

ENGINEERING PRACTICE STUDY

TITLE: MIL-PRF-83536/18, /19, /24; changing polarity of
Horizontal Flange Mount (HFM) FROM monostable TO bi-stable

19 September 2024

STUDY PROJECT (SEE ATTACHMENT 1)

FINAL REPORT

Study Conducted By DLA Land and Maritime

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ATTACH 1

I. OBJECTIVES: Determine the DoD position and provide comments on the acceptability of changing polarity of Horizontal Flange Mount (HFM) requirements FROM monostable TO bi-stable.

II. BACKGROUND: MIL-PRF-83536/18, MIL-PRF-83536/19, and MIL-PRF-83536/24 require relays to be polarized as monostable. To illustrate, all documents state "FIGURE 1. Dimensions and configurations - Continued. Notes: 5. These relays are polarized monostable."

However, per a QPL manufacturer of MS83536/18 and MS83536/19, the relays have always been polarized as bi-stable. Further supported by technical justification of industry definition of all magnetically latching relays as bi-stable. Manufacturer states, "Polarized Bistable relays shall have two stable positions or states (energized/ de-energized or magnetic latch/reset) – when energized the device can switch to either position by maintains its position or stat even when the coil power removed. These devices have 2 coils"

III. RESULTS: No feedback was received if changing the polarity to bistable would impact the product's form, fit, or function. No feedback was received if there was a performance advantage to maintaining the existing monostable polarity. QPL Manufacturers confirmed product is built to Horizontal Flange Mount (HFM) bi-stable polarity.

IV. CONCLUSIONS: The documents were reviewed, and a DoD position determined changing polarity of Horizontal Flange Mount (HFM) FROM monostable TO bi-stable would provide an accurate depiction of the current build.

V. RECOMMENDATIONS: Update MIL-PRF-83536/18, MIL-PRF-83536/19, and MIL-PRF-83536/24 to identify Horizontal Flange Mount (HFM) relays polarized as bistable.