

Edit Title (File Menu, Properties)

Edit Subject (File Menu, Properties)

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I Versions

Version	Date	Comment	Edited by
1.0	Nov 6, 2006	First Edition	

Table 1: Versions

II Distribution

Name	Company, Department	Amount	Remarks

Table 2: Distribution

III Safety Notices

Safety notices in this document are organized as follows:

Safety notice	Description
Danger!	Disregarding the safety regulations and guidelines can be life-threatening.
Warning!	Disregarding the safety regulations and guidelines can result in severe injury or heavy damage to material.
Caution!	Disregarding the safety regulations and guidelines can result in injury or damage to material.
Information:	Important information used to prevent errors.

Table 3: Safety notices

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1 Introduction

针对没有位置环的变频器做位置控制。

控制方式：使用 SDC 的方式在 plc 运行位置环，循环发向变频器发送设定速度。

使用 ABB 变频器 ACS880, 增量编码器接入变频器上。

1.1 变频器

Channel Name	Process Variable	Data Type	Task Class
1. ModuleOk	::gSdcAxisCtrl.status.moduleOkIO[0]	BOOL	Automatic
ABBCW_I2101Out	::gSdcAxisCtrl.status.controlWordIO[0]	UINT	Automatic
ABBCW_I2102Out	::gSdcAxisCtrl.status.setSpeed[0]	INT	Automatic
ABBSW_I2104	::gSdcAxisCtrl.status.statusWordIO[0]	UINT	Automatic
ABBAct1_I2105	::gSdcAxisCtrl.status.actSpeed[0]	INT	Automatic
ErrorCode_I603F	::gSdcAxisCtrl.status.errorNumberIO[0]	UINT	Automatic
9002_Motor_position_I405A_S00	::gSdcAxisCtrl.monitor.actPosIncIO[0]	DINT	Automatic
9011_Encoder_1_position_I405A_S0B	::gSdcAxisCtrl.monitor.actPosIncIO[0]	DINT	Automatic
9013_Encoder_1_revolution_extension_I405A_S0D	::gSdcAxisCtrl.status.posCycle[0]	DINT	Automatic

- 1 发送设定速度给变频器 0.1 r/min
- 2 读取到的单圈内的位置值 0 - 100000000
- 3 读取到的圈数

1.2 SDC 配置

```
/*编码器接口*/
gSdcAxisCtrl.cfg.encIf[index].iLifeCnt++; /*不检查*/
gSdcAxisCtrl.cfg.encIf[index].iEncOK = 1; /*不检查*/
gSdcAxisCtrl.cfg.encIf[index].iActTime = gSdcAxisCtrl.cfg.drIf[index].oSetTime;
gSdcAxisCtrl.cfg.encIf[index].iActPos = gSdcAxisCtrl.status.posCycle[0]*1000.0 + gSdcAxisCtrl.monitor.actPosIncIO[index]/100000.0;

gSdcAxisCtrl.cfg.encIf[index].iRefPulseCnt++;
gSdcAxisCtrl.cfg.encIf[index].iRefPulsePos++;

gSdcAxisCtrl.cfg.drIf[index].iLifeCnt++;
gSdcAxisCtrl.cfg.drIf[index].iStatusEnable = 1;
gSdcAxisCtrl.cfg.drIf[index].iDrvOK = 1;
gSdcAxisCtrl.cfg.drIf[index].oSetPos ;
```

实际位置计算转换为一圈 1000unit 后累计

```
/******SDC Driver 接口初始化******/
gSdcAxisCtrl.cfg.sdcHwCfg[index].DrvIf_Typ = ncSDC_DRVSEVO16;|
memset(&tempString,0,sizeof(tempString));
strcpy(&tempString,"gSdcAxisCtrl.cfg.drIf[");
```

伺服类型选择 ncSDC_DRVSEVO16，此类型位置环在 PLC 运行，输出为速度模拟量 -32767 到 32767。

1.3 参数表配置

Parameters	ID	Value	Unit	Description
VCTRL_ENCOD_COUNT_DIR	672	ncSTANDARD		Motor encoder: Load scaling: Count direction
VCTRL_SCALE_LOAD_UNITS	673	1000	Units	Motor encoder: Load scaling: Units per load revolutions
VCTRL_SCALE_LOAD_MOTREV	674	1		Motor encoder: Load scaling: Encoder revolutions per load revolution
SCALE_ENCOD_INCR	109	1000		Encoder1: Encoder scaling: increments per encoder revolution
SERVO_V_MAX_OUTPUT	64201	15366	Units/s	Servo drive adjustment: Velocity at maximum output value

SERVO_V_MAX_OUTPUT 配置:

选用的异步电机为 922r/min，设置电机一圈 1000 个 unit，伺服最大输出计算
 $922/60 \times 1000 = 15366$ ，最大输出 32767 对应最大转速 15366unit/s。

1.4 调用 singelAxis 例子程序

输出计算

伺服输出 * 15366/32767 计算出设定速度 unit/s

```
IF gSdcAxisCtrl.cfg.drvIf[0].oSetPos > 32767 AND gSdcAxisCtrl.cfg.drvIf[0].oSetPos < 32767 THEN
    gSdcAxisCtrl.status.setSpeed[0] := REAL_TO_INT(gSdcAxisCtrl.cfg.drvIf[0].oSetPos * 15366.0 / 32767.0 * 60.0 / 100.0); // 伺服输出转换 为0.1r/min
ELSE
    gSdcAxisCtrl.status.setSpeed[0] := 0;
END_IF;
```

1.5 测试

Figure Index

Es konnten keine Einträge für ein Abbildungsverzeichnis gefunden werden.

2 Table Index

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3 Listing Index

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