
Software description

SIMATIC[®] Profibus-DP
Interface Modules

AG04B

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1. General Remarks

This description explains the possibility to integrate one or more positioning drives AG04B from SIKO into a SIMATIC S7® program without Profibus programming skills.

Therefore the enclosed S7 project and included function blocks will be used.

Depending on selected operating mode and the requirement to read and write parameter via Profibus interface the corresponding function block has to be used.

The function blocks are executable on all S7-CPU, which are able to handle system function 14 (SFC14) and 15 (SFC15) and comes with corresponding Profibus interface.

The function blocks have been tested with CPU 315-2DP.

The interface modules were engineered with *SIEMENS Simatic Manager*® V 5.3 + SP3.

1.1 Limits of this document

This document does not claim to describe any detail. Basic skills of handling and programming of S7 systems will be presumed. Please refer to hand book for detailed information of AG04B.

1.2 Liability

For damages, which through failure in the software or through faulty use accrue, SIKO assume no liability.

1.3 Version Overview

The function block and its actual version can be used with actuators with the same or higher software release (firmware) with the limitation, that some functions or parameter of the higher actuator firmware can not be used or activated respectively.

Contrariwise the use of a higher version function block with a lower version actuator firmware is not possible (Failure by reading or writing parameter).

| Firmware version | Description |
|-------------------------|---|
| V. 1.00 | First- or Basis Version |
| V. 1.01 | New added: Par.-Nr. 1033 _(dez) , Serial number |

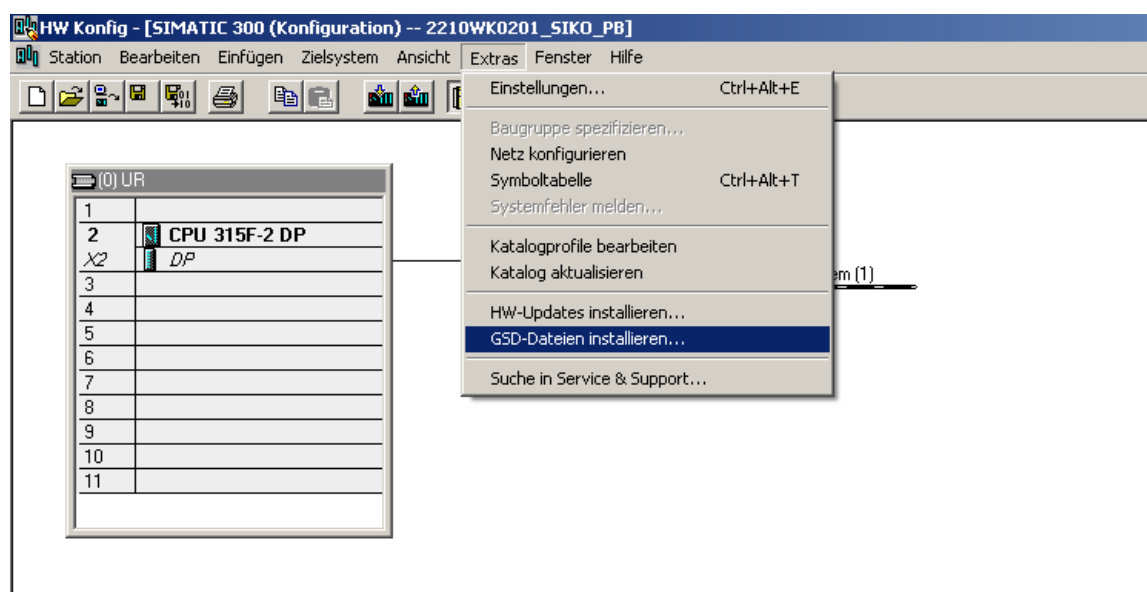
2. Abbreviation Dictionary

| | |
|-----|--------------|
| ZSW | Status word |
| STW | Control word |
| HSW | Target value |
| HIW | Actual value |
| PB | Profibus |

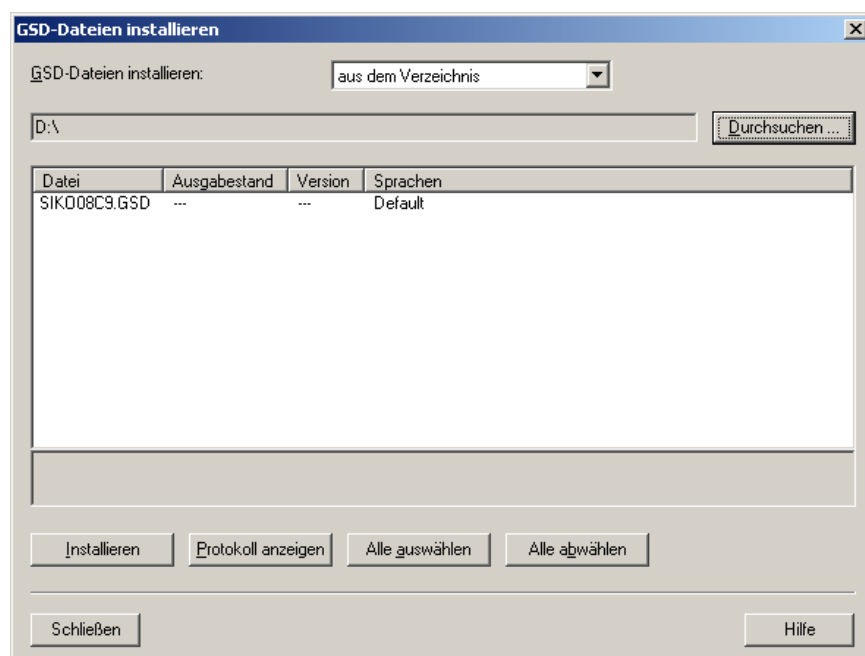
3. Hardware Configuration

3.1 Integrate GSD File (exemplary with AG02)

Start the "HW Config" and from the „Options” menu, select the command „Install new GSD”.



Select and open drive of AG04B folder with GSD file



Now the AG04B is available in the hardware catalogue under "Field devices".

3.2 Configuration Positioning Drives

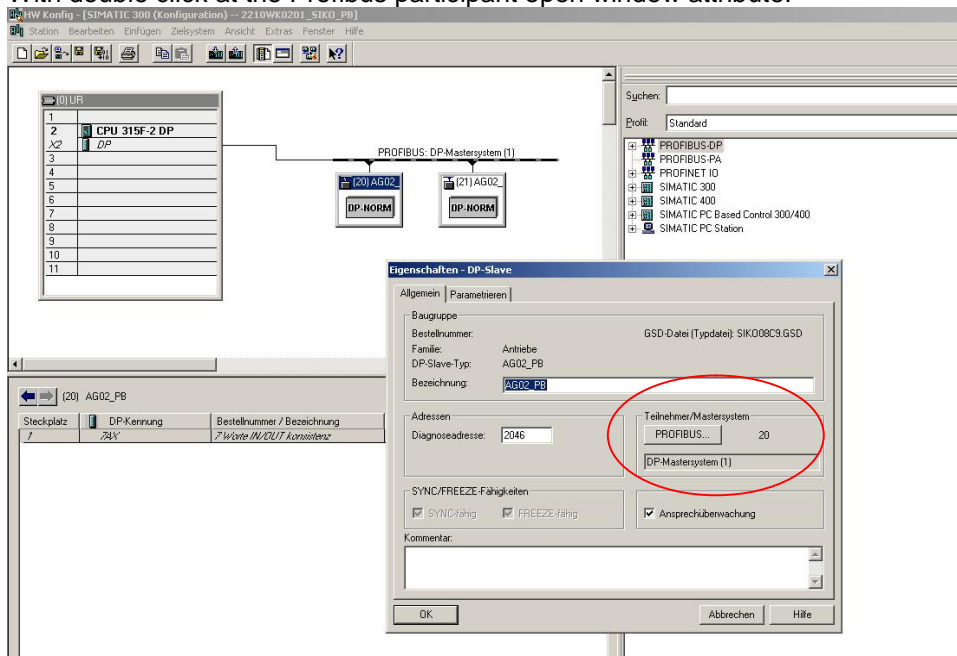
For this example two positioning drives (Profibus address 20 and 21) will be configured (Precondition: DP master has already been configured). Select AG04B_PB from the hardware catalogue window and attach it to the (symbolised) Profibus line (by drag and drop).

The screenshot shows the SIMATIC HW Config interface. The main workspace displays a rack configuration with a CPU 315F-2 DP and a DP-Master. A red arrow points from the 'AG02_PB' module in the hardware catalogue on the right to the DP-Master in the workspace.

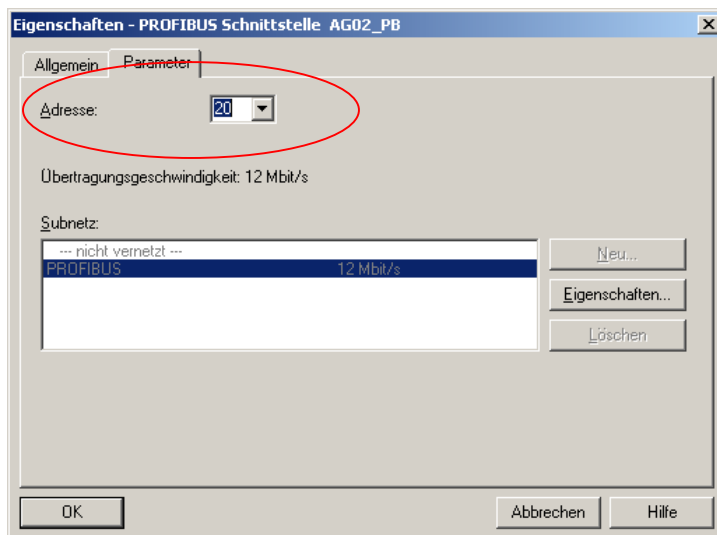
| Steckplatz | DP-Kennung | Bestellnummer / Bezeichnung | E-Adresse | A-Adresse | Kommentar |
|------------|------------|-----------------------------|-----------|-----------|-----------|
| 1 | 24X | 7 Werte IN/OUT Konsistenz | 256...269 | 256...269 | |

3.2.1 Configuration Profibus Address

With double click at the Profibus participant open window attribute.



With the button "PROFIBUS" the dialog for address adjustment can be open and free address can be entered. The same address has to be entered into the AG04B (please refer to user manual).



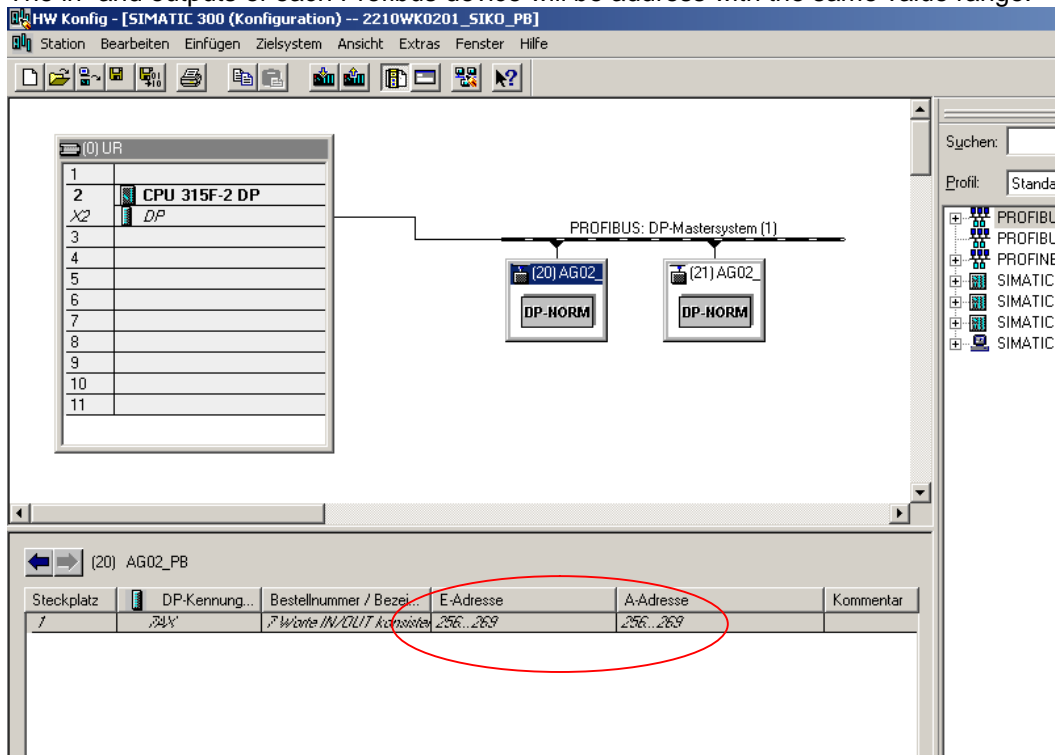
Please proceed analogue with the second positioning drive.

3.2.2 Configuration Peripheral Address

The peripheral address will be used within S7 program to identify the corresponding positioning drive. The address will be assigned automatically by S7. It can be modified manually, but in most cases it is not necessary.

Duplicates will be prevented automatically by Simatic Manager.

The in- and outputs of each Profibus device will be address with the same value range.



The address will be displayed as decimal number within the hardware manager. For the later use in the program it has to be converted into hexadecimal format.

| Drive/PB - Address | Address decimal | Address hexadecimal |
|--------------------|-----------------|---------------------|
| 20 | 256 | 100 |
| 21 | 270 | 10E |

4. Software Configuration

4.1 General

The here described program blocks are function blocks with integrated data management. At the call of function block (FB) it is necessary to assign an instance data block (DB) or to enable the call within the function block as multi-instances.

The data (process/parameter values) can be monitored/modified within the assigned DB. The input interface (STW/HSW) and output interface (ZSW/HIW) can be interlaced by user depending on application. The different types of data have to be considered.

For each positioning drive a call has to be assigned.

Regarding the different functionality of control and status word please refer to the positioning drive user manual.

4.2 Selection of Program Block

Depending on the application the corresponding program block has to be selected.

The selection is depending on the required operating mode (positioning/velocity mode).

For program block selection please refer to the following matrix.

The number and symbolic name of FB can be modified by user according to requirements.

| Program | Positioning Mode | Velocity Mode | Parameter read/write |
|-------------------------------|------------------|---------------|----------------------|
| SIKO_DRV_POS_PAR_AG04B (FB94) | X | | X |
| SIKO_DRV_ROT_PAR_AG0x (FB91) | | X | X |

The following example describes the use of program based on the two drives configured in chapter 3.

Hardware Configuration. The adoption to further drives can be executed analogue.

The two described program blocks can be used common within one S7 program but assigned only to one drive.

4.3 Software Example

For this example drive 1 shall be configured for **positioning mode** (address 20) and drive 2 for **velocity mode** (address 21).

Thus for drive 1 is used FB94 (SIKO_DRV_POS_PAR_AG04B) and for drive 2 FB91 (SIKO_DRV_ROT_PAR_AG0x).

In this example the FB's will be called directly out of the OB1 and each FB will be assigned a own data block (DB94/DB91). The data blocks are also multi-instances capable. Please refer to documentation of Simatic Manager.

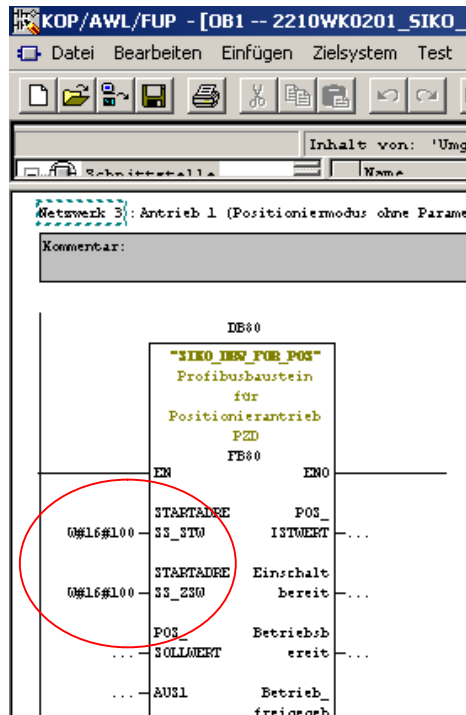
4.3.1 Structure of Call

| | | |
|-----|------|------|
| OB1 | FB94 | DB94 |
| | FB91 | DB91 |

4.3.2 Call for Drive 1 in OB 1:

Support the input interface with hexadecimal address from chapter 3.2.2 Configuration Periphery Address.

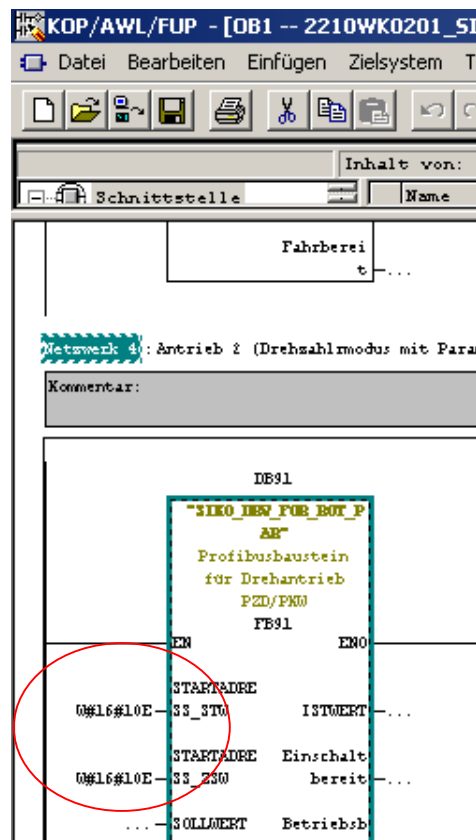
Format W#16#100 has to be considered.



4.3.3 Call for Drive 2 in OB 1:

Support the input interface with hexadecimal address from chapter 3.2.2 Configuration Periphery Address.

Format W#16#10E has to be considered.



After loading following program parts the drives can be operated by S7 program:

DB94
DB91
FB94
FB91
OB1

The in- and output interface of the program blocks will be explained in chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** respectively 4.5 Drive Parameter Change Velocity Mode FB91.

4.3.4 Test and Diagnosis

The instance data block can be used for diagnosis and test of communication. Alternative to this it is possible to enter control word as well as status word in- and outputs into a variable table to monitor and control them from there. A template is included in the example project.

DB94 drive 1 in **positioning mode** (Address 20)

DB91 drive 2 in **velocity mode** (Address 21)

In the data blocks are beside the process data (STE/ZSW/HSW/HIW) additional the parameter data included. All parameter which can be modified (read/write) are available as actual value (_r) as well as target value (_w). Read parameter are only available as actual value.

| DB-Param - [DB91 -- 2210WK0201_SIKO_PB/SIMATIC 300/CPU 315F-2 DP] | | | | | | |
|---|-------------|---------------------|-------|-------------|------------|---|
| Adresse | Deklaration | Name | Typ | Anfangswert | Actualwert | Kommentar |
| 39 | 20.0 stat | Betriebsart_w | WORD | W#16#0 | W#16#0 | Adresse D930 dez/D3A2 hex DBetriebsart Dr/w |
| 40 | 22.0 stat | Stoerungsbuff_r[1] | WORD | W#16#0 | W#16#0 | |
| 41 | 24.0 stat | Stoerungsbuff_r[2] | WORD | W#16#0 | W#16#0 | |
| 42 | 26.0 stat | Stoerungsbuff_r[3] | WORD | W#16#0 | W#16#0 | |
| 43 | 28.0 stat | Stoerungsbuff_r[4] | WORD | W#16#0 | W#16#0 | |
| 44 | 30.0 stat | Stoerungsbuff_r[5] | WORD | W#16#0 | W#16#0 | |
| 45 | 32.0 stat | Stoerungsbuff_r[6] | WORD | W#16#0 | W#16#0 | |
| 46 | 34.0 stat | Stoerungsbuff_r[7] | WORD | W#16#0 | W#16#0 | |
| 47 | 36.0 stat | Stoerungsbuff_r[8] | WORD | W#16#0 | W#16#0 | |
| 48 | 38.0 stat | Stoerungsbuff_r[9] | WORD | W#16#0 | W#16#0 | |
| 49 | 40.0 stat | Stoerungsbuff_r[10] | WORD | W#16#0 | W#16#0 | |
| 50 | 42.0 stat | Anzahl_Stoerungen_r | WORD | W#16#0 | W#16#0 | Adresse D952 dez/D3B8 hex DAnzahl_StoerungenDr |
| 51 | 44.0 stat | Hardware_Version_r | WORD | W#16#0 | W#16#0 | Adresse D961 dez/D3C1 hex DHardware_VersionDr |
| 52 | 46.0 stat | Software_Version_r | WORD | W#16#0 | W#16#0 | Adresse D965 dez/D3C5 hex DSoftware_VersionDr |
| 53 | 48.0 stat | Parameter_Laden_w | WORD | W#16#0 | W#16#0 | Adresse D970 dez/D3CA hex DParameter_LadenDr/w |
| 54 | 50.0 stat | Reglerparameter_P_r | WORD | W#16#0 | W#16#0 | Adresse D1000 dez/D3E8 hex DReglerparameter_PDr/w |
| 55 | 52.0 stat | Reglerparameter_P_w | WORD | W#16#0 | W#16#0 | Adresse D1000 dez/D3E8 hex DReglerparameter_PDr/w |
| 56 | 54.0 stat | Reglerparameter_I_r | WORD | W#16#0 | W#16#0 | Adresse D1001 dez/D3E9 hex DReglerparameter_IDr/w |
| 57 | 56.0 stat | Reglerparameter_I_w | WORD | W#16#0 | W#16#0 | Adresse D1001 dez/D3E9 hex DReglerparameter_IDr/w |
| 58 | 58.0 stat | Reglerparameter_D_r | WORD | W#16#0 | W#16#0 | Adresse D1002 dez/D3EA hex DReglerparameter_DDr/w |
| 59 | 60.0 stat | Reglerparameter_D_w | WORD | W#16#0 | W#16#0 | Adresse D1002 dez/D3EA hex DReglerparameter_DDr/w |
| 60 | 62.0 stat | a_Pos_r | WORD | W#16#0 | W#16#0 | Adresse D1003 dez/D3EB hex Da_PosDr/w |
| 61 | 64.0 stat | a_Pos_w | WORD | W#16#0 | W#16#0 | Adresse D1003 dez/D3EB hex Da_PosDr/w |
| 62 | 66.0 stat | v_Pos_r | WORD | W#16#0 | W#16#0 | Adresse D1004 dez/D3EC hex Dv_PosDr/w |
| 63 | 68.0 stat | v_Pos_w | WORD | W#16#0 | W#16#0 | Adresse D1004 dez/D3EC hex Dv_PosDr/w |
| 64 | 70.0 stat | a_Dreh_r | WORD | W#16#0 | W#16#0 | Adresse D1005 dez/D3ED hex Da_DrehDr/w |
| 65 | 72.0 stat | a_Dreh_w | WORD | W#16#0 | W#16#0 | Adresse D1005 dez/D3ED hex Da_DrehDr/w |
| 66 | 74.0 stat | reserviert_1_r | WORD | W#16#0 | W#16#0 | Adresse D1006 dez/D3EE hex Dreserviert_1Dr/w |
| 67 | 76.0 stat | reserviert_1_w | WORD | W#16#0 | W#16#0 | Adresse D1006 dez/D3EE hex Dreserviert_1Dr/w |
| 68 | 78.0 stat | a_Tipp_r | WORD | W#16#0 | W#16#0 | Adresse D1007 dez/D3EF hex Da_TippDr/w |
| 69 | 80.0 stat | a_Tipp_w | WORD | W#16#0 | W#16#0 | Adresse D1007 dez/D3EF hex Da_TippDr/w |
| 70 | 82.0 stat | v_Tipp_r | WORD | W#16#0 | W#16#0 | Adresse D1008 dez/D3F0 hex Dv_TippDr/w |
| 71 | 84.0 stat | v_Tipp_w | WORD | W#16#0 | W#16#0 | Adresse D1008 dez/D3F0 hex Dv_TippDr/w |
| 72 | 86.0 stat | Pos_Fenster_r | WORD | W#16#0 | W#16#0 | Adresse D1009 dez/D3F1 hex DPos_FensterDr/w |
| 73 | 88.0 stat | Pos_Fenster_w | WORD | W#16#0 | W#16#0 | Adresse D1009 dez/D3F1 hex DPos_FensterDr/w |
| 74 | 90.0 stat | ue_Zaehler_r | WORD | W#16#0 | W#16#0 | Adresse D1010 dez/D3F2 hex Due_ZaehlerDr/w |
| 75 | 92.0 stat | ue_Zaehler_w | WORD | W#16#0 | W#16#0 | Adresse D1010 dez/D3F2 hex Due_ZaehlerDr/w |
| 76 | 94.0 stat | ue_Nenner_r | WORD | W#16#0 | W#16#0 | Adresse D1011 dez/D3F3 hex Due_NennerDr/w |
| 77 | 96.0 stat | ue_Nenner_w | WORD | W#16#0 | W#16#0 | Adresse D1011 dez/D3F3 hex Due_NennerDr/w |
| 78 | 98.0 stat | Spindelsteigung_r | WORD | W#16#0 | W#16#0 | Adresse D1012 dez/D3F4 hex DSpindelsteigungDr/w |
| 79 | 100.0 stat | Spindelsteigung_w | WORD | W#16#0 | W#16#0 | Adresse D1012 dez/D3F4 hex DSpindelsteigungDr/w |
| 80 | 102.0 stat | Drehrichtung_r | WORD | W#16#0 | W#16#0 | Adresse D1013 dez/D3F5 hex DDrehrichtungDr/w |
| 81 | 104.0 stat | Drehrichtung_w | WORD | W#16#0 | W#16#0 | Adresse D1013 dez/D3F5 hex DDrehrichtungDr/w |
| 82 | 106.0 stat | Pos_Art_r | WORD | W#16#0 | W#16#0 | Adresse D1014 dez/D3F6 hex DPos_ArtDr/w |
| 83 | 108.0 stat | Pos_Art_w | WORD | W#16#0 | W#16#0 | Adresse D1014 dez/D3F6 hex DPos_ArtDr/w |
| 84 | 110.0 stat | reserviert_2_r | WORD | W#16#0 | W#16#0 | Adresse D1015 dez/D3F7 hex Dreserviert_2Dr/w |
| 85 | 112.0 stat | reserviert_2_w | WORD | W#16#0 | W#16#0 | Adresse D1015 dez/D3F7 hex Dreserviert_2Dr/w |
| 86 | 114.0 stat | oberer_Grenzwert_r | DWORD | DW#16#0 | DW#16#0 | Adresse D1016 dez/D3F8 hex DOberer_GrenzwertDr/w |
| 87 | 116.0 stat | oberer_Grenzwert_w | DWORD | DW#16#0 | DW#16#0 | Adresse D1016 dez/D3F8 hex DOberer_GrenzwertDr/w |
| 88 | 122.0 stat | unterer_Grenzwert_r | DWORD | DW#16#0 | DW#16#0 | Adresse D1017 dez/D3F9 hex Dunterer_GrenzwertDr/w |
| 89 | 126.0 stat | unterer_Grenzwert_w | DWORD | DW#16#0 | DW#16#0 | Adresse D1017 dez/D3F9 hex Dunterer_GrenzwertDr/w |
| 90 | 130.0 stat | Kalibrierwert_r | DWORD | DW#16#0 | DW#16#0 | Adresse D1018 dez/D3FA hex DKalibrierwertDr/w |
| 91 | 134.0 stat | Kalibrierwert_w | DWORD | DW#16#0 | DW#16#0 | Adresse D1018 dez/D3FA hex DKalibrierwertDr/w |
| 92 | 138.0 stat | Delta_Tipp_r | DWORD | DW#16#0 | DW#16#0 | Adresse D1019 dez/D3FB hex DDelta_TippDr/w |
| 93 | 142.0 stat | Delta_Tipp_w | DWORD | DW#16#0 | DW#16#0 | Adresse D1019 dez/D3FB hex DDelta_TippDr/w |
| 94 | 146.0 stat | System_Statuswort_r | WORD | W#16#0 | W#16#0 | Adresse D1020 dez/D3FC hex DSystem_StatuswortDr |

To start a read or write cycle a positive edge at the corresponding input „Start_Read“ or „Start_Write“ is necessary. With a positive edge at „Start_Read“ all parameters will be readout and insert into the

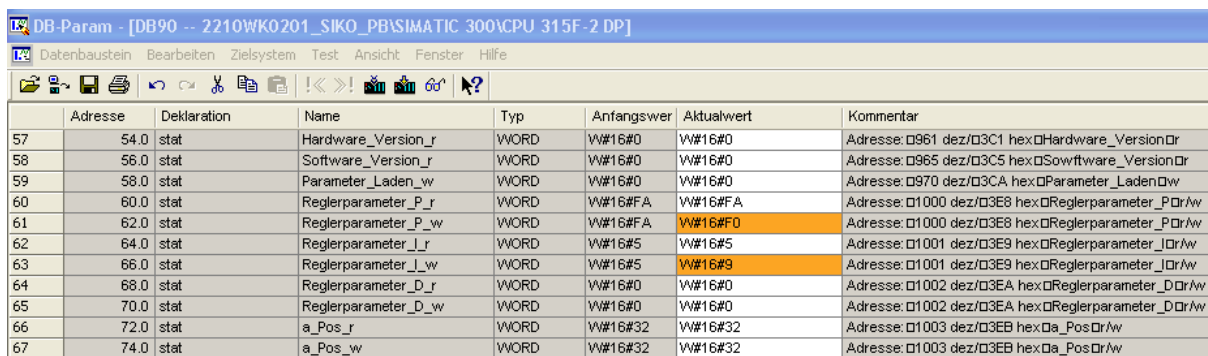
corresponding DB. The calibration will be included in a write cycle, when enabled (consider handbook chapter "calibration"). Thereby a counter starts, counter value can be read at output "Count_read". After successful transfer the counter value is "0".

If counter value is not reset to "0" the read cycle was interrupted by read failure. This indicates to a communication failure. In this case failure value at output SFC14 has to be checked. Please use for diagnosis of failure value the online help of SFC14 within Simatic Manager.

With a positive edge at „Start_Write“ all parameters, which target value differs from actual value, will be send to the drive. Thereby a counter starts, counter value can be read at output "Count_write". After successful transfer the counter value is "0".

If counter value is not reset to "0" the write cycle was interrupted by write failure. This indicates to a communication failure or a parameter value is beyond range of value accepted by drive. In this case failure value at output SFC15 has to be checked. Please use for diagnosis of failure value the online help of SFC15 within Simatic Manager.

Before the values have to be modified and transferred to the CPU. Therefore open the parameter block with program "parameterising of data block".



| | Adresse | Deklaration | Name | Typ | Anfangswert | Aktualwert | Kommentar |
|----|---------|-------------|---------------------|------|-------------|------------|--|
| 57 | 54.0 | stat | Hardware_Version_r | WORD | VW#16#0 | VW#16#0 | Adresse: 0961 dez/03C1 hex:0Hardware_VersionDr |
| 58 | 56.0 | stat | Software_Version_r | WORD | VW#16#0 | VW#16#0 | Adresse: 0965 dez/03C5 hex:0Software_VersionDr |
| 59 | 58.0 | stat | Parameter_Laden_vw | WORD | VW#16#0 | VW#16#0 | Adresse: 0970 dez/03CA hex:0Parameter_LadenDw |
| 60 | 60.0 | stat | Reglerparameter_P_r | WORD | VW#16#FA | VW#16#FA | Adresse: 01000 dez/03E8 hex:0Reglerparameter_PDr/w |
| 61 | 62.0 | stat | Reglerparameter_P_w | WORD | VW#16#FA | VW#16#F0 | Adresse: 01000 dez/03E8 hex:0Reglerparameter_PDr/w |
| 62 | 64.0 | stat | Reglerparameter_I_r | WORD | VW#16#5 | VW#16#5 | Adresse: 01001 dez/03E9 hex:0Reglerparameter_IDr/w |
| 63 | 66.0 | stat | Reglerparameter_I_w | WORD | VW#16#5 | VW#16#9 | Adresse: 01001 dez/03E9 hex:0Reglerparameter_IDr/w |
| 64 | 68.0 | stat | Reglerparameter_D_r | WORD | VW#16#0 | VW#16#0 | Adresse: 01002 dez/03EA hex:0Reglerparameter_DDr/w |
| 65 | 70.0 | stat | Reglerparameter_D_w | WORD | VW#16#0 | VW#16#0 | Adresse: 01002 dez/03EA hex:0Reglerparameter_DDr/w |
| 66 | 72.0 | stat | a_Pos_r | WORD | VW#16#32 | VW#16#32 | Adresse: 01003 dez/03EB hex:0a_PosDr/w |
| 67 | 74.0 | stat | a_Pos_w | WORD | VW#16#32 | VW#16#32 | Adresse: 01003 dez/03EB hex:0a_PosDr/w |

To modify a parameter, new parameter has to be entered in the corresponding line of target value (_w). The background of changed values will alternate to orange. With shortcut CTRL + L the changed parameters will be download to CPU.

After successful transfer to drive all parameters will be readout once again and the actual values will be entered into the actual value line (_r).

Attention: Use the write-/read cycle only when necessary, because EEPROM limit the number of write cycle!

For further information regarding different control and status bits please refer to user manual of drive.

4.3.5 Diagnosis Reading "Count_write"

If counter value is not reset to "0" the write cycle was interrupted by write failure. This indicates to a communication failure or a parameter value is beyond range of value accepted by drive.

4.3.5.1 Reading at FB94 and DB94 respectively for AG04B

| Count_write Value | Parameter-No. | Name | Admissible values (dez) |
|----------------------|---------------------|---------------------------|--|
| 1 | 930 dez 3A2 hex | Operating mode | 1: Velocity mode 2: Positioning mode |
| 2 | 1000 dez 3E8 hex | Controller Parameter P | Value range: 1 – 500 |
| 3 | 1001 dez 3E9 hex | Controller Parameter I | Value range: 0 – 500 |
| 4 | 1002 dez 3EA hex | Controller Parameter D | Value range: 0 – 500 |
| 5 | 1003 dez 3EB hex | a – Pos | Value range: 0 – 100 |
| 6 | 1004 dez 3EC hex | v – Pos | Value range: Gear ratio 30.6 : 1 => 1 - 160 Gear ratio 50.0 : 1 => 1 - 100 Gear ratio 70.8 : 1 => 1 - 70 |
| 7 | 1005 dez 3ED hex | a – Dreh | Value range: 0 – 100 |
| 8 | 1007 dez 3EF hex | a – Tipp | Value range: 0 – 100 |
| 9 | 1008 dez 3F0 hex | v – Tipp | Value range: Gear ratio 30.6 : 1 => 1 - 160 Gear ratio 50.0 : 1 => 1 - 100 Gear ratio 70.8 : 1 => 1 - 70 |
| 10 | 1009 dez 3F1 hex | Pos- Window | Value range: 0 – 1000 |
| 11 | 1010 dez 3F2 hex | ü- Numerator | Value range: 1 – 10000 |
| 12 | 1011 dez 3F3 hex | ü – Denominator | Value range: 1- 10000 |
| 13 | 1012 dez 3F4 hex | Spindle pitch | Value range: 0 – 1000 |
| 14 | 1013 dez 3F5 hex | Sense of rotation | 0: i sense of rotation 1: e sense of rotation |
| 15 | 1014 dez 3F6 hex | Pos- type | 0: direct 1: loop + 2: loop – |
| 16 | 1016 dez 3F8 hex | upper limit | Value range: - 9999999 ... 9999999 |
| 17 | 1017 dez 3F9 hex | lower limit | Value range: - 9999999 ... 9999999 |
| 18 | 1018 dez 3FA hex | Calibration value | Value range: - 999999 ... 999999 |
| 19 | 1019 dez 3FB hex | Delta Inch | Value range: - 1000000 ... 1000000 |
| 20 | 1021 dez 3FD hex | Stop mode Inch2 | 0 = Inch2 - stop with maximum delay 1 = Inch2 - stop with pre-programmed delay |
| 21 | 1022 dez 3FE hex | Inpos mode | 0: Position control 1: short circuit of motor windings 2: motor released with spring-loaded brake option: no significance |
| 22 | 1023 dez 3FF hex | Loop length | Value range: 1- 10000 |

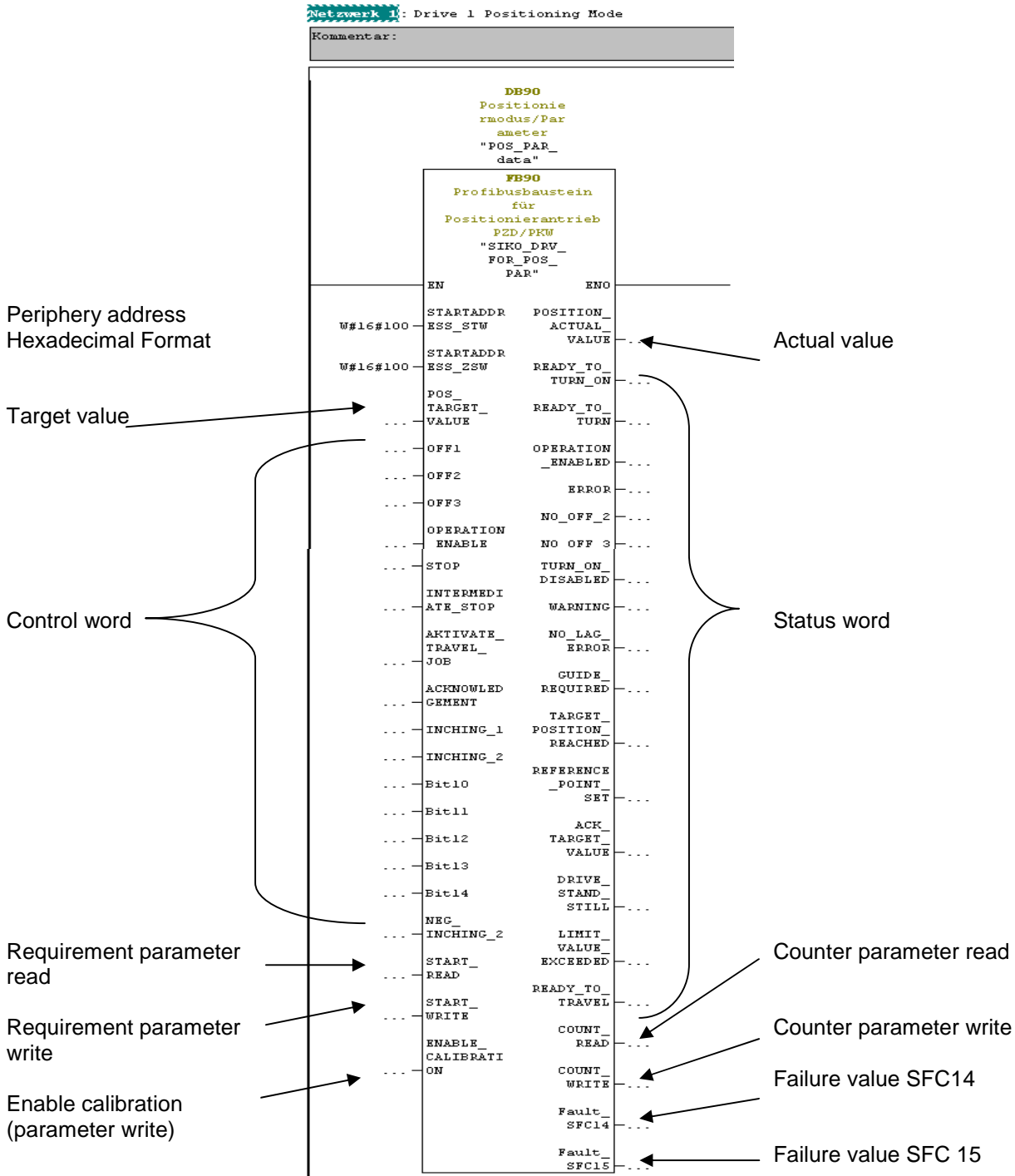


| | | | |
|----|---------------------|-------------------------------|--|
| 23 | 1024 dez 400 hex | Contouring error - limit | Value range: 1- 10000 |
| 24 | 970 dez 3CA hex | Load parameter data record | 1: Set all parameters to default values 2: Set standard parameters to default value 3: Set controller parameters to factory settings. 4: Delete fault counter and fault buffer. 5: calibrate the AG04B |

4.3.5.2 Reading at FB91 and DB91 respectively for AG0x

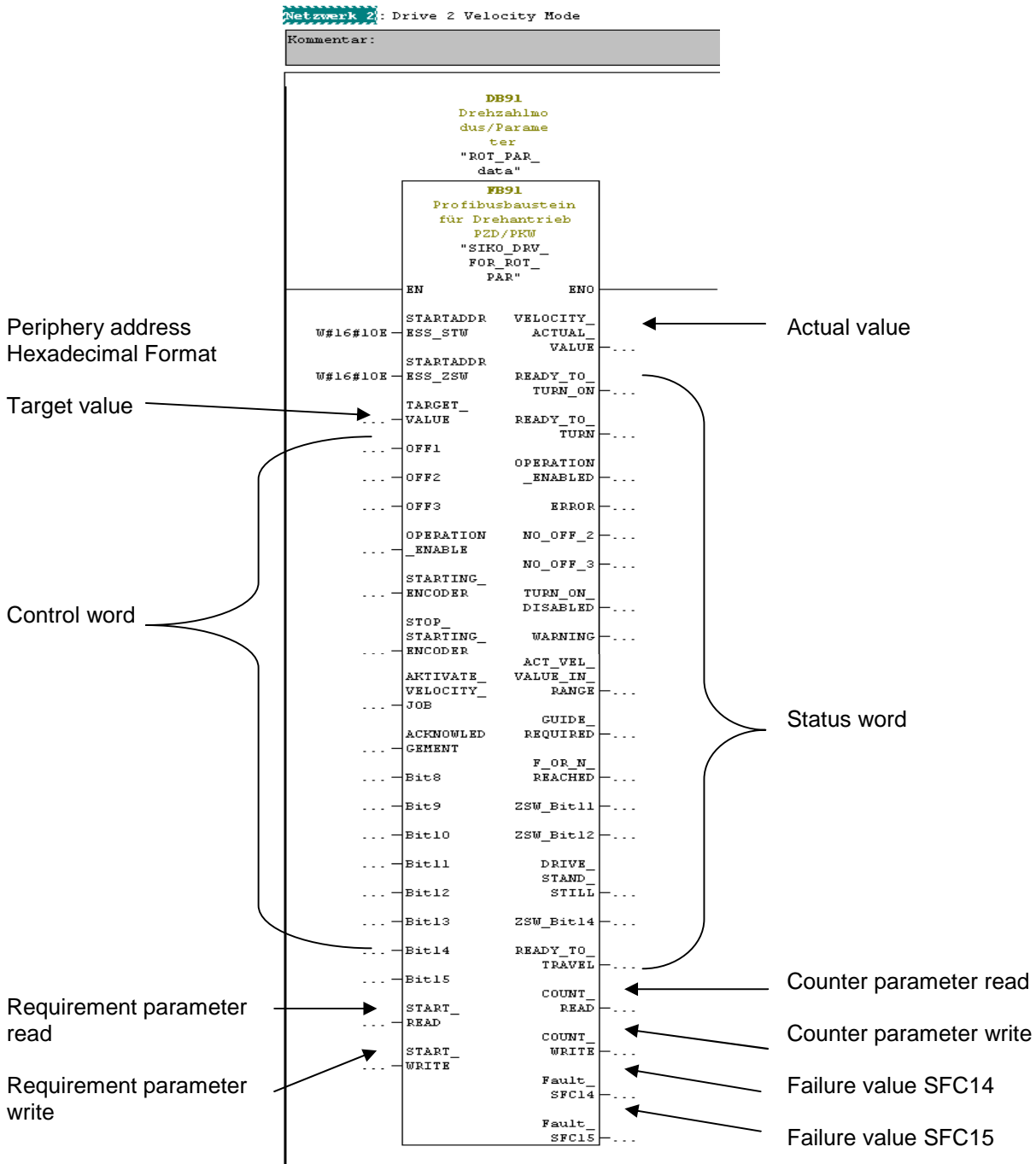
| Count_write Value | Parameter-No. | Name | Admissible values (dez) |
|----------------------|---------------------|-------------------------------|--|
| 1 | 930 dez 3A2 hex | Operating mode | 1: Velocity mode 2: Positioning mode |
| 2 | 1000 dez 3E8 hex | Controller Parameter P | Value range: 1 – 500 |
| 3 | 1001 dez 3E9 hex | Controller Parameter I | Value range: 0 – 500 |
| 4 | 1002 dez 3EA hex | Controller Parameter D | Value range: 0 – 500 |
| 5 | 1003 dez 3EB hex | a – Pos | Value range: 0 – 100 |
| 6 | 1004 dez 3EC hex | v – Pos | Value range: AG04B-Gear ratio 30.6:1 => 1 - 160 AG04B-Gear ratio 50.0:1 => 1 - 100 AG04B-Gear ratio 70.8:1 => 1 - 70 |
| 7 | 1005 dez 3ED hex | a – Dreh | Value range: 0 – 100 |
| 8 | 1007 dez 3EF hex | a – Tipp | Value range: 0 – 100 |
| 9 | 1008 dez 3F0 hex | v – Tipp | Value range: see v - Pos |
| 10 | 1009 dez 3F1 hex | Pos- Window | Value range: 0 – 1000 |
| 11 | 1010 dez 3F2 hex | ü- Numerator | Value range: 1 – 10000 |
| 12 | 1011 dez 3F3 hex | ü – Denominator | Value range: 1- 10000 |
| 13 | 1012 dez 3F4 hex | Spindle pitch | Value range: 0 – 1000 |
| 14 | 1013 dez 3F5 hex | Sense of rotation | 0: i sense of rotation 1: e sense of rotation |
| 15 | 1014 dez 3F6 hex | Pos- type | 0: direct 1: loop + 2: loop – |
| 16 | 1016 dez 3F8 hex | upper limit | Value range: - 9999999 ... 9999999 |
| 17 | 1017 dez 3F9 hex | lower limit | Value range: - 9999999 ... 9999999 |
| 18 | 1018 dez 3FA hex | Calibration value | Value range: - 999999 ... 999999 |
| 19 | 1019 dez 3FB hex | Delta Inch | Value range: - 1000000 ... 1000000 |
| 20 | 970 dez 3CA hex | Load parameter data record | 1: Set all parameters to default values 2: Set standard parameters to default value 3: Set controller parameters to factory settings. 4: Delete fault counter and fault buffer. 5: calibrate the AG04B |

4.4 Drive Parameter Change Positioning Mode FB94



For further information regarding failure value of SFC14/15 please refer to online help of Simatic Manager.

4.5 Drive Parameter Change Velocity Mode FB91



For further information regarding failure value of SFC14/15 please refer to online help of Simatic Manager.