

MARK™ VIE NETWORK SWITCHES

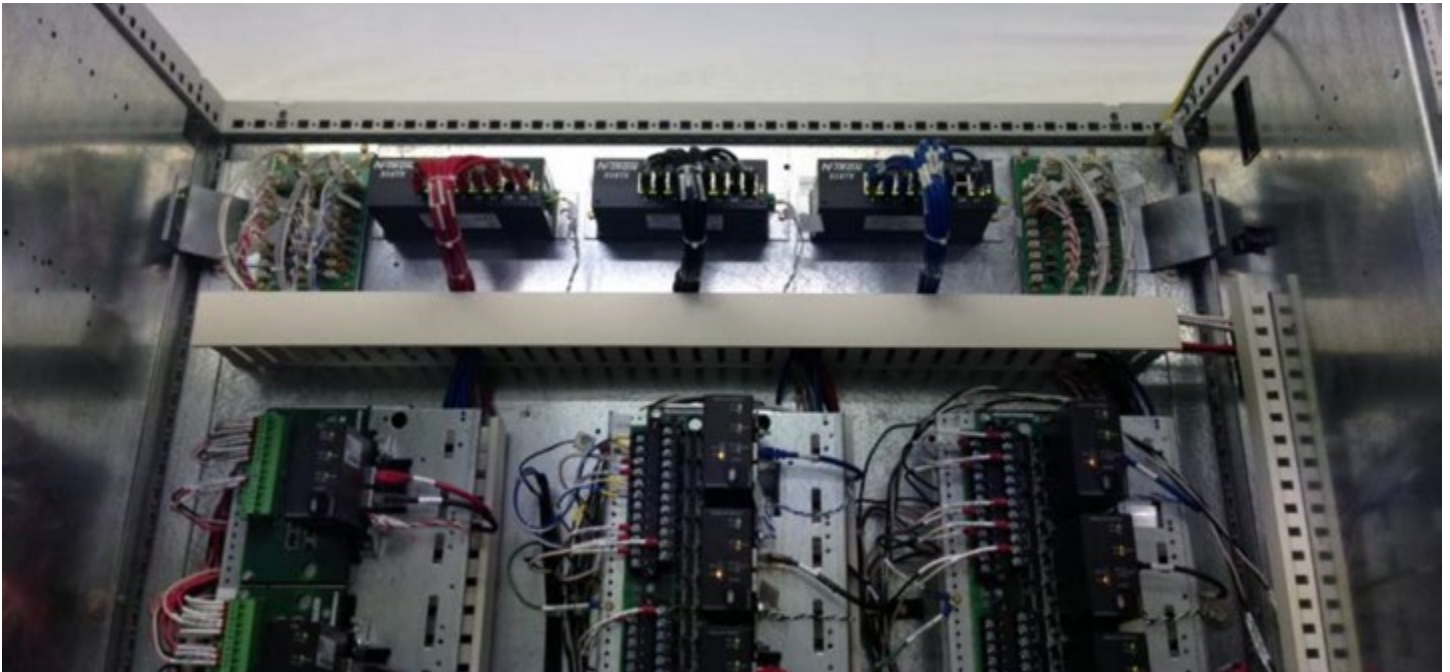
APPLICABILITY:

Gas turbine, steam turbine and balance of plant Mark™ V1e and Mark™ V2e control systems

AFFECTED PART NUMBERS:

36A4940DNP516TX and
336A4940DNP517FX

Industrial ethernet switches are configured specifically to meet demands of real time industrial control solutions. These switches provide a communication path between the main control processors and IO (input/output) packs. These network switches were first used on GE Vernova turbine control panels in 2004 and the majority of these switches continue to provide reliable service.



When network switches fail, the most common cause of failure is related to leakage of electrolyte from the power supply input capacitor. Extended exposure to higher than normal temperatures may also shorten the life of these components. In general, electrolytic capacitors are life limiting components on all electronic boards, however they can last greater than 30 years at routine operating conditions.

Symptoms of network switch failure are most likely to be a loss of all communication from a group of IO packs due to a switch reset, and subsequent loss of communication once the switch has returned to normal operation. These symptoms may repeat within a time of approximately 20 minutes to several hours. Switches using all or nearly all of the 16 available ports have been observed to be more susceptible to power supply issues. The capacitor failure mode is often accompanied by an audible hissing or crackling noise.



Recommendations

GE Vernova has engineered and developed an alternative IONET ethernet switch shown below, which is backward compatible with the existing N-TRON switches and may be mixed with the N-TRON switches in an existing Mark VIe or Mark Ve control system. In most cases, once new switches are received, they are easily mountable in an existing panel. However, in some applications an additional fiber connector kit may be required. GEI-100810 should be referenced for specific guidance with mounting these new switches.



Finally, it is not recommended to proactively replace properly functioning N-TRON switches. Information currently available indicates that most switches will perform reliably.



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