

# 1250 LOAD TAP CHANGER MONITOR “FA 25” ERROR CODE TROUBLESHOOTING

## ISSUE

The instrument shows “FA 25” on the display and the analog output is not following the movement of the synchro transmitter.

## EXPLANATION

1250's equipped with firmware rev. 2.02 and higher have a “Loss of Synchro Signal” failure mode.

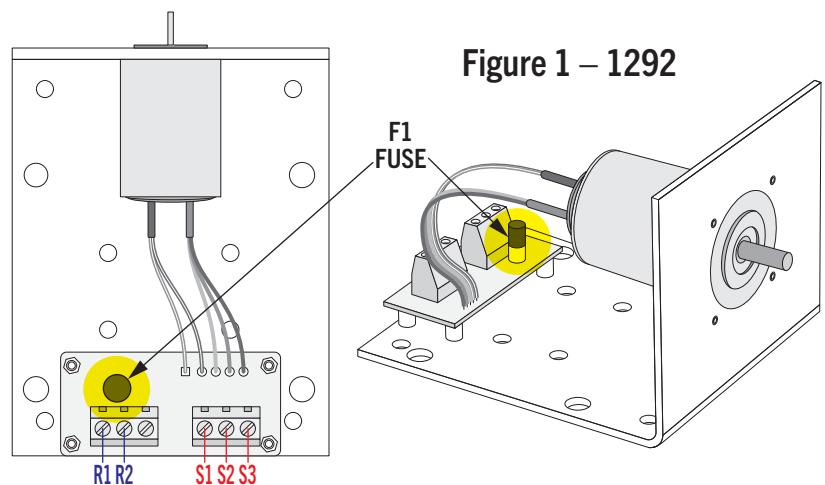
- Model 1250B has the option (OP 53) to either enable or disable resetting the “FA 25” alarm automatically.
  - » Enabling the option, the 1250B automatically resets upon resumption of the synchro signal.
  - » Disabling the option, the 1250B requires a manual keystroke to resume reading the synchro input signal.

**NOTE:** The manual reset mode is the DEFAULT. Whenever there is “FA 25” on the display, the 1250B will lock all outputs (analog, serial, and relay) to correspond to the last known good synchro position.

- Model 1250-LTC does not have an option for reset. This model always automatically resets.

## TROUBLESHOOTING

1. If the 1250 has not been programmed to automatically reset upon resumption of the synchro signal, press the MENU button to reset the failure mode. If there is a good synchro signal on the input of the 1250, the display should return to a normal position reading, although this reading may be inaccurate due to possible position movement during the loss of the synchro signal.
2. If the display does not return to a normal position reading (“FA 25” returns to the display after a few seconds) there is a failure with the synchro transmitter or the wiring from the synchro to the 1250.
3. Verify that there is power to the synchro transmitter.\* If the transmitter is model 1292S or 1292KS, verify that the fuse F1 is not blown, by removing power across R1 and R2, and then confirming there is continuity across F1. F1 is located on the circuit board near the power terminals (see Figure 1).



**NOTE:** \*Power should be approximately 115 VAC at synchro screw terminals R1 & R2 on the 1292KS and from the same source as the 1250.

4. If there is power to the synchro transmitter, verify that there is an output signal from the synchro transmitter. Measure the AC voltage present between the S1-S2, S2-S3, and S3-S1 terminals on the synchro transmitter (see Figure 1). This voltage should be between 10 VAC and 90 VAC on at least two pairs of terminals. If the voltage is less than 5 VAC between all pairs of terminals, the synchro transmitter is defective, and must be replaced.
5. Turn power off at the circuit breaker and disconnect all wiring from the synchro.
6. Measure the resistance of the synchro with an ohmmeter. Figure 2 lists normal values.
7. If proper output voltage is measured at the synchro transmitter, with no wires removed, measure the voltages at the input terminals A, B, & C on the 1250 (see Figure 3). The voltages should measure the same at the 1250 as measured at the synchro transmitter.
8. If the voltage measured at the 1250 is significantly less than that measured at the synchro transmitter, perform the following steps:
  - a. Turn off power to the 1250 and the synchro.
  - b. Disconnect all wiring between the 1250 and the synchro.
  - c. Using a megohmmeter, measure for short circuits between S1-S2 and S2-S3 wires and from each one to the ground.
  - d. Connect all three wires together at one end and measure continuity between S1-S2 and S2-S3 at the other end with an ohmmeter.

**Figure 2 – 1292**

- R1-R2 = 800 ohms
  - S1-S3 = 500 ohms
  - S2-S3 = 500 ohms
- Values shown are +/- 100 ohms.

