

RELIABILITY PROFILE – MVE SOFT STARTER

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Product series: MVE

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1 Overview

This document describes the performance of MVE soft starters against key reliability metrics.

2 Definitions

- Availability – the probability that the system is operating properly when it is requested for use.
- Reliability – the probability that a device will perform as designed for a period of time, under the intended operating conditions.
- Mean time between failures (MTBF) – the length of time a product is predicted to operate before it requires repair.
- Mean time to repair (MTTR) – the length of time required to repair a product and return it to working condition.

3 Key factors in reliability and availability

In electronic equipment, the most prominent stresses are temperature, voltage, vibration, and temperature rise due to current. This applies at the individual component level as well as to the system. In general, the more components in a system, the more risk points there are for failure.

AuCom soft starters are manufactured using components whose operating tolerances exceed the soft starter's intended operating conditions. All components in standard AuCom products are subjected to rigorous testing before being accepted into the manufacturing stream.

The modular design of AuCom soft starters simplifies spare part management and minimises repair time in the event of a failure, to maximise availability.

4 Reliability and availability calculations

AuCom calculates reliability and availability based on experience with units deployed in the field.

4.1 Mean time between failures

$$MTBF = \frac{\text{total operational time}}{\text{total number of failures}}$$

4.2 Mean time to repair

$$MTTR = \frac{\text{total maintenance time}}{\text{number of maintenance events}}$$

4.3 Availability

$$A = \frac{\text{uptime}}{\text{uptime} + \text{downtime}}$$

5 MVE reliability values

- Mean time between failures: 25 years
- Mean time to repair: 5 hours
- Availability: 99.99%