

Version: 08.2012

Summary of the characteristic data for use of the product in safety-related applications

Product:

• AKD-C01007-CB

AKD-N00307, AKD-N00607

AKD-Nyyy07-zz
 yyy=003, 006; zz=DB, DF, DS

Company: KOLLMORGEN Europe GmbH

Pempelfurtstraße 1 40880 Ratingen Germany

Characteristic data acc. to IEC 61508-1 till -7 and IEC 62061:
 Data for use of the product as a subsystem in safety functions

1.1 Local STO / string STO at the Decentralized Servo Drive Unit AKD-N

| | Value | Remark |
|------------------------------------|------------------|---|
| Safety Integrity Level | SIL CL 2 / SIL 2 | |
| PFH [1/h] | 2.9 E-08 | corresponds to 29 % of SIL 2 |
| PFD _{avq} | 2.7 E-03 | corresponds to 27 % of SIL 2 |
| | | this value is valid for the stated Proof Test Interval T ₁ |
| Proof Test Interval T ₁ | 20 a | |

1.2 Global STO performed by the Power Supply Unit (AKD-C) and the last-in-string Decentralized Servo Drive Unit (AKD-N)

| | Value | Remark |
|------------------------------------|------------------|---|
| Safety Integrity Level | SIL CL 2 / SIL 2 | |
| PFH [1/h] | 2.9 E-08 | corresponds to 29 % of SIL 2 |
| PFD_{avg} | 2.6 E-03 | corresponds to 26 % of SIL 2 |
| | | this value is valid for the stated Proof Test Interval T ₁ |
| Proof Test Interval T ₁ | 20 a | |

Remark: A special Proof Test within the mission time of the product is regarded as not necessary.

2. Characteristic data acc. to EN ISO 13849-1:

2.1. Local STO / string STO at the Decentralized Servo Drive Unit AKD-N

| | Value | Remark |
|------------------------|-------|---|
| Performance Level | PL d | |
| MTTF _d | High | $MTTF_d \ge 100, h_{op} = 24 h, t_{cycle} = 1 h, 365 d/a$ |
| Diagnostic Coverage DC | No | (DC _{AVG} =0) |

2.1. Global STO performed by the Power Supply Unit (AKD-C) and the last-in-string Decentralized Servo Drive Unit (AKD-N)

| | Value | Remark |
|------------------------|-------|---|
| Performance Level | PL d | |
| MTTF _d | High | $MTTF_d \ge 100, h_{op} = 24 h, t_{cycle} = 1 h, 365 d/a$ |
| Diagnostic Coverage DC | No | (DC _{AVG} =0) |

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

Besides these summary of the characteristic data always the information provided in the product documents of the manufacturer have to be considered.

Source of failure rate data: SN 29500, so far no data from the component manufacturer were available.

Max. average ambient temperature: 70°C

General assumption that 50 % of the component failures are dangerous failures (λ_d = 0.5 λ , MTTF_d = 2 MTTF), so far no further information was available.