

Applicant : **Redtronic Ltd., Elland HX5 9BX, United Kingdom**  
Type / Part No. : **Tornado LED Siren Beacon/ TR12XB0BIN4M**

---

## Test Report

Durability confirmation of a magnetic beacon for high-speed and emergency braking tests.



Automotive part : Beacon

Type : Tornado LED siren beacon (magnetic)

Brand name : TornadoX

Manufacturer : REDTRONIC

Applicant : Redtronic Limited  
Unit 1-9 Wellington Business Park  
Quebec Street  
Elland  
West Yorkshire  
HX5 9BX  
United Kingdom

Year of manufacture : n.a.

Test Report:

**201740954 – TornadoX**



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom  
Type / Part No. : Tornado LED Siren Beacon/ TR12XB0BIN4M

## I Scope

Testing the durability of a Tornado LED siren beacon (magnetic) brand name "TornadoX". In cooperation with the applicant the durability was tested by a highspeed and emergency braking test.

### Preliminary remark

The test included the data acquisition for masses and dimensions, the dynamic high-speed und braking tests.

The test comprised no checkup for the electronic components.

Applicant : Redtronic Limited  
Unit 1-9 Wellington Business Park  
Quebec Street  
Elland  
West Yorkshire  
HX5 9BX  
United Kingdom

## II Technical Details of the appraised beacon

Technical documents (mounting informations) : n.a.  
Automotive part : Beacon  
Type : TornadoX  
Serial-No. : n.a.  
Weight : 2.235 g  
Dimensions  
Length : 180 mm  
Width : 154 mm  
Height : 175 mm  
Distance between magnetic foets (centre) : 90 mm  
Number of magnetic foets : 2 with 12 small magnets each  
Diameter magnetic foets : 88 mm

Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom  
Type / Part No. : Tornado LED Siren Beacon/ TR12XB0BIN4M

Height magnetic foot : 7 mm  
Manufacturer magnets : No information  
Remark : The magnetic foot is directly mounted on the plastic body with 1 central screws each.

### III Test protocol

#### 1 Test conditions

- 1.1 Test vehicle
- 1.1.1 Name of manufacturer : Volkswagen
- 1.1.2 Type / Engine code : AU / CHHB
- 1.1.3 Trade name : Golf GTI
- 1.1.4 Vehicle class : M1
- 1.2 Measuring and testing equipment : Measuring and evaluation system  
Speed sensor  
Deceleration sensor  
Scale  
Measuring tape
- 1.3 Further requirements
- 1.3.1 Weather conditions : Cloudy
- 1.3.2 Air temperature (°C) : 14
- 1.3.3 Wind velocity (m/s) : < 3,0
- 1.3.4 Date of test : 12.04.2017
- 1.3.5 Test area : DEKRA Test Oval, 01998 Klettwitz, Germany

#### 2 Mounting and preparation

The Redtronic beacon type "TornadoX" was mounted at a dry and clean roof of the test vehicle. Easy installation with magnetic foot. Afterwards was checked if the complete magnetic surface is in contact with the roof.

Test Report:

## 201740954 – TornadoX



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom  
Type / Part No. : Tornado LED Siren Beacon/ TR12XB0BIN4M

### 3 High-speed test

Test run	Tested speed [km/h]	Position Beacon
1	236,0	OK
2	235,6	OK
3	233,9	OK
4	236,2	OK

### 4 Braking test

The Braking test was made from different test speeds with an emergency brake!

Test run	Test speed [km/h]	Measured brake performance [m/s <sup>2</sup> ]	Brake pedal force applied to control[N]	Position Beacon
1	100	> 10	< 500	OK
2	150			OK
3	230			OK

### 5 Remarks

None

Applicant : **Redtronic Ltd., Elland HX5 9BX, United Kingdom**  
Type / Part No. : **Tornado LED Siren Beacon/ TR12XB0BIN4M**

**IV Statement**

The result of the test is, that the durability of the magnetic beacon "TornadoX" can be confirmed. The beacon was tested up to a speed of 235 kph and a deceleration rate of more than 10,00 m/s<sup>2</sup> (this is equivalent to an emergency brake). There was no movement of the beacon on the roof after the tests recognizable.

For the customers is an instruction manuel necessary! With mounting instructions of the beacon, that is has to be fixed by dry and clean conditions on a magnetic roof. Further the connection between the magnetic foot and the roof has to be checked continuously.

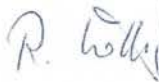
The Test Report comprises the pages 1 to 9. (including annex)  
The Test Report shall be reproduced and published in full only and by the client only. It shall be reproduced partially with the written permission of the Test Laboratory only.

**TECHNICAL SERVICE**

designated by  
designation body – KBA-P 00006-95  
Type Approval Division – RDW-99050017  
NSAI – National Standards Authority of Ireland – Technical Service No. 91

accredited by  
Deutsche Akkreditierungsstelle GmbH  
Federal Republic of Germany  
Test Laboratory D-PL-11060-01-00  
Inspection Body D-IS-11060-01-00

Klettwitz, 27.04.2017



Dipl.-Ing.(FH) René Kölling  
Specialist



Test Report:

**201740954 – TornadoX**

Annex: Foto Documentation



Applicant : Redtronic Ltd., Elland HX5 9BX, United Kingdom  
Type / Part No. : Tornado LED Siren Beacon/ TR12XB0BIN4M

Tornado LED Beacon (front view, top view)





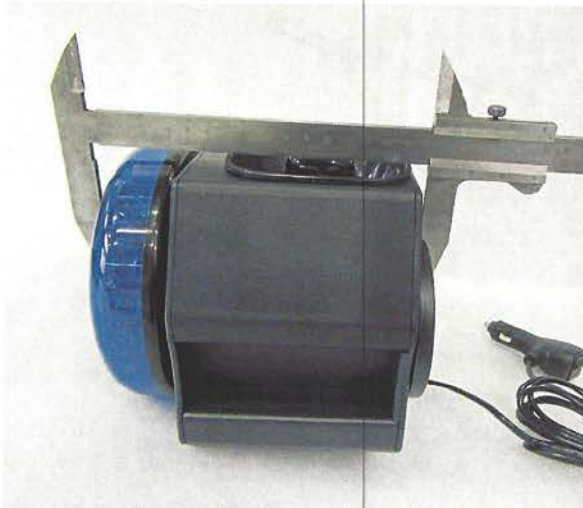
Details



Measuring length



Measuring diameter magnet



Measuring height (complete)



Measuring height magnet



Test Vehicle





Measuring and testing equipment



Measuring device



GPS Mouse

Positioning test samples



Position before testing



Position after testing