

NEWALL

Digital Readout Systems • Linear Encoders

Troubleshooting Guide for Newall Digital Readout Systems For Display Models: Sapphire, DP7, DPG, Topaz, DP8, DPG2000, E70

This Troubleshooting Guide is intended for use in conjunction with the applicable user manuals. Please follow the troubleshooting steps below and call our Tech Support Department at +44 (0) 116 264 2730 with the results.

Nothing happens when the power switch is turned on (Axis windows are blank)

1. Ensure that the input voltage switch is set to the proper setting (115 / 230). This does not apply to DP7.
2. Check the fuse.
3. Test the input voltage to the display unit with a voltmeter.
4. Turn display off using the power switch.
5. Disconnect all reader head cables. A defective reader head could prevent the display from powering up.
6. Turn display on.

Inaccuracy in one axis

1. Get into "Setup mode" and check the following settings:
 - a) **Linear Compensation** - Set to 0 on all axes.
 - b) **Scale Type / Input Type** - Set to read the correct scale type (Spherosyn, Microsyn 5, Microsyn 10).
 - c) **Radius / Diameter** - Diameter will display a 2:1 ratio. Radius will display a 1:1 ratio.
2. Put a dial indicator on the edge of the *reader head*. Move the axis. Compare the dial indicator reading to the display reading. If there is a discrepancy that exceeds our accuracy specifications, proceed to the next step.
3. Take the reader head cable from the malfunctioning axis and plug it into the other axis of the display (You may need to get into setup mode and ensure that this axis is set up to read the correct type of scale).
4. If the malfunction was corrected when the cable was moved to the other axis, the source of the fault is the display. The display will need repaired.
5. If the malfunction followed the cable to the other axis, the source of the fault is the reader head and scale assembly. If this is the case, proceed to the next step.
6. Check for any physical damage to the reader head and cable.
7. Check the reader head for proper alignment. It must be aligned within .002" on each side. Refer to the installation manual for instructions on reader head alignment.
8. Check the scale to make sure there is no binding on the scale. If the scale brackets are slightly loosened, you should be able to slide the scale back and forth through the brackets with minimal resistance.
9. If you have a Spherosyn scale, ensure that the scale is not bent. Remove the scale and roll it on a flat surface. If the scale is bent at all, it will cause inaccuracies. Replace scale if bent.
10. If there is no binding on the scale, the reader head is aligned, and the scale is not bent, the malfunction must be coming from the reader head. Replace the reader head.

Display shows "Signal Fail" or "No Signal" in one axis

1. Turn off display.
2. Take the reader head cable from the malfunctioning axis and plug it into the other axis of the display.
3. Turn display on.
4. If the scale works properly when connected to the other axis of the display, the source of the fault is the display. The display will need repaired. Note: You may need to get into setup mode and adjust the scale type, radius / diameter, and linear compensation (set to 0) parameters to get accurate readings. The main goal in this step is to identify the source of the signal fail / no signal error.
5. If the malfunction followed the scale cable to the other axis of the display, the source of the fault is the reader head. Replace the reader head.

Note: Signal Fail or No Signal errors can NOT be caused by incorrect parameter settings.