

## DSRC-RP ENFORCEMENT KIT





**The DSRC-RP Enforcement Kit is a product of VDO**

**VDO is a brand of the Continental Group AG**

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## 1. DSRC-RP Hardware FAQs

### 1.1 FAQ01: What is a DSRC module?

The new Smart Tachographs embed the DSRC (Dedicated Short-Range Communication) module. This module sends specified RTM data on request to the control authorities.

Content of this RTM data is limited to 19 values specified in Regulation (EU) n. 799/2016.

Main purpose of this remote early detection facility is a preselection of the vehicles while the vehicles are driving.

Communication is encrypted and the transmitted data is available to control card holder only.



### 1.2 FAQ02: Why a DSRC-RP solution?

The DSRC-RP solution developed by VDO takes advantage and relies upon the DSRC module embedded into the new Smart Tachographs.

The DSRC-RP offers a new roadside enforcement concept, providing control authorities with a customizable and technologically reliable tool to pre-check vehicles equipped with Smart Tachographs.

This allows to:

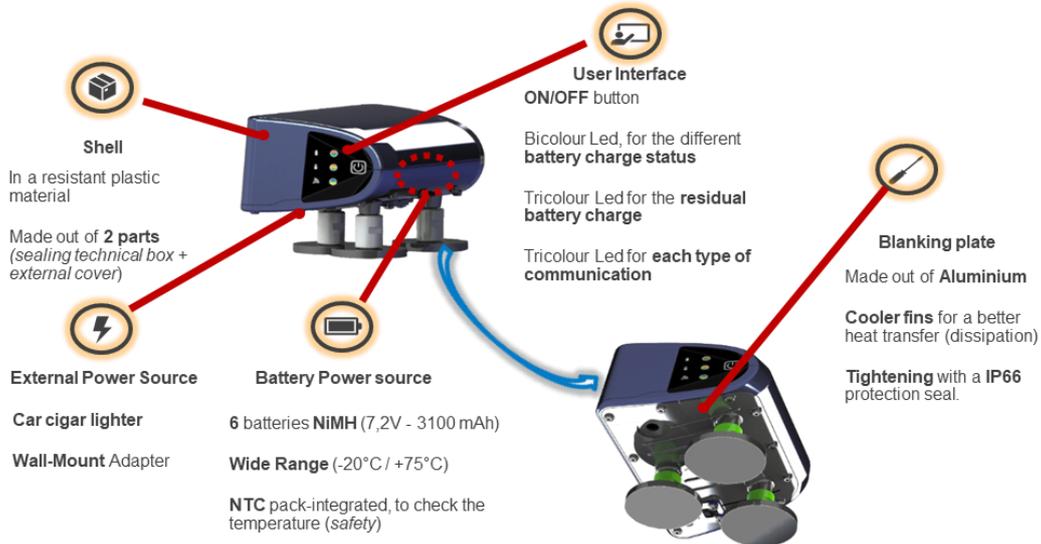
- Improve cost-effectiveness of roadside checks.
- Improve compliance of tachograph regulation.
- Strongly contribute to the EU policies and goals in the area of commercial road transport.
- Rely upon a tool that prospectively can take advantage of the technologies embedded into the Smart Tachograph (for example OWS - Onboard Weighing System).





### 1.3 FAQ03: How the DSRC-RP look like?

The shape and characteristics of the DSRC-RP antenna are illustrated in the figure below.



### 1.4 FAQ04: What are dimensions and weight of the DSRC-RP antenna

Dimensions and weight for a standalone unit are as follows:

- L: 148 mm
- W: 142 mm
- H: 148 mm
- Weight: 2.3 Kg

### 1.5 FAQ05: What control scenarios the DSRC-RP

The DSRC-RP enforcement kit can easily and flexibly enable control authorities to perform to two distinct control scenarios:

- Static roadside check, with the DSRC-RP antenna mounted, for example, on a tripod on the roadside
- Dynamic check, with the enforcement car overtaking the commercial vehicle equipped with Smart Tachograph while the latter is travelling.

A third infrastructure-based control scenario is current under feasibility evaluation.

### 1.6 FAQ06: Is the DSRC-RP solution reliable?

Along with its quality certifications and tests, the technology embedded into the DSRC-RP solution has undergone several test demonstrations across Europe (Italy, France, Germany).

All tests were performed successfully.



## **1.7 FAQ07: What certifications have been obtained to secure, resistance and durability of the DSRC-RP antenna?**

The DSRC-RP antenna underwent the following tests and obtained the certification accordingly:

- IP 66 (dust and water protection)
- Test with vibration (road profile)
- Test with vibration/impacts
- Test to measure strength of unhook
- Radio Equipment Directive (RED) (electromagnetic compatibility)
- R10 (compatibility with homologated vehicles)

## **1.8 FAQ08: What type of interrogation is the DSRC-RP able to perform?**

The antenna can perform either single interrogation/request or continuous. Information is made available by selecting the plate number displayed by the software on the device.

For roadside checks the idea is to use continuous interrogation.

## **1.9 FAQ09: How are linked the DSRC-RP antenna and he software to read the 19 RTM data?**

The logic is that devices and antennas are not rigidly bound.

All antennas can be read by all devices and each device can be linked to all antennas held by the customer.

The only limitation is that, when a device is communicating with one antenna, no other devices can read that antenna until the connection between the first device and the antenna lasts.

Once this connection is closed, then another device can start a dialogue with that antenna.



## 2. DSRC-RP Software FAQs

### 2.1 FAQ10: Can the DSRC software manage a configured display of the 19 RTM messages, or is all data always and at once displayed?

In the DSRC software RTM parameters can be fully configured, both as number of data to be displayed, and as rational condition to generate the green/red buttons.

Also, the large button that summarizes the outcomes of all 19 RTM data is fully configurable.

This enables enforcers to have a cost-efficient, robust and free programmable device on case-by-case basis RTD data to be checked can be selected to target dedicated roadside checks.



## **3. DSRC-RP Licensing FAQs**

### **3.1 FAQ11: How the license system is expected to work?**

Upon buying the device, you get an activation key. With this key, a list of serial numbers is generated which are linked to the antennas purchased by the customer.

This enables the latter to start a dialogue with all the DSRC antenna the customer has purchased.

The customer can install the software to read the 19 RTM data on how many DSRC-RP devices he wants.

### **3.2 FAQ12: To what is the license linked? User or DSRC-RP antenna?**

The license is linked to the customer and not to the number of DSRC-RP antennas you buy.

The former does not depend upon neither the number of the DSRC antenna, not the number of installations of the software to read the 19 RTM data.

At software installation level, each installation must be activated in order to get the list of serial number whit which that software can be linked.

### **3.3 FAQ13: Is a license needed for every single DSRC-RP antenna that is purchased?**

See point 2 above.

### **3.4 FAQ14: Is it possible to order 1 antenna and more licenses?**

By purchasing the DSRC antenna (and subsequently subscribing the licensing contract) you can install the software on any number of devices you order.

### **3.5 FAQ15: What happens if one buys, for example, 4 DSRC antennas and 4 licenses?**

Each device can be linked to any DSRC antenna for which the software is enabled.

### **3.6 FAQ16: Is it possible to buy a DSRC-RP antenna without a license?**

For example, can the customer develop his own software and link this software to the DSRC-RP antenna, or does the customer need to also buy a license to use it?).

SDK is the development environment. You may develop your own application by making use of the SDK.

Using the SDK enables the developer to take advantage of a phone support (either in Italian or in English) amounting at maximum 4 manhours.

Additional requests will be quoted separately.



## **4. DSRC-RP Miscellaneous**

### **4.1 FAQ17: To what extent can the DSRC beacon withstand strong wind from heavy traffic circulation or weather conditions?**

Focus of the project was to design an antenna that was as lightest as possible.

The antenna is engineered to secure full interoperability between different control scenarios.

Its fixing system makes possible to install the antenna either on a tripod, or on any other support that meets the enforcers' security, stability and resistance requirements.

### **4.2 FAQ18: Is any marketing material available?**

#### **Answer**

A flyer describing the characteristics of the DSRC-RP solution is already available in English and other languages will be available soon.

Videos and pictures are available upon request.

### **4.3 FAQ19: Is the DSRC-RP compatible and integrable with the tolling technology?**

Yes.

The DSRC-RP is fully compatible with the tolling procedure. Integration is done by means of a software update.



## 5. DSRC-RP FAQs Summary Table

TOPIC	FAQs
<b>DSRC-RP</b>	FAQ01, FAQ02, FAQ03, FAQ04, FAQ05, FAQ06, FAQ07, FAQ08, FAQ09
<b>Software</b>	FAQ10
<b>Licensing</b>	FAQ11, FAQ12, FAQ13, FAQ14, FAQ15, FAQ116
<b>Miscellaneous</b>	FAQ17, FAQ19, FAQ19