



A Division of Transnet SOC Limited

## **RAIL NETWORK TECHNICAL ELECTRICAL**

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# **Specification for Supply and Delivery of a Portable Height and Stagger Gauge**

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Transnet and Relevant Third Parties

## 1 SCOPE

- 1.1 This specification stipulates Transnet Freight Rail's requirements for the supply and delivery of portable height and stagger gauge to be used overhead track equipment on a 1065m[WU1] track gauge.

## 2 CONTEXT

Transnet freight rail has electrification (OHTE) in excess of 25000km and we increase the volume to be hauled every year, this increases the rate at which the electrical infrastructure must be inspected and maintained. This create a need for the maintenance team to come up with smart ways to do inspection especially around the stagger of the overhead track equipment(OHTE) as it has potential to cause hook-ups if not with[WU2] set standards resulting in network unavailability, trains delays, cancellations and loss of revenue.

## 3 ENVIRONMENTAL CONDITIONS

Equipment to be supplied against this specification shall be suitable for satisfactory operation under the following conditions:

### 3.1 Atmospheric Conditions

- 3.1.1 Altitude: 0 to 1800m above sea level.
- 3.1.2 Ambient temperature: -10 °C to +40°C[WU3]
- 3.1.3 Relative humidity: As high as 90 percent.
- 3.1.4 Ambient Storage Temperature: -10°C to 50°C

## 4 DEVICE MUST MEASURE THE FOLLOWING

### 4.1 Measurement Functionality & Features

The following functionalities are required:

- 4.1.1 Contact wire height above the track
- 4.1.2 Contact wire stagger
- 4.1.3 Device must measure and store geographical parameters of overhead track equipment (OHTE)
- 4.1.4 Device must be able to communicate freely via WIFI[WU4] to a tablet or smart phone, storing geographic measures, videos, images and voice comments with the help of GPS.
- 4.1.5 Measure the distance from track centre to mast pole.
- 4.1.6 All the parameters must be measured by means of a laser[WU5].
- 4.1.7 The measurement must be easily downloadable into a personal computer/laptop[WU6].

### 4.2 Power supply

- 4.2.1 The device must be supplied with power supply preferably DC that can last at least 8 hours.[WU7]
- 4.2.2 If supplied with a battery, the battery charger must be included as well[WU8].

**5 GENERAL REQUIREMENTS:****5.1 Accessories**

- 5.1.1. The device must be lightweight and easy to carry.
- 5.1.2. The device must be supplied with a robust carrying bag.
- 5.1.3. The device should be supplied with all the relevant accessories such as power Cables and batteries

**5.2. Software**

- 5.2.1. Free application must be made available to be installed on smart phones of depot personnel when required.

**5.3. Calibration**

- 5.3.1. The device calibration must be done every 24 months.
- 5.3.2. The calibration must be able to be done within the borders of South Africa.

**6. QUALITY ASSURANCE PROVISIONS****6.1.1. Training of personal:**

- 6.1.1.1. The contractor shall arrange a training session free of cost at Transnet Freight Rail offices. The training should accommodate a minimum of 10 persons. The training shall include operation and comprehensive functionalities of the instrument.

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