



## Technical Data Sheet

### Physical Specification

"In use" Dimensions	- 1780 x 260 x 270mm
Storage/Transport Bag Dimensions	- 850 x 345 x 300mm
Weight (Nett)	- 12kg
Weight (Gross)	- 17kg

### Measurement Specification

Gauge	- Range: -25 to +50mm Accuracy: $\pm 0.5\text{mm}$ Resolution: 0.1mm
Cant	- Range: $\pm 200\text{mm}$ Accuracy: $\pm 1\text{mm}$ Resolution: 0.1mm
Free Wheel Clearance	- Range: 40 to 65mm Accuracy: $\pm 0.5\text{mm}$ Resolution: 0.1mm
TGP8	- Pass/Fail with Actual Contact Angle Profile Accuracy: $\pm 0.1\text{mm}$
NR4 CEN60 or 95lb/113A	- Range: 0 to 18 Step Profile Accuracy: $\pm 0.1\text{mm}$
Gauge 1	- Pass/Fail with distance measurement Profile Accuracy: $\pm 0.1\text{mm}$
Gauge 2	- Pass/Fail with distance measurement Profile Accuracy: $\pm 0.1\text{mm}$
Switch Rail Radius	- Identification of sharp edges
GPS	- Expected Accuracy: 2.5m CEP

### Operating Specification

Battery Life	- 8 hrs (Li-on Rechargeable)
Operating Temperature Range	- -5 to 50°C
Laser Class	- Class 2, 670nm / 1mW MAX
Environmental	- All normal outdoor working conditions
Software Type	- iOS/Android App
Data Management	- Mobile device storage Exportable .xls files

### Certification/Approval

CE Directive 2014/30/EU	- Standard EN50121-4
CE Directive 2014/53/EU	- Standard EN300 328
CE Directive 2013/35/EU	- Standard EN62479
Network Rail Certificate No.	- PA05/07905
Network Rail Catalogue No.	- 057/059134



### Contents

- Laser Switch Gauge
- Storage/Transport Bag
- Battery
- Battery Charger
- Verification Jig

### Other Features

- Modular design for ease of storage/transport
- Scan speed <10s
- Calibration verification- every 24hrs via supplied jig in under 30 secs
- Graphical & numerical data output for easy user analysis (see over)
- Integrated TEF3029A form for complete SO53 inspection functionality (see over)

The downloadable, free to use app based user interface includes full SO53 inspection functionality and TEF3029A population

13:43 Tue, 25 Mar 54%

Connected

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S053 Inspection

Single Scan

Files

Verification check

Time Remaining Until Next Verification Check: 23:59

Settings Connect

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Connected

Enter file name  
Abtus Test Rail [Browse](#)

The following inspection reports will be generated at the end of this inspection:  
Abtus Test Rail Left Hand.xls  
Abtus Test Rail Right Hand.xls

Operator: RP

Site Name: Abtus

TEF Form: TEF3029A Switch Inspection Form

Inspection type: ☒ Initial ☐ Follow-Up

Point number: \_\_\_\_\_

ELR: \_\_\_\_\_

TID: \_\_\_\_\_

Mileage at toes: \_\_\_\_\_ m \_\_\_\_\_ yds

High Risk Switch: ☐ Yes ☒ No

Switch size: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H

Switch Type: Bull Head

LH planing: \_\_\_\_\_ LH rail grade: \_\_\_\_\_

Save & Continue Cancel

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Abtus Test Rail | Abtus | TEF3029A

Half Set ☒ Left Hand ☐ Right Hand

Open/Closed ☐ Open ☒ Closed

Left Summary Right Summary

Measure Half Set End Inspection (Save & Exit)

Visual Inspection

Lubrication

Is lubrication present on the switch rail? (Prior to cleaning the switches) ☒ Y ☐ N

3.6 If a fixed lubricator is installed is it functioning correctly? ☒ Y ☐ N

Switches cleaned to enable inspection? ☒ Y ☐ N

Required front stretcher bar kicking strap clearance present (See note) ☒ Y ☐ N

4.5 Any signs of flange climb throughout the switch planed length? ☒ Y ☐ N

Switch rail height relative to stock rail sidewear scar 200mm back from the switch toes. (Hazard 1) ☒ Y ☐ N

Is the switch rail level with or projecting above the stock rail sidewear scar? ☒ Y ☐ N

4.7 Has the switch rail top been forced onto the sidewear on the stock rail? ☒ Y ☐ N

Flange Contact Angle Inspection (using TGP8 and NR approved feeler gauge, allowing for any seating gap) (Hazard 2)

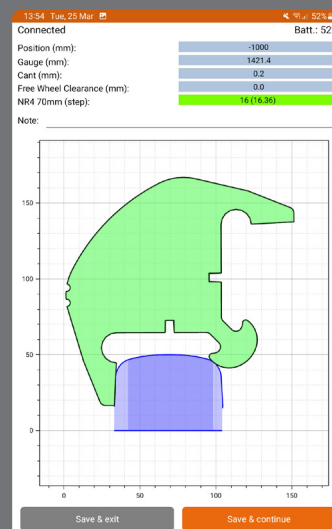
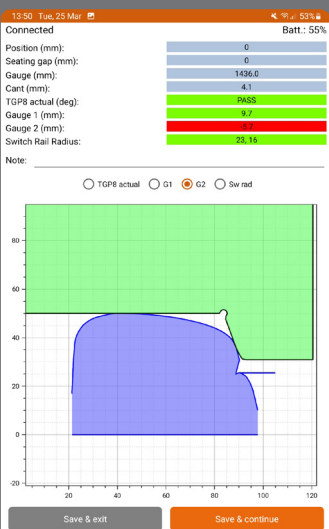
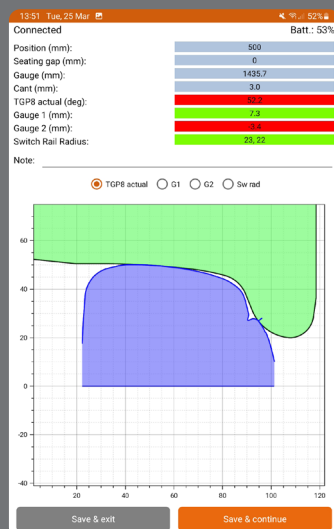
Check point of contact throughout dimension D at 100mm increments.

Is there any contact at or below the (55°) red marker for ≥50mm? ☒ Y ☐ N

4.8 Is there any contact at or below the (60°) white marker for ☒ Y ☐ N

Back

Instant inspection results provide numerical and graphical data live on track meaning no need for post processing



Measurement summary and individual scan results can be viewed within the app or on a PC. Files are instantly available on the users device, no licensing or cloud access required.

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Left Rail Summary

Open switch measurements

Meas./Location	1000	1900	1900	1700	1400
Track gauge (mm)	1421.4	1421.4	1421.4	1421.4	1421.4
Cant (mm)	0.2	0.2	0.2	0.1	0.2
Free wheel clearance (mm)	0	0	0	0	0
Seating gap (mm)					
TGP8 actual (deg)					
NR4 (step)	16 (16.36)	16 (16.36)	16 (16.34)	16 (16.36)	16 (16.36)
Gauge 1 (mm)					
Gauge 2 (mm)					
Switch rail radius					

Closed switch measurements

Meas./Location	0	40	100	200	300	400	500
Track gauge (mm)	1436	1436	1437.7	1438.2	1437.8	1436.8	1435
Cant (mm)	4.1	4	4.1	3.8	3.4	3	3
Free wheel clearance (mm)							
Seating gap (mm)	0	0	0	0	0	0	0
TGP8 actual (deg)	PASS	PASS	PASS	PASS	PASS	PASS	52.2
NR4 (step)							
Gauge 1 (mm)	9.7	9.6	7.4	6.7	7.3	7.5	7.3
Gauge 2 (mm)	22	15.2	14.4	14.8	14.3	13.6	13.4
Switch rail radius	23	1623	1536	26	19	1629	21

Notes: Where measurement results are not required in the open or closed position, cells will remain empty

Close

