



# MTTF, MTTFd-Zertifikat

## MTTF, MTTFd certificate

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| Berechnungsgrundlagen / Basis of calculation |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Norm:<br>Standard:                           | DIN EN ISO 13849-1:2008 (und/and SN 29500, T=40° C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Berechnungsformel:<br>Calculation formula:   | <p>DIN EN ISO 13849-1:2008 Normabschnitte<br/>C.5: MTTF, MTTFd Daten elektrischer Bauteile (typisch und ungünstigster Fall)<br/>D.1: Parts Count Verfahren ungünstigster Fall mit Sicherheitsfaktor 10</p> <p>DIN EN ISO 13849-1:2008 Annex<br/>C.5: MTTF, MTTFd data of electrical components (typical and worst case)<br/>D.1: Parts count method worst case with safety factor 10</p> $MTTF = \frac{1}{\sum_{n=1}^n \frac{1}{MTTF_n}}$ $MTTFd = MTTF \cdot 2$ <p>ungünstigster Fall/<br/>worst case</p> $MTTFd = \frac{MTTF \cdot 2}{10}$ |

| Produkt / Product | Jahre / Years |       |                                            | Zyklen/Cycles      |
|-------------------|---------------|-------|--------------------------------------------|--------------------|
|                   | MTTF          | MTTFd | MTTFd<br>ungünstigster Fall/<br>worst case | B <sub>10d</sub> * |
| VNB001            | 148           | 296   | 30                                         | —                  |

| Erläuterung / Explanation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Die Informationen erfolgen unter Ausschluss jeglicher Garantie.<br/>Das benannte Produkt ist kein Sicherheitsbauteil gemäß der Maschinenrichtlinie 2006/42/EG.<br/>* Bei Geräten mit Relaisausgang; Anzahl der Schaltspiele des Relais</p> <p>- Änderungen vorbehalten -</p> <p>The information is given without any guarantee.<br/>The indicated product is no safety component according to the machine directive 2006/42/EC.<br/>* For units with relay output; number of the switching cycles of the relay</p> <p>- subject to modifications -</p> |