



OMNITERM TTB Dual Trip Amplifier

Model C2465B - 24Vdc powered, 4-20mA or 0-10Vinput, Dual Trip Amplifier.

RELIABILITY DATA

1. PRODUCT DESCRIPTION.

Omniterm TTB is a dual Trip Amplifier, which accepts mA or Volts input and provides two trip relays with changeover contacts. The unit provides wire-break detection function, which will de-energize both relays when input signal is lost.

For detailed specifications consult the product datasheet.

2. CONDITIONS OF USE IN SAFETY-RELATED APPLICATIONS.

- The TTB must be used within its electrical and mechanical specifications.
- EMC environment must be "typical industrial environment" as specified in IEC61000-4-4.
- The relays must be set as "de-energized to trip".
- Output circuits must be connected to the Normally Open contacts (closed when output relay is energized).

3. RELIABILITY INFORMATION.

Hardware reliability analysis yields the results as summarised in the Table below. The TTB has no software.

Subsystem	Type A
DC	53%
SFF	65%
PFD _{avg} , (TI = 1 year)	3.14×10^{-3}
PFD _{avg} , (TI = 2 years)	6.28×10^{-3}
MTBF (in years)	56.7

An MTTR of 8hrs was used in the above PFD calculations.

Note: DC – Diagnostic Coverage; SFF – Safe Failure Fraction; PFD – Probability of Failure on Demand; TI – Test Proof Interval; MTBF – Mean Time Between Failures; MTTR – Mean Time To Repair.

4. EXPLANATION OF RESULTS.

Any hardware failure, which prohibits relay outputs from operating correctly, is deemed a dangerous failure. If the fault leads to opening of relay contacts, that failure is considered detected.

Results show that calculated PFD complies with SIL1 requirements of EN61508-1 par. 7.6.2.9, Table 2 and fulfills the requirement not to claim more than 10% of allowed range. TTB also complies with IEC61508-2 par. 7.4.5.4 Table 2 for Type A subsystem without hardware fault tolerance. It is therefore suitable for use in SIL1 safety loops.

5. DISCLAIMER

This datasheet provides reliability figures only. Omniflex does not assume responsibility for the correct and safe application of the TTB or its reliability data. In safety-related applications, it is the user's responsibility to comply with all other requirements of EN61508, which may be applicable to the safety system in question.

Omniflex reserves the right to change specifications without notice.

