Steps to adjust RT-2

NOTE: It's recommended to read this guide fully through once before doing the actual adjustment.

Test example is made on a 35° system.

On the RT-2 there are two adjustment potentiometers *zero* and *span* located inside instrument as shown on figure 1. It's on these two potentiometers the adjustment will be done.

1. Adjust both *zero* and *span* potentiometers to minimum.

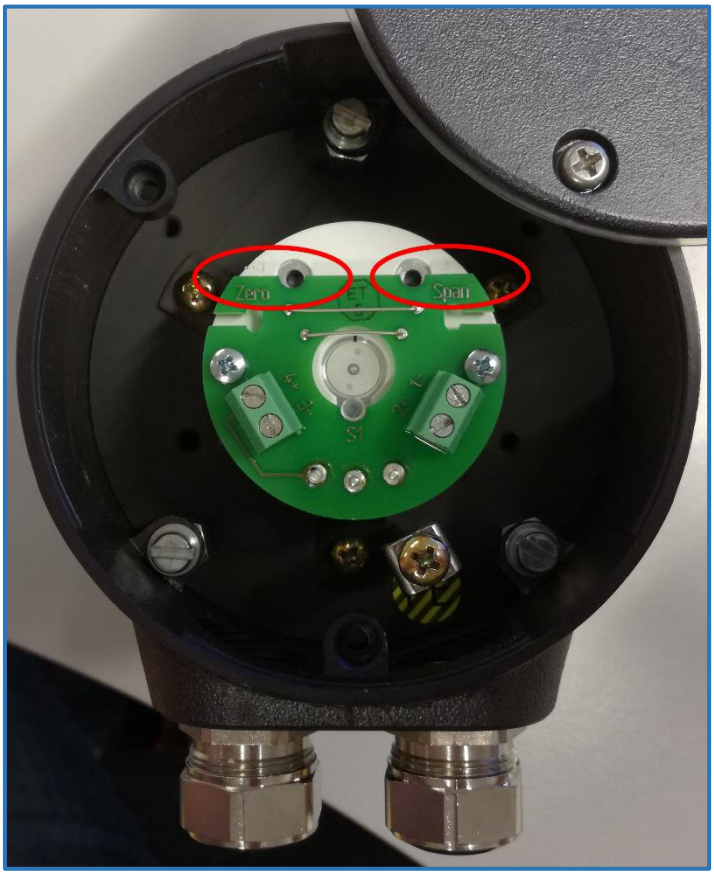

Figure 1 – Zero and Span potentiometers.

To make this adjustment an amp-meter is used mounted between the RT-2 and the TDG-210DG.

1. Place rudder in center positioning. This shall equal a 12 mA current measurement on the RT-2. If it doesn't turn the RT-2 shaft till 12 mA is measured and fasten bracket to RT-2.

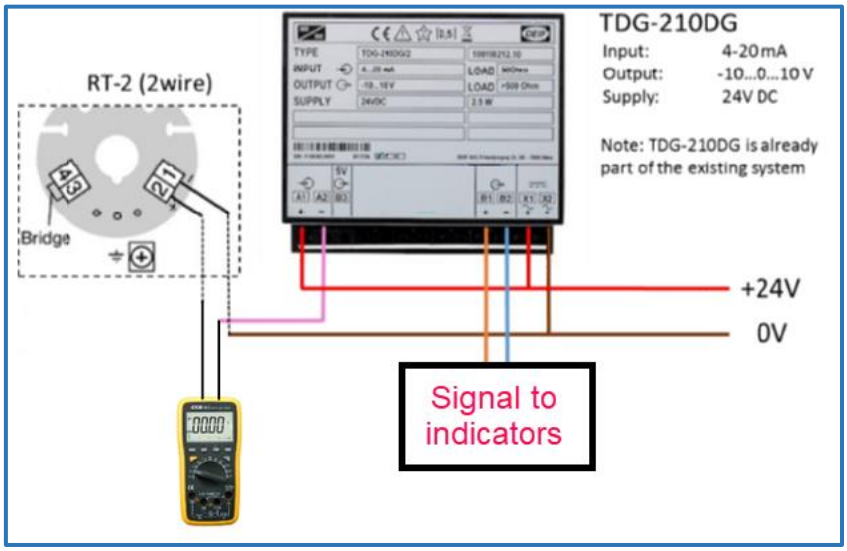

Figure 2 – Wire to TDG-210DG is dismounted on RT-2 and current is measured with amp-meter mounted in between.

From midship (12 mA) to full port or starboard side there is 8 mA difference (4 – 20 mA signal).

Calculate mA for a full portside rudder positioning on a 35° system using below equation.

$$Output\ from\ RT2\ = \frac{mA\ *\ actual\ rudder\ movement}{standard\ RT2\ rudder\ movement}$$

$$\frac{8*35}{45} = 6{,}22\ mA$$

Full port side rudder positioning (35 °) = 12 – 6,22 = **<u>5,78 mA</u>**

2. With the rudder full port side (35°), adjust on the *zero* potentiometer till current measurement on amp-meter is 5,78 mA as in figure 3.

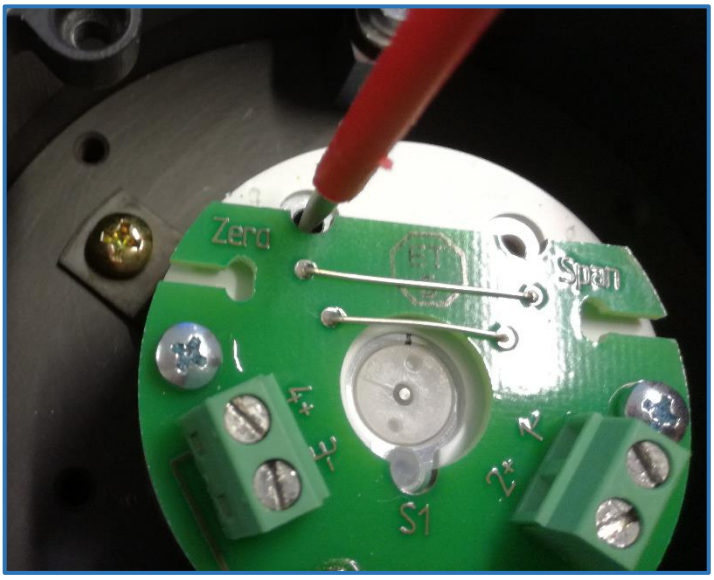

Figure 3 – Adjusting the Zero potentiometer to get a RT-2 output of 5,78 mA.

3. Make same adjustment on the *span* potentiometer with rudder at full starboard (see figure 4).

Full starboard side rudder positioning (35°) = 12 + 6,22 = **18,22 mA**

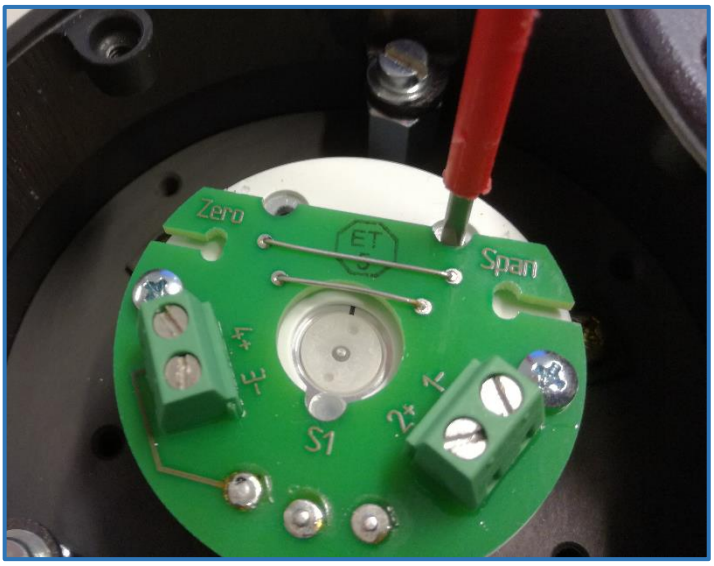

Figure 4 – Adjusting the Span potentiometer to get a RT-2 output of 18,22 mA.

After adjustments place rudder at midship. Again 12 mA should be displayed on amp-meter – if not adjust on the *zero* potentiometer. It can take a few times before all three outputs fits.

If amp-meter is not available voltage can be measured on output from TDG-210DG.

Rudder positioning	TDG-210DG
45° port side	- 10 VDC
Midship	0 V
45° starboard side	+ 10 VDc

On a 35° system equation above is still used. Voltage has just replaced current. See below table.

Rudder Positioning	TDG-210DG
Full port side	- 7,77 VDC
Midship	0 VDC
Full starboard side	+ 7,77 VDC