Status value				
1		//Befehl para	metri	eren						
2		DB72.DBW	16	"CMMT-AS".Basis.single.tasksi	DEC	0				
3		DB72.DBW	18	"CMMT-AS".Basis.single.Ind	DEC	0				
4		DB72.DBD 2	20	"CMMT-AS".Basis.single.Data	DEC	L#0				
5										
6		DB72.DBX 1	14.0	"CMMT-AS".Basis.single.RD	BOOL	false				
7		DB72.DBX 1	14.1	"CMMT-AS".Basis.single.WR	BOOL	false				
8										
9		DB72.DBX 1	14.3	"CMMT-AS".Basis.single.busy	BOOL	false				
10		DB72.DBX 1	14.2	"CMMT-AS".Basis.single.Done	BOOL	false				
11		DB72.DBX 1	14.7	"CMMT-AS".Basis.single.Error	BOOL	false				
12										
13		DB72.DBW	24	"CMMT-AS".Basis.single.ErrorNumbr	HEX	W#16#FFFF				

→ In DB72.DBW 16 需要读写的参数号 (CMMT 的 PNU 号小数点左侧部分)

→ In DB72.DBW 18 需要读写的参数索引号(CMMT 的 PNU 号小数点右侧部分)

→ In DB72.DBW 20 读的结果或写入的值

🖌 Var	Var - VAT72_Parameter									
Table	Edit Ins	ert P	LC Variable View Options	Window Help						
-pa	n 🍙 🗖	A		9 8 N	Sy Gr 47 6	6 42 Mar				
82 .v	VAT72_Parameter @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(2) ONLINE									
1	Address		Symbol		Display format	Status value	Modify value			
1	//Befehl p	arametr	ieren		•	•				
2	DB72.DBV	V 16	"CMMT-AS".Basis.single.tasksi		DEC	2256	2256			
3	DB72.DBV	V 18	"CMMT-AS".Basis.single.Ind		DEC	0	0			
4	DB72.DBD	20	"CMMT-AS".Basis.single.Data		FLOATING_POINT	36.94532				
5				_	/					
6	DB72.DBX	14.0	"CMMT-AS".Basis.single.RD		BOOL	false	true			
7	DB72.DBX	(14.1	"CMMT-AS".Basis.single.WR		BOOL	false	false			
8				改成读取参						
9	DB72.DBX	14.3	"CMMT-AS".Basis.single.busy		BOOL	false	赤町ト			
10	DB72.DBX	14.2	"CMMT-AS".Basis.single.Done	数的格式	BOOL	true	KW1			
11	DB72.DBX	14.7	"CMMT-AS".Basis.single.Error		BOOL	false				
12										
13	DB72.DBV	V 24	"CMMT-AS".Basis.single.ErrorNu	mbr	HEX	W#16#0000				
14										
15										

读取的结果是 36.94532℃。

例 2: 修改加速度的基础值(PNU12346.0)

Can Var - VAT72_Parameter											
Table	Edit Ins	ert P	LC Variable View Options Wind	dow Help							
-ì¤		6	▓▆▆▻▱╳ृृॾ		Sy 66' ≤ 47 66	Υ <mark>ι «νι</mark> <i>Μα</i> ν					
8	VAT72_Parameter @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(2) ONLINE										
	Address		Symbol		Display format	Status value	Modify value				
1	//Befehl p	arametr	ieren					写入值 二			
2	DB72.DB	N 16	"CMMT-AS".Basis.single.tasksi		DEC	12346	12346				
3	DB72.DB	N 18	"CMMT-AS".Basis.single.Ind		DEC	0	0				
4	DB72.DB	D 20	"CMMT-AS".Basis.single.Data		FLOATING_POINT	1234.0	1234.0 🦯				
5											
6	DB72.DB	K 14.0	"CMMT-AS".Basis.single.RD		BOOL	false					
7	DB72.DB	X 14.1	"CMMT-AS".Basis.single.WR		BOOL	false 🔍	true				
8											
9	DB72.DB	K 14.3	"CMMT-AS".Basis.single.busy		BOOL	false					
10	DB72.DB	X 14.2	"CMMT-AS".Basis.single.Done		BOOL	true	1	写入上升沿触发			
11	DB72.DB	X 14.7	"CMMT-AS".Basis.single.Error		BOOL	false					
12											
13	DB72.DB	N 24	"CMMT-AS".Basis.single.ErrorNumbr		HEX	W#16#0000					
14											
15											
与丢	FAS 宿	已被	冬改								
ユノ目	17,5, 但			Reference	e values						
▼ Fie	eldbus										

	Extended process data	Base value velocity (user unit)	3000.00	rpm	
	Digital I/O	Base value speed (controller)	3000.00	rpm	
	Analogue I/O	•			_
	Encoder interface	Base value acceleration	1234.00	rpm/s	•
•	Axis 1 9	Base value deceleration	600.00	rpm/s	
	Motor				

5.4 910 扩展报文

FESTO 910 扩展报文是在原有通讯报文的基础上追加的一种可用于自由映射周期性过程数据的报文。该报文提供了 32bytes I/0 过程映射区(最多支持 8 个 32 Bit 数据长度或者 4 个 64 Bit 数据长度的参数)。可以通过 CMMT 配置软件 FAS 对需要映射的参数进行配置。

Telegram number	Description		Supported application classes
Additional te	elegram		
910	Transmission of addition	al process data (EPD)	AC1, AC3 and AC4
PZD	Setpoint value (Rx data)	Actual value (Tx data)	
1	Max. 8 parameters (32 bytes)	Max. 8 parameters (32 bytes)	
2			
3			
4			
5			
6			
7			
8			
9			
10			
11	_		
12			
13	_		
14			
15	_		
16			

5.4.1 在 CMMT 硬件组态中追加 910 报文,并下载



5.4.2 在 FAS 中配置需要实时读写的参数,并保存

PARAMETERISATIO	ON CONTR	OL DIAGN	IOSIS							
CMMT-AS-C4-3A CMMT-AS-C4-3A Path: 192.168.0.5 Warning	- PN-S1 PN-S1 Dis	sconnect	Plug-in PLC Control	Enabled Disabled Powerstage	O Stop	Acknowledge all	Store on device	Reini	itialize art device	e
Parameter pages	< Extended p	process data				💼 Delete all sent data	a 💼 Delete all receive	d data		
Drive configuration Device settings • Fieldbus	🔿 Sent	data								
Extended process data	0	ID	Parameter	Ty	pe Byte posit	ion			ľ	侖
Digital I/O		P0.400.0.0	Actual value DC IIIK V	inage i Lo	JA132 0				-	
Analogue I/O								Add pro	cess chai	nnel
Encoder interface						Number of h	des Tr	ridd pro	cess end	
 Axis 1 	9					Number of by	vies 1x	4		
Operator unit						Number of by	ytes Tx (Offline)	4		
Parameter list	13									
	🔿 Recei	ived data								
	0	ID P1.526801.0.0	Parameter O Clamping torque	Type FLOAT32	Byte position 0				Ø	Ê
								2 Add pro	cess chai	nnel
						Number of by	ytes Rx	0		
						Number of by	ytes Rx (Offline)	4		

5.4.3 新建监控表,添加读取和写入地址

右键新建 910 监控表 《 SIMATIC Manager - [Siemens_CMMT_Profidrive -- C:\Program Files (x86)\Siemens\Step7\s7proj\CMMT_PN] 圖 File Edit Insert PLC View Options Window_Help 🗅 😅 🎇 🛲 | 3, 🗈 💼 🤹 🗣 🗣 🎭 📴 🖽 🏢 🔁 | < No Filter > 💽 🍞 | 💥 🎯 | 🖷 🗖 | M Siemens_CMMT_Profidive SIMATIC 300(1) CPU 315-2 PN/DP System data 🗗 FB283 FC72 🔂 OB1 🖪 DB72 SFB53 SFC6 SFC14 SFC15 🗄 🛐 S7 Program(2) Cut Ctrl+X - Blocks Сору Ctrl+C Properties - Variable Table x Paste Ctrl+V General - Part 1 General - Part 2 Attributes Delete Del VAT2 Name: Insert New Object Organization Block Symbolic Name: 910 PLC Þ Function Block Symbol Comment: Function Rewire... Data Block Compare Blocks... Project path: Data Type Reference Data Storage location of project: Variable Table C:\Program Files (x86)\Siemens\Step 7\s7proj\CMMT_PN_ Check Block Consistency... Code Interface Print ь Date created: 03/26/2020 06:59:31 AM Last modified: 03/26/2020 06:59:31 AM 03/26/2020 06:59:31 AM Object Properties... Alt+Return Comment: Special Object Properties Block Privacy... S7-Web2PLC ОК Help Cancel

在监控表中添加输入输出地址,并监控 读取中间回路电压 320V 左右,并将夹紧扭矩设为 0.6NM.

👪 _910 @Siemens_CMMT_Profidrive\SIMATIC 300(1)\CPU 315-2 PN/DP\S7 Program(2) ONLIN										
	4	A	Idress	Symbol	Display format	Status value	Modify value			
1		PID	256		FLOATING_POINT	320.8708				
2		QD	256		FLOATING_POINT	0.6	0.6			
3										
				-						

P0.480.0.0	Actual value DC link voltage	320.6081	V	
P1.526801.0.0	Clamping torque	0.60	Nm	