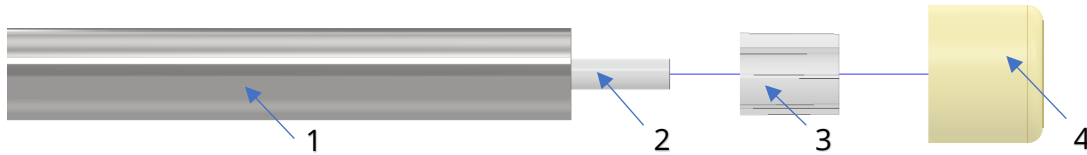


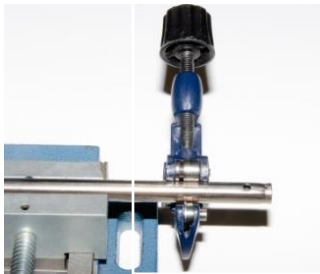
# TLL155,156,157 Cut-to-Length and Calibration Instructions.

Model Variant Table		
T/LL155 Resistive ( $\Omega$ )	T/LL156 Voltage (VDC)	T/LL157 Current (mA)

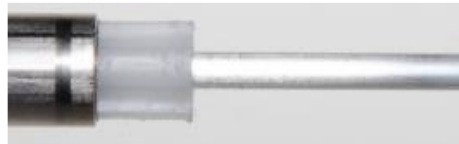


- For cut lengths between 200mm and 500mm, use the standard 500mm long sensor.
- For cut lengths between 500mm and 1000mm, use the standard 1000mm long sensor.

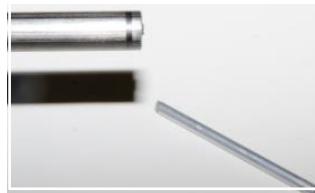
- 1.1. Measure the depth of your tank and mark the outer tube (1) at your desired length less 5mm to allow for the end cap (4). The sensor should not touch the base of the tank and not be shorter than 200mm. If mounting using the tapered thread, please note the gauge plane is 12mm from the top of the thread (datum point).
- 1.2. Place the outer tube securely in a bench mounted vice with soft jaws, making sure not to over tighten and damage the tube.
- 1.3. Using a **sharp** pipe cutter suitable for stainless steel, cut the tube (1) and remove to expose the inner rod (2).
- 1.4. After cutting the tube it may be slightly flared in and therefore needs to be deburred using a suitable tool.



- 1.5. Push the supplied spacing bush (3) with the chamfer on the bore first onto the rod (2) and inside the outer tube (1).



- 1.6. Ensuring the inner rod is secured within the vice and the sensor is supported, cut the exposed inner rod (2) flush against the end of the outer tube. Note: For best results use metal cutters or a fine-toothed hacksaw. Ensure the inner rod (2) does not rotate when cutting.



- 1.7. Check the rod for any burrs or sharp edges and remove if necessary, using a suitable small file. Also remove any left-over swarf.
- 1.8. Place the supplied end cap (4) onto the bottom of the Stainless-steel tube (1).
- 1.9. Press on the end cap (4) to ensure it is secured in position and will not come off.



# TLL155, 156, 157 Calibration Procedure.

## Recalibrating the sensor.

### Set-up:

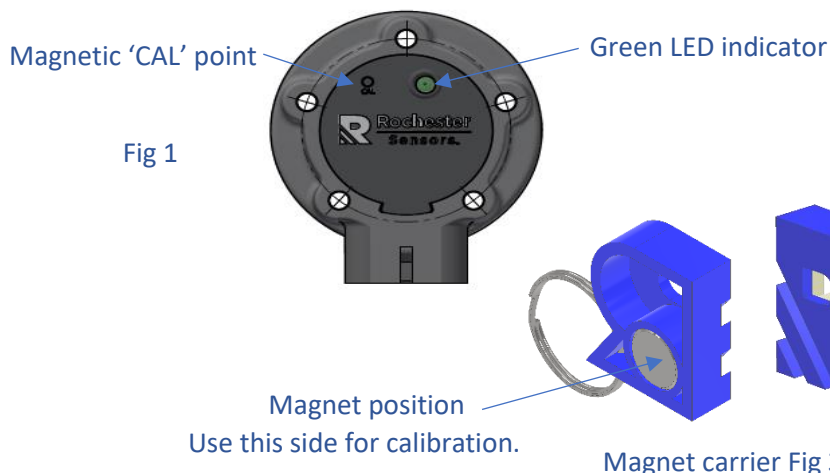
- Remove sensor from any packaging and ensure the sensor probe is dry and clean.
- Locate the calibration magnet supplied with the cut to length kit. See Fig 3.
- The sensor is delivered with the resistive, voltage or current output requested by the customer.
- The sensor needs to be connected in-line with Fig 2 below using the correct input voltage 12V or 24V. The sensor output (pin 4) does not need to be connected to calibrate empty and full, just for the verification process.

### Calibration procedure:

1. Power up the sensor in air to calibrate the empty point, the calibration LED will illuminate continuously after 8 seconds.
  2. While the LED is on, hold the calibration magnet flat and central to the "CAL" point on the sensor lid (see Fig 1) until the LED flashes quickly and turns off. The empty point is now calibrated.
  3. Next, power off and immerse the sensor to the required full point in the fluid.
  4. Power on the sensor and the calibration LED will double-blink continuously, whilst double blinking position the calibration magnet flat and central to the "CAL" point on the sensor lid and the LED will turn off. The full point is now calibrated.
  5. If the calibration LED turns off before applying the magnet, power down the sensor and repeat steps 3 & 4.
- You can verify the empty and full calibration by powering up the sensor and connecting the signal output (pin 4) to the relevant controller or gauge. Move the sensor up and down in the fluid between the calibrated empty and full points, the gauge reading will increase or decrease depending on the fluid height. Check that the sensor outputs at full and empty are correct.

### Led Status.

- Steady light after 8 seconds = Empty calibration mode initiated.
- Rapid 5-second flashing on magnet detection = Empty calibration in progress
- Double blink with no magnet present = Full calibration mode initiated
- Ceases to blink upon magnet detection = Full calibration successful.
- Ceases to blink with no magnet detection = Calibration procedure has timed out.



CONNECTOR PIN OUT	
PIN	TYPE
4	OUTPUT SIGNAL
3	LOW LEVEL ALARM
2	GROUND V-
1	POWER V+

Wiring connections Fig 2