In compliance with:

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

**MTTFd MLB Series**

B10d rating based on the calculated assumptions below is:-

= **1,500,000 cycles**


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

- \( \text{tcycle} \), mean time between two successive cycles: 3600 seconds (1 cycle per hour)
- \( \text{hop} \), mean operation in hours per day: 1 shift x 8 hours.
- \( \text{dop} \), mean operation in days per year: 220 days.
- \( \text{nop} = (\text{dop} \times \text{hop} \times 3600) / \text{tcycle} \): 1760 mean annual operations
- B10d: no. cycles until 10% of components fail dangerously: 1,500,000 cycles
- MTTFd = B10d / (0.1 x \( \text{nop} \)): 8,522.72 years
- \( \lambda d = (0.1 \times \text{nop}) / (\text{B10d} \times 220 \times 8) \): 6.67 E-08 per operating hour

Neal Partridge
Head of Compliance