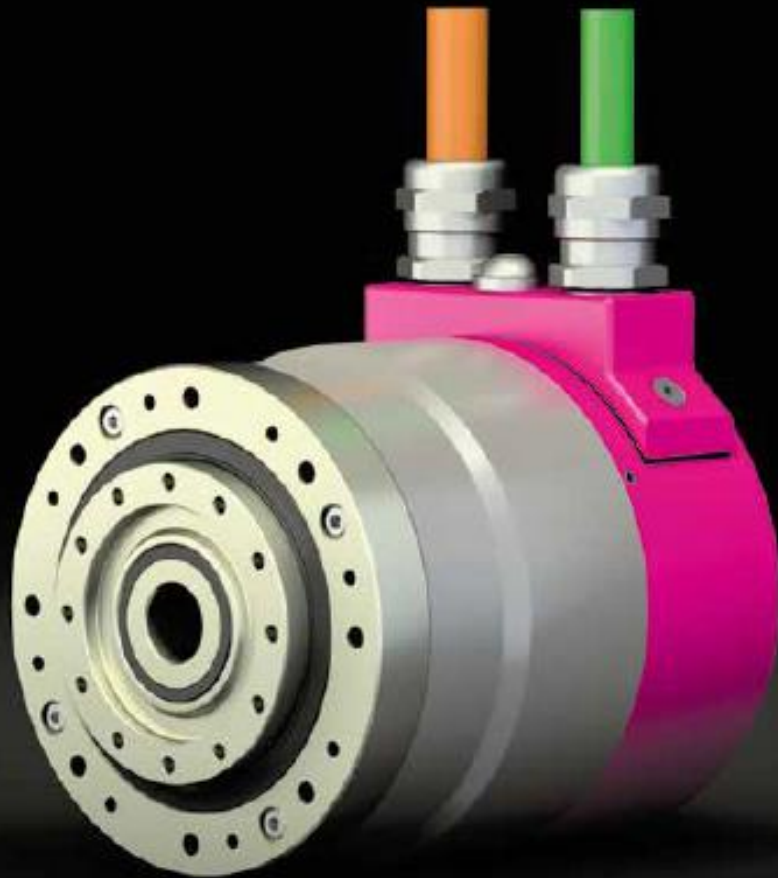


Commissioning Manual
AC Servo Actuators CanisDrive
SIEMENS SINAMICS



Harmonic
Drive AG



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1. General

About this documentation

This document contains safety instructions, technical data and operation rules for servo actuators and servo motors of Harmonic Drive AG.

The documentation is aimed at planners, project engineers, commissioning engineers and machine manufacturers, offering support during selection and calculation of the servo actuators, servo motors and accessories.

Rules for storage

Please keep this document for the entire life of the product, up to its disposal. Please hand over the documentation when re-selling the product.

Additional documentation

For the configuration of drive systems using the products of Harmonic Drive AG, you may require additional documents. Documentation is provided for all products offered by Harmonic Drive AG and can be found on the website.

www.harmonicdrive.de

Third-party systems

Documentation for parts supplied by third party suppliers, associated with Harmonic Drive® components, is not included in our standard documentation and should be requested directly from the manufacturers.



Before commissioning servo actuators and servo motors from Harmonic Drive AG with servo drives, we advise you to obtain the relevant documents for each device.

Your feedback

Your experiences are important to us. Please send suggestions and comments about the products and documentation to:

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1.1 Description of Safety Alert Symbols

| Symbol | Meaning |
|--|--|
|  DANGER | Indicates an imminent hazardous situation. If this is not avoided, death or serious injury could occur. |
|  WARNING | Indicates a possible hazard. Care should be taken or death or serious injury may result. |
|  ATTENTION | Indicates a possible hazard. Care should be taken or slight or minor injury may result. |
| ADVICE | Describes a possibly harmful situation. Care should be taken to avoid damage to the system and surroundings. |
| INFORMATION | This is not a safety symbol. This symbol indicates important information. |
|  | Warning of a general hazard. The type of hazard is determined by the specific warning texts. |
|  | Warning of dangerous electrical voltage and its effects. |
|  | Beware of hot surfaces. |
|  | Beware of suspended loads. |
|  | Precautions when handling electrostatic sensitive components. |
|  | Beware of electromagnetic environmental compatibility |

1.2 Disclaimer and Copyright

The contents, images and graphics contained in this catalogue are protected by copyright. In addition to the copyright, logos, fonts, company and product names can also be protected by brand law or trademark law. The use of texts, extracts or graphics requires the permission of the publisher or rights holder.

We have checked the contents of this document. Since errors cannot be ruled out entirely, we do not accept liability for mistakes which may have occurred. Notification of any mistakes or suggestions for improvements will be gratefully received and any necessary corrections will be included in subsequent editions.

2. Safety and Installation Instructions

Please take note of the information and instructions in this document. Specially designed models may differ in technical detail. If in doubt, we strongly recommend that you contact the manufacturer, giving the type designation and serial number for clarification.

2.1 Hazards



Electric servo actuators and motors have dangerous live rotating parts. All work during connection, operation, repair and disposal must be carried out by qualified personnel as described in the standards EN 50110-1 and IEC 60364! Before starting any work, and especially before opening covers, the actuator must be properly isolated. In addition to the main circuits, the user also has to pay attention to any auxiliary circuits.

Observing the five safety rules:

- Disconnect mains
- Prevent reconnection
- Test for absence of harmful voltages
- Ground and short circuit
- Cover or close off nearby live parts

The measures taken above should only be withdrawn when the work has been completed and the device is fully assembled. Improper handling can cause damage to persons and property. The respective national, local and factory specific regulations must be adhered to.



The surface temperature of the gears, motors and actuators can exceed 55 degrees Celsius. The hot surfaces should not be touched.

ADVICE

Cables must not come into direct contact with hot surfaces.



Electric, magnetic and electromagnetic fields are dangerous, in particular for persons with pacemakers, implants or similar. Vulnerable groups must not be in the immediate vicinity of the products themselves.



Built-in holding brakes alone are not safety brakes. Particularly with unsupported vertical axes, the functional safety and security can only be achieved with additional, external mechanical brakes.



DANGER

Danger of injury due to improper handling of batteries.

Observing of the battery safety rules:

- do not insert batteries in reverse. Observe the + and - marks on the battery and on the equipment
- do not short circuit
- do not recharge
- do not open or deform
- do not expose to fire, water or high temperature
- do not leave discharged batteries in equipment
- keep batteries out of the reach of children. In case of ingestion of a battery, seek medical assistance promptly.



WARNING

The successful and safe use of gears, motors and servo actuators requires proper transport, storage and assembly as well as correct operation and maintenance.



ATTENTION

Use suitable lifting equipment to move and lift gears, motors and servo actuators with a weight > 20kg.

INFORMATION

Special versions of products may differ in the specification from the standard. Further applicable data sheets, catalogues and offers of the special version have to be considered.

2.2 Intended Purpose

The Harmonic Drive® servo actuators and motors are intended for industrial or commercial applications. They comply with the relevant parts of the harmonised EN 60034 standards series.

Typical areas of application are robotics and handling, machine tools, packaging and food machines and similar machines.

The servo actuators and motors may only be operated within the operating ranges and environmental conditions shown in the documentation (altitude, degree of protection, temperature range etc.).

Before plant and machinery which have Harmonic Drive® servo actuators and motors built into them are commissioned, the compliance must be established with the Machinery Directive, Low Voltage Directive and EMC guidelines.

Plant and machinery with inverter driven motors must satisfy the protection requirements in the EMC guidelines. It is the responsibility of the installer to ensure that installation is undertaken correctly.

Signal and power lines must be shielded. The EMC instructions from the inverter manufacturer must be observed in order that installation meets the EMC regulations.

2.3 Non Intended Purpose

The use of servo actuators and motors outside the areas of application mentioned above or, inter alia, other than in the operating areas or environmental conditions described in the documentation is considered as non-intended purpose.

ADVICE

Direct operating from the mains supply is not allowed.

The following areas of application are, inter alia, those considered as non-intended purpose:

- Aerospace
- Areas at risk of explosion
- Machines specially constructed or used for a nuclear purpose whose breakdown might lead to the emission of radio-activity
- Vacuum
- Machines for domestic use
- Medical equipment which comes into direct contact with the human body
- Machines or equipment for transporting or lifting people
- Special devices for use in annual markets or leisure parks

3. Instructions for Third Party Systems

3.1 General

ADVICE

Please observe the documentation of the SIEMENS AG and the Harmonic Drive AG before putting the system into operation.

Quicklink to Engineering Data CHA www.harmonicdrive.de/1010

A detailed description of the electrical connection is given within the "Engineering Data" manual of the selected product.

3.2 Functional Safety

For the realization of safety-relevant drive systems, the requirements documented in the manual "Safety Integrated" of the SINAMICS drive system has to be considered.

The motor feedback systems ROO, MGS and SIE do not meet the requirements of the SINAMICS drive controllers for safe speed and position detection. A failure mode effects analysis (FMEA) of the encoder mounting to the motor shaft for the detection of a secure attachment is not given.



WARNING

Residual risk for a single-encoder system

Within a single-encoder system:

- a) A single electrical fault inside the encoder
- b) A break of the encoder shaft, or a loose encoder housing will cause the encoder signals to remain static (that is, they no longer follow a movement while still returning a correct level), and prevent fault detection while the drive is in stop state (for example, drive in SOS state). Generally, the drive is held by the active closed-loop control. Especially for drives with suspended load, from a closed-loop control perspective, it is conceivable that drives such as these move without this being detected.

The risk of an electrical fault in the encoder as described under a) is only present for few encoder types employing a specific principal of operation.

All of the faults described above must be included in the risk analysis of the machine manufacturer. Additional safety measures have to be taken for drives with suspended/vertical or dragging loads in order to exclude the faults described in a), for example:

- Use of an encoder with analogue signal generation or
- Use of a two-encoder system

In order to exclude the fault described in b), for example:

- Perform an FMEA regarding encoder shaft breakage as well as loose encoder housings and use a fault exclusion process according to IEC 61800-5-2.
- Implementation of a two-encoder system (the encoders must not be mounted on the same shaft).

With the currently available motor feedback systems for the CanusDrive series safety functions can only be realized by using a second encoder system. For this purpose, the available option CanisDrive-EC can be used.

3.3 Overview Sensor Modules

3.3.1 Sensor Modules Cabinet-Mounted (SMC)

These modules are used for motors without DRIVE-CLiQ interface or for additional external encoders. The SMC module evaluates the connected measuring systems and transmits the calculated values via DRIVE-CLiQ to the control unit.

Connectable motor feedback systems

| Motor feedback system | SMC-Modul |
|-----------------------|-----------|
| ROO | SMC10 |
| MGS | SMC20 |
| SIE | SMC20 |



ADVICE

To transfer the motor feedback signals to the Siemens specific DRIVE-CLiQ interface, we recommend the use of the Sensor Modules Cabinet-Mounted (SMC) tested by us.

3.3.2 Sensor Modules External (SME)

SME modules are encoder evaluation units for machine encoders (direct measuring systems).

The devices are designed with IP67 degree of protection. This means that the units can be installed outside the control cabinet near the machine encoder.

The SME module evaluates the encoder signals and converts the information obtained to DRIVE-CLiQ. Neither motor nor encoder data are saved in the SME module. The supply voltage for the connected encoder will be provided by the DRIVE-CLiQ interface.



Typical applications for the use of the SME module are direct measuring systems, torque motors or linear motors. The connection of a temperature sensor depends on the selected SME module.

ADVICE

We did not check the functionality of the Sensor Modules External (SME) in detail. Their use can lead to restrictions in motor protection or even to complicated wiring. The use of the SME module is within the responsibility of the end user. The end user must select and release the SME module for the application in cooperation with the manufacturer.

4. Commissioning

ADVICE

Commissioning must be executed in accordance with the documentation of Harmonic Drive AG.

Before commissioning, please check that:

- The actuator is properly mounted,
- All electrical connections and mechanical connections are designed according to requirements,
- The protective earth is properly connected,
- All attachments (brakes, etc.) are operational,
- Appropriate measures have been taken to prevent contact with moving and live parts,
- The maximum speed n_{\max} is specified and cannot be exceeded,
- The setup of the drive parameters has been executed,
- The commutation is adjusted correctly.

⚠ ATTENTION

Check the direction of rotation of the load uncoupled.

In the event of changes in the normal operating behaviour, such as increased temperature, noise or vibration, switch the actuator off. Determine the cause of the problem and contact the manufacturer if necessary. Even if the actuator is only on test, do not put safety equipment out of operation.

This list may not be complete. Other checks may also be necessary.

ADVICE

Due to heat generation from the actuator itself, tests outside the final mounting position should be limited to 5 minutes of continuous running at a motor speed of less than 1000 rpm.

These values should not be exceeded in order to avoid thermal damage to the actuator.

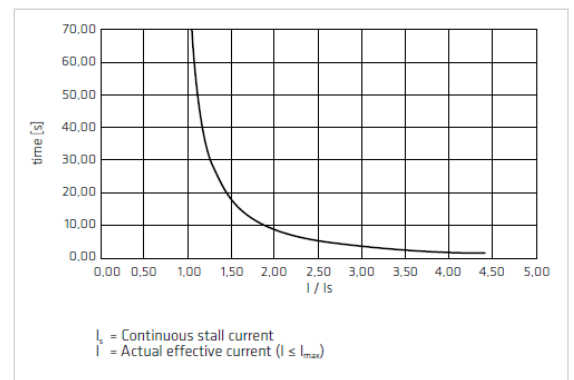
⚠ ATTENTION

Temperature sensors are integrated into the servo actuators and motors to protect them from.

To protect the servo actuators and motors from temperature overload sensors are integrated into the motor windings. The temperature sensors alone do not guarantee motor protection. Protection against overload of the motor winding is only possible with an input speed > 0 . For special applications (eg. load at standstill or very low speed) is an additional overload protection by limiting the overload period.

The built specification of the integrated temperature sensors can be found in the technical data.

In addition, it is recommended to protect the motor winding against overload by the use of I^2t monitoring integrated in the controller.



The graph shows an example of the overload characteristic for the I^2t monitoring. The overload factor is the ratio between the actual RMS current and continuous stall current.

5. SINAMICS Drive Parameter for Motor

For the position control, speed control and current control loop of the SINAMICS® converter system it is necessary to set the drive parameters according to the following tables.

Example for a motor setup

Konfiguration - S120_CU310_DP - Motor


Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Konfigurieren Sie den Motor:

Motor Name: Motor

Motor mit DRIVE-CLIQ-Schnittstelle
 Motor neu auslesen
 Standardmotor aus Liste auswählen
 Motordaten eingeben

Motor Typ: **Synchronmotor (rotatorisch, permanenterregt)**



< Zurück Weiter > Abbrechen Hilfe

Konfiguration - S120_CU310_DP - Motordaten

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Motordaten, Synchronmotor (rotierend): Vorlage

Dateneingabe nach Datenblatt
 Dateneingabe mit anschließender Motoridentifikation

| aramete | Parametertext | Wert | Einheit |
|---------|---------------------------|----------|------------------|
| p305[0] | Motor-Bemessungsstrom | 3.70 | Aeff |
| p311[0] | Motor-Bemessungsdrehzahl | 3000.0 | 1/min |
| p314[0] | Motor-Polpaarzahl | 6 | |
| p316[0] | Motor-Drehmomentkonstante | 0.83 | Nm/A |
| p322[0] | Motor-Maximaldrehzahl | 4000.0 | 1/min |
| p323[0] | Motor-Maximalstrom | 10.10 | Aeff |
| p338[0] | Motor-Grenzstrom | 10.10 | Aeff |
| p341[0] | Motor-Trägheitsmoment | 0.001510 | kgm ² |

Die Motordaten müssen vollständig eingegeben werden!

optionale Motordaten eingeben

Hinweis:
Eine Abwahl der optionalen Motordaten setzt diese unwiderruflich zurück.

< Zurück Weiter > Abbrechen Hilfe

Konfiguration - S120_CU310_DP - Motordaten Optional

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Motordaten, Synchronmotor (rotierend):

| aramete | Parametertext | Wert | Einheit |
|---------|--|---------|---------|
| p307[0] | Motor-Bemessungsleistung | 0.96 | kW |
| p312[0] | Motor-Bemessungsdrehmoment | 3.10 | Nm |
| p317[0] | Motor-Spannungskonstante | 53.0 | Veff |
| p318[0] | Motor-Stillstandsstrom | 3.70 | Aeff |
| p319[0] | Motor-Stillstandsdrehmoment | 3.10 | Nm |
| p320[0] | Motor-Bemessungsmagnetisierungsstrom | 0.000 | Aeff |
| p325[0] | Motor-Pollageidentifikation Strom 1. Phase | 3.700 | Aeff |
| p326[0] | Motor-Kippmomentkorrekturfaktor | 60 | % |
| p327[0] | Motor-Lastwinkel optimal | 90.0 | ° |
| p328[0] | Motor-Reluktanzmomentkonstante | 0.00 | mH |
| p329[0] | Motor-Pollageidentifikation Strom | 3.70 | Aeff |
| p342[0] | Trägheitsmoment Verhältnis Gesamt zu Mc | 1.000 | |
| p348[0] | Einsatzdrehzahl Feldschwächung Vdc = E | 0.0 | 1/min |
| p352[0] | Leitungswiderstand | 0.00000 | Ohm |
| p353[0] | Motor-Vorschaltinduktivität | 0.000 | mH |
| p391[0] | Stromregleradaption Einsatzpunkt KP | 10.10 | Aeff |
| p392[0] | Stromregleradaption Einsatzpunkt KP adap | 10.10 | Aeff |
| p393[0] | Stromregleradaption P-Verstärkung Adap | 100.00 | % |

Die optionalen Motordaten müssen nicht vollständig eingegeben werden!

Hinweis: Nicht bekannte Daten sind auf ihren Defaultwert zu setzen!

Wollen Sie alle optionalen Daten zurücksetzen, so wählen Sie deren Eingabe auf der Seite der Motordaten ab.

< Zurück Weiter > Abbrechen Hilfe

Konfiguration - S120_CU310_DP - Ersatzschaltbilddaten

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Darstellung Ersatzschaltbilddaten: Einheitensystem Physikalisch

Motordaten, Synchronmotor (rotierend):

| aramete | Parametertext | Wert | Einheit |
|---------|-------------------------------|---------|---------|
| p350[0] | Motor-Ständerwiderstand kalt | 2.90000 | Ohm |
| p356[0] | Motor-Ständertreuinduktivität | 3.50000 | mH |

< Zurück Weiter > Abbrechen Hilfe

Konfiguration - S120_CU310_DP - Berechnung der Motor-/Reglerdaten

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Berechnung der Motor-/Reglerdaten:

Keine Berechnung
 Vollständige Berechnung ohne Ersatzschaltbilddaten

Hinweis:
Die Grundeinstellung von Strom- und Drehzahlregelung und Begrenzungen werden aus den eingegebenen Typenschild- und ESB-Daten berechnet. (Die Typenschilddaten müssen vollständig sein.)

< Zurück Weiter > Abbrechen Hilfe

5.1 CanisDrive-14A-AM-ROO

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-14A-xxx-AM-ROO | | | | | |
|--|--|------------------------|-----------------------------------|------|------|--|--|--|
| Ratio | | [] | 50 | 80 | 100 | | | |
| Encoder type selection | p0400 | [] | 1001 | | | | | |
| Rotary encoder puls no. | p0408 | [I/U] | 1 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Rated motor power | p0307 | [kW] | 0,08 | 0,07 | 0,06 | | | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,21 | 0,18 | 0,16 | | | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,26 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 20 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor stall torque | p0319 | [Nm] | 0,21 | 0,18 | 0,16 | | | |
| Maximum motor speed | p0322 | [rpm] | 8500 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Motor pole position identification current | p0325 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor limit current | p0338 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000038 (0,000045 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,85 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 7,5 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Current controller adaption | p0392 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.2 CanisDrive-14A-AM-MGS

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-14A-xxx-AM-MGS | | | | | |
|--|--|------------------------|-----------------------------------|------|------|--|--|--|
| Ratio | | [] | 50 | 80 | 100 | | | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [I/U] | 128 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Rated motor power | p0307 | [kW] | 0,08 | 0,07 | 0,06 | | | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,21 | 0,18 | 0,16 | | | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,26 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 20 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor stall torque | p0319 | [Nm] | 0,21 | 0,18 | 0,16 | | | |
| Maximum motor speed | p0322 | [rpm] | 8500 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Motor pole position identification current | p0325 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 0,8 | 0,7 | 0,6 | | | |
| Motor limit current | p0338 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000062 (0,000070 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,85 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 7,5 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Current controller adaption | p0392 | [A _{rms}] | 1,9 | 1,6 | 1,5 | | | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.3 CanisDrive-17A-AO-ROO

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-17A-xxx-AO-ROO | | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|--|--|
| Ratio | | [] | 50 | 80 | 100 | 120 | | |
| Encoder type selection | p0400 | [] | 1001 | | | | | |
| Rotary encoder puls no. | p0408 | [I/U] | 1 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Rated motor power | p0307 | [kW] | 0,28 | 0,18 | 0,20 | 0,18 | | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,78 | 0,48 | 0,56 | 0,48 | | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,37 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 25 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor stall torque | p0319 | [Nm] | 0,78 | 0,48 | 0,56 | 0,48 | | |
| Maximum motor speed | p0322 | [rpm] | 7300 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor limit current | p0338 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000104 (0,000112 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 2,5 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 8,3 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Current controller adaption | p0392 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.4 CanisDrive-17A-AO-MGS

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-17A-xxx-AO-MGS | | | | | |
|--|--|------------------------|------------------------------------|------|------|------|--|--|
| Ratio | | [] | 50 | 80 | 100 | 120 | | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 128 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Rated motor power | p0307 | [kW] | 0,28 | 0,18 | 0,20 | 0,18 | | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,78 | 0,48 | 0,56 | 0,48 | | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,37 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 25 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor stall torque | p0319 | [Nm] | 0,78 | 0,48 | 0,56 | 0,48 | | |
| Maximum motor speed | p0322 | [rpm] | 7300 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Motor limit current | p0338 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000086 (0,000094 with brake)) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 2,5 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 8,3 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Current controller adaption | p0392 | [A _{rms}] | 3,1 | 2,3 | 2,3 | 1,9 | | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.5 CanisDrive-20A-AM-MGS

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-20A-xxx-AM-MGS | | | | | |
|--|--|------------------------|------------------------------------|------|------|------|------|--|
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 128 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Rated motor power | p0307 | [kW] | 0,28 | 0,28 | 0,28 | 0,22 | 0,17 | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,76 | 0,76 | 0,76 | 0,61 | 0,47 | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,36 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 23 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor stall torque | p0319 | [Nm] | 0,76 | 0,76 | 0,76 | 0,61 | 0,47 | |
| Maximum motor speed | p0322 | [rpm] | 6500 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor limit current | p0338 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000138 (0,000176 with brake)) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,0 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 4,0 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption | p0392 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.6 CanisDrive-20A-AM-SIE

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-20A-xxx-AM-SIE | | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|------|--|
| | | | 50 | 80 | 100 | 120 | 160 | |
| Ratio | | [] | | | | | | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 32 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,1 | 1,3 | 1,5 | 1,3 | | |
| Rated motor power | p0307 | [kW] | 0,28 | 0,28 | 0,28 | 0,22 | 0,17 | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 0,76 | 0,76 | 0,76 | 0,61 | 0,47 | |
| Motor pole pair number | p0314 | [] | 5 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,36 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 23 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor stall torque | p0319 | [Nm] | 0,76 | 0,76 | 0,76 | 0,61 | 0,47 | |
| Maximum motor speed | p0322 | [rpm] | 6500 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,1 | 2,1 | 2,1 | 1,7 | 1,3 | |
| Motor limit current | p0338 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000209 (0,000247 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,0 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 4,0 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption | p0392 | [A _{rms}] | 4,8 | 4,0 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.7 CanisDrive-25A-AR-MGS

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-25A-xxx-AR-MGS | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|------|
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 |
| Encoder type selection | p0400 | [] | 9999 | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 128 | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | |
| Motor type selection | p0300 | [] | 2 | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 |
| Rated motor power | p0307 | [kW] | 0,58 | 0,56 | 0,56 | 0,48 | 0,36 |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | |
| Rated motor torque | p0312 | [Nm] | 1,6 | 1,5 | 1,5 | 1,3 | 1,0 |
| Motor pole pair number | p0314 | [] | 6 | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,55 | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 37 | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 |
| Motor stall torque | p0319 | [Nm] | 1,6 | 1,5 | 1,5 | 1,3 | 1,0 |
| Maximum motor speed | p0322 | [rpm] | 5600 | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 |
| Motor limit current | p0338 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000480 (0,000647 with brake) | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,7 | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,9 | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 |
| Current controller adaption | p0392 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | |

5.8 CanisDrive-25A-AR-SIE

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-25A-xxx-AR-SIE | | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|------|--|
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [I/U] | 32 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 | |
| Rated motor power | p0307 | [kW] | 0,58 | 0,56 | 0,56 | 0,48 | 0,36 | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 1,6 | 1,5 | 1,5 | 1,3 | 1,0 | |
| Motor pole pair number | p0314 | [] | 6 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,55 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 37 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 | |
| Motor stall torque | p0319 | [Nm] | 1,6 | 1,5 | 1,5 | 1,3 | 1,0 | |
| Maximum motor speed | p0322 | [rpm] | 5600 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 | |
| Motor pole position identification current | p0325 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 2,9 | 2,8 | 2,8 | 2,4 | 1,8 | |
| Motor limit current | p0338 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000428 (0,000592 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,7 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,9 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption | p0392 | [A _{rms}] | 5,7 | 4,9 | 3,6 | 3,2 | 2,6 | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.9 CanisDrive-32A-AR-MGS

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-32A-xxx-AR-MGS | | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|------|--|
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 | |
| Encoder type selection | p0400 | [] | 9999 | | | | | |
| Rotary encoder puls no. | p0408 | [I/U] | 128 | | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | | |
| Motor type selection | p0300 | [] | 2 | | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | | |
| Rated motor current | p0305 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 | |
| Rated motor power | p0307 | [kW] | 0,62 | 0,62 | 0,62 | 0,62 | 0,62 | |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | | |
| Rated motor torque | p0312 | [Nm] | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | |
| Motor pole pair number | p0314 | [] | 6 | | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,55 | | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 37 | | | | | |
| Motor stall current | p0318 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 | |
| Motor stall torque | p0319 | [Nm] | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 | |
| Maximum motor speed | p0322 | [rpm] | 4800 | | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 | |
| Motor pole position identification current | p0325 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 | |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 | |
| Motor limit current | p0338 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 | |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000681 (0,000807 with brake) | | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,7 | | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,9 | | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 | |
| Current controller adaption | p0392 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 | |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | | |

5.10 CanisDrive-32A-AR-SIE

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-32A-xxx-AR-SIE | | | | |
|--|--|------------------------|-----------------------------------|------|------|------|------|
| | | | 50 | 80 | 100 | 120 | 160 |
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 |
| Encoder type selection | p0400 | [] | 9999 | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 32 | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | |
| Motor type selection | p0300 | [] | 2 | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | |
| Rated motor current | p0305 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Rated motor power | p0307 | [kW] | 0,62 | 0,62 | 0,62 | 0,62 | 0,62 |
| Rated motor speed | p0311 | [rpm] | 3500 | | | | |
| Rated motor torque | p0312 | [Nm] | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 |
| Motor pole pair number | p0314 | [] | 6 | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,55 | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 37 | | | | |
| Motor stall current | p0318 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Motor stall torque | p0319 | [Nm] | 1,7 | 1,7 | 1,7 | 1,7 | 1,7 |
| Maximum motor speed | p0322 | [rpm] | 4800 | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 |
| Motor pole position identification current | p0325 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Motor limit current | p0338 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 |
| Motor moment of inertia | p0341 | [kgm ²] | 0,000626 (0,000752 with brake) | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 3,7 | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,9 | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 |
| Current controller adaption | p0392 | [A _{rms}] | 14,0 | 14,0 | 10,6 | 8,6 | 6,4 |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | |

5.11 CanisDrive-40A-AU-MGS

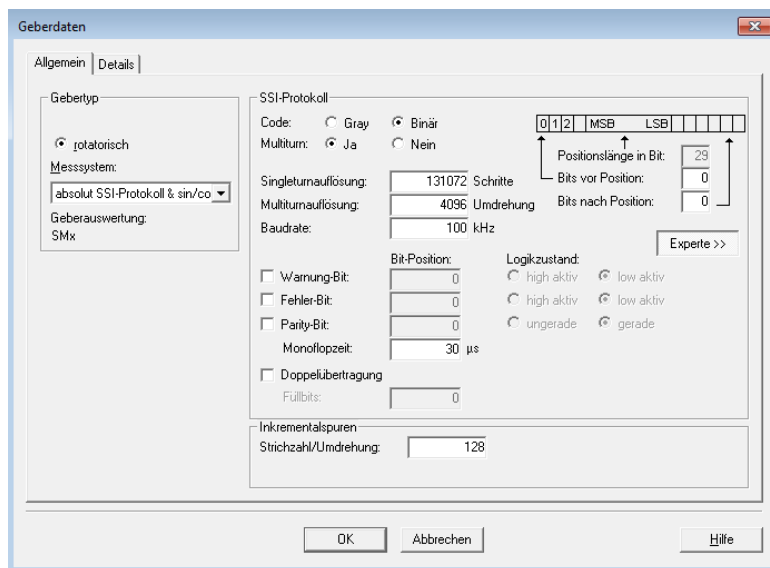
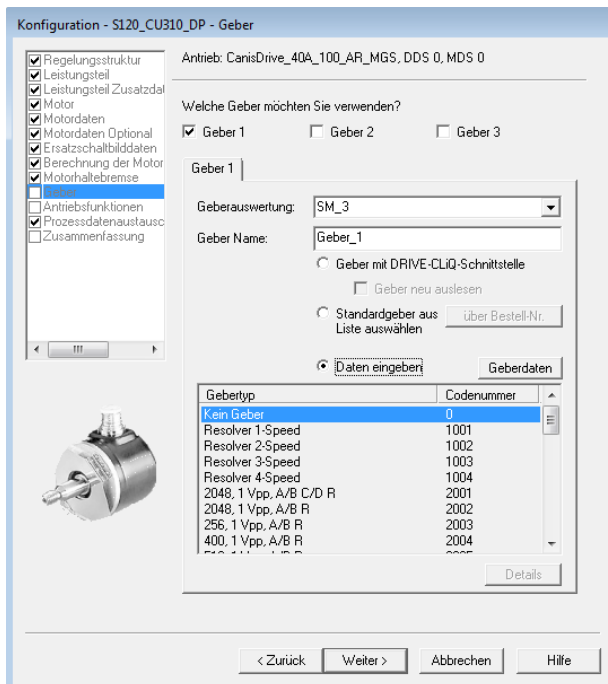
| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-40A-xxx-AU-MGS | | | | |
|--|--|------------------------|---------------------------------|------|------|------|------|
| | | | 50 | 80 | 100 | 120 | 160 |
| Ratio | | [] | | | | | |
| Encoder type selection | p0400 | [] | 9999 | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 128 | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | |
| Motor type selection | p0300 | [] | 2 | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | |
| Rated motor current | p0305 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Rated motor power | p0307 | [kW] | 0,96 | 0,96 | 0,96 | 0,96 | 0,96 |
| Rated motor speed | p0311 | [rpm] | 3000 | | | | |
| Rated motor torque | p0312 | [Nm] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Motor pole pair number | p0314 | [] | 6 | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,83 | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 53 | | | | |
| Motor stall current | p0318 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor stall torque | p0319 | [Nm] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Maximum motor speed | p0322 | [rpm] | 4000 | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Motor pole position identification current | p0325 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor limit current | p0338 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Motor moment of inertia | p0341 | [kgm ²] | 0,00151 (0,00170 with brake) | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 2,9 | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,5 | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Current controller adaption | p0392 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | |

5.12 CanisDrive-40A-AU-SIE

| MD-Name | MD-No. | Symbol [Unit] | CanisDrive-40A-xxx-AU-SIE | | | | |
|--|--|------------------------|---------------------------------|------|------|------|------|
| Ratio | | [] | 50 | 80 | 100 | 120 | 160 |
| Encoder type selection | p0400 | [] | 9999 | | | | |
| Rotary encoder puls no. | p0408 | [l/U] | 32 | | | | |
| Encoder inversion actual value | p0410 | [] | 0H | | | | |
| Motor type selection | p0300 | [] | 2 | | | | |
| Motor code number selection | p0301 | [] | 0 | | | | |
| Rated motor current | p0305 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Rated motor power | p0307 | [kW] | 0,96 | 0,96 | 0,96 | 0,96 | 0,96 |
| Rated motor speed | p0311 | [rpm] | 3000 | | | | |
| Rated motor torque | p0312 | [Nm] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Motor pole pair number | p0314 | [] | 6 | | | | |
| Motor torque constant | p0316 | [Nm/A _{rms}] | 0,83 | | | | |
| Motor voltage constant | p0317 | [V/1000rpm] | 53 | | | | |
| Motor stall current | p0318 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor stall torque | p0319 | [Nm] | 3,1 | 3,1 | 3,1 | 3,1 | 3,1 |
| Maximum motor speed | p0322 | [rpm] | 4000 | | | | |
| Maximum motor current | p0323 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Motor pole position identification current | p0325 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor stall torque correction factor | p0326 | [%] | Standard | | | | |
| Optimum motor load angle | p0327 | [°] | 90 | | | | |
| Motor reluctance torque constant | p0328 | [mH] | 0 | | | | |
| Motor pole position identification current | p0329 | [A _{rms}] | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 |
| Motor limit current | p0338 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Motor moment of inertia | p0341 | [kgm ²] | 0,00131 (0,00152 with brake) | | | | |
| Ratio of moment of inertia | p0342 | | According to the application | | | | |
| Motor stator resistance cold | p0350 | [Ω] | 2,9 | | | | |
| Motor stator leakage inductance | p0356 | [mH] | 3,5 | | | | |
| Current controller adaption | p0391 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Current controller adaption | p0392 | [A _{rms}] | 15,5 | 11,7 | 10,1 | 9,1 | 7,2 |
| Current controller adaption P-gain | p0393 | [%] | 100 | | | | |
| Motor over temperature alarm threshold | p0604 | [°C] | 110 90 (UL-Version) | | | | |
| Motor over temperature fault threshold | p0605 | [°C] | 120 100 (UL-Version) | | | | |
| Comment | All not given values are according to the SIEMENS standard values | | | | | | |
| Safety Integrated | The motor feedback system ROO, MGS and SIE didn't fulfil the requirements of the SINAMICS drive for a safe speed and position determination. | | | | | | |

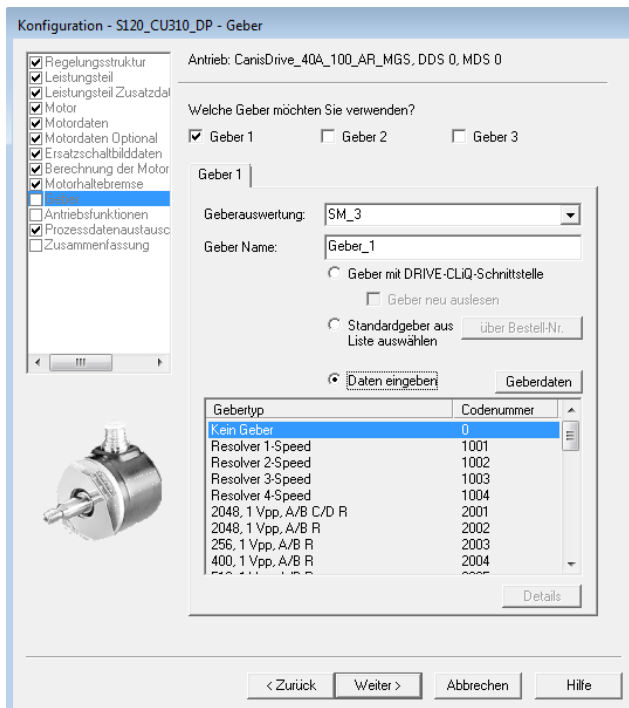
6. SINAMICS Drive Parameter for Motor Feedback System

6.1 MGS - CanisDrive-14 / 17 / 20

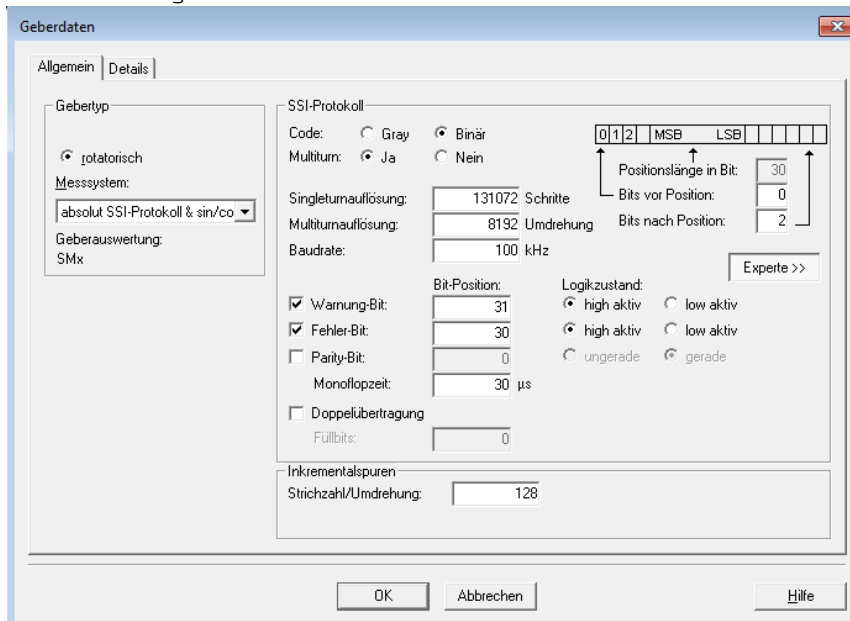


| MD-Name | MD-No. | Symbol [Unit] | MGS (CanisDrive-14 / 17 / 20) |
|------------------------|--------|---------------|-------------------------------|
| Code | p0429 | [] | binary |
| Multi-turn | P0404 | [] | Yes |
| Single turn resolution | p0423 | [Steps] | 131072 (17 bit) |
| Multi-turn resolution | P0421 | [Revolutions] | 4096 (12 bit) |
| Baud rate | p0427 | [kHz] | 100 |
| SSI-Warning bit | p0435 | [] | No |
| SSI-Error bit | p0434 | [] | No |
| Number of pulses | p0408 | [] | 128 |

6.2 MGS - CanisDrive-25 / 32 / 40



Geberdaten eingeben



| MD-Name | MD-No. | Symbol [Unit] | MGS (CanisDrive-25 / 32 / 40) |
|--------------------------------|--------|---------------|-------------------------------|
| Code | p0429 | [] | binär |
| Multi-turn | P0404 | [] | Yes |
| Single turn resolution | p0423 | [Steps] | 131072 (17bit) |
| Multi-turn resolution | P0421 | [Revolutions] | 8192 (13 bit) |
| Baud rate | p0427 | [kHz] | 100 |
| SSI-Warning bit | p0435 | [] | 31 (high activ) |
| SSI-Error bit | p0434 | [] | 30 (high activ) |
| Number of pulses | p0408 | [] | 128 |
| SSI-Bitanzahl nach Absolutwert | p0448 | [] | 2 |

6.3 SIE - CanisDrive-20 / 25 / 32 / 40

Konfiguration - S120_CU310_DP - Geber

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Welche Geber möchten Sie verwenden?

Geber 1 Geber 2 Geber 3

Geber 1

Geberauswertung: SM_3

Geber Name: Geber_1

Geber mit DRIVE-CLiQ-Schnittstelle
 Geber neu auslesen

Standardgeber aus Liste auswählen über Bestell-Nr.

Daten eingeben Geberdaten

| GeberTyp | Codenummer |
|------------------------|------------|
| Kein Geber | 0 |
| Resolver 1-Speed | 1001 |
| Resolver 2-Speed | 1002 |
| Resolver 3-Speed | 1003 |
| Resolver 4-Speed | 1004 |
| 2048, 1 Vpp, A/B C/D R | 2001 |
| 2048, 1 Vpp, A/B R | 2002 |
| 256, 1 Vpp, A/B R | 2003 |
| 400, 1 Vpp, A/B R | 2004 |

< Zurück Weiter > Abbrechen Hilfe

Geberdaten

Geberdaten

Allgemein | Details

GeberTyp

rotatorisch

Messsystem:
absolut Endat-Protokoll

Geberauswertung:
SMx

Geber identifizieren

OK Abbrechen Hilfe

HINWEIS

Vor der Erstinbetriebnahme ist der Kommutierungswinkeloffset zu ermitteln.

6.3 R00 - CanisDrive-14 / 17

Konfiguration - S120_CU310_DP - Geber

Antrieb: CanisDrive_40A_100_AR_MGS, DDS 0, MDS 0

Regelungsstruktur
Leistungsteil
Leistungsteil Zusatzdat
Motor
Motordaten
Motordaten Optional
Ersatzschaltbilddaten
Berechnung der Motor
Motorhaltebremse
Antriebsfunktionen
Prozessdatenaustausch
Zusammenfassung

Welche Geber möchten Sie verwenden?
 Geber 1 Geber 2 Geber 3

Geber 1

Geberauswertung: SM_3

Geber Name: Geber_1

Geber mit DRIVE-CLiQ-Schnittstelle
 Geber neu auslesen

Standardgeber aus Liste auswählen

Daten eingeben

| Gebertyp | Codenummer |
|------------------------|------------|
| Kein Geber | 0 |
| Resolver 1-Speed | 1001 |
| Resolver 2-Speed | 1002 |
| Resolver 3-Speed | 1003 |
| Resolver 4-Speed | 1004 |
| 2048, 1 Vpp, A/B C/D R | 2001 |
| 2048, 1 Vpp, A/B R | 2002 |
| 256, 1 Vpp, A/B R | 2003 |
| 400, 1 Vpp, A/B R | 2004 |

< Zurück Weiter > Abbrechen Hilfe

