

**ECU**  
REMAPPING

CARS/TRUCKS/TRACTORS  
**MODULES**

**MOTORBIKES**  
**MODULES**

POWER BENCH  
**TESTERS**



# **RAPiD** **BIKE**

## **SMART**

**Kit code: K27-SMR-005**  
**K27-SMR-005A**

**INSTALLING INSTRUCTIONS**

## 1 - Applicability

Make:	BMW	
Model:	F 800 GS	24
	F 850 GS	21-24
	F 900 R/XR	20-24
	F 900 GS	24
	R nineT	21-24

## 2 - Component view and item ID

Wiring code: F27-SMR-005

Module code: F27RBSMART



## 3 - Precautions/Disclaimer

For the correct SMART module function, the motorcycle system must be intact and fully functional. Installation must be carried out by competent personnel and the supply conditions such as "**Appendix 1**" at the end of this instruction manual, must be read and accepted.

## 4 - Preliminary operation

- 4.1 Turn ignition off.
- 4.2 Put the bike on the centre stand.
- 4.3 Remove the seat.
- 4.4 Place the SMART control unit under the seat



- 4.5 Place the SMART harness as following pictures





## 5 - OBD plug

**Position:** under the seat  
**Type:** 16 pins black  
(OBD2 port)



**What to do:**  
plug the OBD port into Smart  
connector marked as  
"DIAGNOSTIC".



## 6 - Front Left O2 sensor (LW1)

**Position for  
F800-850, F900:**  
on the right side under the  
cooling radiator.



**Position R nineT:** left side,  
behind the left side stand.



**Type:** 5 pins black plug, for cylinder/cylinders Lambda sensor (Wideband O2).

**What to do:**

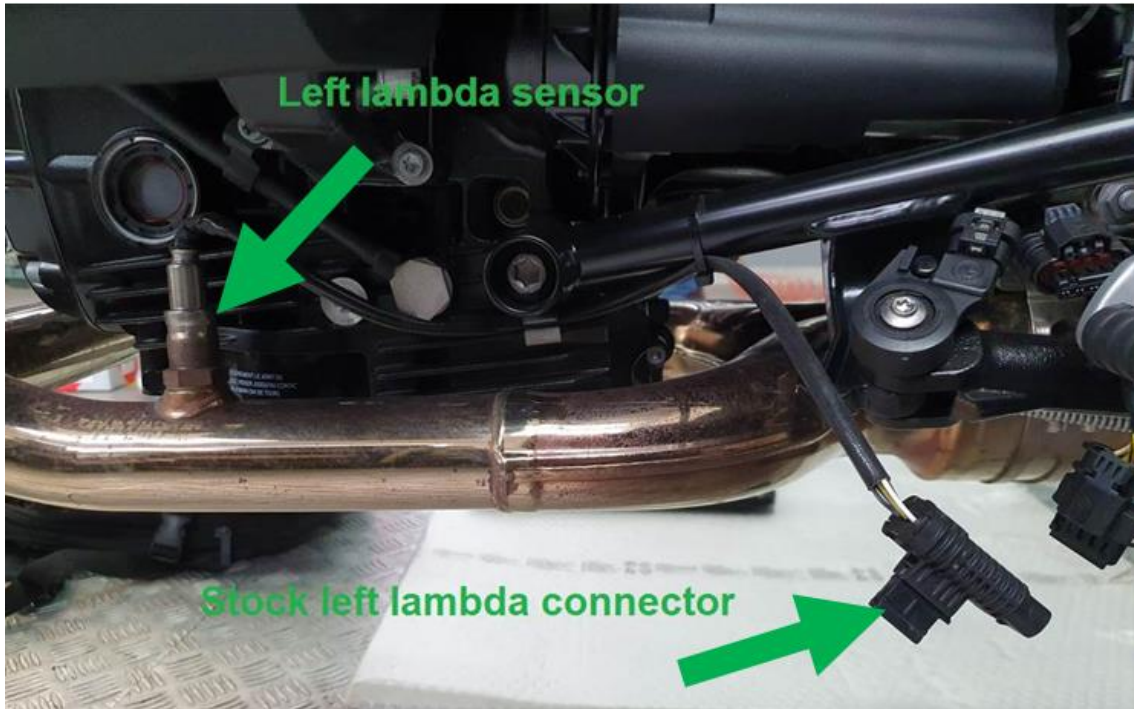
**6.1** Use a flat tool to gently pull away the plastic hook and unfasten the connectors from the frame.



**6.2** Pull out and then push down the grey tab to disconnect the connectors.







**6.3** Plug the connectors marked as **LW1** in-line with the stock wiring

**6.4** Fasten all cables to the frame using zip ties.



## 7 - Front Right O2 sensor (LW2)

**For F800, F850 and F900 (20->):** this model is not equipped with second Lambda; join the SMART harness connectors (marked **LW2**) together and fix them where possible. Continue with the instructions in the next chapter.

**For R nineT position:**  
right side,  
near the rear brake pedal.

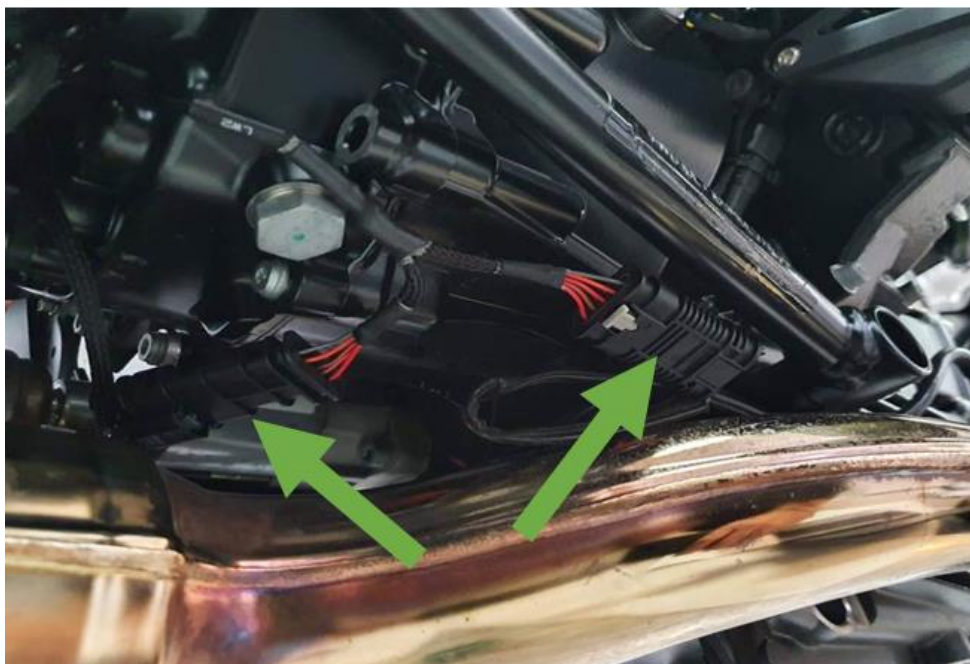
**Type:** 5 pins black,  
cylinder's Lambda (O2)  
sensor.



### What to do:

**7.1** Follow the previous instructions to unplug the stock connectors.

**7.2** Plug the connectors marked as **LW2** in-line with the stock wiring and fasten them to the frame using zip ties.



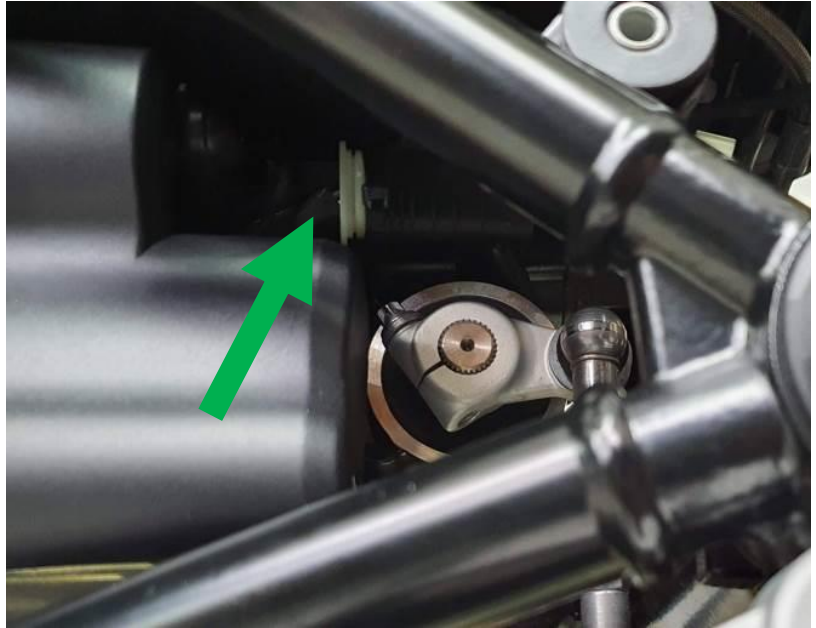


## 8 - Central rear O2 sensor (LN1)

**Position for F800, F850 and F900:** on the right side under the radiator just close to that of the front cylinders.

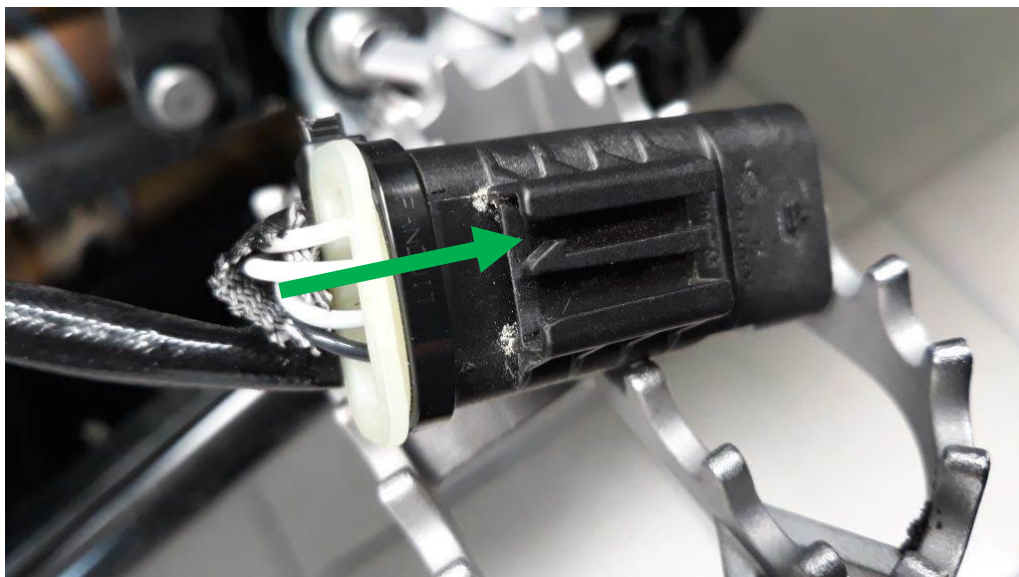
**Position for R nineT:**  
left side,  
near the gear lever.

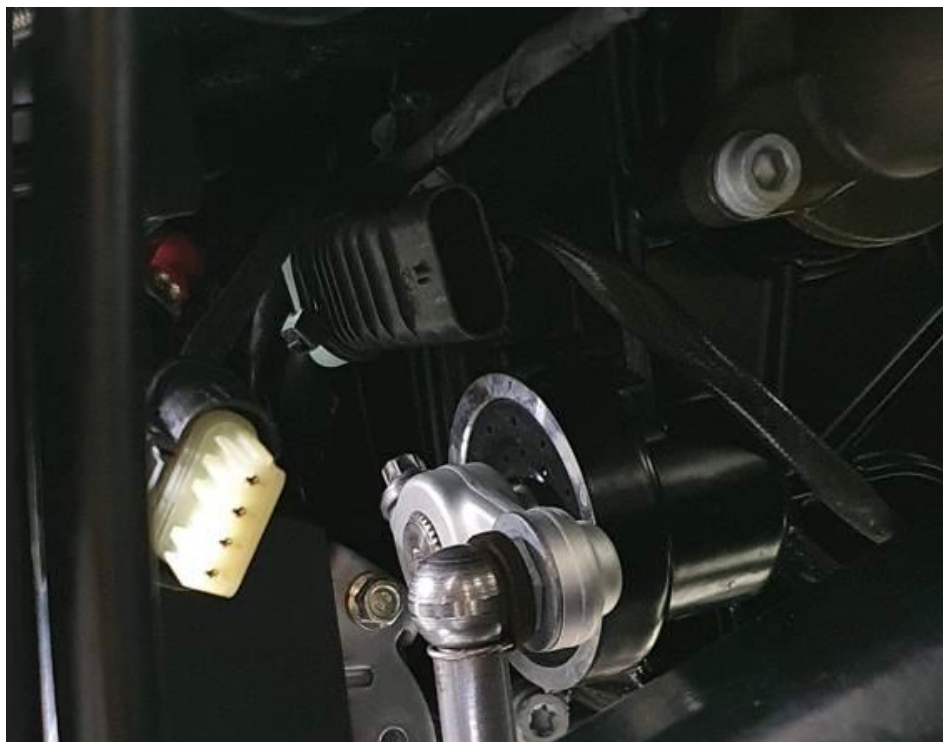
**Type:** 4 pins black/white,  
rear narrow band lambda  
(O2) sensor.



### What to do:

**8.1** Disconnect the plugs of the post catalytic converter Lambda sensor, by using a flat tool to gently pull away the plastic hook and unfasten the connectors from the frame may help unplugging the connectors.





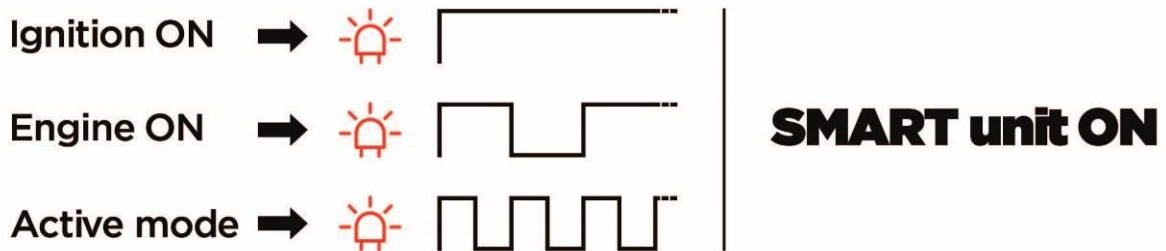
**8.2** Plug the connectors marked as **LN1** in-line with the stock wiring.



## 9 – Final operations

9.1 Connect the wiring harness to the SMART unit.

9.2 Check the installation with the red LED placed on the back of SMART unit.



9.3 Fasten the wiring harness to the frame using zip ties.

9.4 Ensure the wiring harness is properly fastened, then re-install the seat.

## 10 - Conclusion

Slow flashing indicates the warm-up phase of the probes; when the SMART switches to faster flashing (normally 2-3 minutes after engine start-up) it signals that **it is active** and already **working with its preloaded map**.

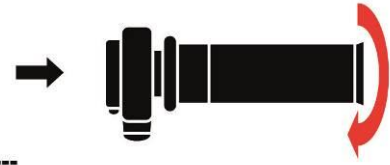
Our programming of the RB SMART allows to enrich the stoichiometric ratio (AFR - air/fuel ratio) and optimize the self-adaptive engine operating parameters of the original ECU. The power delivery curve becomes smoother and more regular, also improving throttle response and engine responsiveness. The result is a significant increase in torque, both in the original configuration and with after-market exhaust systems and sports kits, thanks to improved engine efficiency.

**Please note:** optimum engine performance cannot be guaranteed if the SMART module is applied to motorcycles with original engine ECU (OEM) that have been remapped (after-market tuning).

Rapid Bike SMART is programmed to be ON by default as described in point **9.2**. The following procedure shows how to turn SMART unit OFF, allowing the bike to run in stock configuration, and how to turn it ON again:



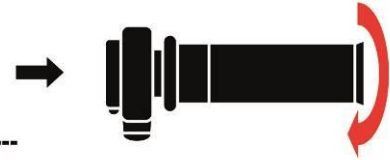
Turn ignition on and open throttle completely 5 times within 10 seconds



**SMART unit OFF**



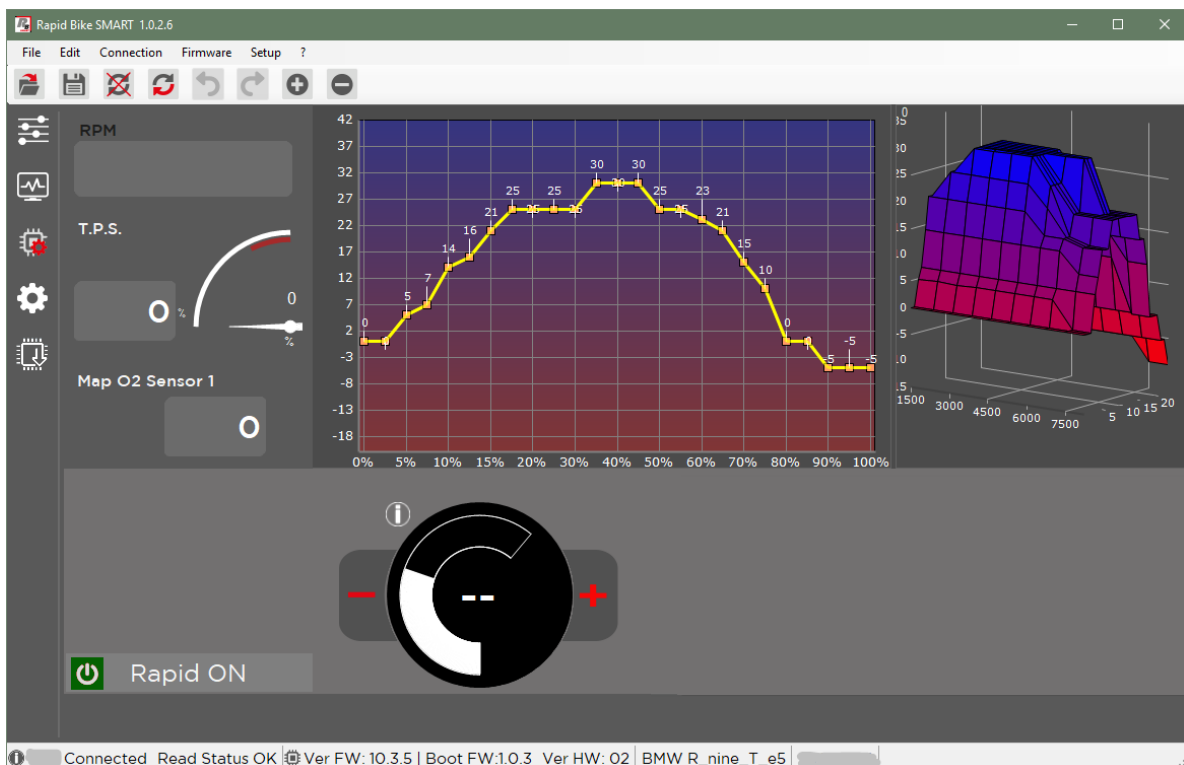
Repeat the operation to turn SMART unit ON



**SMART unit ON**

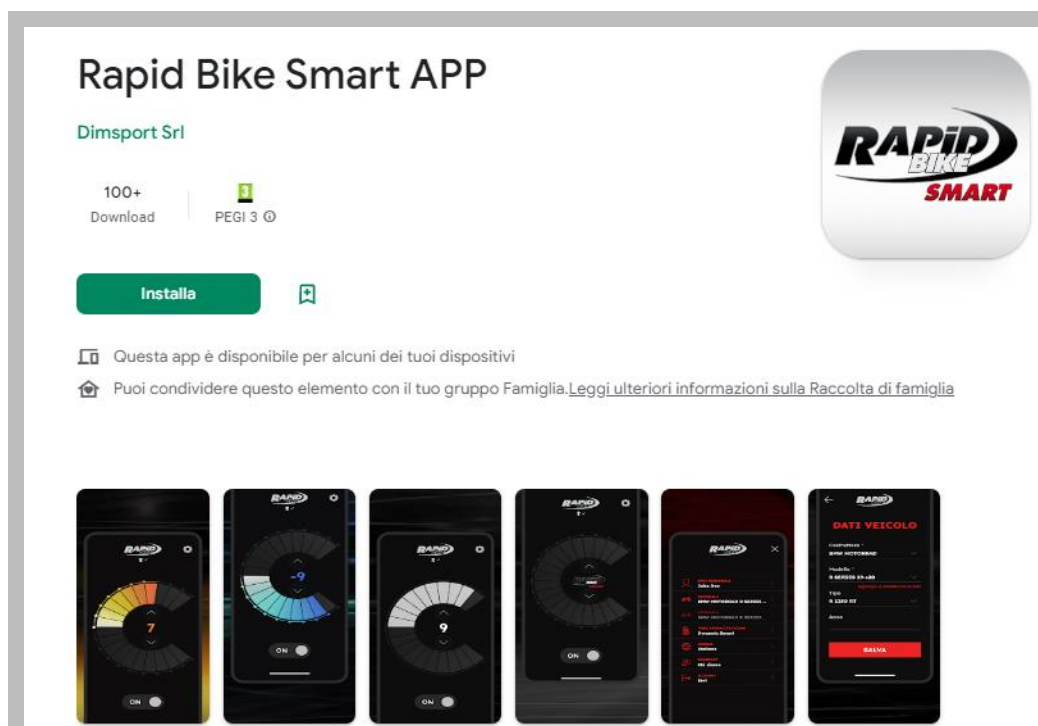


Same operation can be performed with Rapid Bike SMART software downloadable for free from [www.RapidBike.com](http://www.RapidBike.com) or [www.Dimsport.com](http://www.Dimsport.com). Furthermore, software allows users to increase/reduce the range of the adjustments available with SMART unit as well as to do various reading and checking operations.



To connect with the SMART control unit, you only need an internal or external Bluetooth adapter to the PC at least release **4.0 BLE**. More information on the “Rapid Bike SMART” software manual, available with its installation.

The Bluetooth interface of the SMART control unit also allows the connection and management of some parameters with your smartphone; search also the “**Rapid Bike SMART APP**” available in the on-line store for Android® and IOS®



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## Appendix 1

### USER'S RESPONSIBILITIES

RAPID device allows the User to have access to some engine parameters (for example: lambda, fuel, rpm limiter, etc.). Changing such parameters might make the vehicle non in compliance with some power and/or speed and/or emissions standards of Your Country and also might determine a superior wear and tear of mechanical and electrical components of the vehicle, to the point that manufacturer's (or seller's) warranty might be considered void.

Dimsport Srl (except as set forth hereafter) does not grant any warranty and shall never be considered liable for any disruption that may derive from using RAPID device, in particular with respect to any extra wear and/or deterioration of the engine or of any other mechanical and/or electrical part of vehicle.

The reading and understanding of RAPID device Instructions must forerun the use of RAPID device (in all its parts).

If the User is a consumer the provisions of D.lgs 206/2005 which concern the conformity warranty of purchased items shall apply (in accordance with such D.lgs 206/2005, a consumer is a person that buy products outside from his business). Therefore, the consumer with no extra expenses, has the right to obtain the conformity restatement of purchased item, by its replacement or reparation. For this purpose, Dimsport must be informed about item non-conformity within 2 (two) months from the discovery of such non-conformity. This warranty covers the defects that come within 2 (two) years from the delivery. The normal "wear and tear" shall never be considered non-conformity. This warranty shall never be applied if the consumer alters RAPID device and/or if the consumer directly or indirectly repairs it and/or if the non-conformity is due to improper, negligent or imprudent use of RAPID device.

If the User is a professional user, Dimsport only warrants that RAPID device is free from manufacture defects for 2 (two) years from the purchase date, provided that the professional user is able to demonstrate such date by showing proper documentation.

UNDER NO CIRCUMSTANCES SHOULD RAPID DEVICE BE USED TO BREAK THE LAW OF THE COUNTRY OF USE OF THE VEHICLE. FAILURE TO COMPLY WITH SUCH PROVISION WOULD DETERMINE THE IMMEDIATE TERMINATION OF THIS AGREEMENT.

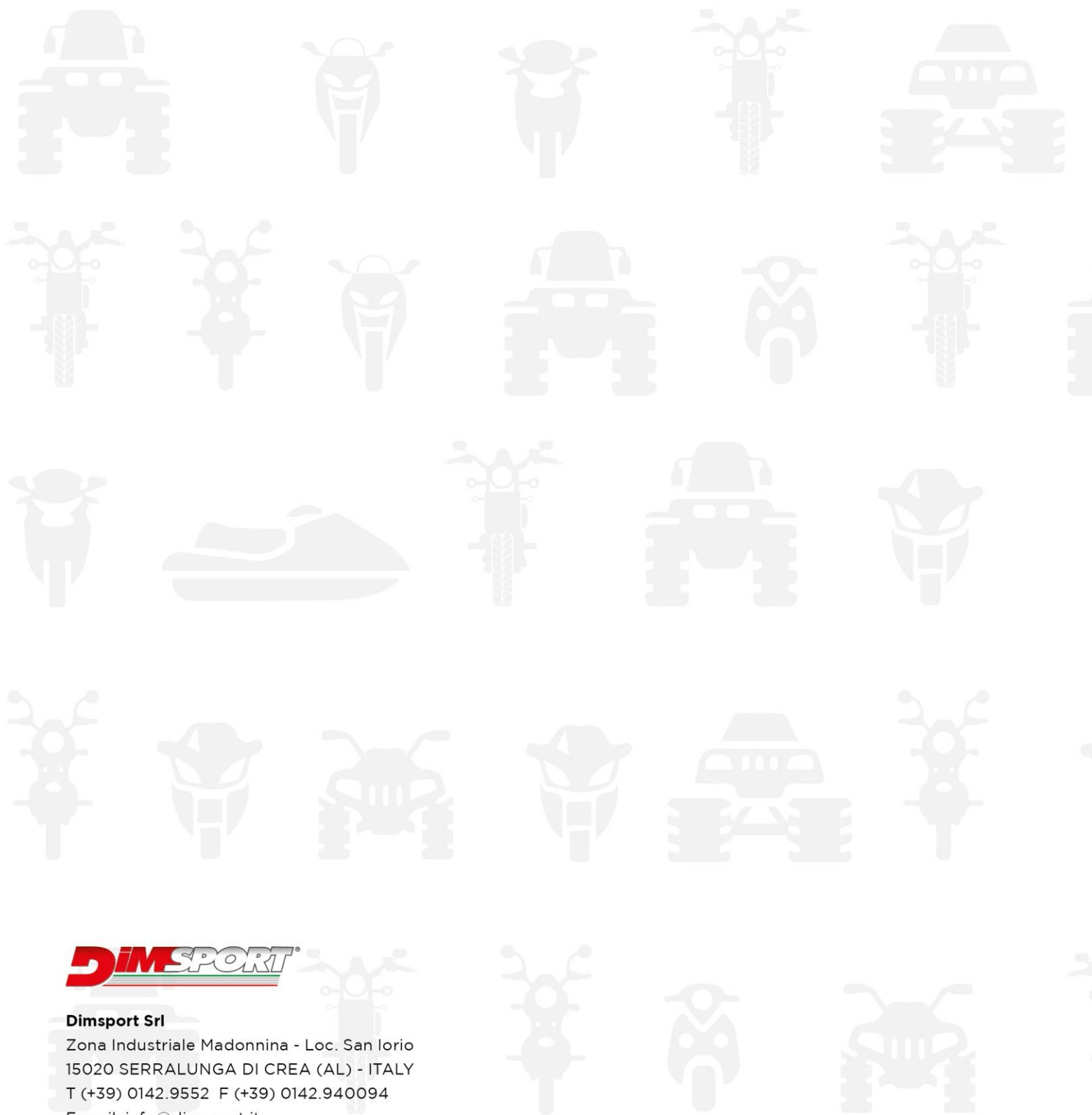
Without prejudice to mandatory law provisions, Dimsport Srl shall be relieved from any and all contractual and / or extra-contractual liability for personal injury; for direct and / or indirect damage (both with reference to emerging damage and loss of profit); for any claim and / or cost of any kind; which has been suffered by the User or by any third parties and which may derive from the use or misuse and / or may depend and / or in any case may be attributable to RAPID device, except in the case that those events may be attributable to Dimsport for wilful misconduct or gross negligence. The foregoing limitations and exclusions shall be applied to the maximum extent permitted by legislation in force in the User's jurisdiction.





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# www.dimsport.it



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