Data Sheet CODESYS SoftMotion Light SL

CODESYS SoftMotion Light allows to command CiA 402 compatible drives for single axis movements (not synchronized).

Product description

CODESYS SoftMotion Light allows to command CiA 402 compatible drives for single axis movements (not synchronized).

In contrast to CODESYS SoftMotion and CODESYS SoftMotion CNC+Robotics, the calculation of the axis movements is not done within the controller. With CODESYS SoftMotion Light movements of the drive are just commanded and supervised (status) by the PLC and executed by the drive. The trajectory calculation is done in the drive.

CODESYS SoftMotion Light is suitable for applications with multiple axes for single axes movements and for controller tasks requiring a low bus and computing load (CPU).

The software components of CODESYS SoftMotion Light (configurator, libraries, device descriptions and online help) are part of the standard setup of the CODESYS Development System.

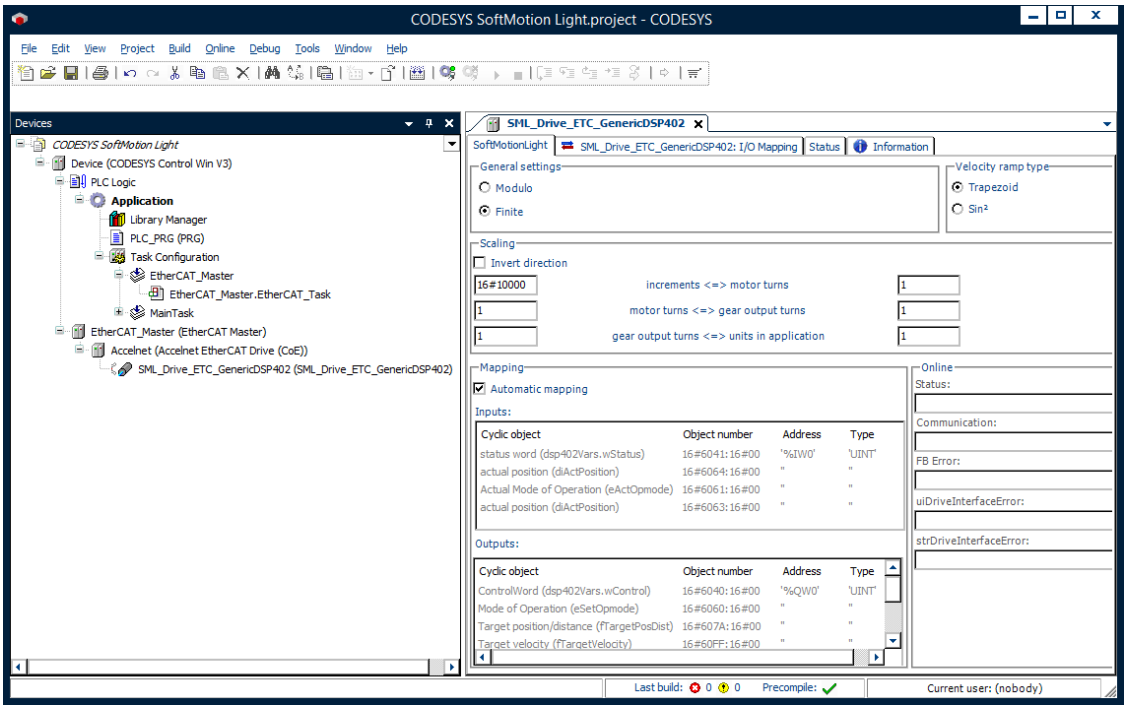
Available function blocks for single axis movements according to PLCopen:

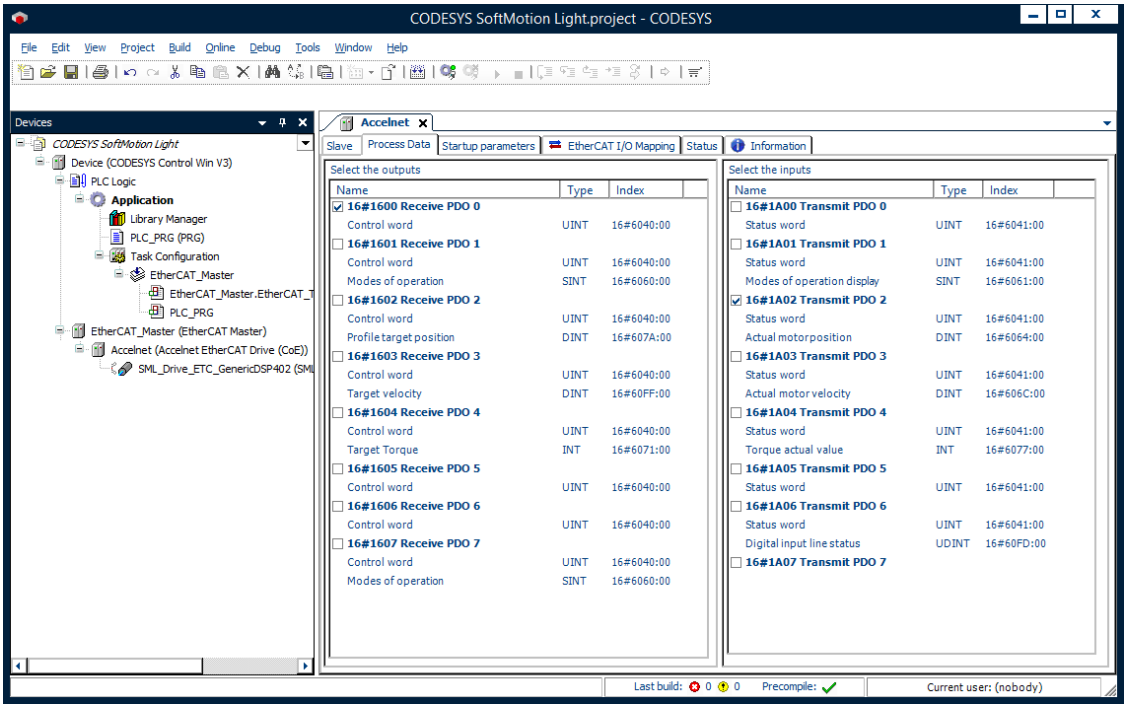
- MC_MoveAbsolute / MC_MoveRelative
- MC_MoveVelocity
- MC_Stop / MC_Halt
- MC_Home

Other POUs and product components:

- MC_Power / MC_Reset / MC_ReadStatus
- SML_ReinitAxis / SML_ChangeAxisConfig
- Visualization templates (analogue to SoftMotion)
- Commissioning assistance (SML_StartupDrive)

Configuration and commissioning of the drives is described in detail in CODESYS online help (chapter “SoftMotionLight”).


CODESYS SoftMotion Light.project - CODESYS
File Edit View Project Build Online Debug Tools Window Help
Devices
CODESYS SoftMotion Light
Device (CODESYS Control Win V3)
PLC Logic
Application
Library Manager
PLC_PRG (PRG)
Task Configuration
EtherCAT_Master
EtherCAT_Master.EtherCAT_Task
MainTask
EtherCAT_Master (EtherCAT Master)
Accelnet (Accelnet EtherCAT Drive (CoE))
SML_Drive_ETC_GenericDSP402 (SML_Drive_ETC_GenericDSP402)
SML_Drive_ETC_GenericDSP402
SoftMotionLight
SML_Drive_ETC_GenericDSP402: I/O Mapping
Status
Information
General settings
Modulo
Finite
Velocity ramp type
Trapezoid
Sin²
Scaling
Invert direction
16#10000
increments <=> motor turns
motor turns <=> gear output turns
gear output turns <=> units in application
Mapping
Automatic mapping
Inputs:
Cyclic object
Object number
Address
Type
status word (dsp402Vars.wStatus)
actual position (diActPosition)
Actual Mode of Operation (eActOpmode)
Outputs:
ControlWord (dsp402Vars.wControl)
Mode of Operation (eSetOpmode)
Target position/distance (fTargetPosDist)
Target velocity (fTargetVelocity)
Online
Status:
Communication:
FB Error:
uiDriveInterfaceError:
strDriveInterfaceError:
Last build: 0 0
Precompile:
Current user: (nobody)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CODESYS SoftMotion Light
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Task Configuration
EtherCAT_Master
EtherCAT_Master.EtherCAT_T
PLC_PRG
EtherCAT_Master (EtherCAT Master)
Accelnet (Accelnet EtherCAT Drive (CoE))
SML_Drive_ETC_GenericDSP402 (SML
Accelnet
Slave
Process Data
Startup parameters
EtherCAT I/O Mapping
Status
Information
Select the outputs
Name
Type
Index
16#1600 Receive PDO 0
Control word UINT 16#6040:00
16#1601 Receive PDO 1
Control word UINT 16#6040:00
Modes of operation SINT 16#6060:00
16#1602 Receive PDO 2
Control word UINT 16#6040:00
Profile target position DINT 16#607A:00
16#1603 Receive PDO 3
Control word UINT 16#6040:00
Target velocity DINT 16#60FF:00
16#1604 Receive PDO 4
Control word UINT 16#6040:00
Target Torque INT 16#6071:00
16#1605 Receive PDO 5
Control word UINT 16#6040:00
16#1606 Receive PDO 6
Control word UINT 16#6040:00
16#1607 Receive PDO 7
Control word UINT 16#6040:00
Modes of operation SINT 16#6060:00
Select the inputs
16#1A00 Transmit PDO 0
Status word UINT 16#6041:00
16#1A01 Transmit PDO 1
Status word UINT 16#6041:00
Modes of operation display SINT 16#6061:00
16#1A02 Transmit PDO 2
Status word UINT 16#6041:00
Actual motorposition DINT 16#6064:00
16#1A03 Transmit PDO 3
Status word UINT 16#6041:00
Actual motor velocity DINT 16#606C:00
16#1A04 Transmit PDO 4
Status word UINT 16#6041:00
Torque actual value INT 16#6077:00
16#1A05 Transmit PDO 5
Status word UINT 16#6041:00
16#1A06 Transmit PDO 6
Status word UINT 16#6041:00
Digital input line status UDINT 16#60FD:00
16#1A07 Transmit PDO 7
Last build: 0 0
Precompile:
Current user: (nobody)

General information

Manufacturer:

3S-Smart Software Solutions GmbH
Memminger Strasse 151
87439 Kempten
Germany

Support:

https://support.codesys.com

Item:
CODESYS SoftMotion Light SL
Item number:
2305000002
Sales:

CODESYS Store
https://store.codesys.com

Included in delivery:

- Package for the CODESYS Development System including license agreement and online help
- License key

System requirements and restrictions

Programming System	CODESYS Development System V3.5.9.50 or higher
Runtime System	CODESYS Control Version 3.5.5.0 or higher
Supported Platforms/ Devices	Note: Use the project “Device Reader” to find out the supported features of your device. “Device Reader” is available for free in the CODESYS Store.
Additional Requirements	• WIBU Codemeter Support • CiA 402 compatible drive with CANopen or EtherCAT Compatibility can be checked with the test project *SML_CompatibilityCheck_DS402.project*
Restrictions	Synchronized movements of multiple axes are not supported.
Licensing	License activation optional on CODESYS Key or Soft Key (Soft Key: free of charge component of CODESYS Controls)
Required Accessories	Optional: CODESYS Key

Note: Not all CODESYS features are available in all territories. For more information on geographic restrictions, please contact sales@codesys.com.
Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.