SM3_Drive_ETC_SoE_Standard

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Fieldbus interface	SM3_Drive_ETC_Copley
Supported drive models	EtherCAT SoE Standard
Supporting 3S Runtimes	all with EtherCAT SoE (incl. DC)
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Components	SM3_Drive_ETC_SoE_Standard.pdf SM3_Drive_ETC_SoE_Standard.library SM3_Drive_ETC_SoE_Standard.devdesc.xml SM3_Drive_ETC_SoE_Standard.ico Drive speicifc device description
Version	3.4.2.0

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1 Device properties

1.1 Inputs

21000	16#6041:00	in.wStatusWord	status word
1109	16#6064:00	diActPosition	actual position

1.2 Outputs

11000	16#6040:00	out.wControlWord	Control word
1108	16#607A:00	diSetPosition	set position

1.3 AXIS_REF Extensions

Variable name	Data type	Description
In	SMC3_ETC_SoE_SpecificInputs	Inputs
out	SMC3_ETC_SoE_SpecificOutputs	Outputs
config	SMC3_ETC_SoE_Standard_ConfigurationPhase	Internal FB

1.4 Specific error numbers (uiDriveInterfaceError)

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1.5 AXIS_REF mappings

AXIS_REF parameter numbers	AXIS_REF parameter	Drive parameter
1030	bError	Status word
1031	dwErrorID	S-00011
1032	bErrorAckn	S-00099
1, 1100	fSetPosition	S-00047
1101	fActPosition	S-00051/S-00053
11, 1110	fSetVelocity	S-00036
10, 1111	fActVelocity	S-00040
9, 1112	fMaxVelocity	S-00091
13, 1122	fMaxAcceleration	S-00136
15, 1132	fMaxDeceleration	S-00137
1151	fActCurrent	0x2211:00
1160	fSetTorque	S-00080
1161	fActTorque	S-00084
1162	fMaxTorque	S-00092
1211	fReference	S-00052

1400	0.fCaptPosition	S-00130
1401	0.bCaptureOccured	S-00409
1402	0.bStartCapturing	S-00405
1410	1.fCaptPosition	S-00130
1411	1.bCaptureOccured	S-00409
1412	1.bStartCapturing	S-00405
1420	2.fCaptPosition	S-00130
1421	2.bCaptureOccured	S-00409
1422	2.bStartCapturing	S-00405
1430	3.fCaptPosition	S-00130
1431	3.bCaptureOccured	S-00409
1432	3.bStartCapturing	S-00405

2 Features

Enabling/Disabling	**bRegulatorOn**	✓	Controls the power stage of the drive.
	bDriveStart	✓	Executes a QuickStop if not set (control word Bit13)
Acknowledging Errors		✓	Drive errors can be acknowledged
Mechanical Brakes	SMC_BRAKE_AUTO	✓	Mode supported (default).
	SMC_BRAKE_OPEN	⊗	Mode not supported
	SMC_BRAKE_CLOSE	⊗	Mode not supported
Hardware Limit Switches		⊗	Mode not supported
Controller Modes	**Position**	✓	Supported.
	Velocity	✓	Supported.
	Torque	✓	Supported.
Homing (drive controlled)		✓	Mode not supported
Capturing/Latching		✓	Supported. See 2.1

2.1 Specific features

Realtime Bits	✓	Driver uses configured bits automatically, when doing a read or write command
Feedback values 1 and 2	✓	Supported. The active mode (IS-00032…) decides, which actual position value (S-00051 or S-00053 is used)

2.2 Capturing/Latching

Trigger.	**Sercos Trigger**	**capture**	**capture**

iTriggerNumber		occured?	position
1	Sercos Trigger1, positive latched	409	130
2	Sercos Trigger1, negative latched	410	131
3	Sercos Trigger2, positive latched	411	132
4	Sercos Trigger2, negative latched	412	133

Make sure, that ID170 is set to 3 (e.g. at startup). When starting capturing, ID405 or ID406 is enabled automatically.

For fast latching (cyclic data transfer; no service channel) configure RealtimeBits to transmit ID 405/406 and receive ID 409-412 and add ID130-133 to cyclic data.

example for fast latching (in config file):

```
S-00301 := 405        (Probe1 Enable 405 -> Realtime Control Bit1)
S-00305 := 409        (Probe1 pos. latched 409 -> Realtime Status Bit1)
S-00169 := 2#0001     (Enable Probe1 for rising edge)
S-00170 := 2#11       (Enable Probing)
```