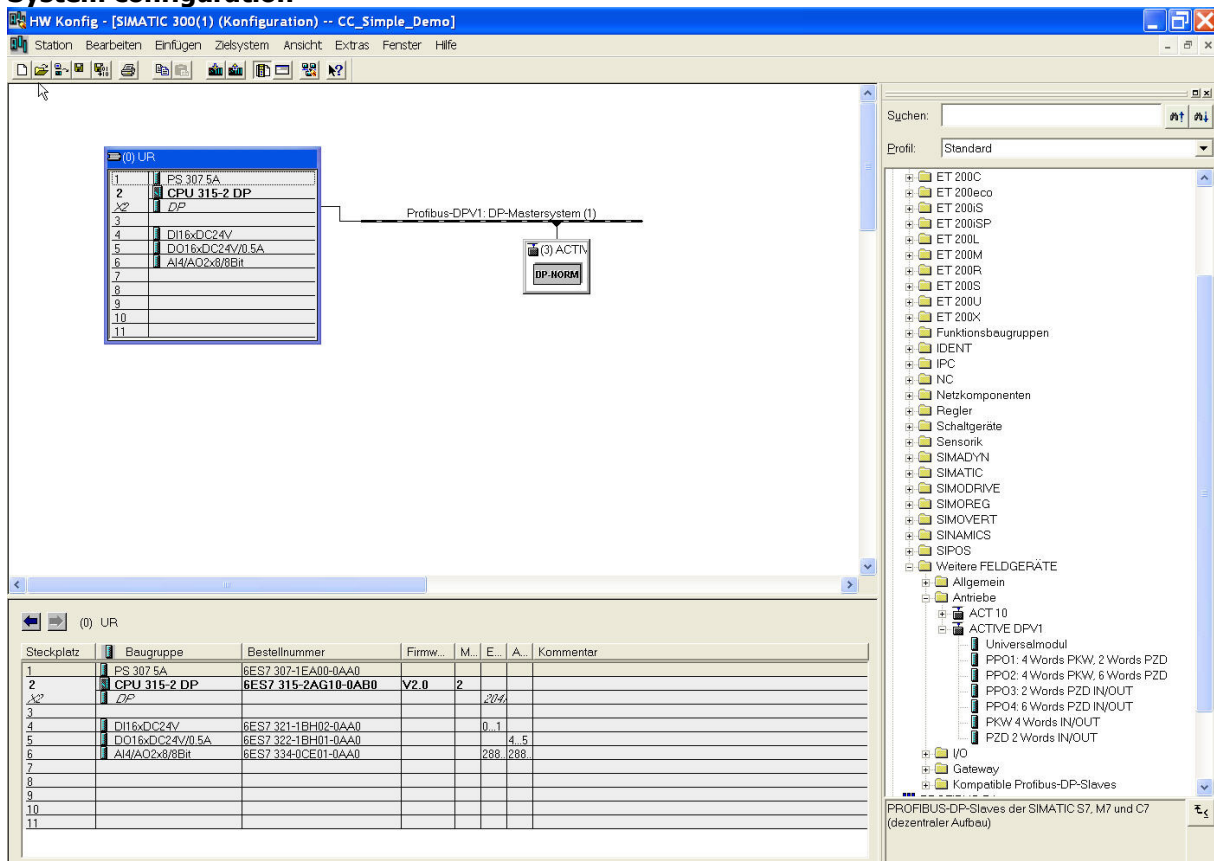


Description of example functions CM-PDPV1

This document describes the functions included in the sample S7 PLC project Cc_simpl.zip. This zip-file is an S7 archive file which can be loaded into a STEP7 environment. It includes the complete S7 PLC environment used for demonstration of all important functions.

The software (module OB1) of S7 project is shown in S7-SoftwareOB1.pdf.

System configuration



| Steckplatz | Baugruppe | Bestellnummer | Firmw... | M... | E... | A... | Kommentar |
|------------|-----------------|---------------------|----------|------|----------|------|-----------|
| 1 | PS 307 5A | 6ES7 307-1EA00-0AA0 | | | | | |
| 2 | CPU 315-2 DP | 6ES7 315-2AG10-0AB0 | V2.0 | 2 | | | |
| 3 | DP | | | | | | |
| 4 | DI16xDC24V | 6ES7 321-1BH02-0AA0 | | | 0..1 | | |
| 5 | DO16xDC24V/0.5A | 6ES7 322-1BH01-0AA0 | | | 4..5 | | |
| 6 | AI4/AO2x8Bit | 6ES7 334-0CE01-0AA0 | | | 288..288 | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |

Object configuration of ACTIVE inverter

Profibus-DPV1: DP-Mastersystem (1)

(3) ACTIVE DPV1

| Steckplatz | DP-Kennung | Bestellnummer / Bezeichnung | E-Adresse | A-Adresse | Kommentar |
|------------|------------|-----------------------------|-----------|-----------|-----------|
| 1 | 4AX | PKW 4 Words IN/OUT | 256..263 | 256..263 | |
| 2 | 113 | PZD 2 Words IN/OUT | 264..267 | 264..267 | |
| 3 | 113 | PZD 2 Words IN/OUT | 268..271 | 268..271 | |
| 4 | 113 | PZD 2 Words IN/OUT | 272..275 | 272..275 | |
| 5 | 113 | PZD 2 Words IN/OUT | 276..279 | 276..279 | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |

PROFIBUS-DP-Slaves der SIMATIC S7, M7 und C7 (dezentraler Aufbau)

The process data is configured with one communication object (8 bytes, PKW) and four PZD-objects (each 2 words IN/OUT, PZD).

The ACTIVE inverter including the Profibus Node (CM-PDPV1, inverter 1) is connected together with 3 additional ACTIVE inverters (inverter 2, 3, 4) by CAN-Systembus. The CAN-Systembus connection is shown in CM_PDPV1_conf.pdf.

All ACTIVE inverters are controlled by analogue and digital inputs on side of the PLC

| | | |
|--------------------|---------|--|
| Analogue input 1 | → | speed reference value for inverter 1 and 2 |
| Analogue input 2 | → | speed reference value for inverter 3 and 4 |
| Digital input E0.0 | → TRUE | = start command inverter 1 |
| | → FALSE | = stop command inverter 1 |
| Digital input E0.1 | → TRUE | = invert speed reference inverter 1 |
| Digital input E0.2 | → TRUE | = start command inverter 2 |
| | → FALSE | = stop command inverter 2 |
| Digital input E0.3 | → TRUE | = invert speed reference inverter 2 |
| Digital input E0.4 | → TRUE | = start command inverter 3 |
| | → FALSE | = stop command inverter 3 |
| Digital input E0.5 | → TRUE | = invert speed reference inverter 3 |
| Digital input E0.6 | → TRUE | = start command inverter 4 |
| | → FALSE | = stop command inverter 4 |
| Digital input E0.7 | → TRUE | = invert speed reference inverter 4 |

Parameter access by communication object (8 bytes) included in process data

| | |
|-----------------------|---|
| Positive edge on E1.0 | write inverter 1 p.420 "acceleration clockwise" in data set 5 to 50,00 Hz/s |
| Negative edge on E1.0 | write inverter 1 p.420 "acceleration clockwise" in data set 5 to 5,00 Hz/s |
| Positive edge on E1.1 | write inverter 2 p.420 "acceleration clockwise" in data set 5 to 50,00 Hz/s |
| Negative edge on E1.1 | write inverter 2 p.420 "acceleration clockwise" in data set 5 to 5,00 Hz/s |
| Positive edge on E1.1 | read inverter 1 p.211 "RMS current" in data set 0 |
| Negative edge on E1.2 | read inverter 2 p.211 "RMS current" in data set 0 |

Parameter access by DP-V1-Write/Read

Positive edge on E1.3 write inverter 1 p.420 "acceleration clockwise" in data set 5 to 50,00 Hz/s
Negative edge on E1.3 write inverter 1 p.420 "acceleration clockwise" in data set 5 to 5,00 Hz/s

Positive edge on E1.4 write inverter 2 p.420 "acceleration clockwise" in data set 5 to 50,00 Hz/s
Negative edge on E1.4 write inverter 2 p.420 "acceleration clockwise" in data set 5 to 5,00 Hz/s

Positive edge on E1.5 write inverter 1 p.406 "warning limit long term Ixt" in data set 0 to 50 %
Negative edge on E1.5 write inverter 2 p.406 "warning limit long term Ixt" in data set 0 to 50 %

Positive edge on E1.6 read inverter 1 p.210 "stator frequency" in data set 0
Negative edge on E1.6 read inverter 2 p.210 "stator frequency" in data set 0

Positive edge on E1.7 read inverter 1 p.211 "RMS current" in data set 0
Negative edge on E1.7 read inverter 2 p.211 "RMS current" in data set 0