CMMT-AS 常见问题总结

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Festo 技术支持

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关键词:

软件安装、固件更新、常见故障、I² T、following error

摘要：

本文介绍了 Festo CMMT 控制器的调试软件下载及安装方法、常用参数设置、常见故障总结等

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 FAS 调试软件有一定了解。

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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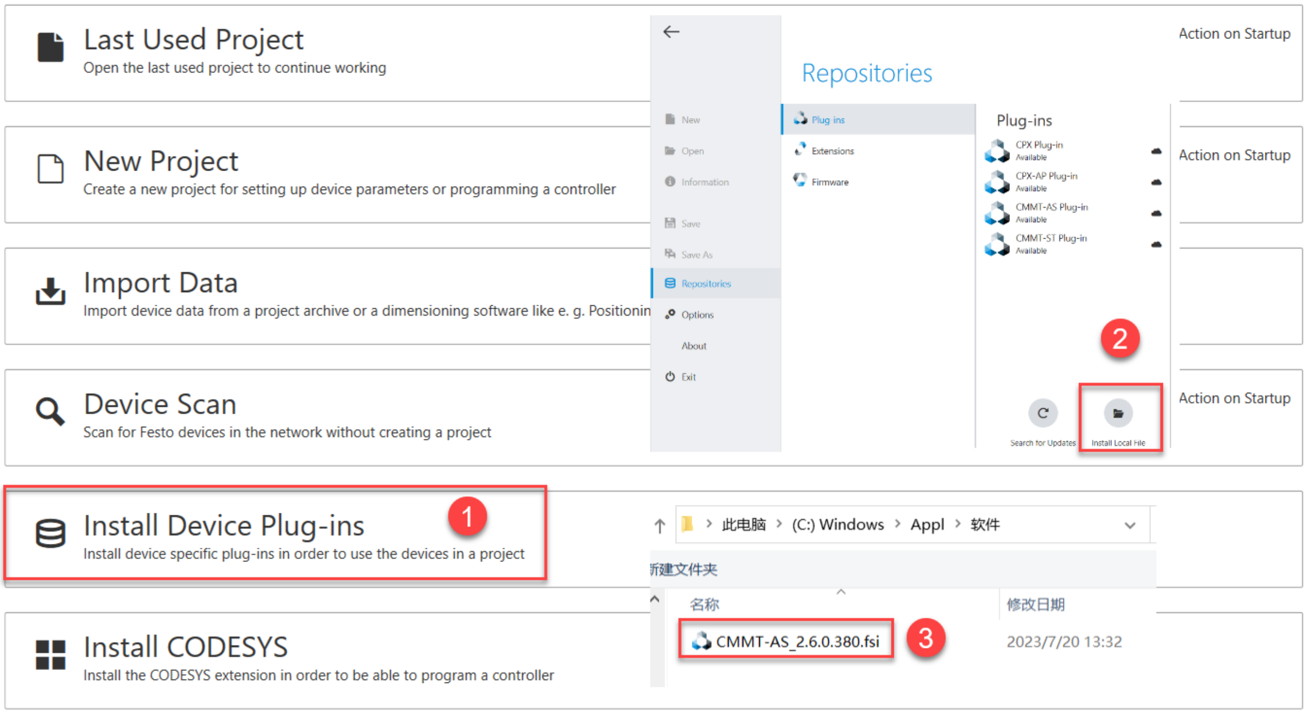
1 调试软件安装

软件下载后，先安装 FestoAutomationSuite 软件，再安装 CMMT 插件

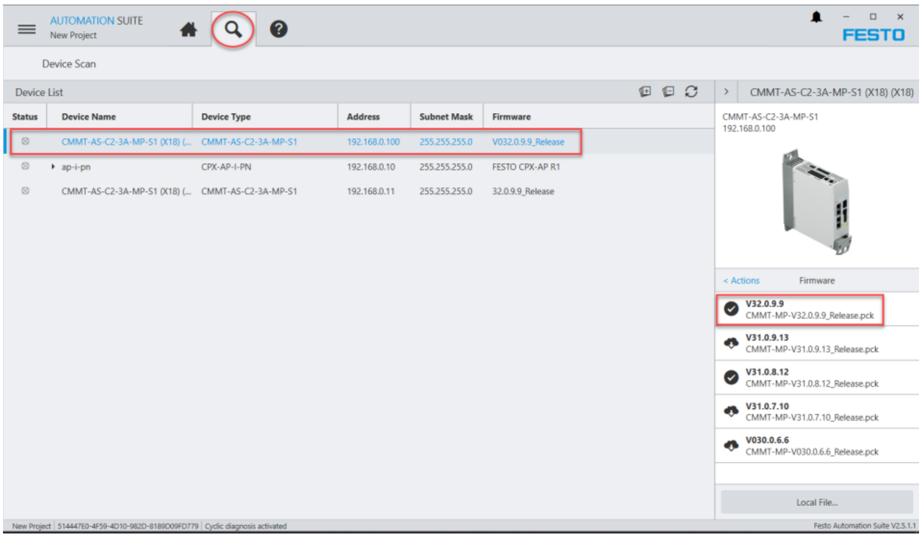
CMMT-AS_2.6.0.380.fsi :Download

FestoAutomationSuite_2.6.0.481.exe :Download

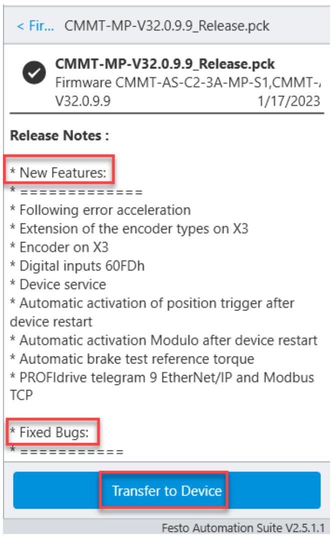

Last Used Project
Open the last used project to continue working
New Project
Create a new project for setting up device parameters or programming a controller
Import Data
Import device data from a project archive or a dimensioning software like e. g. Positionin
Device Scan
Scan for Festo devices in the network without creating a project
Install Device Plug-ins
Install device specific plug-ins in order to use the devices in a project
Install CODESYS
Install the CODESYS extension in order to be able to program a controller
Action on Startup
Repositories
New
Open
Information
Save
Save As
Repositories
Options
About
Exit
Plug ins
Extensions
Firmware
Plug-ins
CPX Plug-in Available
CPX-AP Plug-in Available
CMMT-AS Plug-in Available
CMMT-ST Plug-in Available
Search for Updates
Install Local File
此电脑 › (C:) Windows › Appl › 软件
新建文件夹
名称
修改日期
CMMT-AS_2.6.0.380.fsi
2023/7/20 13:32
1
2
3

2 固件更新

进入搜索窗口找到驱动器，将电脑 IP 与控制器 IP 设置在同一网段后，进行固件升级操作


AUTOMATION SUITE
New Project
FESTO
Device Scan
Device List
CMMT-AS-C2-3A-MP-S1 (X18) (X18)
CMMT-AS-C2-3A-MP-S1
192.168.0.100
< Actions
Firmware
V32.0.9.9
CMMT-MP-V32.0.9.9_Release.pck
V31.0.9.13
CMMT-MP-V31.0.9.13_Release.pck
V31.0.8.12
CMMT-MP-V31.0.8.12_Release.pck
V31.0.7.10
CMMT-MP-V31.0.7.10_Release.pck
V030.0.6.6
CMMT-MP-V030.0.6.6_Release.pck
Local File...
Festo Automation Suite V2.5.1.1

Status	Device Name	Device Type	Address	Subnet Mask	Firmware
⊗	CMMT-AS-C2-3A-MP-S1 (X18) (...	CMMT-AS-C2-3A-MP-S1	192.168.0.100	255.255.255.0	V032.0.9.9_Release
⊗	ap-i-pn	CPX-AP-I-PN	192.168.0.10	255.255.255.0	FESTO CPX-AP R1
⊗	CMMT-AS-C2-3A-MP-S1 (X18) (...	CMMT-AS-C2-3A-MP-S1	192.168.0.11	255.255.255.0	32.0.9.9_Release


< Fir... CMMT-MP-V32.0.9.9_Release.pck
Transfer to Device
Festo Automation Suite V2.5.1.1

CMMT-MP-V32.0.9.9_Release.pck
Firmware CMMT-AS-C2-3A-MP-S1,CMMT-
V32.0.9.9 1/17/2023

Release Notes :

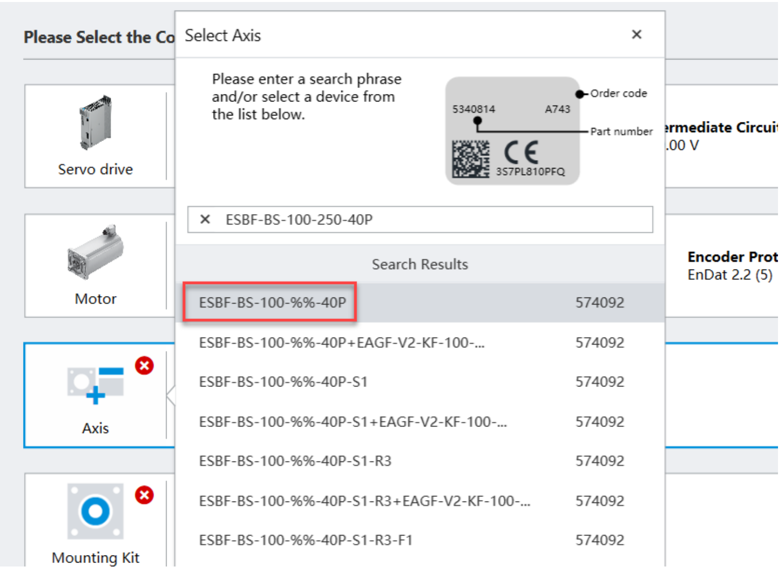
```
* New Features:
* =============
* Following error acceleration
* Extension of the encoder types on X3
* Encoder on X3
* Digital inputs 60FDh
* Device service
* Automatic activation of position trigger after
device restart
* Automatic activation Modulo after device restart
* Automatic brake test reference torque
* PROFIdrive telegram 9 EtherNet/IP and Modbus
TCP

* Fixed Bugs:
* ===========
```

3 参数设置

3.1 非标准的电缸组态

举例：配置的电缸型号为 ESBF-BS-100-250-40P，%%代表工作行程自定义。


Please Select the Co
Servo drive
Motor
Axis
Mounting Kit
ermediate Circui
.00 V
Encoder Prot
EnDat 2.2 (5)
5340814
A743
Order code
Part number
3S7PL810PFQ

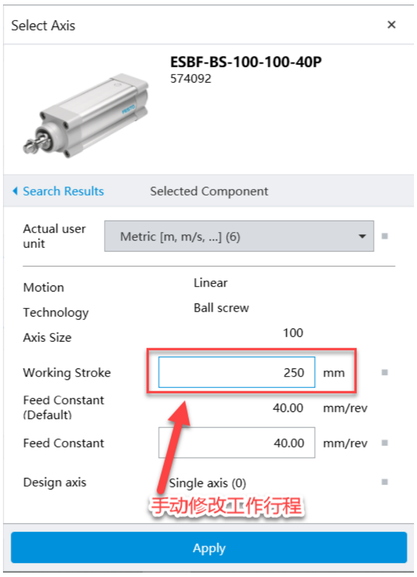
Select Axis ×

Please enter a search phrase and/or select a device from the list below.

× ESBF-BS-100-250-40P

Search Results

ESBF-BS-100-%%-40P	574092
ESBF-BS-100-%%-40P+EAGF-V2-KF-100-...	574092
ESBF-BS-100-%%-40P-S1	574092
ESBF-BS-100-%%-40P-S1+EAGF-V2-KF-100-...	574092
ESBF-BS-100-%%-40P-S1-R3	574092
ESBF-BS-100-%%-40P-S1-R3+EAGF-V2-KF-100-...	574092
ESBF-BS-100-%%-40P-S1-R3-F1	574092



Select Axis ×

ESBF-BS-100-100-40P
574092

Search Results Selected Component

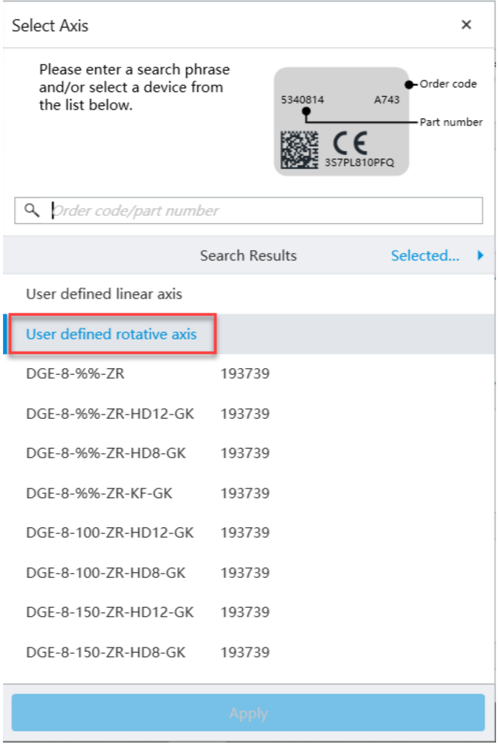
Actual user unit	Metric [m, m/s, ...] (6)	
Motion	Linear	
Technology	Ball screw	
Axis Size	100	
Working Stroke	250	mm
Feed Constant (Default)	40.00	mm/rev
Feed Constant	40.00	mm/rev
Design axis	Single axis (0)	

手动修改工作行程

Apply

3.2 旋转应用单位设置

常用单位：° /s


5340814
A743
Order code
Part number
3S7PL810PFQ

Select Axis ×

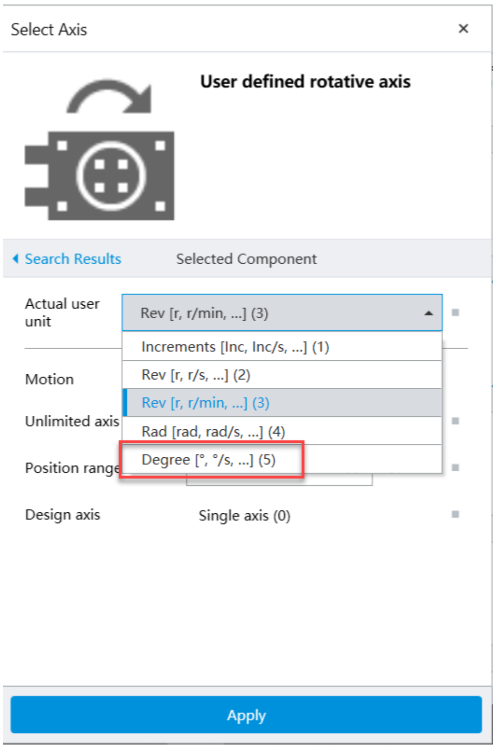
Please enter a search phrase and/or select a device from the list below.

Order code/part number

Search Results Selected...

User defined linear axis	
User defined rotative axis	
DGE-8-%%-ZR	193739
DGE-8-%%-ZR-HD12-GK	193739
DGE-8-%%-ZR-HD8-GK	193739
DGE-8-%%-ZR-KF-GK	193739
DGE-8-100-ZR-HD12-GK	193739
DGE-8-100-ZR-HD8-GK	193739
DGE-8-150-ZR-HD12-GK	193739
DGE-8-150-ZR-HD8-GK	193739

Apply



Select Axis ×

User defined rotative axis

Search Results Selected Component

Actual user unit: Rev [r, r/min, ...] (3)

- Increments [Inc, Inc/s, ...] (1)
- Rev [r, r/s, ...] (2)
- Rev [r, r/min, ...] (3)
- Rad [rad, rad/s, ...] (4)
- Degree [°, °/s, ...] (5)

Motion

Unlimited axis

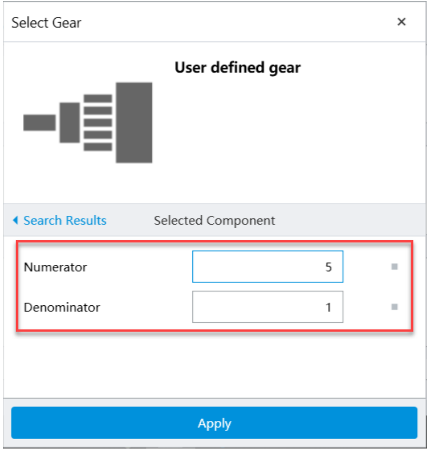
Position range

Design axis: Single axis (0)

Apply

3.3 自定义减速比设置

举例：5：1 减速机，减速比写错容易导致输出力不正确



Select Gear ×

User defined gear

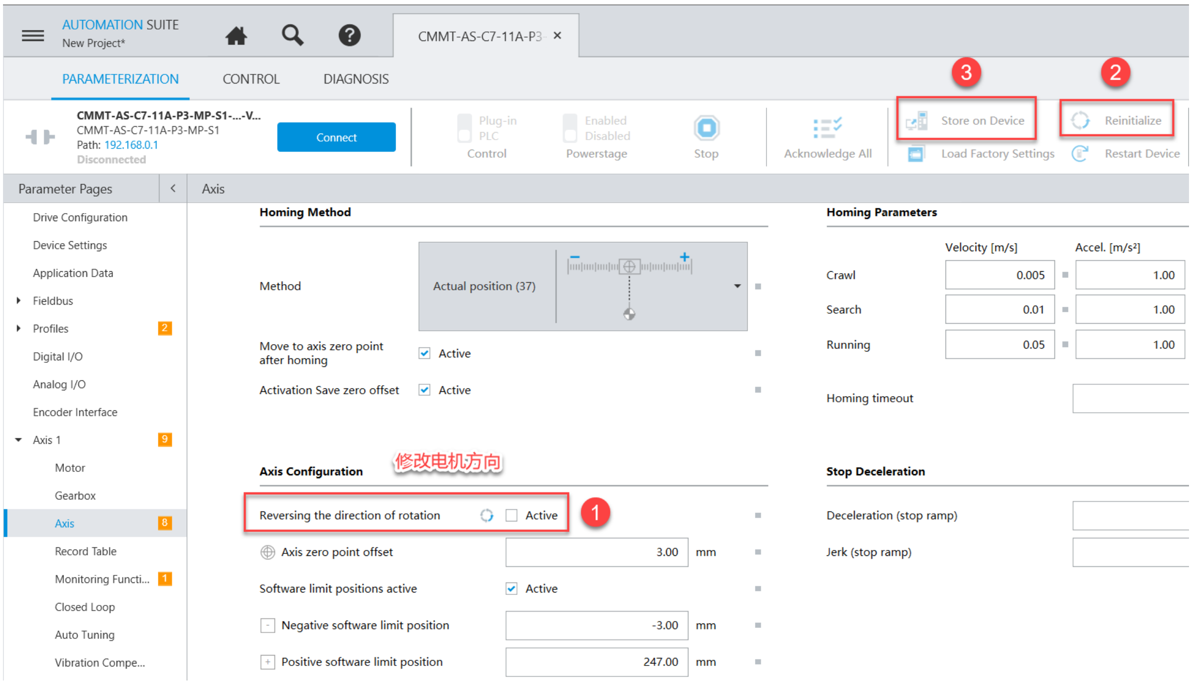
Search Results Selected Component

Numerator	5
Denominator	1

Apply

3.4 修改电机方向

修改电机旋转方向需要在断使能的情况下操作，然后进行 Reinitialize 初始化，再然后 Store on device.


AUTOMATION SUITE
New Project*
CMMT-AS-C7-11A-P3
PARAMETERIZATION
CONTROL
DIAGNOSIS
CMMT-AS-C7-11A-P3-MP-S1-...-V...
CMMT-AS-C7-11A-P3-MP-S1
Path: 192.168.0.1
Disconnected
Connect
Plug-in
PLC
Control
Enabled
Disabled
Powerstage
Stop
Acknowledge All
3
Store on Device
Load Factory Settings
2
Reinitialize
Restart Device
Parameter Pages
Drive Configuration
Device Settings
Application Data
Fieldbus
Profiles 2
Digital I/O
Analog I/O
Encoder Interface
Axis 1 9
Motor
Gearbox
Axis 8
Record Table
Monitoring Functi... 1
Closed Loop
Auto Tuning
Vibration Compe...
Axis
修改电机方向
1

Homing Method

Method: Actual position (37)

Move to axis zero point after homing: ☑ Active

Activation Save zero offset: ☑ Active

Axis Configuration

Reversing the direction of rotation: ☐ Active

Axis zero point offset: 3.00 mm

Software limit positions active: ☑ Active

Negative software limit position: -3.00 mm

Positive software limit position: 247.00 mm

Homing Parameters

	Velocity [m/s]	Accel. [m/s²]
Crawl	0.005	1.00
Search	0.01	1.00
Running	0.05	1.00

Homing timeout

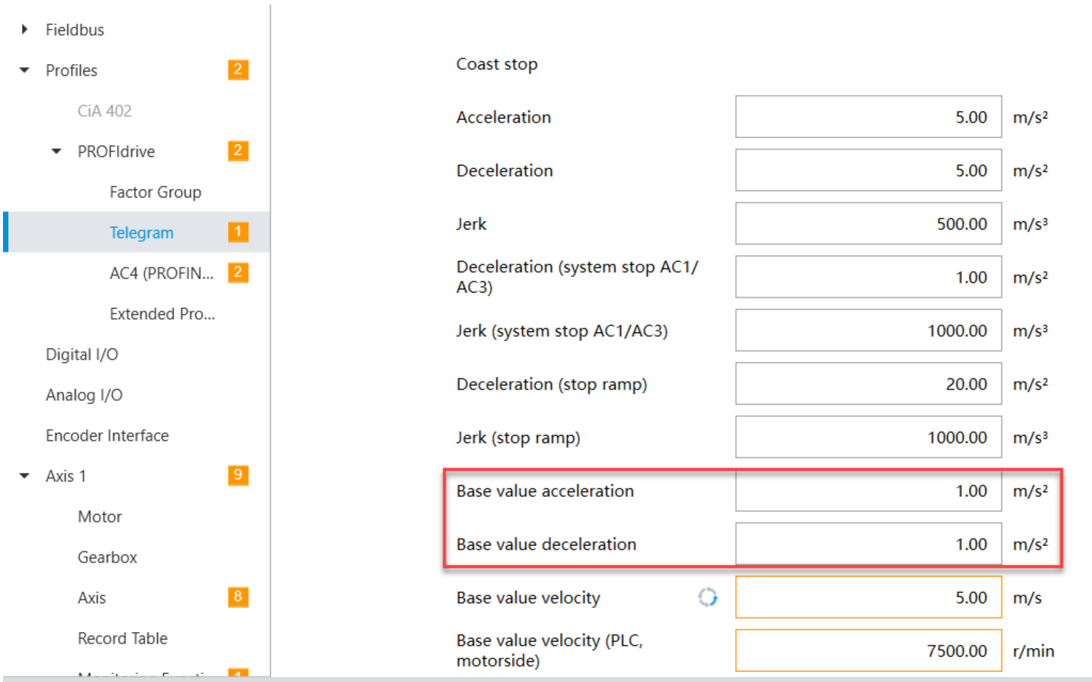
Stop Deceleration

Deceleration (stop ramp)

Jerk (stop ramp)

3.5 定位模式下的加减速度

FB284 功能块上的加减速是按照百分比的关系设定，此百分比的基础值可以进行调整

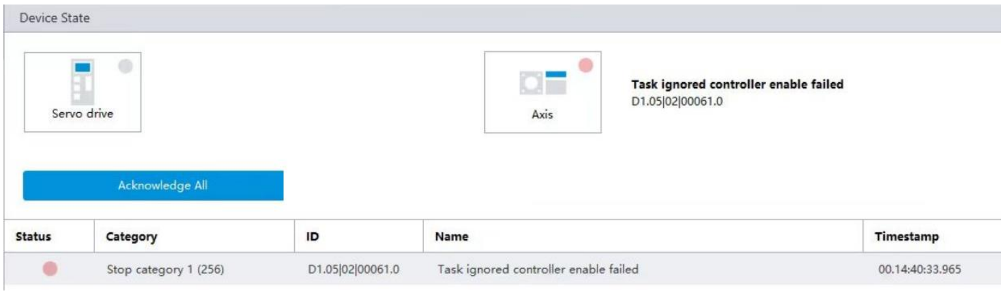

Fieldbus
Profiles 2
CiA 402
PROFIdrive 2
Factor Group
Telegram 1
AC4 (PROFIN... 2
Extended Pro...
Digital I/O
Analog I/O
Encoder Interface
Axis 1 9
Motor
Gearbox
Axis 8
Record Table

Coast stop

Acceleration	5.00	m/s²
Deceleration	5.00	m/s²
Jerk	500.00	m/s³
Deceleration (system stop AC1/AC3)	1.00	m/s²
Jerk (system stop AC1/AC3)	1000.00	m/s³
Deceleration (stop ramp)	20.00	m/s²
Jerk (stop ramp)	1000.00	m/s³
Base value acceleration	1.00	m/s²
Base value deceleration	1.00	m/s²
Base value velocity	5.00	m/s
Base value velocity (PLC, motorside)	7500.00	r/min

4 常见故障

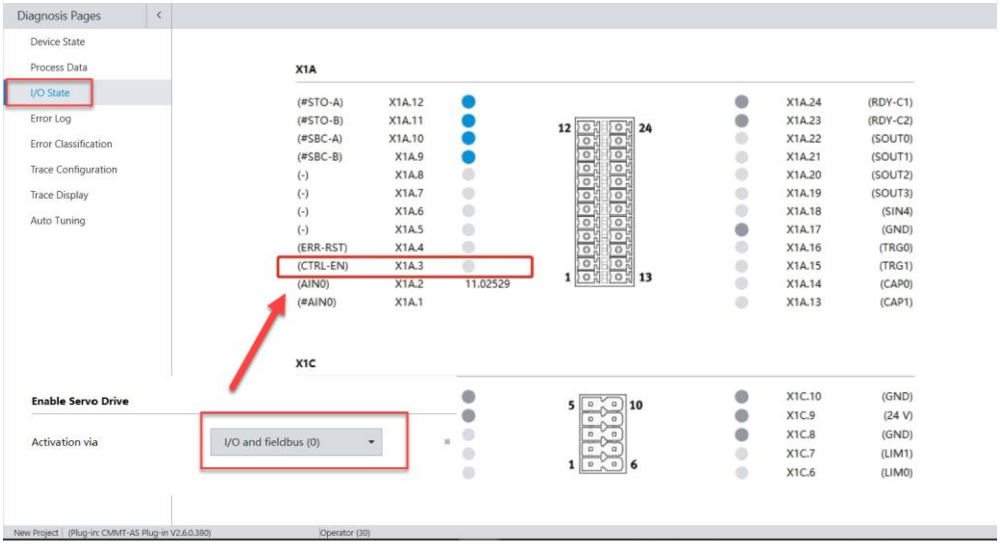
4.1 00061：Task ignored controller enable failed（使能失败）


Device State
Servo drive
Axis
Acknowledge All

Task ignored controller enable failed
D1.05|02|00061.0

Status	Category	ID	Name	Timestamp
●	Stop category 1 (256)	D1.05|02|00061.0	Task ignored controller enable failed	00.14:40:33.965

CMMT 控制器的使能方式是 I/O（X1A.3）+Fieldbus, I/O State 中检查发现 X1A.3 没有接入 24V 导致无法使能。


Diagnosis Pages
Device State
Process Data
I/O State
Error Log
Error Classification
Trace Configuration
Trace Display
Auto Tuning
X1A
12
24
1
13
X1C
5
10
1
6
New Project
(Plug-in: CMMT-AS Plug-in V2.6.0.380)
Operator (30)

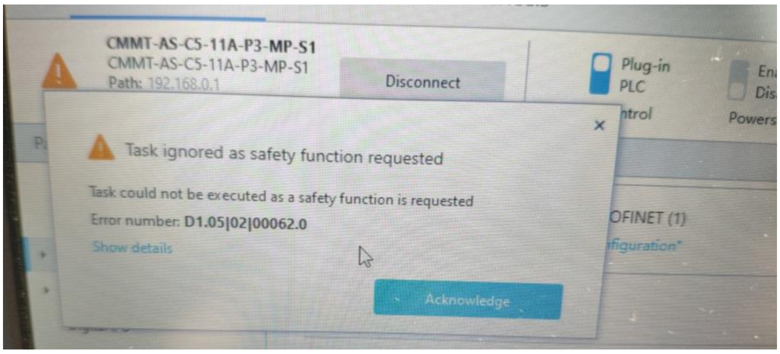
(#STO-A)	X1A.12	
(#STO-B)	X1A.11	
(#SBC-A)	X1A.10	
(#SBC-B)	X1A.9	
(-)	X1A.8	
(-)	X1A.7	
(-)	X1A.6	
(-)	X1A.5	
(ERR-RST)	X1A.4	
(CTRL-EN)	X1A.3	
(AIN0)	X1A.2	11.02529
(#AIN0)	X1A.1	

X1A.24	(RDY-C1)
X1A.23	(RDY-C2)
X1A.22	(SOUT0)
X1A.21	(SOUT1)
X1A.20	(SOUT2)
X1A.19	(SOUT3)
X1A.18	(SIN4)
X1A.17	(GND)
X1A.16	(TRG0)
X1A.15	(TRG1)
X1A.14	(CAP0)
X1A.13	(CAP1)
X1C.10	(GND)
X1C.9	(24 V)
X1C.8	(GND)
X1C.7	(LIM1)
X1C.6	(LIM0)

Enable Servo Drive

Activation via: I/O and fieldbus (0)

4.2 00062：Task ignored as safety function requested （安全条件不满足）

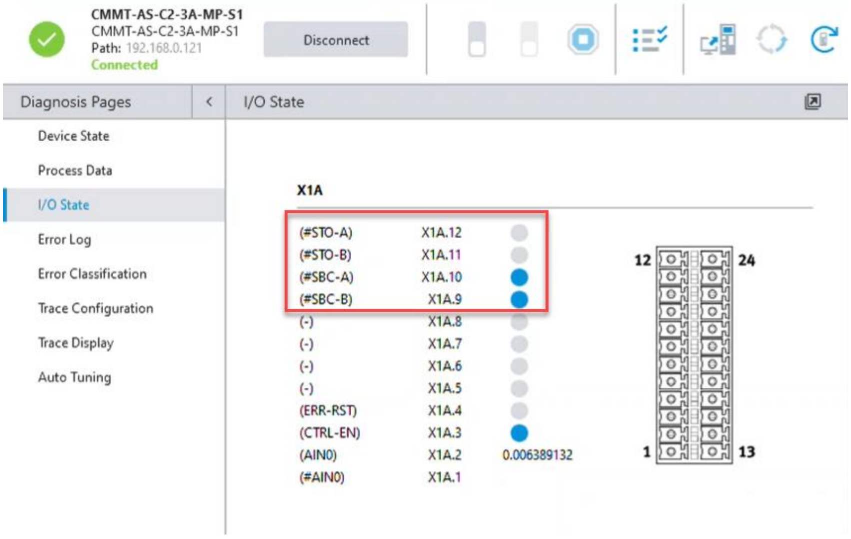

CMMT-AS-C5-11A-P3-MP-S1
CMMT-AS-C5-11A-P3-MP-S1
Path: 192.168.0.1
Disconnect
Plug-in
PLC
ntrol
En
Dis
Powers
OFINET (1)
figuration"
×
Show details
Acknowledge

Task ignored as safety function requested

Task could not be executed as a safety function is requested

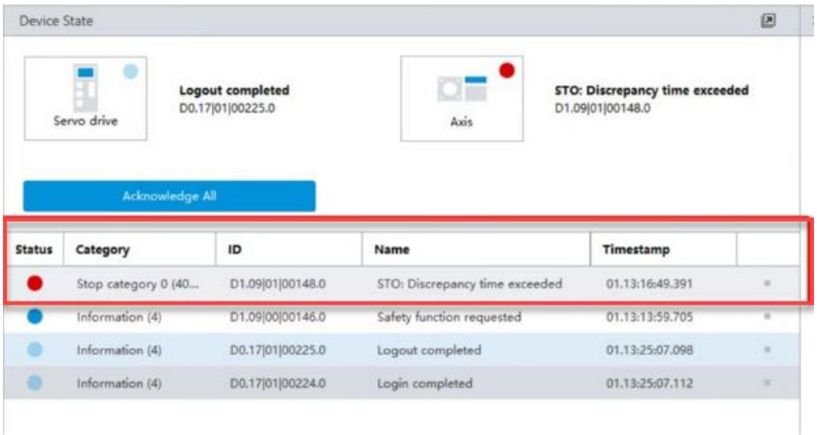
Error number: D1.05|02|00062.0

I/O State 中查看 X1A.9、X1A.10、X1A.11、X1A.12 是否正确供电


CMMT-AS-C2-3A-MP-S1
CMMT-AS-C2-3A-MP-S1
Path: 192.168.0.121
Connected
Disconnect
Diagnosis Pages
I/O State
Device State
Process Data
I/O State
Error Log
Error Classification
Trace Configuration
Trace Display
Auto Tuning
X1A
12
24
1
13

(#STO-A)	X1A.12	
(#STO-B)	X1A.11	
(#SBC-A)	X1A.10	
(#SBC-B)	X1A.9	
(-)	X1A.8	
(-)	X1A.7	
(-)	X1A.6	
(-)	X1A.5	
(ERR-RST)	X1A.4	
(CTRL-EN)	X1A.3	
(AIN0)	X1A.2	0.006389132
(#AIN0)	X1A.1	

4.3 00148：STO: Discrepancy time exceeded （STO-A 和 STO-B 信号不同步）

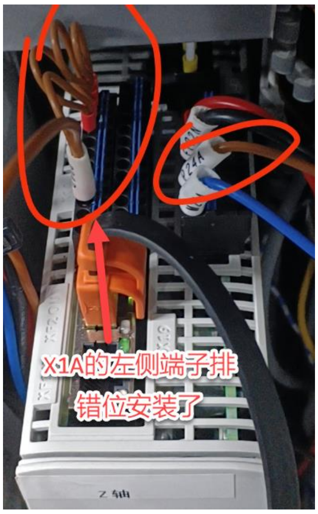

Device State
Servo drive
Axis
Acknowledge All

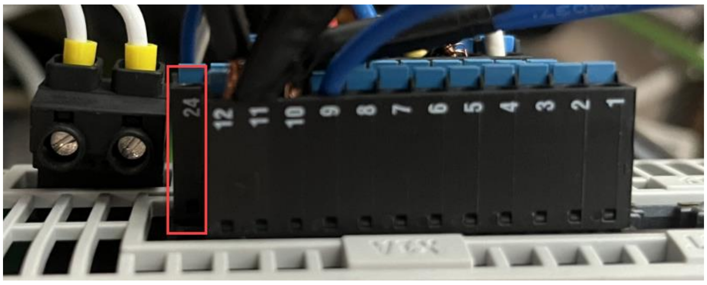
Logout completed
D0.17|01|00225.0

STO: Discrepancy time exceeded
D1.09|01|00148.0

Status	Category	ID	Name	Timestamp
●	Stop category 0 (40...	D1.09|01|00148.0	STO: Discrepancy time exceeded	01.13:16:49.391
●	Information (4)	D1.09|00|00146.0	Safety function requested	01.13:13:59.705
●	Information (4)	D0.17|01|00225.0	Logout completed	01.13:25:07.098
●	Information (4)	D0.17|01|00224.0	Login completed	01.13:25:07.112

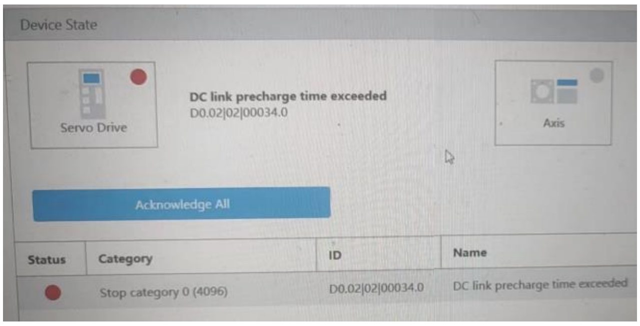
检查 STO-A 和 STO-B 信号是否同时给，大部分的情况由于 X1A 的左侧端子往下错位安装导致故障出现


X1A的左侧端子排
错位安装了


24
12
11
10
9
8
7
6
5
4
3
2
1

没有防呆，容易安装错位。

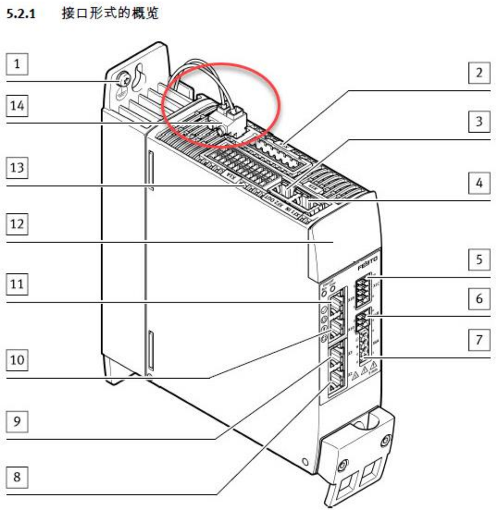
4.4 000034-DC link precharge time exceeded（直流母线预充电超时）


Device State
Servo Drive
Axis
Acknowledge All

DC link precharge time exceeded
D0.02|02|00034.0

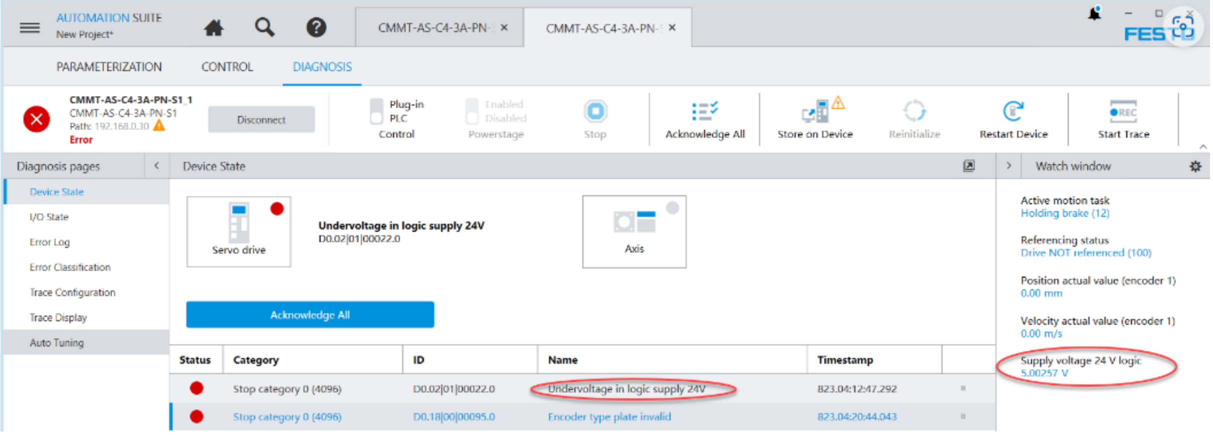
Status	Category	ID	Name
●	Stop category 0 (4096)	D0.02|02|00034.0	DC link precharge time exceeded

断电后检查一下制动电阻插头是否松动，拔下来重新安装一下再上电试试，该插头在接线时容易碰到导致松动


5.2.1 接口形式的概览
1
14
13
12
11
10
9
8
2
3
4
5
6
7

4.5 00022- Undervoltage in logic supply 24V（逻辑电压过低）

逻辑电压过低一般出现在设备上电时，可能电源容量或者走线长度等导致的电压过低，需要断电才能复位。


AUTOMATION SUITE
New Project*
CMMT-AS-C4-3A-PN-
CMMT-AS-C4-3A-PN-
FESTO
PARAMETERIZATION
CONTROL
DIAGNOSIS
Disconnect
Plug-in
PLC
Control
Enabled
Disabled
Powerstage
Stop
Acknowledge All
Store on Device
Reinitialize
Restart Device
REC
Start Trace
Diagnosis pages
Device State
I/O State
Error Log
Error Classification
Trace Configuration
Trace Display
Auto Tuning
Device State
Servo drive
Axis
Acknowledge All
Watch window

CMMT-AS-C4-3A-PN-S1_1
CMMT-AS-C4-3A-PN-S1
Path: 192.168.0.30
Error

Undervoltage in logic supply 24V
D0.02|01|00022.0

Status	Category	ID	Name	Timestamp
●	Stop category 0 (4096)	D0.02|01|00022.0	Undervoltage in logic supply 24V	823.04:12:47.292
●	Stop category 0 (4096)	D0.18|00|00095.0	Encoder type plate invalid	823.04:20:44.043

Active motion task
Holding brake (12)

Referencing status
Drive NOT referenced (100)

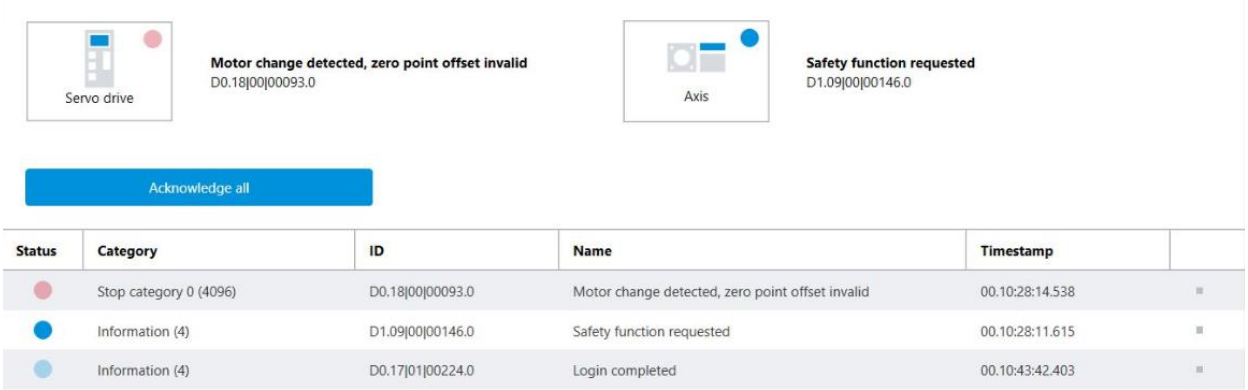
Position actual value (encoder 1)
0.00 mm

Velocity actual value (encoder 1)
0.00 m/s

Supply voltage 24 V logic
5.00257 V

4.6 00093-Motor change detected, zero point offset invalid（检测到电机更换，零点偏移无效）

检查电机（编码器）插头是否松动，导致控制器认为电机已更换，零位偏移无效。


Servo drive
Axis
Acknowledge all

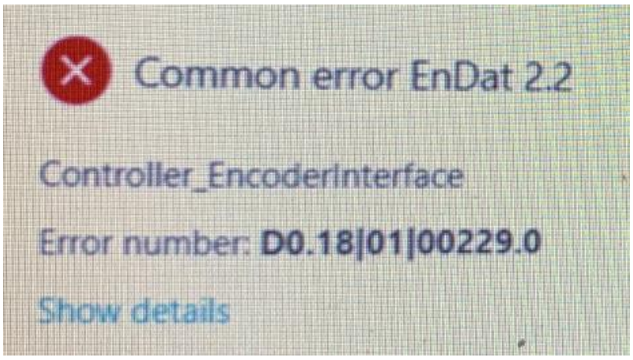
Motor change detected, zero point offset invalid
D0.18|00|00093.0

Safety function requested
D1.09|00|00146.0

Status	Category	ID	Name	Timestamp
●	Stop category 0 (4096)	D0.18|00|00093.0	Motor change detected, zero point offset invalid	00.10:28:14.538
●	Information (4)	D1.09|00|00146.0	Safety function requested	00.10:28:11.615
●	Information (4)	D0.17|01|00224.0	Login completed	00.10:43:42.403

4.7 00229-Common error EnDat2.2(编码器错误)

驱动器和电机端编码器线缆是否插好，编码器线缆是否插在 X2 口上，驱动器网口较多，容易插错口；编码器类型和 FAS 组态是否一致；驱动器的编码器口、编码器线缆、电机交叉验证排查是否损坏。

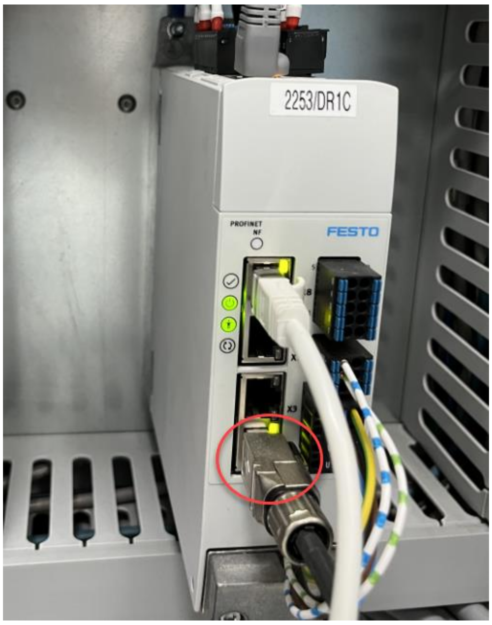


Common error EnDat 2.2

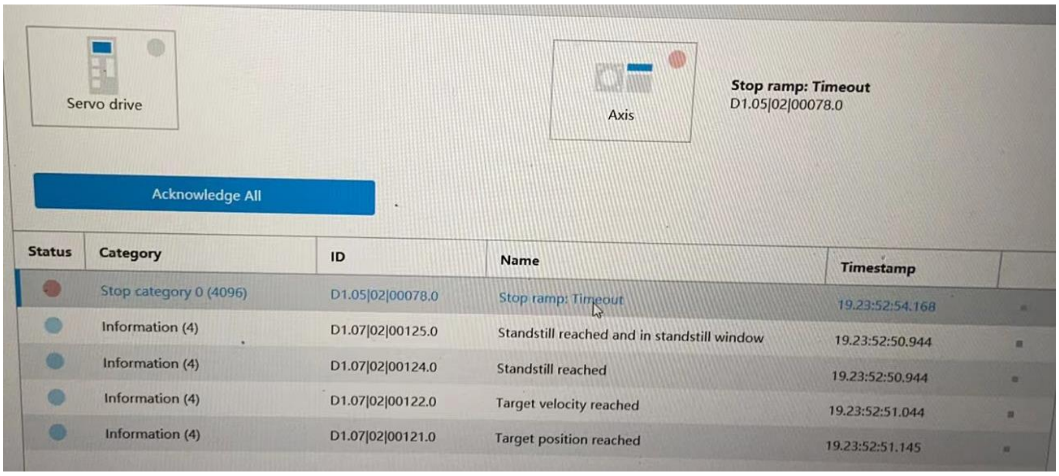
Controller_EncoderInterface

Error number: **D0.18|01|00229.0**

Show details


2253/DR1C
PROFINET
FESTO
X3

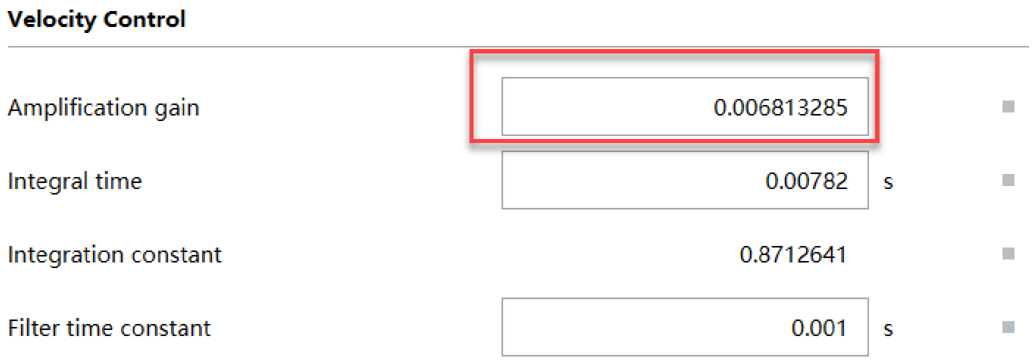
4.8 00078-Stop ramp: Timeout （斜坡停止超时）



Stop ramp: Timeout
D1.05|02|00078.0

Status	Category	ID	Name	Timestamp	
●	Stop category 0 (4096)	D1.05|02|00078.0	Stop ramp: Timeout	19.23:52:54.168	▪
●	Information (4)	D1.07|02|00125.0	Standstill reached and in standstill window	19.23:52:50.944	▪
●	Information (4)	D1.07|02|00124.0	Standstill reached	19.23:52:50.944	▪
●	Information (4)	D1.07|02|00122.0	Target velocity reached	19.23:52:51.044	▪
●	Information (4)	D1.07|02|00121.0	Target position reached	19.23:52:51.145	▪

大部分的情况是闭环参数不合适，导致在使能的时候或者动作的时候报这个错误。降低闭环参数中的速度环增益（Amplification gain）可解决问题。



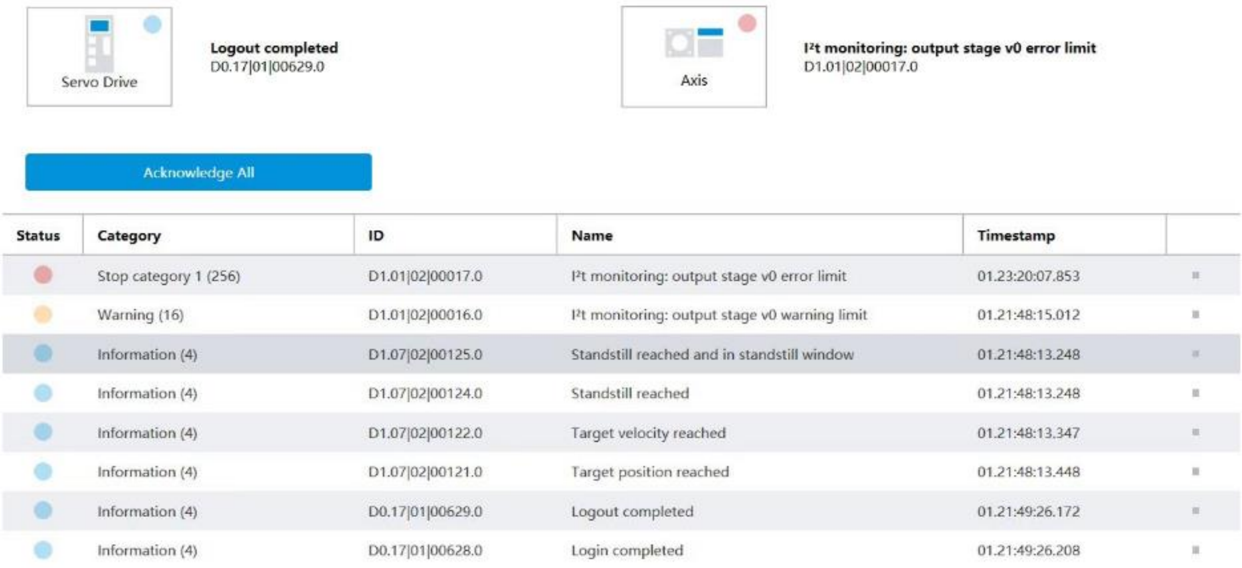
Velocity Control

Amplification gain: 0.006813285
Integral time: 0.00782 s
Integration constant: 0.8712641
Filter time constant: 0.001 s

如果还未解决，可修改如下参数进行测试：

- 适当增大 P1.4610 "Monitoring window target velocity" 数值
- 适当减小 P1.468 "Damping time target reached" 数值
- 适当增大 P1.30129 "Monitoring window factor" 数值

4.9 00017-I²t monitoring: output stage v0 error limit（过载）



Logout completed
D0.17|01|00629.0

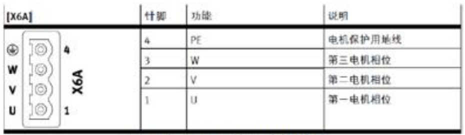
I²t monitoring: output stage v0 error limit
D1.01|02|00017.0

Status	Category	ID	Name	Timestamp	
●	Stop category 1 (256)	D1.01|02|00017.0	I²t monitoring: output stage v0 error limit	01.23:20:07.853	▪
●	Warning (16)	D1.01|02|00016.0	I²t monitoring: output stage v0 warning limit	01.21:48:15.012	▪
●	Information (4)	D1.07|02|00125.0	Standstill reached and in standstill window	01.21:48:13.248	▪
●	Information (4)	D1.07|02|00124.0	Standstill reached	01.21:48:13.248	▪
●	Information (4)	D1.07|02|00122.0	Target velocity reached	01.21:48:13.347	▪
●	Information (4)	D1.07|02|00121.0	Target position reached	01.21:48:13.448	▪
●	Information (4)	D0.17|01|00629.0	Logout completed	01.21:49:26.172	▪
●	Information (4)	D0.17|01|00628.0	Login completed	01.21:49:26.208	▪

接线问题：

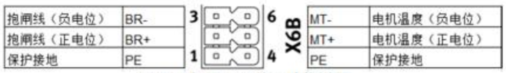
- 检查 UVW 相序接线是否正确
- 带刹车的电机检查刹车接线是否正确（接反或者接到温度传感器端子上）

2.2 电机线缆接口 X6A、X6B



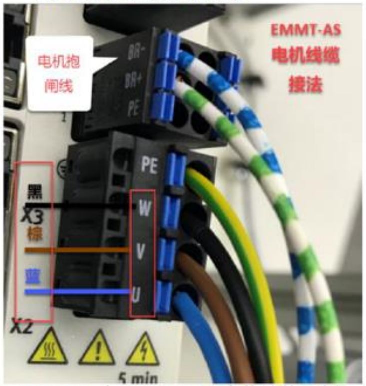
[X6A]	针脚	功能	说明
	4	PE	电机保护用地线
	3	W	第三电机相位
	2	V	第二电机相位
	1	U	第一电机相位

CMMT 伺服 X6A 接口功能说明



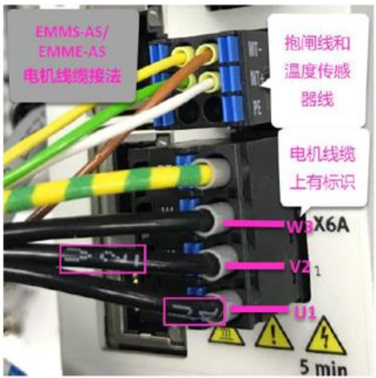
抱闸线（负电位）	BR-	MT-	电机温度（负电位）
抱闸线（正电位）	BR+	MT+	电机温度（正电位）
保护接地	PE	PE	保护接地

CMMT 伺服 X6B 接口功能说明



电机抱闸线
EMMT-AS 电机线缆接法
BR-
BR+
PE
PE
黑
X3
棕
蓝
W
V
U
X2
5 min

EMMT-AS 与 CMMT 伺服实物连接示例

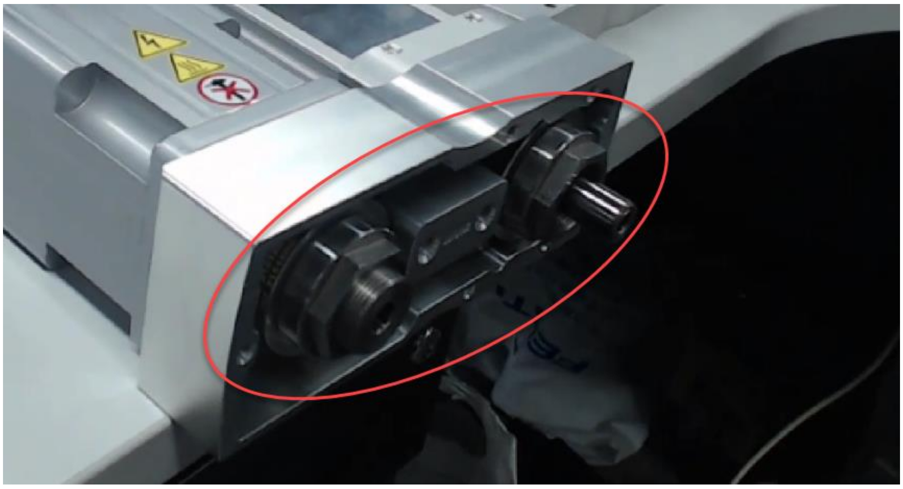


EMMS-AS/ EMME-AS 电机线缆接法
抱闸线和温度传感器线
电机线缆上有标识
MT-
MT+
PE
W3
X6A
V2
1
U1
5 min

EMMS-AS，EMME-AS 电机与 CMMT 伺服实物连接示例

注意：如果 U/V/W 相序接反或抱闸线接反，会导致跟随误差或过电流故障。

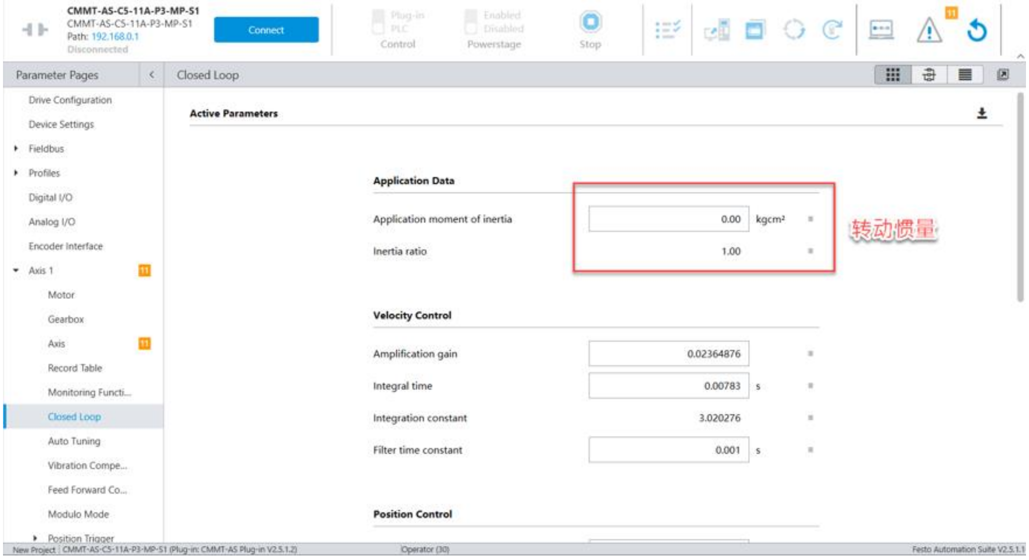
机构安装问题：



- 是否负载运行到硬限位
- 检查负载是否有卡死的现象，可以通过电机断使能的情况下手动推负载排查（垂直应用时建议拆掉负载，然后断开使能，打开刹车，手推检查）
- U 型组件安装不规范，很容易出现卡死的情况
- 是否有外部气控抱闸，气控抱闸是否打开

转动惯量：

旋转应用电机使能后旋转机构抖动报错，此时需要了解选型相关参数。



Connect
Plug-in
PLC
Control
Enabled
Disabled
Powerstage
Stop
Parameter Pages
Drive Configuration
Device Settings
Fieldbus
Profiles
Digital I/O
Analog I/O
Encoder Interface
Axis 1
11
Motor
Gearbox
Axis
11
Record Table
Monitoring Functi...
Closed Loop
Auto Tuning
Vibration Compe...
Feed Forward Co...
Modulo Mode
Position Trigger
转动惯量

CMMT-AS-C5-11A-P3-MP-S1
CMMT-AS-C5-11A-P3-MP-S1
Path: 192.168.0.1
Disconnected

Closed Loop

Active Parameters

Application Data

Application moment of inertia 0.00 kgcm²
Inertia ratio 1.00

Velocity Control

Amplification gain 0.02364876
Integral time 0.00783 s
Integration constant 3.020276
Filter time constant 0.001 s

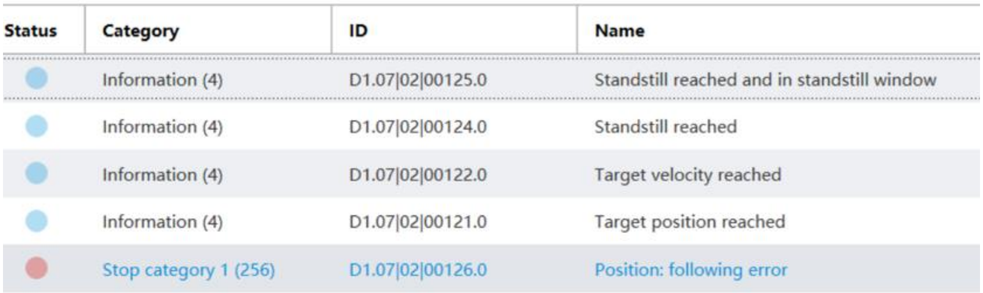
Position Control

New Project | CMMT-AS-C5-11A-P3-MP-S1 (Plug-in: CMMT-AS Plug-in V2.5.1.2) Operator (30) Festo Automation Suite V2.5.1.1

- 了解负载的转动惯量，填写到软件中计算合适的闭环参数

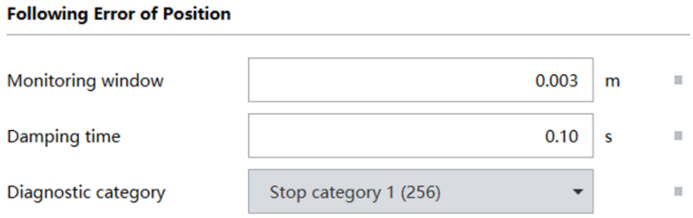
- 根据选型的节拍进行动作
- 惯量比过大，可考虑加减速机

4.10 00126-Position:following error(跟随错误)



Status	Category	ID	Name
●	Information (4)	D1.07|02|00125.0	Standstill reached and in standstill window
●	Information (4)	D1.07|02|00124.0	Standstill reached
●	Information (4)	D1.07|02|00122.0	Target velocity reached
●	Information (4)	D1.07|02|00121.0	Target position reached
●	Stop category 1 (256)	D1.07|02|00126.0	Position: following error

- 机构是否存在卡死的情况
- 节拍参数是否设置过大
- 马达扭矩或者电流值是否被限制
- 运动过程中走到硬挡极限
- 检查监控窗口值是否合理，在工艺允许的情况下，可以适当修改跟随误差的监控窗口值

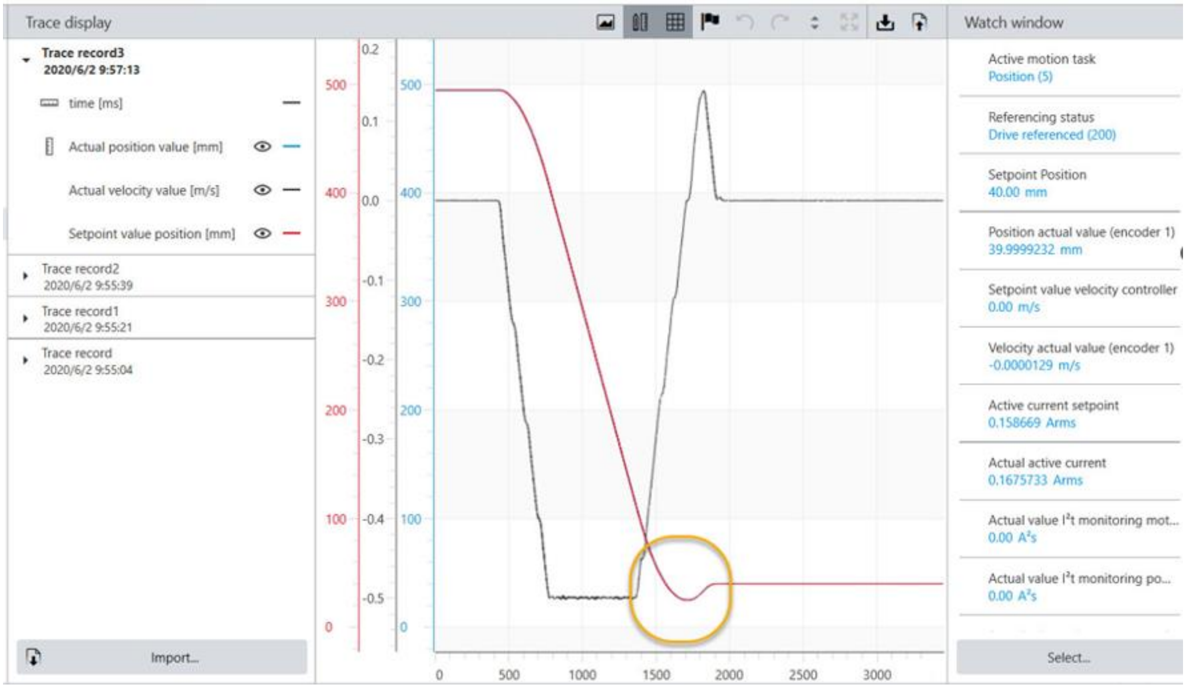


Following Error of Position

Monitoring window	0.003	m
Damping time	0.10	s
Diagnostic category	Stop category 1 (256)	

4.11 定位过冲

定位时会超过目标位置 40mm 后再回来


Trace display
Trace record3
2020/6/2 9:57:13
time [ms]
Actual position value [mm]
Actual velocity value [m/s]
Setpoint value position [mm]
Trace record2
2020/6/2 9:55:39
Trace record1
2020/6/2 9:55:21
Trace record
2020/6/2 9:55:04
Import...
500
400
300
200
100
0
0.2
0.1
0.0
-0.1
-0.2
-0.3
-0.4
-0.5
0
500
1000
1500
2000
2500
3000
Select...

Watch window

Active motion task
Position (5)

Referencing status
Drive referenced (200)

Setpoint Position
40.00 mm

Position actual value (encoder 1)
39.9999232 mm

Setpoint value velocity controller
0.00 m/s

Velocity actual value (encoder 1)
-0.0000129 m/s

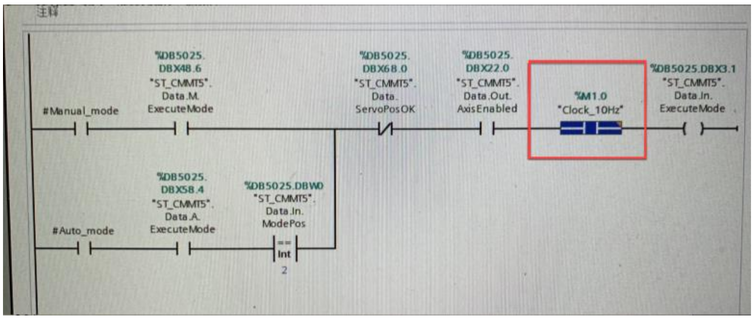
Active current setpoint
0.158669 Arms

Actual active current
0.1675733 Arms

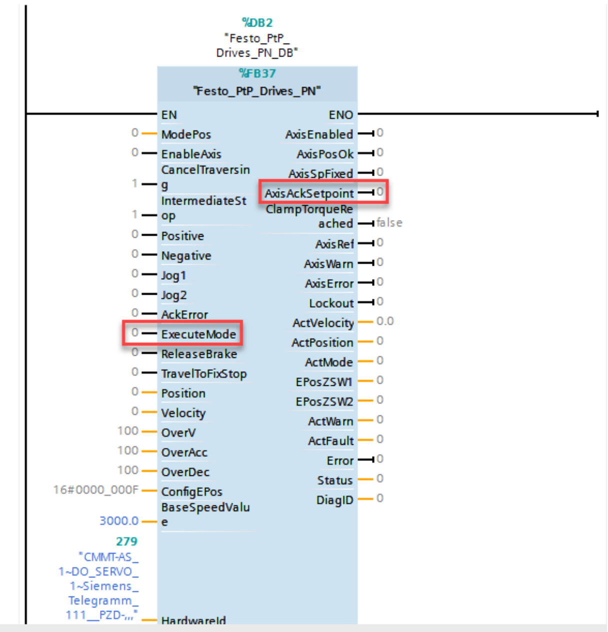
Actual value I²t monitoring mot...
0.00 A²s

Actual value I²t monitoring po...
0.00 A²s

程序中使用脉冲信号触发定位任务


注释
#Manual_mode
%DB5025.
DBX48.6
"ST_CMMT5".
Data.M.
ExecuteMode
%DB5025.
DBX68.0
"ST_CMMT5".
Data.
ServoPosOK
%DB5025.
DBX22.0
"ST_CMMT5".
Data.Out.
AxisEnabled
%M1.0
"Clock_10Hz"
%DB5025.DBX3.1
"ST_CMMT5".
Data.In.
ExecuteMode
#Auto_mode
%DB5025.
DBX58.4
"ST_CMMT5".
Data.A.
ExecuteMode
%DB5025.DBW0
"ST_CMMT5".
Data.In.
ModePos
==
Int
2

使用脉冲信号不停的触发 ExcuteMode ，是担心出现偶发定位不动作的情况。


%DB2
"Festo_PtP_Drives_PN_DB"
%FB37
"Festo_PtP_Drives_PN"
EN
ENO
ModePos
EnableAxis
CancelTraversing
IntermediateStop
Positive
Negative
Jog1
Jog2
AckError
ExecuteMode
ReleaseBrake
TravelToFixStop
Position
Velocity
OverV
OverAcc
OverDec
ConfigEPos
BaseSpeedValue
HardwareId
AxisEnabled
AxisPosOk
AxisSpFixed
AxisAckSetpoint
ClampTorqueReached
AxisRef
AxisWarn
AxisError
Lockout
ActVelocity
ActPosition
ActMode
EPosZSW1
EPosZSW2
ActWarn
ActFault
Error
Status
DiagID
100
16#0000_000F
3000.0
279
"CMMT-AS_1~DO_SERVO_1~Siemens_Telegramm_111__PZD-..."
false
0.0

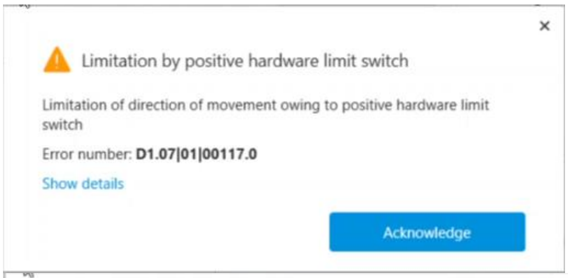
修改程序逻辑可以解决偶发不动作的问题：ExecuteMode 置 1 后，等待 AxisAckSetpoint 置 1 后（确认 CMMT 已经接受到 PLC 的命令），用 AxisAckSetpoint 复位 ExecuteMode 信号。

4.12 00116（00117）Limitation by negative（positive） hardware limit switch

一般在触发正或负限位开关后报错，清除错误后会出现该警告。提示你只能向负或正方向运行。

例如：

警告出现在急停开关拍下之后

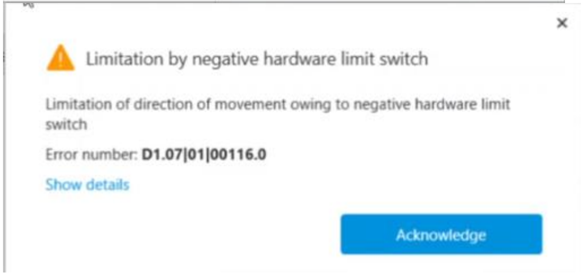


Limitation by positive hardware limit switch

Limitation of direction of movement owing to positive hardware limit switch

Error number: **D1.07|01|00117.0**

Show details
Acknowledge



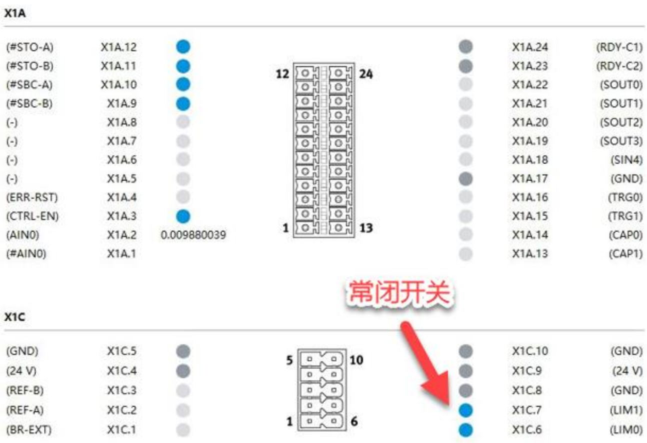
Limitation by negative hardware limit switch

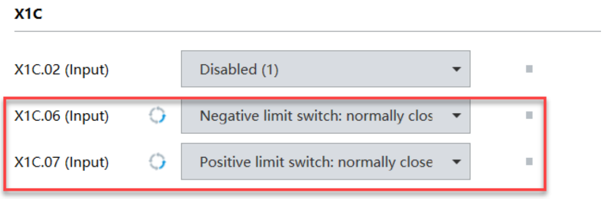
Limitation of direction of movement owing to negative hardware limit switch

Error number: **D1.07|01|00116.0**

Show details
Acknowledge

常闭信号，负载停留的位置离限位开关都很远


X1A
(#STO-A) X1A.12
(#STO-B) X1A.11
(#SBC-A) X1A.10
(#SBC-B) X1A.9
(-) X1A.8
(-) X1A.7
(-) X1A.6
(-) X1A.5
(ERR-RST) X1A.4
(CTRL-EN) X1A.3
(AIN0) X1A.2 0.009880039
(#AIN0) X1A.1
12
24
1
13
X1A.24 (RDY-C1)
X1A.23 (RDY-C2)
X1A.22 (SOUT0)
X1A.21 (SOUT1)
X1A.20 (SOUT2)
X1A.19 (SOUT3)
X1A.18 (SIN4)
X1A.17 (GND)
X1A.16 (TRG0)
X1A.15 (TRG1)
X1A.14 (CAP0)
X1A.13 (CAP1)
常闭开关
X1C
(GND) X1C.5
(24 V) X1C.4
(REF-B) X1C.3
(REF-A) X1C.2
(BR-EXT) X1C.1
5
10
1
6
X1C.10 (GND)
X1C.9 (24 V)
X1C.8 (GND)
X1C.7 (LIM1)
X1C.6 (LIM0)



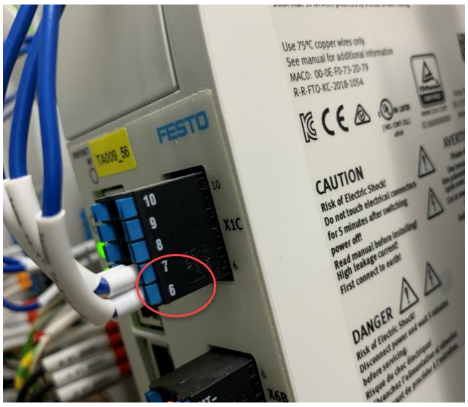
X1C

X1C.02 (Input): Disabled (1)

X1C.06 (Input): Negative limit switch: normally clos

X1C.07 (Input): Positive limit switch: normally close

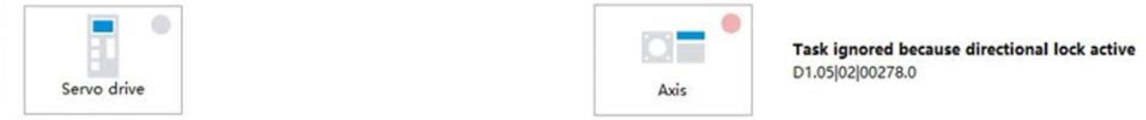
检查发现拍急停后，限位开关状态灯（常闭）熄灭。复位上使能后，会出现 116 或者 117 警告。



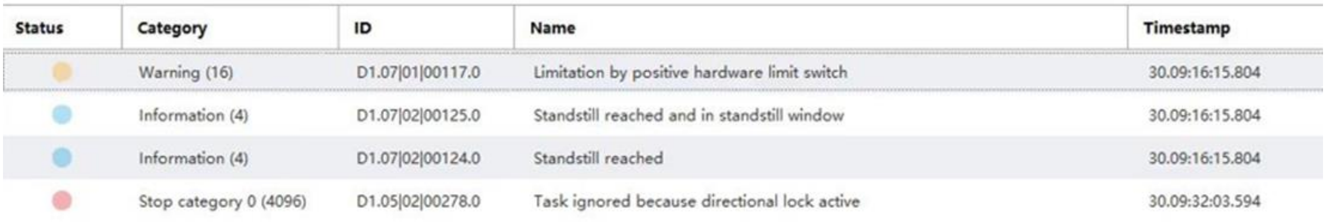
限位开关电源被错误接线到安全回路中导致警告出现，重新接线保持常闭信号后，警告没有再现。

4.13 00278-Task ignored because directional lock active

一般是发生在正负限位都被激活后再进行运动任务就会报此错误。检查限位开关接线和设置等。


Servo drive
Axis

Task ignored because directional lock active
D1.05|02|00278.0

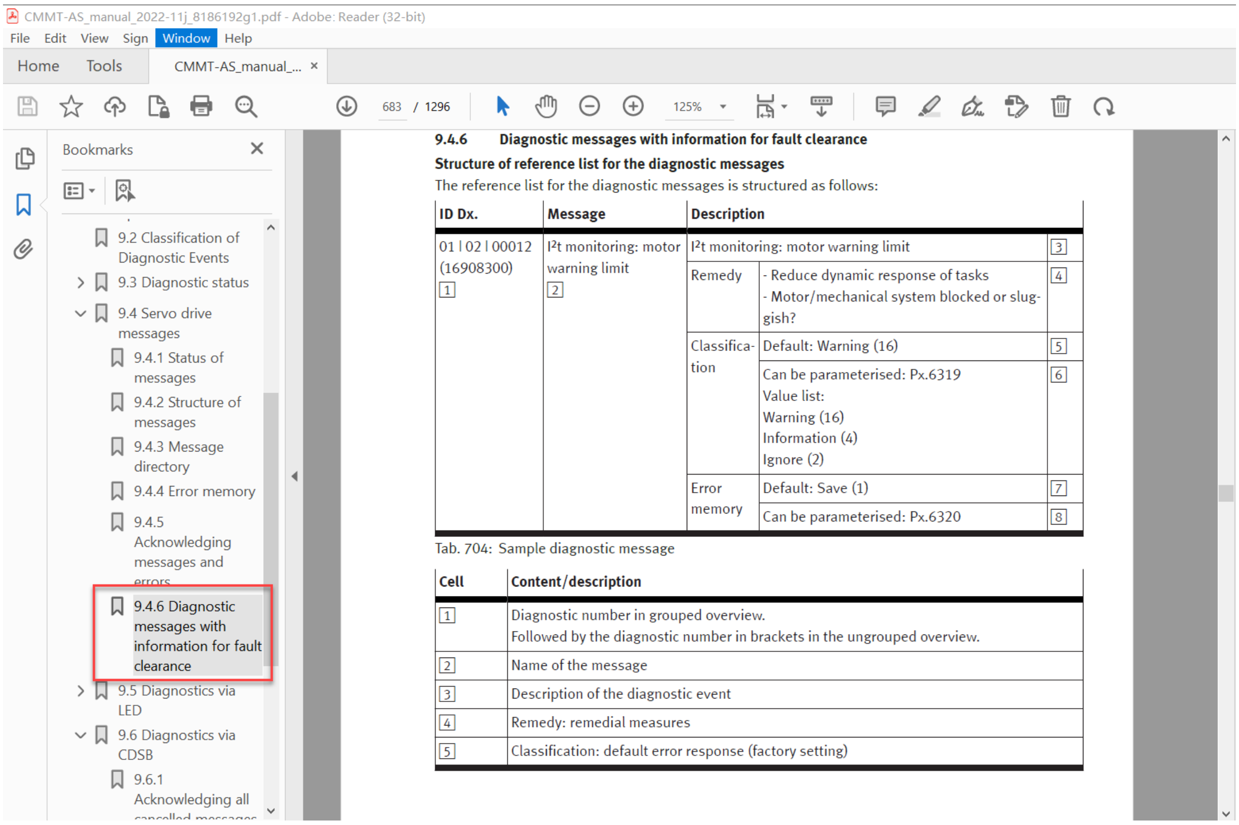


Status	Category	ID	Name	Timestamp
●	Warning (16)	D1.07|01|00117.0	Limitation by positive hardware limit switch	30.09:16:15.804
●	Information (4)	D1.07|02|00125.0	Standstill reached and in standstill window	30.09:16:15.804
●	Information (4)	D1.07|02|00124.0	Standstill reached	30.09:16:15.804
●	Stop category 0 (4096)	D1.05|02|00278.0	Task ignored because directional lock active	30.09:32:03.594

例如：故障出现在设备上电后,限位开关在 FAS 软件里的设置是常闭信号，设备上电后伺服的逻辑电压先得电，限位开关的供电被误接入到安全回路中还未得电，驱动器此时检测到传感器没有点亮，从而导致故障发生。

4.14 故障代码查询

查询方式 1- [操作手册]()


CMMT-AS_manual_2022-11j_8186192g1.pdf - Adobe Reader (32-bit)
File Edit View Sign Window Help
Home Tools CMMT-AS_manual_... ×
683 / 1296
125%
Bookmarks
9.2 Classification of Diagnostic Events
9.3 Diagnostic status
9.4 Servo drive messages
9.4.1 Status of messages
9.4.2 Structure of messages
9.4.3 Message directory
9.4.4 Error memory
9.4.5 Acknowledging messages and errors
9.4.6 Diagnostic messages with information for fault clearance
9.5 Diagnostics via LED
9.6 Diagnostics via CDSB
9.6.1 Acknowledging all cancelled messages

9.4.6 Diagnostic messages with information for fault clearance

Structure of reference list for the diagnostic messages

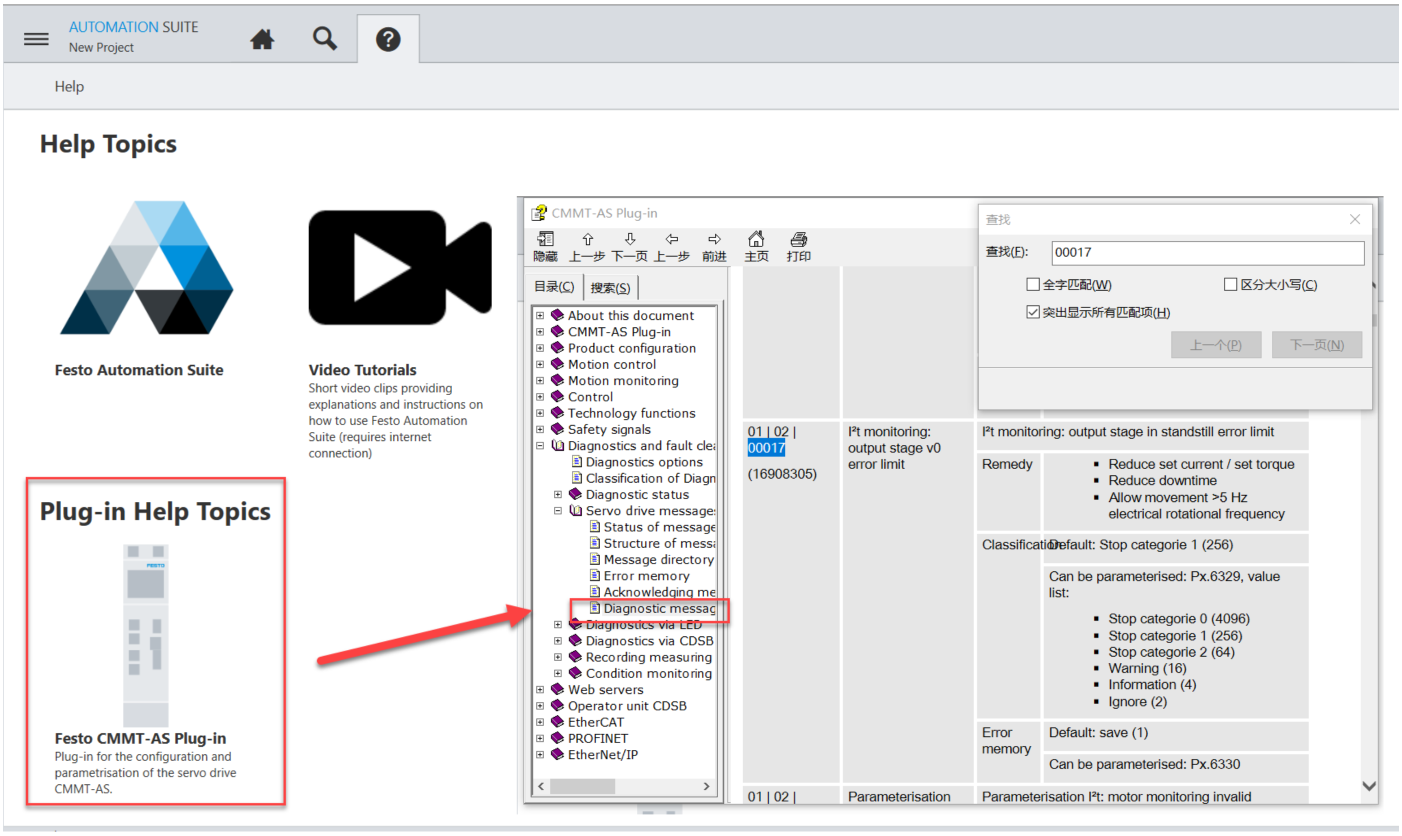
The reference list for the diagnostic messages is structured as follows:

ID Dx.	Message	Description		
01 | 02 | 00012 (16908300) 1	I^2t monitoring: motor warning limit 2	I^2t monitoring: motor warning limit		3
		Remedy	- Reduce dynamic response of tasks - Motor/mechanical system blocked or sluggish?	4
		Classification	Default: Warning (16)	5
			Can be parameterised: Px.6319 Value list: Warning (16) Information (4) Ignore (2)	6
		Error memory	Default: Save (1)	7
			Can be parameterised: Px.6320	8

Tab. 704: Sample diagnostic message

Cell	Content/description
1	Diagnostic number in grouped overview. Followed by the diagnostic number in brackets in the ungrouped overview.
2	Name of the message
3	Description of the diagnostic event
4	Remedy: remedial measures
5	Classification: default error response (factory setting)

查询方式 2-FAS 软件帮助文档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Help Topics

Festo Automation Suite

Video Tutorials

Short video clips providing explanations and instructions on how to use Festo Automation Suite (requires internet connection)

Plug-in Help Topics

Festo CMMT-AS Plug-in

Plug-in for the configuration and parametrisation of the servo drive CMMT-AS.

查找(F): 00017

☐ 全字匹配(W)　☐ 区分大小写(C)

☑ 突出显示所有匹配项(H)

01 | 02 | 00017 (16908305)	I²t monitoring: output stage v0 error limit	I²t monitoring: output stage in standstill error limit	
		Remedy	- Reduce set current / set torque - Reduce downtime - Allow movement >5 Hz electrical rotational frequency
		Classification	Default: Stop categorie 1 (256)
			Can be parameterised: Px.6329, value list: - Stop categorie 0 (4096) - Stop categorie 1 (256) - Stop categorie 2 (64) - Warning (16) - Information (4) - Ignore (2)
		Error memory	Default: save (1)
			Can be parameterised: Px.6330
01 | 02 |	Parameterisation	Parameterisation I²t: motor monitoring invalid	