TOPAS
Traffic Open Products and Specifications

Product Registration - Guidance for Technical Assessors

BULLETIN 008 (18/09/23)

1.   TOPAS 2505, 2506, 2507, 2512

TOPAS specifications 2505, 2506, 2507 and 2512 all contain clauses for the maximum time for resumption of normal operation after an interruption to the detector power supply.

TOPAS2505B at clause 2.29. "When power is restored, the Product shall resume normal operation within 5000 ms."
TOPAS2506A at clause 2.27 "When power is returned, the Product shall resume normal operations within 5000 ms."
TOPAS2507A also at clause 2.27 "When power is returned, the Product shall resume normal operations within 5000 ms."
TOPAS2512B at clause 2.3.12. "The Product shall regain its specified operation within 5 seconds of the restoration of the power supply."

It is accepted that the majority of new detection products use of single board computers to run their detection algorithms.

When powered or re-powered these have to load their operating system before loading the detection algorithm. This requires considerably more than 5000ms.

It is proposed that in all four specifications this clause is revised to read "....within 120s..." and that a corrigendum is issued to this effect.

The mitigations for this longer start-up time are that
a) For the vast majority of traffic control sites the loss and resumption of power is a very infrequent occurrence.
b) because detectors may anyway fail, the controller does have detector fault monitoring and can be programmed to accommodate detector failures so the delayed start up of a detector will be accommodated by the detector
c) In the most recent revision of TOPAS2500 for traffic signal controllers, the controller is allowed up to 120s to start up (for the same underlying reason, that newer controllers use single board computers), so during this period any detection that is also starting up will be ready when the controller is ready.

d) When a controller starts up it automatically inserts one round of dummy detection events on every detector input, regardless of the state of the detector. This is done to exercise every phase and check lamps on those phases and also to ensure that any 'trapped' traffic (e.g. in indicative right turns, can be cleared. This round of dummy detections will add at least another 45s to the controller start-up before it settles into normal operation during which the detectors need not be providing detection events.

In effect, the controller is already designed to mitigate for detection issues and will accommodate longer detector start-up periods until the detector is ready.

Until such time as these changes have been made, please note the above when completing assessments, and the change in timings now accepted for the above clauses.

Please also advise any applicants if they are not aware.

END