

UVDAS troubleshooting

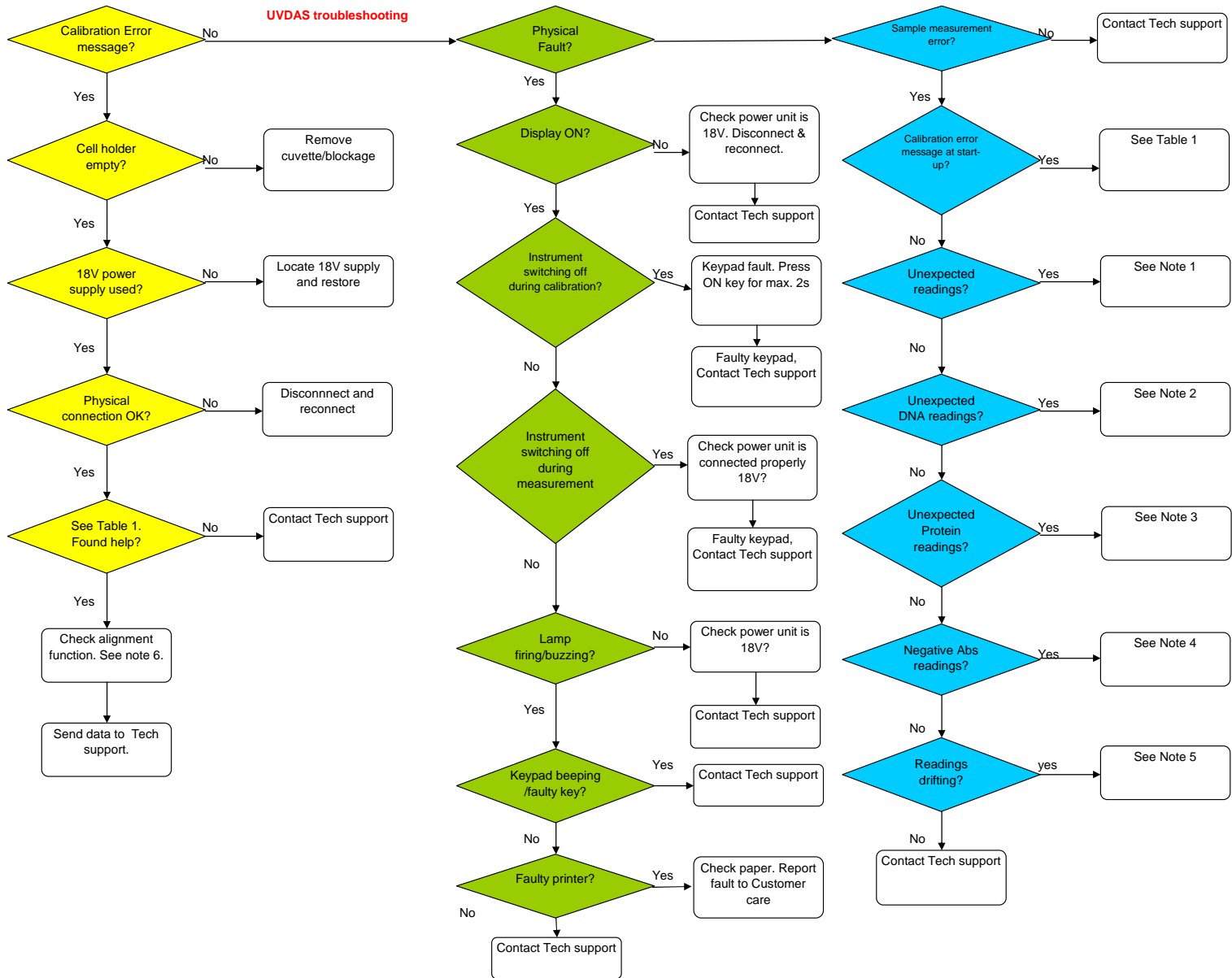


Table 1

| Calibration error messages | Action |
|---|---|
| Cell Holder obstructed (no light) | Remove any samples. Check cell holder flush with base. Remove & reinsert power connector.Restart. |
| Cell Holder obstructed (low light) | Remove any samples. Check cell holder flush with base. Remove & reinsert power connector.Restart. |
| Cell Holder obstructed (Signal fail) | Is lamp coming ON? Remove samples.Check cell holder flush with base.Check power. See note 6. |
| Calibration problem (UV) on Reference channel | Is the lab temp too low/high?High humidity? Check sample compartment is clear. |
| Calibration problem (IR) on Reference channel | Check connection. Clear sample compartment. See Note 6. |
| Calibration problem: possible lamp failure (no light) | Does lamp buzz at start-up. Check 18V connection. |
| Calibration problem | Check correct power supply 18V is attached.Is lamp firing/buzzing at start-up.? See note 6. |
| Low light on Reference channel | Check connection. Clear sample compartment. See Note 6. |
| No light on Reference channel | Check connection. Clear sample compartment. See Note 6. |
| Cell holder obstructed (UV) | Check connection. Clear sample compartment. See Note 6. |
| Cell holder obstructed (IR) | Check connection. Clear sample compartment. See Note 6. |

Note 1: Unexpected readings

Is your cuvette suitable for this instrument and wavelength range? If yes, see note 7.

If the sample is cloudy, see note 3. If it is DNA/RNA see note 2.

Note 3: Unexpected readings with Protein samples

Absorbance reading is a result of scatter and not molecular absorbance. Scatter will vary from one instrument design to another. Need to generate calibration curve for your samples for this instrument.

Check absorbance is not lower than 0.01A. Use large volume cell.

Note 5: Readings drifting

Is drift more than 0.005A, leaving minimum of 10 seconds between readings?

Are there any calibration error messages?

Is sample absorbance >0.01A?

Note 6: Checking the Alignment Function

From the top menu, press Ref, Ref, Test. Select option 1. Check graphs are similar to image shown.

Signal = 40k, Reference = 15k. The Sig and Ref values <= +/-20. Difference between Sig & Ref <= +/-10

Note 2: Problems with DNA readings

Is absorbance at 260nm >0.1A? Modify sample concentration so that Abs at 260nm is >0.1A and <1A.

Check cell is correct for sample concentration. See Table 2.

Is background correction at 320nm switched on? No. Switch on for cuvettes with black walls.

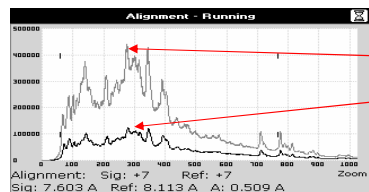
Does scan of DNA show 260nm peak? See note 7.

Note 4: Negative absorbance readings

Are there any calibration error messages? See Table 1.

Is your cuvette suitable for this instrument and wavelength range? See table 3.

Is the absorbance reading between 0.1 and 1A? No? Modify sample concentration.



Max signal channel

Max reference channel

Note 7 : Fault finding data

Send data to customer care for feedback.

| Action | Expected value |
|---|-------------------------------------|
| Take 5 readings of air (no cuvette) with air (no cuvette) reference at 546nm. 10s between readings. | +/-0.005A |
| Take 5 readings of DI water in your cuvette at 546nm (air, no cuvette reference), 5 times. 10s between readings. | <0.1A +/-0.005A |
| Take 5 readings of your dilutant in your cuvette at 546nm (air, no cuvette reference), 5 times. 10s between readings. | <1A Accuracy1%, repeatability |
| Take 5 readings of your sample in your cuvette at 546nm (air, no cuvette reference), 5 times. 10s between readings. | 0.007A |
| Take 5 readings of your sample in your cuvette at 546nm (air, no cuvette reference), 5 times. 10s between readings. | +/-0.010A |

Table 2: DNA concentration vs cell volume

| Sample concentration range after dilution (ng/μl) * | Cell sample volume (μl) | Part # |
|---|-------------------------|------------|
| 5 - 125 | > 2000 | 80-2002-58 |
| | > 500 | 80-2002-77 |
| | > 70 μl | 80-2103-69 |
| 10 - 250 | > 7 μl | 80-3000-81 |
| | | 80-2103-68 |
| 100 - 2500 ** | > 3 μl | |

* assuming dsDNA with Abs 260 = 1.0 for 50 μl/ml (= ng/μl) in a 10mm pathlength cell
 between 50 and 200 ng/μl

quartz
disposable