In compliance with:

CEN ISO 13849-1:2015
Safety of machinery, safety related parts of control systems Part 1: general principles of design

MTTFd KSD 63 to 250amps Series
B10d rating based on the calculated assumptions below is:-

= 1,600,000 cycles


≡ Performance Level e (CEN ISO 13849-1. Table 2)
≡ Safety Integrity Level 3 (CEN ISO 13849-1. Table 3)
≡ MTTFd denotation HIGH (CEN ISO 13849-1. Table 4)

\( t_{cycle} \), mean time between two successive cycles \( 3600 \) seconds (1 cycle per hour)
\( h_{op} \), mean operation in hours per day \( 1 \) shift x 8 hours.
\( d_{op} \), mean operation in days per year \( 220 \) days.
\( \Pi_{op} = (d_{op} \times h_{op} \times 3600) / t_{cycle} \), 1760 mean annual operations
B10d no. cycles until 10% of components fail dangerously \( 1,600,000 \) cycles
MTTFd = B10d / (0.1 x \( \Pi_{op} \)) \( 9,090.91 \) years
\( \lambda_{d} = (0.1 \times \Pi_{op}) / (B10d \times 220 \times 8) \), 6.25 E-08 per operating hour

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