

Calibration of the INT focus LVDT transducer:

This procedure is derived from the technical manual of the RDP E725 Microprocessor based Transducer Indicator/Controller, DC Input Version, Doc. Ref CD1421N.

This manual describes procedures for different transducers in different modes of operation, which to my opinion are quiet confusing, as the manual is not written very clear.

I've extracted the procedure for the DCTH2000A from example K and L.

Care should be taken if programming is attempted as errors may cause loss of calibration data.

The LVDT transducer is most accurate around the middle of its travel.

So we first move the focus position to the middle of its travel with the push buttons in the control room, until it reads 30.000 mm on the Sony (incremental) encoder. If the Sony encoder has lost its position, then zeroset it first to a known position, using the ruler at prime focus.

Before entering calibration mode the password has to be entered on the RDP E725 display unit.

This is done by pressing the SETUP key for at least a second.

-The display will show [ul1].

-Press the up button and it will show [ul2], which is the user and setup menu.

-Then press the LIMITS key to select.

-The display will show a number entry prompt [00000] with the last digit flashing.

-Press the UP or DOWN-ARROW until the flashing number is 2, which is the default password.

-Then press the ENTER and RESET keys together, which enters the value and goes to the relevant menu.

-The display shows [dP], press the DOWN-ARROW to skip the decimal point position entry, which has been done at the initial setup and does not require repetition.

-The display shows [CAL.IP], press ENTER to select CALIBRATE INPUT.

-The display now shows [00000], press ENTER four times to select the most significant digit.

-Press UP-ARROW four times, and the display shows [40000], the maximum value.

-Press MODE & ZERO together, to clear a previous calibration.

-Undo the mounting of the LVDT and move it mechanically until the display shows [0], as close as possible. Then tighten up the 4 screws of the mounting.

-Move the focus mechanism, until it reads 10.000 mm on the Sony (incremental) encoder, which is the minimum focus reading. I.e: close to lower limit.

-Press ZERO on the RDP E725 unit, and the display will read [0].

-Move the focus mechanism, until it reads 50.000 mm on the Sony (incremental) encoder, which is the maximum focus reading.

-Press SETUP and the display will read [40.000].

-Press MODE & SETUP together.

-The display will show [E.OFF], press ENTER to select ENGINEERING OFFSET.

-Now the display shows [00000], and we enter the offset value, again with the UP & DOWN ARROWS and then press ENTER to goto the next digit. The value to be entered is [10.000]

-When the most significant digit is flashing and set, press ENTER one more time.

-Then the display show [t.Pt], which means TARE POINT. We don't use that, so pressing RESET will bring us back to normal operating mode after a 2 second delay.

-Move the focus back to 10.000 mm on the Sony (incremental) encoder, and press the ZERO button once more, now the display should read [10.000].

That finishes the calibration procedure.

Renee Pit, 8/05/2012

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