CMMT-AS-...-S1 伺服驱动器 FAS 软件调试 V2.2



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### 关键词:

FAS, CMMT-AS, 本地调试, 状态诊断, 曲线采集, 固件更新

#### 摘要:

本文介绍了使用 FAS 调试软件完成 CMMT-AS 伺服驱动器的基本功能调试,包括 FAS 软件的下载、安装,驱动配置文件 的配置、上传、下载,驱动器在线诊断,曲线采集功能及驱动器固件文件更新等内容。

#### 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 CMMT-AS 伺服驱动器接口功能有一定了解。

### 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

本文档使用的 CMMT 伺服型号: CMMT-AS-C2-3A-PN-S1, 其固件版本为: V016.0.9.10, 软件版本信息如下:

软件名称	软件版本
FAS (Festo Automation Suite)	1.3.1.57
CMMT-AS Plug-in	1.3.0.46
FFT(Festo Field Device Tool)	V2.9.9

### 2 FAS 软件下载和安装

FAS 软件(Festo-Automation-Suite)是 Festo 推出的全新调试平台,CMMT-AS 伺服驱动器在进行总线通讯调试之前,必须在 FAS 软件中完成本地功能调试。

### 2.1 软件下载、安装

打开链接 <u>https://www.festo.com.cn/cn/zh/search/?text=CMMT-AS-C2-3A-PN-S1&tab=D0WNL0ADS</u>;在 Software 选项卡中,分别将 FAS 软件及 CMMT-AS 插件下载到电脑本地(Software 选项卡中名字相同的软件中,排在最上面的是最新版)。

CMMT-AS-C2-3A-PN-S1							
产品 1	支持/下载 79	主题 199					

产品信息 [26]

技术文档 [6] Certificates [3] Software [20] Festo Automation Suite FAS软件 Parameterisation, programming and maintenance of electronic devices by Festo 调试 Festo Automation Suite - Plug-in CMMT-AS插件 Plug-in for the configuration and parametrisation of the servo drive CMMT-AS

专业知识 [23]

#### 安装时: 需先安装 FAS 平台软件, 再通过 FAS 安装 CMMT-ST 的插件(Plug-in)。

双击安装文件即可开始 FAS 软件的安装,但 CMMT-ST 插件(Plug-in)无法直接双击安装,其安装方式有两种:通过 FAS 平台在线安装/下载到电脑本地由 FAS 本地导入安装。

#### 2.1.1 CMMT-ST 插件在线安装

有网络连接的情况下,按下图选择 Install Device Plug-ins—选择 Plug-ins 找到需要下载的产品,下载安装即可。

#### **AUTOMATION SUITE**

How do you want to start?

Ľ	Last Used Project Open the last used project to continue workin	Repositories		对号核	识:表示已经	安装了最新版本
	New Project Create a new project for setting up device par	Physics     P	Plug-ins CMMT-AS Plug-in Installed   Latest	3		CMMT-AS Plug- Plug-in for the configuration an parametrikation of the serve of CMMT-AS Licenses
Q,	Scan Scan for Festo devices in the network without	CODESVS	CMMT-ST Plug-in	1	nstalled version 1.1.1.8 一云朵标识:	Uninstall Plug-in 表示尚未安装
8	Install Device Plug-ins Install device specific plug-ins in order and use	the devices in a project				

### 2.1.2 CMMT-AS 插件本地导入安装

插件下载到电脑后, FAS 软件中按下图中标号①~④操作,即可完成 CMMT 插件的本地导入安装。



### 2.2 软件更新

由于新产品、新功能不断的加入及一些 Bug 的修复,建议及时更新相关插件版本。如下图所示:有网络连接时,无需通过 访问 Festo 官网, FAS 软件界面右上角的消息铃铛会自动提示当前 FAS 平台软件基础上,是否有插件更新供下载。

### 2.2.1 插件更新

			No notifications available	
Last Used Project	ie working		Always perfo	orm this action on startup
2.2 FAS 软件平台更新	釿			
些新版本的插件更新在	低版本 FAS 软件	件平台上不会被提提示	云装,此时请先更新 FA	S 软件,再更新插作
UTOMATION SUITE	$\leftarrow$			♣ - □ × FESTO
How do you want to start?		About		
Last Used Project     Open the last used project to continue working	🖺 New	Festo Aut Copyright © 2018	tomation Suite by Festo AG & Co. KG	
Create a new project for setting up device part	Information	Warning: This com Unauthorized repr severe civil and cri under the law.	puter program is protected by copyright law and internation oduction or distribution of this program , or any portion of iminal penalties, and will be prosecuted to the maximum ext	ial treaties. 1, may result in ent possible
Q Device Scan Scan for Festo devices in the network without	<ul><li>Save</li><li>Save As</li></ul>	Installed version 1.3.2.4 Release Notes		3 Search for update
Install Device Plug-ins Install device specific plug-ins in order and us	Himport			

### 3 参数上传和备份

如现场 CMMT 驱动器已经完成调试,生产使用过程中需要上传、修改、备份等操作,可以将网线连入需要操作的 CMMT 驱动器正面板最上方的 X18 调试口,并参照如下步骤①~⑤操作:

- ① 新建一个项目,并扫描在线设备,成功扫描到 CMMT 驱动器;
- ② 修改本地电脑 IP 和扫描到的 CMMT 驱动器至同一网段(IP 地址前三位一致);
- ③ 将扫描到的 CMMT 驱动器加入当前工程项目中;

≡ <sup>▲</sup> №	UTOMATION SUITE ew Project	1) Q 0						*	- • × FESTO
Dev	vice scan	点扫描按钮,扫描电脉	函当前连接的CMMT						
Device lis	t						>	Hi	
Status	Device Name	Device Type	Address	Subnet Mask	Firmware		C	MMT-AS-C4-3A-PN-S1	
0	н	CMMT-AS-C4-3A-PN-S1 2	192.168.0.4	255.255.255.0	V016.0.9.10_release			52.100.034	
								5+	
								Actions	
								Device details	
							L	Identification	
								Network Settings	
							Ŀ	Device Name	
							H	Firmware	
				to be the state of the state	्रेष्ट्र स्वेद्ध कर स्वीत करने है		-	Support	
			*	時扫描到的CMMT加入	<b>\新建的</b> 工程坝目	日中 3		Add to project	

④⑤ 双击图标,再点击连接按钮即可上传参数和在线(后续操作请参考第);

提示:如果要进行备份的话,通过快捷键 CTRL+S 保存到相关路径即可,现场如果有多个 CMMT 伺服,可以重复以上操作,将所有 CMMT 伺服保存在同一个工程项目当中。



### 4 FAS 软件中配置 CMMT-AS

### 4.1 新建项目并配置硬件型号

按如下步骤,输入正确的 CMMT 型号



对驱动器进行重命名,该名字会随着后面的下载操作保存在驱动器中,该名字并不是总线通讯时的设备名。



双击驱动器图标进入配置向导



Initializing component
 Starting Plug-in instance for component CMMT-AS-C4-3A-PN-S1...

### 推荐使用配置向导

Drive configuration	
Start first setup 推荐使用配置向导 Start the first setup wizard, which guides through the most important parameterisation steps.	
Manual setup Close this dialog and start the drive configuration manually.	
配置马达、电缸、联轴器、减速机等型号	
AUTOMATION SUITE New Project*     A Q	- • ×
Image: Securp	
Please select the components of your drive system	
CMMT-AS-C4-3A-FN-S1         Maximum current 12.00 A         Intermediate circuit voltage 220.00 V	/ 0
EMMT. AS-60-S-LS-RMB         Type         Holding brake         Encoder protocol         Encoder type         Voltage           S242199         Servo motor (2)         Yes         EnDat 22 (5)         Multi tum (2)         325.00 V	1 1
配置马达、电缸、联轴器、减速机           LifeC 85.KF-60-100-12P         Axis size         Feed constant         Working stroke           Axis         60         12200 mm/r         100.00 mm	1 🖻
EAMM-U-65-T42-60P-87         Type 4784301         Type Parallel         Select gear         X           Please enter a search phrase and/or select a device from the list below.         CMMT AS C43.47HS1 & Order code 330814         Order code 330814         Order code 330814	1 1
Image: Configured         More gear configured         More gear configured         More configured         <	
号, 请使用user defined ■ ■ User defined gear MGA-60-P-G3-EA5-60 2207666 ● ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	Finish

提示:如果使用的是 EMMB 马达(型号中不带 S30 字样), 1.3.0.46 及以前版本的 CMMT 插件中,暂不支持该型号产 品,需要选择自定义马达类型,大部分马达参数都可以从 EMMB 样本上获得 https://www.festo.com/cat/engb\_gb/data/doc\_ENGB/PDF/EN/EMMB-AS\_EN.PDF; (要注意电感单位,样本上是 mH,FAS 里面是 H; 注意马达是否带抱 闸, EMMB 电机极对数 pole pairs 样本上未提供,极对数对于 EMMB-40 规格马达是 4;60 和 80 规格 EMMB 马达为 3; Encode protocol 为 Nikon-A。) 以 EMMB-AS-40-01-S 为例

Please select the co	Select motor	
Servo drive	Please enter a search phrase and/or select a device from the list below.	CMMT-AS-C4-3A-P 5340814 AT CE 357PL810P
Motor	C prder code/part number Search resu	lts
	User defined motor (with holding brake)	
0 8	User defined motor EMMB-AS-40-01-K-S30M	8097169
Axis	EMMB-AS-40-01-K-S30MB	8097170

on Suite V1.11.61

Flange size       40       Select motor       ×       Select motor       ×         Performance class       01       1	Technical data			0				2				
Performance class 01   Morinal involtage 10 0   Nominal routernt 14   1.54   Pack torque Nm1   Nominal router 100   Standstil current 100   Nominal router 100   Nominal router 100   Standstil current 16   Winding inductance 10   Vinding inductance 10   Vinding inductance 100   Nominal speed 100   Nominal speed 100   Winding inductance 12   Winding inductance 12   Winding inductance 12   Winding inductance 100   National speed 100   Kadal N0   Nominal speed 100   Kadal N0   Radal N0   Adal N0   Radal N0   Router with router 100   Router with router 0.055   Kate with router 0.055   With router with router 0.055   Rot	Flange size 40			<ul> <li>Select motor</li> </ul>	×	Select motor	×	Select motor ×				
Notice       View defined motor       User defined motor <td>Performance class</td> <td>01</td> <td></td> <td></td> <td colspan="2"></td> <td></td> <td colspan="5"></td>	Performance class	01										
Nominal current IA   Continuous stall current IA   Continuous stall current IA   Continuous stall current IA   Continuous stall current IA   Paak current IA   Robit orque Nmi   Nominal power Nmi   Nihr Jake Ngern <sup>1</sup> Nominal power Nmi   Nominal power Nmi   Nihr Jake Nger	Motor				User defined motor		User defined motor	_	User defined motor			
Nominal current  A  1.4   Continuous stall current  A    Nominal power NM   Nominal power NM <td>Nominal voltage [V DC]</td> <td>300</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Nominal voltage [V DC]	300										
Continuity stall current [A] 1.5.4   Pack current [A] 4.2   Nominal forque [Nm] 0.32   Pack troque [Nm] 0.35   Standstill torque [Nm] 0.35   Kominal speed [rpm] 300   Modro constant [Nm][A] 0.25   Modro constant [Nm][A] 0.25   Modro rositant [Nm][A] 0.25   Minding resistance [I] 2.00 s   Pole pairs 4   Winding resistance [I]   Winding resistance <t< td=""><td>Nominal current [A]</td><td>1.4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Nominal current [A]	1.4										
Peak current       (A)       4.2         Cominal porcer       (M)       100         Nominal torque       (Nm)       0.32         Peak torque       (Nm)       0.32         Peak torque       (Nm)       0.32         Standsill corque       (Nm)       0.352         Nominal speed       (rpm)       3000         Madrum speed       (rpm)       3000         Motor constant       (fm)       2.53         Winding resistance       (fm)       2.53       (fm)	Continuous stall current [A]	1.54										
Nominal power       MM       100         Rominal power       Nm       0.32          Pesk torque       Nm       0.352          Stand still corque       Nm       0.352          Nominal power       Nm       0.352          Stand still corque       Nm       0.352          Nominal speed       (rpm)       6500          Minding resistance       100           Winding resistance       128       128       EME constant       1.40       Arms         Winding resistance       128       128       0.055       Kodor       No         Winding resistance       128       0.059       Kodor       Motor ineria       0.059       Kodor       Motor ineria       0.059       Maximum cristion       63000       Pme         Winding resistance       128       0.059       Kodor       Maximum cristion       630000       Pme         Ratel       1.001       Nicon A(1)       Motor       Motor ineria       0.059       Kgm <sup>2</sup> Maximum cristion       630000       Pme         Ratel       0.059       Kgm <sup>2</sup> 0.059       Kgm <sup>2</sup> Maximum cristion       4200 </td <td>Peak current [A]</td> <td>4.2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Peak current [A]	4.2										
Nominal rorque       Nm       0.32       0.56       0.55       0.55       0.66       0.55       0.66       0.55       0.66       0.55       0.66       0.66       0.55       0.66 </td <td>Nominal power [W]</td> <td>100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Nominal power [W]	100										
Peak trage       Nm       0.96       Image: Selected component       Selected component         Standstill corrent       0.552       Image: Selected component       Maximum speed       Image: Selected component       Motor mission       Motor mission       Motor mission       Selected component       Motor mission       Motor mission       Motor mission       Image: Selected component       Motor mission       Mission <td>Nominal torque [Nm]</td> <td>0.32</td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td>V</td> <td></td>	Nominal torque [Nm]	0.32		2				V				
Standall torque       Nm       0.352       注意电机极对数         Maximum speed       (rpm)       3000       ime constant       1.40 Arms       Motor type       Servo motor (2 · · · · · · · · · · · · · · · · · ·	Peak torque [Nm]	0.96		4.5	nent	Search results	lected component	Search results	Selected component			
Nominal speed       (rpm)       3000       Sevo motor (2         Madrum speed       (rpm)       6500       -         Motor constant       Minding       6500       -         Voltage constant (Minding       0.265       -       -         Winding resistance       CD       5.33       -         Winding resistance       CD       5.53       -         Winding resistance       0.059       Kotor inertia       0.059       Kotor inertia       0.2653         Winding resistance       0.063       -       -       -       -       -         Winding resistance       0.059       Kgem <sup>2</sup> 0.063       -       -       -         Shaft toad at mominal speed       -	Standstill torque [Nm]	0.352		注意电机极	对数							
Maximum speed     (Ipm)     6500       Voltage constant (NmA)     0.265       Voltage constant (NmA)     0.265       Winding resistance     (I)       Griding inductance     (IIIII)       Winding resistance     (IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Nominal speed [rpm]	3000						Motor type	Service motor (2			
Motor constant     [Min]A]     0.265       Vidage constant (methase by basis)     16       Winding resistance     101     5.53       Winding resistance     101       Catal moment of inertial of drive output     6       Winding inductance     1000       Winding inductance     0.055       Katal at nominal speed     0.055       Radial     NI       Adal     NI       Radial     NI       Operating voltage     V/DCI       Power     (Mid       Power     (Mid       No       Holding traits     0.2163716       Virage     0.055       Motor ineria     0.055       Rated voltage     0.000       Rated voltage <td< td=""><td>Maximum speed [rpm]</td><td>6500</td><td></td><td>Time constant Ift</td><td>2.00 s</td><td>Rated current</td><td>1.40 Arms =</td><td> motor type</td><td>Jerro motor (z</td></td<>	Maximum speed [rpm]	6500		Time constant Ift	2.00 s	Rated current	1.40 Arms =	motor type	Jerro motor (z			
Voltage constant (phase lo pase)       Info         Voltage constant (phase lo pase)       Info         Winding resistance       IOI         Voltage notication (phase lo pase)       Info         Winding resistance       Info         Voltage notication (phase lo pase)       Info         Winding resistance       Info         Voltage notication (phase lo pase)       Info         Winding resistance       Info         Voltage notication (phase lo pase)       Info         Voltage       Info         Voltage       Info         Pase       Info         Operating voltage       Info         Voltage       Voltage         Voltage       Voltage         Voltage       Voltage         Operating voltage       Info         Voltage       Voltage         Voltage       Voltage         Voltage       Voltage         Voltage       Single turn (1)         Temperature sensor       Without tempe<	Motor constant [Nm/A]	0.265						Holding brake	No			
Winding resistance       [O]       5.3       [Rates voltage       30.000       V         Winding resistance       [Minding resistance       [	Voltage constant (phase-to-phase) [mVmin	] 16		Pole pairs	4 =	Standstill current	1.54 Arms =					
Winding inductance     Immit     6     Winding resistance     Little Constant     0.2163716     Winding     Maximum rotation     650000     rpm       Winding inductance     Ikgem?     0.059     Winding inductance     Ikgem?     0.059     Kgem?     Torque constant     0.265     Nn/lams     Ikgem?     Maximum rotation     650000     rpm       Winding inductance     Ikgem?     0.059     Kgem?     Ikgem?     0.059     Kgem?     Maximum colation     650000     rpm       Notor inertia     0.059     Kgem?     Ikgem?     0.059     Kgem?     Maximum colation     650000     rpm       Radal     NI     80     Encoder protocol     Nikon A (3)     Ikgem?     Nominal motor torque     0.371     Nm     Maximum current     4.20     Arms       Brake     Encoder type     Single turn (1)     Image     Time constant I <sup>1</sup> t     2.00     s     Rated current     1.40     Arms       Power     (WI     5.9     Temperature sensor     Without temper     Pole pairs     4     Image     Sandstill current     1.54     Arms	Winding resistance [Ω]	5.53			计变中成合合			Rated voltage	300.00 V =			
Total montent of inertia of drive output     0.659     Winding inductance     0.000     H     Torque constant     0.265     Nn/Jams     welochty     welochty     0.6000     gm       Wind prake     [kgcm <sup>2</sup> ]     0.663     Motor ineria     0.059     kgcm <sup>3</sup> Masimal peak motor     1.113     Nm     Nm     Rated velochty     3000.00     pm       Axial     [N]     80     Encode protocol     Nikm-A (3)     Encode protocol     Nikm-A (3)     Encode protocol     Nikm-A (3)     Time constant     0.271     Nm     Rated current     4.20     Arms       Brake     Encode protocol     Nikm-A (3)     Encode protocol     Nikm-A (3)     Encode protocol     Time constant     Page     5.9     Stand tioninal speek     0.371     Nm     Rated current     4.20     Arms       Operating voltage     [V DC]     24     Encode type     Single turn (1)     Encode type     Time constant     Page     4     1.40     Arms       Power     [W]     5.9     Encode type     Window tempe     Page     4     Page     Standstill current     1.54     Arms	Winding inductance [mH]	6		Winding resistance	注息电感单位	EMF constant	0.2163716 Vs/rad =	Maximum rotation				
Without brake     [kgcm <sup>2</sup> ]     [0.65 °       With brake     [kgcm <sup>2</sup> ]     [0.66 °       Shaft lad at nominal speed     0.66 °       Radial     [N]     80       Axial     [N]     40       Brake     Encoder type       Single tumin(1) = veloce     Single tumin(1) = veloce       Power     [N]     5.9       Power     [N]     5.9	Total moment of inertia of drive output				0.005			velocity	6500.00 rpm =			
With brake     (Ngcm <sup>2</sup> )     (0,63)       Shaft load at nominal speed     (N)       Adial     (N)       Adial     (N)       Brake     Encoder protocol       Brake     Encoder type       Single turn (1)     Single turn (1)       Brake     Encoder type       Brake     Encoder type       Brake     Encoder type       Brake     Time constant l <sup>4</sup> Doperating voltage     (VDC)       Power     (M)       0,32     Encoder type	Without brake [kgcm <sup>2</sup>	0.059		winding inductance	0.000 H -	lorque constant	0.265 Nm/arms =					
Shaft dat nominal speed     Index metral     Constant of the same o	With brake [kgcm <sup>2</sup>	0,063		Motor inartia	0.059 kacm <sup>2</sup>	Maximal peak motor	1112 No	Rated velocity	3000.00 rpm =			
Radial     Ni     80     Encoder protocol     Nikon A (2)     Nominal motor torque     0.371 Nm     Maximum curent     4.20 Ams       Main     40     Encoder protocol     Nikon A (2)     Time constant 1 <sup>4</sup> 2.00 s     Rated current     1.40 Ams       Grande     Encoder type     Single turn (1)     Time constant 1 <sup>4</sup> 2.00 s     Sandstill current     1.40 Ams       Power     (M)     5.2     Temperature sensor     Without tempe      Pole pairs     4     1.54 Ams	Shaft load at nominal speed			Motor mercia	diddy kgcm =	torque	1.115 Nm -					
Axial     (N)     40     Cocces process     Name (S)	Radial [N]	80		Encoder protocol	Nikon-A (2)	Nominal motor torque	0.271 Nm	Maximum current	4.20 Arms =			
Brake     Encoder type     Single turn (1) *     Time constant <sup>1</sup> t     200 s     Nate Current     Nate	Axial [N]	40				Hommar motor torque	0.571	Detect courses	140			
Brake     Coperating voltage     (V DC)     24     Temperature sensor     Without temper     Pole pairs     4       Power     [M]     5.9     1.54     Arms       Holding torque     [Nm]     0.32     6				Encoder type	Single turn (1) 💌 👘	Time constant I <sup>2</sup> t	2.00 s	Nated current	1.40 Anns -			
Operating voltage     (V DC)     24     Temperature sensor     Without tempe •     Pole pairs     4     Boundard Central 100 Period       Power     (M)     5.9     Feature sensor     Without tempe •     Pole pairs     4     Feature sensor     100 Period	Brake	<u> </u>						Standstill current	154 Årms =			
Power         [M]         5.9           Holding tonque         [Nm]         0.32	Operating voltage [V DC]	24		Temperature sensor	Without tempe -	Pole pairs	4 =	Junusui current	1.54 0000 -			
Holding torque [Nm] 0.32	Power [W]	5.9										
	Holding torque [Nm]	0.32						00				
Mass moment of inertia [kgcm <sup>2</sup> ] 0.004 Apply Apply Apply Apply	Mass moment of inertia [kgcm <sup>2</sup>	0.004			Apply		Apply	1	Apply			

### 4.2 设置负载

Application mass 数值应与电缸上实际安装的负载大小一致,系统会自动以此负载计算闭环参数。 如果设置的负载数值与电缸上实际安装的负载相差过大,控制时可能会产生抖动、异响等现象。

提示:对于旋转类应用,负载装在 ERMB(或客户自己的旋转类机构)上,注意填入的数值单位为 kgcm2 而不是直线 应用时的 kg,即:负载相对于 ERMB 的旋转中心(或客户自己的旋转类负载相对于电机轴)的转动惯量。



### 4.3 设置限位开关类型



### 4.4 设置寻零方式



### 4.5 设置软限位



### 4.6 极限参数确认

以上基本配置结束后,正常情况下需要照下图中的操作点击 Apply 按钮,将一些关键的限制值都使用 FAS 的推荐值重新赋值,但 1.3.0.46 版本的 CMMT 插件的这个功能还不是很完美,所以目前请忽略该按钮的警告。

=	AUTOMATION SUITE New Project*	<b>4</b> Q	Ні	×							¥ - □ FEST
	PARAMETERISATION	CONTROL	DIAGNOSIS								
-0	Hi CMMT-AS-C4-3A-PN-S1 Path: 192.168.0.4 Disconnected	Connect	Plug-in PLC Control	Enabled Disabled Powerstage	C Stop	Acknowledge all	Store o	actory settings	Reinitialize Restart device	••••	Correct parameters
Param Drive Devi	eter pages < e configuration ce settings		<b>注意:1.3.0.46</b> 及以〕	前版本的 <b>cm</b> i 推荐的参	MT插件中,i 診数目前不是	请忽略这个按错 是很完美,请期	钮(也□ ]待后续	∃以点击打开 版本的插件	F但不要点选/ 。	Apply),	FAS
<ul> <li>Field</li> <li>Digit</li> <li>Anal</li> </ul>	bus 1 al I/O ogue I/O	Servo drive	CMMT-AS-C4-3A-PN-S1 5340815 Licenses	Maximum current 12.00 A	Intermediate circui 320.00 V	t voltage	5.00	:		0.60	m/s m/s
Enco	der interface		1				1800.00	÷		15.00	m/s²
<ul> <li>Axis</li> <li>Ope</li> <li>Para</li> </ul>	1 16 rator unit meter list 20	Motor	EMMT-AS-60-S-LS-RMB 5242199	Type H Servo motor (2) Y	<b>Holding brake Enco</b> Yes EnDa	der protocol Encoder tt 2.2 (5) Multi turr	1.00	•	Apply	0.7009184 Canc	Nm

### 4.7 软件主要按钮功能

AUTOMATION SUITE	▲ Q. @ → 击页 扫描按钮 帮助按钮	FESTO
PARAMETERISATION	CONTROL DIAGNOSIS → 参数配置页面   伺服基本控制页面   伺服诊断页面	
Hi CMMT-AS-C4-3A-PN-S1 Path: 192.168.0.4 Disconnected	S1 Connet Plug-in Plu	up Correct parameters
Parameter pages <	Drive configuration FASTER CARACTERISTIC 在 CARACTERISTIC 友位错误 III III III IIII IIII IIII IIIIIIIIII	urther information
Drive configuration	FASHX(号CMINITE)分子前小X 使CMINIT进入闭小	MMT-AS-C4 SA-PN-S1
Device settings	rease select the components of your time system	升启配置回导
✓ Fieldbus	消息提醒小铃铛 会提示当前是否有软件审新	使 🔊
Extended process data	CMMT-AS-C4-3A-PN-51 Maximum current Intermediate circuit voltage	
Digital I/O	5340815 Licenses 12.00 A 320.00 V 用田线米集切能时,会提醒有新的田线米集完	风
Analogue I/O		
Encoder interface  Axis 1	Select axis × EMMT-AS-60-S-LS-RMB Type Holding brake Encoder pr S242199 Servo motor (2) Yes EnDat 2.2 (5 801491 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	a particular de la constante de
Motor	Motor / / / / / / / / / / / / / / / / / / /	0
Gearbox	已经配置的产品相关信息做修改、举例:	Con
Axis	ELGC-B5-KF-60-100-12P Axis size Feed constant Working stroke 旋转应用时,将单位从转rey,改成"度	
Record list	8061491 60 12.00 mm/r 100.00 mm 4 Search results Selected component	Overview
Monitoring functions	unt Metric (m, m/s. – ](6)	Device Details
Closed loop	Internal increments (incl. incl/s, -1 (0)	Support
Auto tuning	EAMM-U-65-T42-60P-87 Type Motion Interents (Inc. Indx 1(1) Ben two res. 1(2)	
Vibration compensation	4784301 Parallel Technology Mounting kit Rev (rev, rpn] (3)	
Feed forward control	Axis size Red (axis, rady,	
Cam controller		
Touch probe	No gear configured Feed constant Imperial (in, in/s,) (7) 当前r a c亚台	版木
. reading rand	Design axis Single axis (0)	

### 4.8 驱动器使能方式设置

说明: CMMT 驱动器金属底座内部的制动电阻(能量释放电阻),定义上属于 CMMT 驱动器的内部制动电阻,大部分应用下,不需要配置外部制动电阻。只有大负载,大的减速度的应用下,内部制动电阻无法吸收多余能量时才需要使用外部制动电阻。

AUTOMATION SUITE New Project*	<b>#</b> C	СММТ-/	AS-C4-3A-PN-: ×										- 0 FES	TO
PARAMETERISATION	DIAGNOSIS	CONTROL												
CMMT-AS-C4-3A-PN CMMT-AS-C4-3A-PN- Path: 192.168.0.1 Disconnected	-S1 -S1 Connec	t Plug-in PLC Control	Enabled Disabled Powerstage	Stop	Ackno	wledge all	Store on de	vice 🧳 Re y settings 🕐 Re	initialize start device	Start first setup				
Parameter pages <	Device settings													
Drive configuration		如果有外部制动电阻,	请设置如下参数	t i										
Device settings		External brake resistor					Intermediate circuit v	oltage						
Fieldbus Digital I/O		Activation	C Act	修改带此标志 ive 重启驱动器	的参数之周	后, 需要	<b>断电</b> Direct voltage supply		Active					
Analogue I/O		Resistivity		100.00	Ω		Rapid discharge		Active					
Axis 1		Power dissipation		21.00	w =		Lower limit value			250.00	] <b>v</b>			
Parameter list		Limit value pulse energy monito	ring	0.00	J									
		Enable servo drive												
		Activation via	I/O an	d fieldbus (0) 🔹 🔻		请使用 效果:	]此默认选项 通过总线控制时	,必须先保证	给驱动器>	(1A.3脚供2/	4V, 再	通过功		
						能块乙	<b> 能使能伺服。另</b>   載在軸发安全功	外: X1A.3可 能时 由打车	以用来配合	;实现SS1功 <sup>g</sup>	能,防	山静态		

### 4.9 总线通讯相关参数设置

PN 型号的 CMMT,请按照如下配置设置系数组、动态参数基准值以及报文协议,EC/EP 通讯,按照默认设置即可。

Telegram					Factor group 因子组: FAS和PLC之间数据交互关系					
定位模式	选择111报文	3	-							
PZD telegram selection		Telegram (111) 🔹			Current user unit	当前使用的单位:m	Metric [m, m/s,] (6)		1	
Current application class	定位相	模式下, PLC,位置给定	值1234	0	Position	0	-6			
	FAS运行	到1234*(10 <mark>-6</mark> )m/s	= 1.23	4mm	Velocity	0	-3			
	定位模	式下, PLC发速度给定	[值80]	FAS运						
	行	束度为80*(10 <b>-3</b> )m/s=	= 80mm	n/s	Acceleration	0	-3		1	
					Jerk	0	-3			
	が描まてい	油度甘砂菇 (0円)	口计管口	±.						
况上 Deference values	山天山い日	四风风, 回四至又死	J-U是·	E	Dunamia values					
	缸实际速I	度,和 <b>PLC</b> 的速度给定	无关		Dynamic values					
Base value velocity (user unit)	0	5.00	m/s		Acceleration		5.00	m/s²	1	
Base value speed (controller)		37500.00	rpm		Deceleration		5.00	m/s²	1	
Base value acceleration		1.00	m/s² 完价;	横式下的加	Jerk 减速度(()实	「际体田时」「「通対	500.00	m/s³	÷	
Base value deceleration		1.00	m/s <sup>2</sup>					verbec		
	l				米间	X加、减迷侵的洞卫				

### 4.10 点动速度设置

FAS 软件中点动的默认值比较大,建议调试时修改为一个比较小的速度,避免危险发生

#### 2.00 Slow motion time s v(t), V<sub>mai</sub> Velocity (slow) 0.02 低速 m/s m/s² Acceleration (slow) 1.00 V<sub>C</sub> Jerk (slow) 100.00 m/s³ tcr ŧ 0.04 Velocity 高速 m/s 使用点动功能时,,电缸会以一个低速运行2秒钟,,然后会切换 Acceleration m/ 到一个相对快的速度继续运行,如需消除由此带来的突兀感 m/s³ Jerk 可以将以上两段速度值改成一致。100.00

## Movement parameters

### 5 在线操作

### 5.1 修改 CMMT 驱动器的 IP 地址

提示: 也可以不修改伺服 X18 调试口的 IP, 而是将本地电脑 IP 改成和伺服 X18 口 IP 同网段, 同样可以做参数上 传、下载、在线控制等操作。



### 5.2 连接设备并下载项目程序

=	AUTOMATION SUITE CMMT_PN*	<b>#</b> Q,	•	CMMT-AS	5-C4-3A-PN-1 ×							
	PARAMETERISATION	DIAGNOSIS	CONTROL									
Ф	CMMT-AS-C4-3A-PN- CMMT-AS-C4-3A-PN- Path: 192.168.0.20 Disconnected	S1 Connect		Plug-in PLC Control	Enabled Disabled Powerstage	( Stop	Acknowledge all	Store on device	Load factory settings	Reinitialize	Restart device	s
Param	neter pages <	Drive configuration										
Drive Devi	ve configuration vice settings	Please select the c	omponents o	De	evice contair	ns no parai	meter data					2.0.10
Field Digit Anal	dbus ital I/O alogue I/O	Servo drive	CMMT-AS-C 5340815 Lice	The	device contains no p	oarameter data. Pa	rameters will be transfer	rred from the projec	t to the device.		1	6
Enco	oder interface		1				2	Write to device	Stay offline			
▼ Axis	s 1 Motor Gearbox	Motor	EMMT-AS-60 5242199	D-S-LS-RIVID	Type Servo motor (2)	Holding brake Yes	Encoder protocol Enc EnDat 2.2 (5)	None (0) 325.00	je V		1 i	â

### 5.3 故障查看及复位故障

### 5.3.1 通过驱动器面板 LED 查看



### 5.3.2 通过 FAS 软件查看

如果存在故障,请到 Diagnosis 界面查看故障信息,清除故障

AUTOMATION SUITE New Project*	*		MMT-AS-C4-3A-PN-5 ×								
PARAMETERISATION	DIAG	NOSIS CONTROL									
CMMT-AS-C4-3A-PN- MMT-AS-C4-3A-PN- Pattin 59,254.250.10 Connected 21	⊩ <b>s1_1</b> <sup>S1</sup>	Disconnect 前存在错误,可以	Plug-in Enabled PLC Disabled Disabled Disabled	● <mark>ほど3</mark> edge all 按钮	n device Reinitialize	Restart device					
Diagnosis pages <	Device st	ate 大部分错误需要找	到故障根本原因才能	<i>清除!</i>							
Device state 2 I/O state Error log Error classification	Ser	Servo drive Motor change detected, zero point offset invalid D0.18[00]00093.0 Standstill reached and in standstill window D1.07[02]00125.0									
Trace configuration		2									
Trace display											
		Acknowledge all									
Auto tuning	Status	Category	ID	Name	Timestamp						
Auto tuning	Status	Category Information (4)	D1.07 02 00125.0	Name Standstill reached and in standstill window	<b>Timestamp</b> 01.21:35:58:592						
Auto tuning 最新的伺服故	Status	Category Information (4) Information (4)	D1.07(02)00125.0 D1.07(02)00124.0	Name           Standstill reached and in standstill window           Standstill reached	Timestamp           01.21:35:58:592           01.21:35:58:592	-					
Auto tuning 最新的伺服故 隨位王果下支	Status	Category Information (4) Information (4) Information (4)	ID           D1.07[02]00125.0           D1.07[02]00124.0           D1.07[02]00122.0	Name           Standstill reached and in standstill window           Standstill reached           Target velocity reached	Timestamp           01.21:35:58:592           01.21:35:58:592           01.21:35:58:692	-					
Auto tuning 最新的伺服故 障位于最下方	Status	Acknowledge all Category Information (4) Information (4) Information (4) Information (4)	ID           D1.07 02 00125.0           D1.07 02 00124.0           D1.07 02 00122.0           D1.07 02 00121.0	Name           Standstill reached and in standstill window           Standstill reached           Target velocity reached           Target position reached	Timestamp           01.21:35:58:592           01.21:35:58:592           01.21:35:58:692           01.21:35:58:793						
Auto tuning 最新的伺服故 障位于最下方	Status O O O O O O O O O O O O O	Acknowledge all Category Information (4) Information (4) Information (4) Information (4)	ID           D1.07 02 00125.0           D1.07 02 00124.0           D1.07 02 00122.0           D1.07 02 00121.0           D1.07 02 00124.0	Name       Standstill reached and in standstill window       Standstill reached       Target velocity reached       Target position reached       Login completed	Timestamp           01.21:35:58:592           01.21:35:58:592           01.21:35:58:692           01.21:35:58:793           01.21:37:11:991	· · · · · · · · · · · · · · · · · · ·					

有些错误无法复位,需要消除故障源之后才能 Acknowledge all,比如负载电电压过低(Undervoltage Load Voltage),原因是 220V/380V 供电电源未接通,需要 220V/380V 电源接通之后,该故障才能被复位。

#### 在 Festo Automation Suite 环境任意界面下按 F1,可弹出帮助文件,在如下界面可搜索故障代码含义及处理方法



### 5.4 伺服运行状态及数据监控

PARAMETERISATION	DIAGNOSIS	CONTROL							
CMMT-AS-C4-3A-PN- CMMT-AS-C4-3A-PN- Path: 192.168.0.20 Connected	S1 Disconnec	t Plug-in PLC Control	Enabled Disabled Powerstage	C Stop	Acknowledge all	Store on device	Reinitialize	Restart device	<b>EREC</b> Start trace
Control pages <	Manual movemer	nt				Reset to default values		Watch window	
Manual movement Record list		Homing						Active motion task Power on (1)	何服状态
		<ul> <li>Homing valid limit switch ()</li> </ul>	dware	1				Referencing status Drive referenced (200)	是否已寻零
			•					66.2825914 mm	ノ目标位置
		Start homing	Save zero point o	offset				Position actual value (e 66.2825914 mm	ncoor 1) 实际位置
		Manual movement						Setpoint value velocity 0.00 m/s	controller 目标速度
		Jog:	-		+			Velocity actual value (e 0.0000315 m/s	ncoder 实际速度
		Single step:	-		0.00 mm	+		Active current setpoint -0.0408195 Arms	
								Actual active current -0.0274547 Arms	
		Target position:	0.00 mm		0.40 m/s	Execute		Actual value l <sup>2</sup> t monito 0.00 A <sup>2</sup> s	ring motor
			Stop movem	ent				Actual value I <sup>2</sup> t monito 0.00 A <sup>2</sup> s	ring power output stage
	Holding brake							Actual value pulse ener 0.00 J	gy monitoring braking resistor
		A Holding brake is opened Holding brake 1: opened Holding brake 2: opened						Actual value DC link vo 319.5573 V	ltage 定制需要显示的参数
			Holding bra	ko			Œ		Select

### 5.5 伺服当前 IO 信号状态

检查安全信号、使能信号、限位开关状态以及中间回路电压是否正常 如果安全信号未接通,则使能驱动器的时候,会报故障 Task ignored as safety function requested 如果使能信号未接通,则使能驱动器的时候,会报故障 Task ignored controller enable failed



### 5.6 驱动器使能、点动、寻零功能



### 5.7 实际负方向与期望负方向不一致

如果发现期望的负方向与实际负方向不一致,可以在如下界面修改,并取消使能,然后执行 Reinitialize



### 5.8 记录表功能

	<b>#</b> Q	<b>?</b> CM	IMT-AS-C4-3A-PN-: ×							- Fl	ESTO
PARAMETERISATION	DIAGNOSIS	CONTROL									
CMMT-AS-C4-3A-PN-5 CMMT-AS-C4-3A-PN-5 Path: 192.168.0.11 Disconnected	Connect	Plu PLC Contr	g-in Enabled Disabled ol Powerstage	Stop	Acknowledge a	all 📑 Load	e on device 🗘	Reinitialize Restart device Sta	rt first setup		~
Parameter pages <	Record list								💼 Delete all		
Drive configuration											
Device settings Fieldbus		Record type Position (5)	<b>Type</b> Positioning absolute (0)	Target position 20.00 mm	Profile velocity A 0.001 m/s 1	.00 m/s <sup>2</sup> 1.00	eleration Jerk m/s² 30.00 m/s³	End velocity 0.00 m/s	►	8 Ø	Ô
Digital I/O		Record type	Туре	Target position	Profile velocity A	cceleration Dec	eleration Jerk	End velocity		8 1	â
Analogue I/O Encoder interface	New record set	Position (5)	Positioning absolute (0)	New record set		×	11 m/s New record set		×		
<ul> <li>Axis 1</li> </ul>	Number	3 Name Unt	itled	Number	3 Name U	ntitled	Number	3 Name	Untitled	Add new red	cord set
Motor	Motion task	Position		• Record type	Motion task			Record type		3	
Gearbox	Type	Positio		Position (5)		-	Motion task				
Record list	Tourset monition			Velocity (4)		-	Additional				
Monitoring functions		00.0		Torque (7)							
Closed loop	Profile velocity	0.4	0 m/s	Analogue position (2	21)						
Auto tuning	Acceleration	1.0	0 m/s² =	Analogue velocity (2	2)						
Notch filter	Deceleration	1.0	0 m/s² =	Analogue torque (23	i)						
Feed forward control	Jerk	30.0	0 m/s <sup>a</sup> =	Stop ramp (2)							
Parameter list	End velocity	0.0	0 m/s =	Homing (3)	brake (25)						
				A	only record set			Apply record set			
		Apply record set			ppy record ore	<b>G</b> # 1	0 4 📖 🌲 🛣 🔛				
CMMT DN* CMMT.aS.CA.2a.DN.C1 /Dur	in: CMMT=&S Dlun=in \/1.1.1.0\									Festo Automa	tion Suite V1.1.1.610
		ヨキケタ									
<b>哭</b> 能 <sup>驱</sup> 动 畚 后, 「	リ以执行记	、求衣仕务									
	SUITE	a q	?	CMMT-AS-C4-3A	A-PN-S ×						
		•									
PARAMETERIS	ATION D	IAGNOSIS	CONTROL								
CMMT-AS-C CMMT-AS-C Path: 192.168 Connected	<b>4-3A-PN-S1</b> 4-3A-PN-S1 .0.11	Disconnect	Co	Plug-in PLC Introl P	Enabled Disabled owerstage	( Stop	Acknowl	🛃 🔤	Store on de <b>Contractor</b>	evice ry settings	C Re



Festo 技术支持

Closed loop

### 5.9 抱闸功能

CMMT-AS 驱动器会自动完成马达抱闸的松开与闭合(无需用户介入),下图只针对需要临时松开抱闸的场合。

PARAMETERISATION DIAGNOSIS	CONTROL		
CMMT-AS-C4-3A-PN-51_1 CMMT-AS-C4-3A-PN-51 Path: 169.254.250.22 Connected Disconnect	Plug-in Enable PLC Disable Control Powerstage	d o ed Stop	Acknowledge all
Control pages < Manual movement			
Manual movement	Manual movement		
Record list	Jog:	-	+
	Single step:	-	0.00 mm +
在线状态,FA\$取得控制权之	Target position: 后, 当前抱闸状态	0.00 mm	0.40 m/s Execut
点击Holding brake. 马达抱旗	合完 抱闸1(Holding brake	1): 马达尾部自	带抱闸
全松开,实际操作时,抱闸	动作 抱闸2(Holding brake	2):电缸、电机タ	<b>卜部抱闸(如果有)</b>
切换动作会稍慢,请等待。 对于负载竖直安装的场合,	Holding brake is closed Holding brake 1: closed Holding brake 2: closed		
<b></b> 谓注尽入身女王!!!		Holding brake	

### 5.10 曲线记录功能

先在 Diagnosis 选项卡->Trace congfiguration 中配置需要采集的数据

Rew Project*	*	Q,	н	×						
PARAMETERISATION	CONTRO	DL DI	AGNOSIS							
Hi CMMT-AS-C4-3A-PN- Path: 192.168.0.4 Connected	S1 Disco	onnect	Plug PLC Contro	p-in Enabled Disabled Di Powerstage	Stop	Acknowledge all	Store on device	Reinitialize	Restart	C device
Diagnosis pages <	Trace config	juration <b>1.</b>	3.0.46及以	后版本的CMMT插	件已经默认	提供了7组常	用的变量			
Device state	Trace char	nnels	供采集,	如果不需要这么多	,可以将续	参数前面的√约	合去掉			
I/O state Error log	0	Active	<b>ID</b> P1.90.0.0	Signal Setpoint value position					0	â
Error classification Trace configuration	1	Active	ID P1.128.0.0	Signal Actual position value					1	â
Trace display Auto tuning	2	Active	ID P1.2216.0.0	Signal Setpoint value velocity control	ler				0	â

然后触发采集按钮,等待曲线采集完成,最后点击 Trace display 按钮显示曲线。也可以点击软件右侧的 Start trace 按钮 触发采集,采集成功后,软件右上方的消息小铃铛会产生消息,提醒查看采集结果。

Device state	Add new trace channel
I/O state	
Error log	Record settings 采集曲线的时间,时间加长,分辨率会变差
Error classification	
Trace configuration	Trace duration 1.6005 s
Trace display Auto tuning	Trace resolution G.00006875001 s FAS默认添加的曲线采集的触发信号的功能是:伺服出现错误时立刻触发采集。
曲线采集完	实际使用时,可以删除或更换该触发条件。下面的Trace delay填入正值,控制器会把触发
毕后,点该	Trigger preferences 条件满足之前的多少时间的曲线也显示出来,负值则相反。
按钮或软件	Type Value mode Condition Parameters Threshold
点右上角的	Vala (ligger (1) Thieshold (3) Change in Value (3) P1.112015.0.0. En of active Value.
消息提醒铃	Trace delay 0.00 s
铛显示曲线	
	Status 如果设置了触发条件,则一定要触发条件满足才会触发曲线采
	集。也可以删除触发条件,手动点击开始曲线采集 Current trace status Waiting for trigger event (1)
	Start trace Stop trace

### 6 CMMT-AS 本地调试常见故障

#### 6.1 跟随误差错误

如果驱动器可以正常使能,但寻零时报 Position: following error, 点动时报 Velocity:following error,则可能是马达电缆 U/V/W 相序接反,或者抱闸线接反。



EMMT-AS与CMMT伺服实物连接示例

EMMS-AS, EMME-AS电机与CMMT伺服实物连接示例

如果使能、寻零、点动都正常,但定位过程中报 following error,建议尝试增大 following error 阈值和时间(FAS 软件默 认值偏严格)。

PARAMETERISATION	DIAGNOSIS CON	ITROL								
CMMT-AS-C4-3A-PN- CMMT-AS-C4-3A-PN- Path: 192.168.0.20 Connected	S1 S1 Disconnect	Plug-in Enabli PLC Disabl Control Powerstay	ed O led Stop	Acknowle	dge all	Store	e on device Load factory settings	Reinitialize Restart device	St	art first
Parameter pages <	Monitoring functions									
Drive configuration										
Device settings		<b>F H</b> 1 <b>C</b> 10								
Fieldbus		Following error of position				-	Following error of velocity			
Digital I/O		Monitoring window		0.001 m	n •		Monitoring window	0.02	m/s	1.1
Analogue I/O		Damping time		0.10 s			Damping time	0.10	s	
Encoder interface										
<ul> <li>Axis 1</li> </ul>		Diagnostic category	Stop category 1 (256)	•			Diagnostic category	Stop category 1 (256) -		
Motor										
Gearbox		Target reached					Target area left			
Axis						-		[	~	
Record list		Monitoring window target position		0.001 m	n =		Monitoring window position	0.001	m	
Monitoring functions		Monitoring window target speed		0.02 m	n/s =		Monitoring window velocity	0.02	m/s	
Closed loop		Monitoring window target		0.10 N	lm =		Monitoring window torque	0.10	Nm	
Auto tuning		torque		0.10					1	
Notch filter		Damping time		0.10 s			Damping time	0.10	s	
Feed forward control							Diagnostic category	Warning (16) 👻		

### 6.2 限位开关错误

存在以下两种情况:

a) 上使能时报正向或负向硬件限位开关故障,无法使能成功。

请手动推动电缸,确保限位开关不被触发(如果电机带抱闸,无法手动推动电缸,可参考 5.9 节临时打开抱闸)



Negative hardware limit switch reached D1.07|01|00114.0 b) 上使能时报两个限位开关故障,且限位开关并未被触发,无法使能成功。 原因可能是 FAS 中限位开关类型(常开或常闭)和实际开关类型不匹配(详见 5.5节)。



Error: both hardware limit switches activated D1.07|01|00118.0

### 6.3 编码器相关错误

CMMT-PN 上电之后报 Common error EnDat2.2 和 Motor change detecte, zero point offset invalid 故障无法清除。 请将 CMMT-PN 固件升级到 V16 及以上版本。



### 7 固件更新

为解决个别故障,可能需要更新 CMMT-AS 驱动器的固件,更新固件可使用 FAS 软件(Festo Automation Suite,以下简称 FAS),也可以使用 FFT(Festo Field Device Tool,以下简称 FFT)软件,FFT 软件下载链接见 7.3 节。 这两个软件都需要(建议)事先通过网络,将所需固件文件下载到电脑本地。不同之处:前者是通过 FAS 软件自身来下载 固件,后者需要通过 FESTO 官网中"支持/下载"通道下载。

### 7.1 注意事项

- 1) 把 PLC 和 CMMT-AS 的 X19 端口之间的总线通讯网线拔掉;
- 2)修改电脑本地 IP 地址或者 CMMT 伺服驱动器 X18 调试口 IP 地址,使二者在同一网段(否则会无法更新成功!);
- 3) 保证 CMMT 驱动器的 24V 供电不会断开。

### 7.2 操作步骤

#### 7.2.1 通过 FAS 软件下载和更新固件

有网络连接时,按下图引导,下载需要的固件文件。通过 FAS 成功下载过相应固件的电脑在无网络连接时,依然可以通过 FAS 更新同型号驱动器的固件(只针对 1.3.1.57 及以上版本的 FAS 平台版本)。



固件文件下载完毕后,按照如下①~⑤步骤操作即可更新固件。

AUTOMATION SUITE 20190507testwithCMMT*			FAS软件中更新C	MMT控制器固件步骤说明			
)evice scan							
list					C	> CMMT-	AS-C2-3A-PN-S1
Device Name	Device Type	IP Address	Subnet Mask	Firmware		CMMT-AS-C2-3	IA-PN-S1
CMMT-AS-C2-3A-PN-S1	CMMT-AS-C2-3A-PN-S1	192.168.0.119	2 255.255.255.0	V016.0.9.10_release		192.108.0.119	
CMMT_ELGC_BS_DEMO_TEST	CMMT-AS-C4-3A-PN-S1	192.168.0.78	255.255.255.0	V016.0.9.10_release			2
< Fir CMMT-AS CMMT-AS V016.0.9.10 Release Notes : * New Features: *			16.0.9.10_release.pck 16.0.9.10_release 6/27/2019 nd 105) support for	CMMT-AS-C2-3A-PN-51 192.168.0.119			Actions
	Inte	rpolation, PLCopen and TC ects)	os (technology	· Levi		Device details	5
	* Ex * Pc	tended Process Data via Te sition trigger	el. 910	L.		Identification	
	* To * In	uch probe (fast capture ing put shaping	puts)	< Actions Firmware		Network Sett	ings
	* 1~	proved auto tuning		CMMT-AS-PN-S1-V015.0.10.44_releas		Device Name	
		Transfer to De	evice 5	CMMT-AS-PN-S1-V016.0.9.10_release 4		Firmware	3
						Support	

### 7.2.2 通过 FFT 软件更新固件



### 7.3 通过 Festo 官网下载 FFT 安装软件及驱动器固件

以 CMMT-AS-C2-3A-PN-S1 驱动器为例, <u>https://www.festo.com.cn/cn/zh/search/?text=CMMT-AS-C2-3A-PN-</u> <u>S1&tab=DOWNLOADS</u>, 打开该链接, Software 选项卡中可找到需要的驱动器固件(Firmware)文件和 FFT 软件 (Software 选项卡中同名的软件, 排在最上面的默认是最新版本)

