

从 PLC 中读取伺服数据时的周期

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I 历史版本

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表 1: 版本

II 发布

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表 2: 发布

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1 版本信息

AS 版本:	V4.10.2
AR 版本	B4.91
ACP10 版本	

2 遇到的问题

PLC 通过 MC_BR_InitCyclicRead 读取的伺服电流和扭矩等数据，在 PLC 的 Trace 中 2 个周期变化一次。

NC 配置如下

Acp10cfg.ncc [NC Manager Configuration]*		aSLPos::aSLPos.apr [ACOPOS Parameter Table Editor]	aMainPos::aM
Name	Value	Desi	
Configuration data for ACP10			
Number of data records per ACOPOS for Network Command Trace	1500		
Size of data buffer for trace data upload [Bytes]	1200		
Task class for NC Manager task	Cyclic #1		
Use global PV as NC object	Yes		
Enable NCSYS download via broadcast	Yes		
ACOPOS reset after NCSYS download	Yes		
Enter SafeMC Logger errors into axis structure	Yes		
Network initialization (ACOPOS startup)			
Execute at NC software initialization	Yes		
Execute automatically after ACOPOS reset	No		
Warning for non-ascending node numbers (only for POWERLINK)	Yes		
Indicate network errors before first NC action (only for POWERLINK)	Yes		
Network Command Trace			
Enter Parameter Sequence records	Yes		
Enter PLCopen and NC function calls	Yes		
Save start index of ring buffer after network initialization (ACOPOS st...	Yes		
Cam Profile Download			
Parallel transfer of Cam profile data	No		
Reference task class for parallel transfer	Task class for NC Manager task		
POWERLINK interface[0]			
Interface name	SI 1 IE1		
Task class for handling of cyclic data with PLCopen (only for SG4)	Task class for NC Manager task		
Extended coupling data for ACP10_MC_BROADCAST	Yes		

通过导出曲线数据可以发现：

0	8.8168039
0.003189	8.8168039
0.006389	8.7000561
0.009587	8.7000561
0.012786	8.7880125
0.015996	8.7880125
0.019184	8.7567959
0.022389	8.7567959
0.025591	8.7194738
0.028787	8.7194738
0.032	8.8632965
0.035193	8.8632965
0.038406	8.9918613
0.041594	8.9918613

经过测试，用 MC_ReadActualTorque 读扭矩也是两个周期变化一次。

用 MC_BR_CyclicRead 函数读电流在 mode 为 mcONE_RECORD 时也是两个周期变化一次。Mode 为 mcEVERY_RECORD 时每个周期变化一次。

3 测试结论

用 MC_BR_InitCyclicRead、MC_BR_CyclicRead 等函数循环读驱动器 ID 时，当 mode 为 mcONE_RECORD 时，数据两个 Task 周期更新一次。当 mode 为 mcEVERY_RECORD 时，数据一个 Task 周期更新一次。

用 MC_ReadActualTorque 读扭矩也是两个 Task 周期变化一次。

如果用 mcEVERY_RECORD 模式读取多个 ID，则会出现总线因负载太大而报 29242。

29242: Cyclic read data full

Description

This error is reported if a ParID is configured for cyclic reading from the drive, but there is no longer enough space in the telegrams.

Reaction

Further execution of the function block is aborted.

The function block's outputs except for "Error" and "ErrorID" are reset.

The function block remains in an error state until the error is no longer present when the function block is called again (by setting the "Execute" / "Enable" input).

Cause/Solution

See **description**.