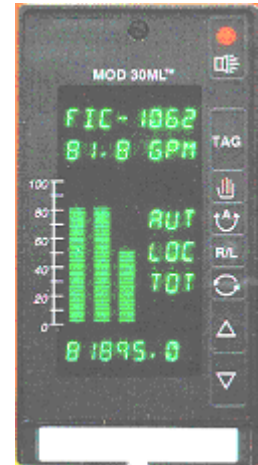


## **Analog Output Readback Error Diagnostic**

### **MOD 30ML and Modcell have Analog Output Module Error**



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#### **Problem Description:**

Instrument display or status display in ViZapp or Application Builder Software show “Module Error” for AOM and extended error report shows a Readback Error

#### **Applies to:**

MOD 30ML configured from front face or Application Builder software or Visual Application Designer ViZapp Software. It also applies to the Modcell Multiloop Processor.

#### **Explanation:**

This diagnostic can be triggered by a number of different problems, some of which are external to the module. To determine if the error is due to a module failure, the extended error information must be read. The extended error report can be read from the Status Page with the command R AOMn,EXTERR, replacing "n" with the occurrence number of the module. Extended error information must be read after receiving the module error, and before it has been acknowledged. Reading this information under any other conditions will return a meaningless report.

#### **Solution:**

If the extended error report shows a Readback Error, the output circuit should be tested for noise feedback from the field device. If the signal is clean, it may be a random occurrence, which can be ignored.

We have conducted testing on modules manufactured over the last few years, and have found that a percentage show occasional readback errors. The frequency of the error was random, but it always cleared on the next scan (150mSec).

## Technical Notice

On examining the problem in detail it was determined that this is an invalid diagnostic and does not affect the output signal to the field. After reviewing the design schematics with one of the development engineers, it was determined that there may have been a change in a vendors' component tolerance used inside the modules, causing the readback diagnostic error. It is believed to be a timing issue.

It is not uncommon for a vendor to change a component's speed, timing or tolerance without notifying their customers. This has been encountered before on other products.

Because this does not cause any change in the field output and clears on the next scan cycle, the recommended course of action is to disable the diagnostic. This diagnostic has been observed and monitored on processes including industrial boiler controls and there has been no effect on the process.

To disable this particular diagnostic, set **AOMn.AOMERRS** to **1** (n = analog output module occurrence number). In ViZapp, this error can be suppressed by checking the **Module error** box on the Diagnostics tab of the AOM block. If, for a particular application, you wish to ensure there is not really a readback problem on the output, the readback signal can be compared to the calculated output, with a small time delay. The result of this comparison can be forwarded to a PA or PAD block.